



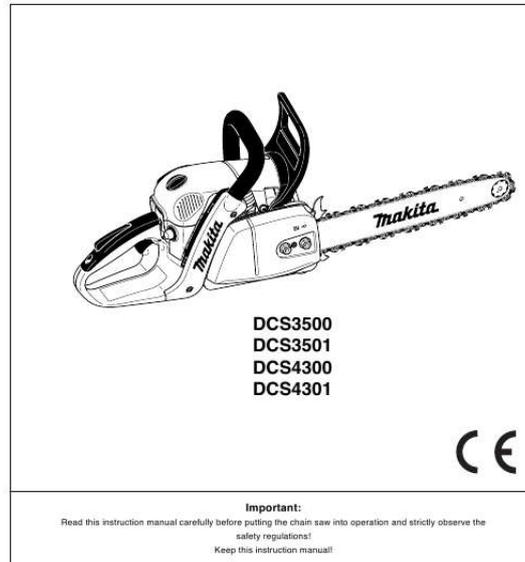
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You can read the recommendations in the user guide, the technical guide or the installation guide for MAKITA DCS4301. You'll find the answers to all your questions on the MAKITA DCS4301 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual MAKITA DCS4301
User guide MAKITA DCS4301
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Instruction Manual



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Manual abstract:

The Featherlight-Start system lets you start the saw effortlessly with a spring-loaded starting assist. For some countries the saw is also equipped with a catalytic converter. This reduces the amount of pollutants in the exhaust, and meets European Guideline 2002/88/EG. @@@@ In order to ensure the proper functioning and performance of your new chain saw, and to safeguard your own personal safety, it is imperative that you read this instruction manual thoroughly before operation. Be especially careful to observe all safety precautions! Failure to observe these precautions can lead to severe injury or death!

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Saw chain oil adjustment screw Stop engine! First aid Start engine Recycling Combination switch, Choke ON/STOP Safety position 3 CE - Marking SAFETY PRECAUTIONS Intended use Power chain saws This power chain saw may be used only for sawing wood out of doors.

It is intended for the following uses depending on its class: Professional and mid-class: Use on small, medium and large trees: felling, limb removal, cutting to length, thinning. Hobbyklasse: Occasional use on small trees, fruit-tree care, felling, limb removal, cutting to length. Protective gloves (6) made of thick leather are part of the prescribed equipment and must always be worn during operation of the chain saw. During operation of the chain saw safety shoes or safety boots (7) fitted with anti skid sole, steel toe caps and protection for the leg must always be worn. Safety shoes equipped with a protective layer provide protection against cuts and ensure a secure footing. - Unauthorised users: Persons who are not familiar with the Instruction Manual, children, young people, and persons under the influence of drugs, alcohol or medication must not use this saw. General precautions To ensure correct operation the user has to read this instruction manual to make himself familiar with the characteristics of the chain saw. Users insufficiently informed will endanger themselves as well as others due to improper handling. It is recommended to lend the chain saw only to people who are experienced in working with chain saws. Always hand over the instruction manual.

First users should ask the dealer for basic instructions to become familiarized with the characteristics of engine powered sawing or even attend a recognized course of instruction. Children and young persons aged under 18 years must not be allowed to operate the chain saw. Persons over the age of 16 years may, however, use the chain saw for the purpose of being trained as long as they are under the supervision of a qualified trainer. Use chain saws always with the utmost care and attention. Operate the chain saw only if you are in good physical condition.

If you are tired, your attention will be reduced. Be especially careful at the end of a working day. Perform all work calmly and carefully. The user has to accept liability for others. Never use the chain saw after having consumed alcohol, drugs or medication.

A fire extinguisher must be available in the immediate vicinity when working in easily inflammable vegetation or when it has not rained for a long time (danger of fire). - - - - 2 Protective equipment In order to avoid head, eye, hand or foot injuries as well as to protect your hearing the following protective equipment must be used during operation of the chain saw: The kind of clothing should be appropriate, i. e. it should be tight-fitting but not be a hindrance. Do not wear jewellery or clothing which could become entangled with bushes or shrubs. If you have long hair, always wear a hairnet! It is necessary to wear a protective helmet whenever working with the chain saw. The protective helmet (1) is to be checked in regular intervals for damage and is to be replaced after 5 years at the latest. Use only approved protective helmets. The face shield (2) of the protective helmet (or the goggles) protects against sawdust and wood chips. During operation of the chain saw always wear a goggle or a face shield to prevent eye injuries.

Wear adequate noise protection equipment (ear muffs (3), ear plugs, etc.). Octave band analysis upon request. The safety jacket (4) is provided with special signal-coloured shoulder straps and is comfortable and easy to care for.



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The protective brace and bib overall (5) is made of a nylon fabric with 22 layers and protects against cuts. We strongly recommend its use. 4 4 1 3 - - 2 3 - - 4
7 5 6 Fuels / Refuelling - Stop the engine before refuelling the chain saw. - Do not smoke or work near open fires (5). - Let the engine cool down before refuelling. - Fuels can contain substances similar to solvents.

Eyes and skin should not come in contact with mineral oil products. Always wear protective gloves when refuelling. Frequently clean and change protective clothes. Do not breathe in fuel vapors. Inhalation of fuel vapours can be hazardous to your health.

- Do not spill fuel or chain oil. When you have spilt fuel or oil immediately clean the chain saw. Fuel should not come in contact with clothes. If your clothes have come in contact with fuel, change them at once. - Ensure that no fuel or chain oil oozes into the soil (environmental protection).

Use an appropriate base. - Refuelling is not allowed in closed rooms. Fuel vapors will accumulate near the floor (explosion hazard). - Ensure to firmly tighten the screw plugs of the fuel and oil tanks. - Change the place before starting the engine (at least 3 m from the place of refuelling) (6). - Fuel cannot be stored for an unlimited period of time. Buy only as much as will be consumed in the near future. - Use only approved and marked containers for the transport and storage of fuel and chain oil. Ensure children have no access to fuel or chain oil. Putting into operation - Do not work on your own.

Another person must be nearby in case of emergencies (within shouting distance). - Ensure that there are no children or other people within the working area. Pay attention to any animals in the working area, as well (7). - Before starting work the chain saw must be checked for perfect function and operating safely (12). - Use the chain saw for sawing wood only. - Avoid touching the ground with the chain saw while it is still running. - Never use the chain saw for lifting up or removing pieces of wood or other objects. - Remove foreign objects such as sand, stones and nails found within the working area. Foreign objects may damage the sawing device and can cause dangerous kickback. - When sawing pre-cut timber use a safe support (sawing jack, 13).

Do not steady the workpiece with your hand. - When withdrawing after having performed the cut, be alert for falling branches. - When working on sloping ground the user of the chain saw must stay above or sideways of the trunk to be cut or the tree already cut down. - Be alert for trunks which may roll towards you. 16 2 1/2 450 = cutting down area 17 18 19 7 Transport and storage When changing your location during work switch off the chain saw and actuate the chain brake in order to prevent an inadvertent start of the chain.

Never carry or transport the chain saw with the chain running. When the saw is hot, do not cover it (with a tarp, blanket, newspaper or the like). Let the saw cool down before putting it in a storage case or vehicle. Saws with catalytic converter take longer to cool down! When transporting the chain saw over long distances the guide bar protection cover (delivered with the chain saw) must be applied. Carry the chain saw with the tubular handle.

The guide bar points backwards (20). Avoid coming in contact with the muffler (danger of burns). Ensure safe positioning of the chain saw during car transportation to avoid fuel or chain oil leakage. Store the chain saw safely in a dry place. It must not be stored outdoors. Keep the chain saw away from children. Before storing the chain saw over a long period of time or shipping it the fuel and oil tanks must be completely emptied. 21 - - 20 - - Maintenance Before performing maintenance work switch off the chain saw (21) and pull out the plug cap. Before starting work always check the operating safety of the chain saw, in particular the function of the chain brake. Make sure that the chain is always sharpened and tightened correctly (22).

Operate the chain saw only at a low noise and emission level. For this ensure the carburetor is adjusted correctly. Regularly clean the chain saw. Regularly check the tank cap for tightness. Observe the accident prevention instructions issued by trade associations and insurance companies. Do not perform any modifications on the chain saw. You will put your safety at risk. Perform only the maintenance and repair works described in the instruction manual. All other work must be carried out by MAKITA Service. Use only original MAKITA spare parts and accessories.

Using spare parts other than original MAKITA parts or accessories and guide bar/chain combinations or lengths which are not approved bring a high risk of accidents. We cannot accept any responsibility for accidents and damage resulting from using sawing devices or accessories which have not been approved. - 22 SERVICE First aid For the event of a possible accident, please make sure that a first aid kit is always immediately available close by. Immediately replace any items used from the first aid box. When calling for help, give the following information: - Place of the accident - What happened - Number of injured people - Kind of injuries - Your name! NOTE Individuals with poor circulation who are exposed to excessive vibration may experience injury to blood vessels or the nervous system.

Vibration may cause the following symptoms to occur in the fingers, hands or wrists: "Falling asleep" (numbness), tingling, pain, stabbing sensation, alteration of skin colour or of the skin. If any of these symptoms occur, see a physician! 23 8 Technical data Stroke volume Bore Stroke Max. power at speed Max. torque at speed Idling speed / max. engine speed with bar and chain Clutch engagement speed Sound pressure level at the workplace LpA av per ISO 22868 1) Sound power level LWA av per ISO 22868 1) Vibration acceleration ah,w eq per ISO 22867 1) - Tubular handle - Rear handle Carburetor Ignition system Spark plug or spark plug Electrode gap Fuel consumption at max.

load per ISO 7293 Specific consumption at max. load per ISO 7293 Fuel tank capacity Chain oil tank capacity Mixture ratio (fuel/two-stroke oil) - when using MAKITA oil - when using Aspen Alkylat (two-stroke fuel) - when using other oils Chain brake Chain speed (at max. power) Sprocket pitch Number of teeth Chain type Pitch / gauge Guide bar, length of a cut Guide-bar type Weight (fuel tank empty, without chain, guide bar and accessories) kg 1) DCS3500, 3501 cm3 mm mm kW / 1/min Nm / 1/min 1/min 1/min dB (A) dB (A) 34,7 38 30,6 1,5 / 9.500 1,9 / 6.500 2.800 / 13.500 5.100 100,8 110 DCS4300, 4301 42,4 42 30,6 2,0 / 9.500 2,4 / 6.500 2.

800 / 13.500 5.100 100,8 110 m/s2 m/s2 Type Type Type Type mm kg/h g/kWh l l 4,3 3,6 Membranecarburetor electronic NGK BPMR 7A 3,6 3,2 BOSCH WSR 6F, CHAMPION RCJ 6Y 0,5 0,79 526 0,48 0,28 0,96 480 50 : 1 / 100: 1 (HP-100) 50 : 1 (2%) 40 : 1 (quality grade: JASO FC or ISO EGD) engages manually or in case of kickback m/s inch Z 18,1 3/8 6 18,3 .



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325 7 see the Extract from the spare-parts list inch / (mm) cm 3/8 / 0,050 (1,3) 30, 35, 40 .325 / 0,050 (1,3) 33, 38, 45 see the Extract from the spare-parts list 4,7 / 4,8 2) 4,7 / 4,8 2) Figures derived in equal part from idling, full-load and racing speed. 2) Models with catalytic converter (DCS3501, 4301). Packing Your MAKITA chain saw comes delivered in a protective cardboard box to protect against shipping damage. Cardboard is a basic raw material and is consequently reusable or suitable for recycling (waste paper recycling). 9 Denomination of components 4 1 2 3 5 6 7 8 9 14 13 12 11 10 27 26 25 15 16 17 18 19 Identification plate (14) Indicate when ordering spare parts! DCS4300 2007 123456 Serial number Year of manufacture 22045 Hamburg, Germany 24 000.000.

000 Typ 195 23 22 21 20 1 2 3 4 5 6 7 8 9 10 11 12 13 14 Handle Cover Hood lock Tubular handle Hand guard (release for chain brake) Muffler Spike bar Chain tensioning screw Retaining nuts Chain catch Sprocket guard Adjusting screw for oil pump (bottom side) Fuel pump (Primer) Identification plate 15 16 17 18 19 20 21 22 23 24 25 26 27 Starter grip Combination switch (Choke / ON / Stop) Fuel pump (Primer) Throttle lever Safety locking button Rear hand guard Fuel tank cap Adjusting screws for carburetor Fan housing with starting assembly Oil tank cap Chain (Blade) Guide bar Sprocket guard quick tensioner 10 **PUTTING INTO OPERATION** Only for models with fastening nuts on the sprocket guard **CAUTION:** Before doing any work on the guide bar or chain, always switch off the engine and pull the plug cap off the spark plug (see „Replacing the spark plug“). Always wear protective gloves! **CAUTION:** Start the chain saw only after having assembled it completely and inspected. Mounting the guide bar and saw chain Use the universal wrench delivered with the chain saw for the following work. Put the chain saw on a stable surface and carry out the following steps for mounting the guide bar and saw chain: Release the chain brake by pulling the hand guard (1) in direction of arrow. Unscrew retaining nuts (2).

Pull off the sprocket guard (3). 1 2 3 Turn chain tensioning screw (4) to the left (counter-clockwise) until the pin (5) of the chain tensioner is underneath the threaded pin (6). 6 5 4 Put on the guide bar (7). Make sure that the pin (5) of the chain tensioner engages in the hole in the guide bar. 5 7 11 Lift the chain (9) over the sprocket (8).

CAUTION: Do not insert the chain between the chain sprocket and the disc. Guide the chain from above about halfway into the groove (10) on the guide bar. **CAUTION:** 9 8 10 Note that the cutting edges along the top of the chain must point in the direction of the arrow! 9 11 Pull the chain (9) around the sprocket nose (11) of the guide bar in the direction of the arrow. Replace the sprocket guard (3). **IMPORTANT:** Lift the saw chain over the chain catcher (12). Tighten the nuts (2) only hand-tight to begin with. 3 2 12 Tightening the saw chain Turn the chain tensioning screw (4) to the right (clockwise) until the saw chain catches in the groove on the lower side of the guide bar (see circle). Slightly lift the end of the guide bar and turn the chain adjusting screw (4) to the right (clockwise) until the chain rests against the bottom side of the guide bar. While still holding up the tip of the guide bar, tighten the retaining nuts (2) with the universal wrench. 2 4 12 Checking the chain tension The tension of the chain is correct if the chain rests against the bottom side of the guide bar and can still be easily turned by hand.

While doing so the chain brake must be released. @@When checking the chain tension the engine must be switched off. **NOTE:** It is recommended to use 2-3 chains alternatively. In order to guarantee uniform wear of the guide bar the bar should be turned over whenever replacing the chain. **STOP** Retightening the saw chain Loosen the nuts (2) about one turn with the universal wrench. Raise the tip of the guide bar a little and turn the chain tensioning screw (4) to the right (clockwise) until the saw chain is again up against the bottom edge of the guide bar (see circle). While keeping the tip of the guide bar raised, tighten the nuts (2) again with the universal wrench. 2 4 13 Only for the QuickSet guide bar **CAUTION:** Before doing any work on the guide bar or chain, always switch off the engine and pull the plug cap off the spark plug (see „Replacing the spark plug“). Always wear protective gloves! **CAUTION:** Start the chain saw only after having assembled it completely and inspected. On QuickSet guide bars the chain is tensioned using a toothed rack in the bar.

This simplifies retensioning of the chain. These models do not have a conventional chain tensioner. QuickSet guide bars are identified by this symbol: Mounting the guide bar and saw chain Use the universal wrench delivered with the chain saw for the following work. 1 2 Put the chain saw on a stable surface and carry out the following steps for mounting the guide bar and saw chain: Release the chain brake by pulling the hand guard (1) in direction of arrow. Unscrew retaining nuts (2).

Pull off the sprocket guard (3). 3 Put the guide bar (4) on and push it against the sprocket (5). 5 4 Lift the chain (6) over the sprocket (5). **CAUTION:** Do not insert the chain between the chain sprocket and the disc. Guide the chain from above about halfway into the groove (7) on the guide bar.

CAUTION: 6 5 7 Note that the cutting edges along the top of the chain must point in the direction of the arrow! 14 Pull the chain (6) around the sprocket nose (8) of the guide bar in the direction of the arrow. 6 8 Replace the sprocket guard (3). **IMPORTANT:** Lift the saw chain over the chain catcher (9). Tighten the nuts (2) only hand-tight to begin with. 3 2 9 Tensioning the saw chain Turn the QuickSet chain tensioner (10) to the right (clockwise) using the combination tool, until the saw chain guide elements engage in the guide groove on the bottom of the guide bar (if necessary, pull the chain into position slightly). Raise the tip of the guide bar slightly and turn the chain tensioner (10) further until the saw chain is flush against the bottom of the guide bar (see circle). While still holding up the tip of the guide bar, tighten the retaining nuts (2) with the universal wrench. **NOTE:** If the guide bar has been turned over, turn the chain tensioner to left (i.e. counter-clockwise) to tighten the chain.

2 10 Checking the chain tension The tension of the chain is correct if the chain rests against the bottom side of the guide bar and can still be easily turned by hand. While doing so the chain brake must be released. @@When checking the chain tension the engine must be switched off.



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NOTE: It is recommended to use 2-3 chains alternatively. In order to guarantee uniform wear of the guide bar the bar should be turned over whenever replacing the chain. **STOP** Retensioning the saw chain Use the combination tool to loosen the fastening nuts (2) about one turn. Raise the tip of the guide bar slightly and turn the QuickSet chain tensioner (10) to the right (clockwise) until the saw chain is again flush against the bottom of the guide bar (see circle).

While still holding up the tip of the guide bar, tighten the retaining nuts (2) with the universal wrench. 15 Only for models with quick tensioner on sprocket guard **CAUTION:** Before doing any work on the guide bar or chain, always switch off the engine and pull the plug cap off the spark plug (see „Replacing the spark plug“). Always wear protective gloves! **CAUTION:** Start the chain saw only after having assembled it completely and inspected.

Mounting the guide bar and saw chain Place the saw on a stable surface and perform the following work steps in order to install the guide bar and saw chain:

Release the chain brake by pulling the hand guard (1) in direction of arrow. Fold up the sprocket guard quick tensioner (2) (see also the illustration on tensioning the saw chain). 1 2 3 4 Push the sprocket guard quick tensioner in forcefully against the spring tension and slowly turn counter-clockwise, until you feel it engage. Keep pushing, and turn as far as possible counter-clockwise. Release the sprocket guard quick tensioner again and turn clockwise to bring it back to its original position.

Repeat this procedure until the sprocket guard (4) is unscrewed. Remove the sprocket guard (4). Put the guide bar (5) on and push it against the sprocket (6).

6 5 Lift the chain (8) over the sprocket (7). **CAUTION:** Do not insert the chain between the chain sprocket and the disc.

@@@@@@@@@@@@@@@@@While doing so the chain brake must be released. @@@@When checking the chain tension the engine must be switched off. **NOTE:** It is recommended to use 2-3 chains alternatively. @@@@@@The chain will stop within a fraction of a second. @@@@Doing so can very quickly cause extensive engine damage! @@@@@@Be especially careful when handling gasoline. Avoid all flame or Pre. @@@@It runs on a mixture of gasoline and two-stroke engine oil. The engine is designed for unleaded regular gasoline with a min. octane value of 91 ROZ. @@@@This will not affect the engine.

@@@@@@@@@@@@@@@@@Caution: Do not use ready-mixed fuel from petrol stations. @@@@e. mix 50 parts gasoline with 1 part oil. @@@@e. mix 100 parts gasoline with 1 part oil. 40:1 when using other two-stroke engine oils, i. e. mix 40 parts gasoline with 1 part oil. @@@@@@Various skin diseases may result. In addition, allergic reactions are known to occur.

Eyes can be irritated by contact with oil. If oil comes into your eyes, immediately wash them with clear water. If your eyes are still irritated, see a doctor immediately! Chain oil Use an oil with adhesive additive for lubricating the chain and guide bar. The adhesive additive prevents the oil from being flung off the chain too quickly. We recommend the use of chain oil which is bio-degradable in order to protect the environment.

The use of bio-degradable oil may even be required by local regulations. The chain oil BIOTOP sold by MAKITA is made of special vegetable oils and is 100% bio-degradable. BIOTOP has been granted the „blue angel“ (Blauer Umweltschutz-Engel) for being particularly environment-friendly (RAL UZ 48).

BIOTOP chain oil is available in the following sizes: 1l 5l order number 980 008 610 order number 980 008 611 Bio-degradable oil is stable only for a limited period of time. It should be used within 2 years from the date of manufacture (printed on the container).

19 Important note on bio-degradable chain oils If you are not planning to use the saw again for an extended period of time, empty the oil tank and put in a small amount of regular engine oil (SAE 30), and then run the saw for a time. This is necessary to flush out all remaining bio-degradable oil from the oil tank, oil-feed system, chain and guide bar, as many such oils tend to leave sticky residues over time, which can cause damage to the oil pump or other parts. The next time you use the saw, fill the tank with BIOTOP chain oil again. In case of damage caused by using waste oil or inappropriate chain oil the product guarantee will be null and void. Your salesman will inform you about the use of chain oil. **NEVER USE WASTE OIL** Waste oil is very dangerous for the environment. Waste oil contains high amounts of carcinogenic substances. Residues in waste oil result in a high degree of wear and tear at the oil pump and the sawing device. In case of damage caused by using waste oil or inappropriate chain oil the product guarantee will be null and void. Your salesman will inform you about the use of chain oil.

waste oil **AVOID SKIN AND EYE CONTACT** Mineral oil products degrease your skin. @@@@Various skin diseases may result. In addition, allergic reactions are known to occur. Eyes can be irritated by contact with oil. If oil comes into your eyes, immediately wash them with clear water. If your eyes are still irritated, see a doctor immediately!

Refuelling **FOLLOW THE SAFETY PRECAUTIONS!** Be careful and cautious when handling fuels. The engine must be switched off! Thoroughly clean the area around the caps, to prevent dirt from getting into the fuel or oil tank. chain oil Unscrew the tank cap (use the universal wrench if necessary, see illustration) and fill tank with fuel mixture or saw chain oil up to the bottom edge of the filling neck. Be careful not to spill fuel or chain oil! Screw on the tank cap by hand all the way. fuel/oil mixture Clean the tank cap and the area around the tank after refuelling.

Lubricating the chain During operation there must always be sufficient chain oil in the chain-oil tank to provide good chain lubrication. At medium oil feed rate, the oil tank holds enough for one fuel tank's worth of operation. During this procedure check whether there is enough the chain oil in the tank and refill if necessary. Do this only with the engine turned off! Screw on the tank cap by hand all the way. 20 Checking the chain lubrication Never work with the chain saw without sufficient chain lubrication.

@@@@@@@@@Hold the running chain saw approx. 15 cm above a trunk or the ground (use an appropriate base). @@@@@@This does not constitute a defect! @@@@You can adjust the oil pump feed rate with the adjusting screw (1). The adjusting screw is on the bottom side of the housing. The oil pump comes factory-set to a medium feed rate.

@@@@@@@@@While working make sure there is enough chain oil in the tank. If necessary, add oil. To ensure troublefree operation of the oil pump the oil guide groove at the crank case (2) and the oil inlet bore in the guide bar (3) must be cleaned regularly. @@@@This does not constitute a defect! Place the saw on a suitable surface.



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2 3 21 Starting the engine Do not start the chain saw until after it is completely assembled and checked! Move at least 3 meters / 10 feet away from the place where the chain saw was fuelled. Make sure you have a secure footing, and place the saw on the ground in such a way that the guide bar and chain are not near anything. Actuate the chain brake (block it). Hold the front handle firmly with one hand and press the saw against the ground. Hold the down rear handguard with your right foot as shown. Note: The Featherlight-Start System lets you start the saw without effort.

Go through the starting procedure smoothly and evenly. Cold starting: Prime the fuel pump (5) by pressing it several times until you can see fuel in the pump. Move the combination switch (1) up (choke position). This also actuates the half-throttle lock. Pull the starter handle (2) smoothly and evenly. CAUTION: Do not pull the starter cable more than about 50 cm/20" out, and let it back in slowly by hand. Repeat the starting procedure twice. Move the combination switch (1) to the central "ON" position. Pull the starter handle smoothly and evenly again. As soon as the engine is running, grasp the rear handle (the safety lock button (3) is actuated by the palm of the hand) and press the throttle trigger (4).

2 1 5 4 3 CAUTION: The engine must be put in idle immediately after starting. If this is not done, the clutch can be damaged. Now disengage the chain brake. Warm starting: As described above for cold starting, but before starting push the combination switch (1) up (Choke position) and then right away back to the middle "ON" position. This is only to engage the half-throttle lock.

If the engine doesn't start after 2 or 3 pulls, repeat the entire starting procedure as described for cold starting. NOTE: If the engine was switched off only for a short time, the saw can be started without using the combination switch. Cold start (Choke) ON Warm start (ON) Engine off Important: If the fuel tank has been completely emptied and the engine has stopped due to lack of fuel prime the fuel pump (5) by pressing it several times until you can see fuel in the pump. STOP Stopping the engine Depress the combination switch (1). NOTE: After being pressed down, the combination switch will revert to the ON position again.

The engine is switched off, but can be turned on again without moving the combination switch. IMPORTANT: To cut off the ignition current, push the combination switch all the way down past the resistance point to the safety position (). Combination switch in safety position (ignition current cut off, necessary for all maintenance, repair, and installation work) 22 Checking the chain brake The chain brake must be checked before every use of the saw! Start the engine as described above (have a secure footing, place the chain saw on the ground so that the chain and guide bar are not near anything). Hold the front handle firmly, with your other hand on the rear grip. Let the engine run at medium speed and push the handguard (6) in the direction of the arrow using the back of your hand, until the chain brake engages. The chain should now stop immediately. Bring the engine back to idle and release the chain brake. Caution: If the chain does not stop immediately in this test, turn off the engine immediately. Do NOT use the chain saw in this condition! Contact a MAKITA service centre. 6 Symbol visible - Normal operation visible - Winter operation Working in winter In order to prevent carburetor icing in conditions of low temperature combined with high humidity, and below + 5°C in order to get up to operating temperature faster, heated air can be taken from the cylinder.

Remove the cover (see "Cleaning the air filter"). Remove the insert (7) and insert it as shown for winter operation. If the temperature is above + 5°C (40°F) the engine needs to induct cold air. If this is not done, the cylinder and piston can be damaged! For temperatures above + 5°C (40°F) turn the insert 180° so that after it is inserted the induction opening (8) is closed. Put the cover back on. Symbol 7 8 23 Adjusting the carburetor CAUTION: Carburetor adjustment may only be done by a specialist MAKITA service centre! SERVICE Do not undertake any adjustments to adjusting screws (H) and (L) without a tachometer! Incorrect adjustment can lead to engine damage! A tachometer is needed for adjustments to adjusting screws (H) and (L), because if the engine runs over its maximum rated speed, it can overheat and run out of lubricant. This can damage the engine! Only adjusting screw (S) can be manipulated by the user. If the saw chain moves in idle (i.e. without the throttle being pressed), it is imperative to correct the idle speed! Do not adjust the idle speed until after complete assembly and testing of the saw! Idle speed adjustment must only be undertaken when the engine is warm, with a clean air filter and properly installed guide bar and chain.

Use a screwdriver (4 mm blade) for idle adjustments. S L H Adjusting the idle speed Turn adjusting screw (S) counter-clockwise (unscrew): Idle speed decreases. Turn adjusting screw (S) clockwise (screw in): Idle speed increases. Important: If the saw chain still moves during idle even after you have adjusted the idle speed, do NOT use the saw. Take it to a MAKITA service centre! Note: Carburetor adjustment aids in proper functioning, economical consumption, and safe operation.

Because of new exhaust regulations, the carburetor adjusting screw (H) now comes with a limit feature. The reduced adjustment range (about 180 degrees) prevents excessively rich carburetor settings. On some models, the adjusting screw (H) is locked. This ensures compliance with exhaust regulations, as well as good engine functioning and economical fuel consumption. 24 MAINTENANCE Sharpening the saw chain CAUTION: Before doing any work on the guide bar or chain, always switch off the engine and pull the plug cap off the spark plug (see „Replacing the spark plug“).

Always wear protective gloves! The chain needs sharpening when: The sawdust produced when sawing damp wood looks like wood flour. The chain penetrates the wood only under great pressure. The cutting edge is visibly damaged. The saw is pulled to the left or right when sawing. This is caused by uneven sharpening of the chain. Important: Sharpen frequently, but without removing too much metal! Generally, 2 or 3 strokes of the file will be enough. Have the chain resharpened at a service centre when you have already sharpened it yourself several times. Proper sharpening: CAUTION: Use only chains and guide bars designed for this saw (see the Extract from the spare-parts list)! All cutters must be of the same length (dimension a). Cutters with different lengths result in rough running of the chain and can cause cracks in the chain.



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The minimum cutter length: 3 mm.

Do not sharpen the chain when the minimum cutter length has been reached; at this point, the chain must be replaced (see the Extract from the spare-parts list and „Replacing the saw chain“). The depth of the cut is determined by the difference in height between the depth limiter (round nose) and the cutting edge. The best results are obtained with a depth-limiter depth of 0.64 mm (.025"). CAUTION: Excessive depth increases the risk of kickback! 0,64 mm (.025") 0,64 mm (.025") min. 3 mm (0.11") The sharpening angle (α) must be identical for all cutters! 30° for chain type 092, 484 The teeth will have the proper angle (β) automatically if the proper round file is used.

80° for chain type 092, 484 Different angles result in a roughly, irregularly running chain, increase wear and tear and cause chain breakage. 25 Files and how to work with them Use a special saw chain round file for sharpening. Standard round files are unsuitable. For the order number, see "Accessories". Type 484: File the first cutter half with a 4,8 mm dia. file.

round saw-chain file, then switch to a 4.5 mm dia. file. Type 092: Saw chain round file, dia. 4.

0 mm. The file should cut only when pushed forwards (arrow). Lift the file when leading it backwards. First sharpen the shortest cutter. The length of this cutter is then the standard for all other cutters of the chain. New saw teeth must be filed to the exact same shape as the used teeth, including on their running surfaces. Chain type 092 Chain type 484 File depending on chain type (90° or 10° to the guide bar). 4/5 A file holder makes file guidance easier. It is marked for the correct sharpening angle of: = 25° = 30° = 35° (keep the marks parallel with the chain when filing, see illustration) and limits the cut depth to the correct 4/5 of the file diameter. See "Accessories" for the order number.

After having sharpened the chain, the height of the depth limiter must be checked by means of a chain gauge. See „Accessories" for the order number. Correct even the smallest excess height with a special flat file (1). See „Accessories" for the order number. Round off the front of the depth limiter (2). 1 2 26 Cleaning the inside of the sprocket guard CAUTION: Before doing any work on the guide bar or chain, always switch off the engine and pull the plug cap off the spark plug (see „Replacing the spark plug"). Always wear protective gloves! CAUTION: Start the chain saw only after having assembled it completely and inspected. Remove the sprocket guard (1) (see PUTTING INTO OPERATION for the correct model) and clean out the interior with a brush. Remove the chain (2) and guide bar (3). NOTE: Make sure there are no residues or foreign matter remaining in the oil guide groove (4) or on the chain tensioner (5).

To install the guide bar, saw chain, and sprocket guard, see PUTTING INTO OPERATION for the correct model. 4 3 2 5 NOTE: The chain brake is a very important safety device and like any other component subject to normal wear and tear. Regular inspection and maintenance are important for your own safety and must be done by a MAKITA service centre. 1 SERVICE Cleaning the guide bar CAUTION: Protective gloves must be worn. Regularly inspect the bearing surfaces of the guide bar (7) for damage, and clean them with a suitable tool.

Keep the two oiling holes (6) and the entire guide bar clean and free of foreign matter! 6 7 27 Replacing the saw chain CAUTION: Use only chains and guide bars designed for this saw (see the Extract from the spare-parts list)! When changing the type of chain, the complete clutch drum (12) must be changed to fit the different chain. If necessary, replace it. Check the sprocket before mounting a new chain. Worn out sprockets (8) may damage the new chain and must therefore be replaced. 8 Remove the sprocket guard (See „PUTTING INTO OPERATION").

Remove the chain and guide bar. Remove circlip (9). CAUTION: The circlip will pop out of the groove. When removing it, hold your thumb against it to prevent it from popping off. Remove thrust washer (11). If the sprocket (8) is worn out, the complete clutch drum (12) will need to be replaced (for the part number, see "Extract from the spare parts list"). Install a complete new clutch drum (12), cup washer (11) and new circlip (9) (for the part numbers, see "Extract from the spare parts list"). For replacing the guide bar, chain, and sprocket see „PUTTING INTO OPERATION". NOTE: 11 9 Don't use a new chain on a worn chain sprocket. By the time 2 chains have worn, the sprocket has become worn out, so it should be replaced at least at every second chain replacement.

To distribute the chain oil evenly, run a new chain at half-throttle for a few minutes before use. 12 New chains stretch, so check the chain tension frequently (see "Checking the chain tension"). 28 Cleaning the air filter 5 4 CAUTION: To prevent eye injury, always wear eye protection when cleaning the filter with compressed air! Do not use fuel to clean the air filter. Unscrew the hood lock (1) counter-clockwise and remove the hood (2). Push up the combination switch (3) (Choke position) to prevent dirt particles from falling into the carburetor. Unhook the clasp (4) in the direction of the arrow with a pin or the universal wrench. Pull the air filter (5) up and out. IMPORTANT: Cover the intake opening with a clean cloth to prevent dirt particles from getting into the carburetor. Pry apart the top and bottom of the air filter as shown in Figure. Cleaning the nylon filter: Use a soft brush or blow out dirt from the inside with compressed air.

If the filter is very dirty, it can be washed in lukewarm water with regular dishwashing detergent. Clean frequently (several times a day) when working in very dusty or dirty conditions. Full engine power is possible only with a clean air filter! Let the air filter dry completely. Put the top and bottom sections back together. Before assembling the air filter, check the choke flap for any dirt particles.

If there are any, remove them with a brush. CAUTION: If the air filter becomes damaged, replace immediately! Pieces of cloth or large dirt particles can destroy the engine! Insert an air filter (5) and press the clip (4) in the direction shown by the arrow until it engages. Push down the combination switch (3) and press the throttle (6) all the way down one time in order to deactivate the throttle lock. Put the hood (2) back on, first guiding the two holders (7) into their slots. Screw the hood lock (1) back on tightly clockwise.

3 1 7 2 5 4 3 6 29 Replacing the spark plug 8 CAUTION: Do not touch the spark plug or plug cap if the engine is running (high voltage).



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Switch off the engine before starting any maintenance work. A hot engine can cause burns. Wear protective gloves! 0,5 mm The spark plug must be replaced in case of damage to the insulator, electrode erosion (burn) or if the electrodes are very dirty or oily. Remove the Plter cover (see „Cleaning the air Plter“). Pull the plug cap (8) off the spark plug. Use only the combination wrench supplied with the saw to remove the spark plug. Electrode gap The electrode gap must be 0.5 mm. Checking the ignition spark 9 10 Insert combination tool between hood and cylinder as shown.

CAUTION! Do not insert the combination tool into the spark plug hole! Make contact only with the cylinder (otherwise you might damage the engine). Using insulated pliers, press the unscrewed spark plug (9) against the combination tool (away from the spark plug hole) with the spark plug cap firmly on the plug. Put combination switch (10) in the ON position. Pull the starter cable hard. If the function is correct, an ignition spark must be visible near the electrodes.

CAUTION: Use only the following spark plugs: NGK BPMR 7A, CHAMPION RCJ 6Y or BOSCH WSR 6F. Checking the muffler screws 11 12 Unscrew 3 screws (11) and remove the upper half of the muffler (12). Note: For saw models with catalytic converters, remove the converter along with the upper muffler half. The screws on the bottom muffler half (13) are now accessible, and it is possible to check them for tightness. If they are loose, tighten by hand (Caution: do not over-tighten).

13 30 Replacing the starter cable/ Replacing the return spring pack/Replacing the starter spring Unscrew four screws (1). Remove fan housing (2). Remove the air guide (3) from the fan housing. **CAREFUL! Injury hazard!** Do not unscrew screw (7) if the return spring is under tension. If the starter cable is to be replaced although it is not broken, it will be necessary to first de-tension the cable drum return spring (13).

To do this, use the grip to pull the cable all the way out of the fan housing. Hold the cable drum with one hand, and with the other push the cable into the space (14). Carefully let the drum turn until the return spring is no longer under tension. Unscrew screw (7) and remove the driver (8) and spring (6).

Carefully remove the cable drum.

Remove any cable pieces. Thread a new cable (dia. 3.5 mm, length 900 mm) as shown in the illustration (don't forget the washer (10)) and knot both ends as shown. Pull knot (11) into the cable drum (5). Pull knot (12) into the starter grip (9). Put the drum on its spindle and turn it slightly until the return spring engages. Place the spring (6) in the driver (8) and place them together in the cable drum (5) while turning slightly counter-clockwise. Insert screw (7) and tighten. Guide the cable into the slot (14) on the cable drum and turn the drum with the cable clockwise three times.

Hold the cable drum with your left hand and with your right hand untwist the cable, pull it tight and hold it. Carefully release the cable drum. The spring will wind the cable around the drum. Repeat the procedure once. The starter grip should now stand straight up on the fan housing. **NOTE:** With the cable pulled all the way out, it must still be possible to turn the pulley another 1/4 turn against the return spring. **CAUTION:** Danger of injury! Secure the cable grip when pulled out! It will whip back if the cable pulley is released by accident. 1 2 7 8 11 6 5 14 13 4 3 Replacing the return spring pack Disassemble the fan housing and cable drum (see above). **CAREFUL! Injury hazard!** The return spring can pop out! Always wear eye protection and protective gloves! Lightly tap the fan housing on a wooden surface with the entire surface of the hollow side, and hold it down. Now lift the fan housing carefully and in small steps.

This will allow the return spring pack (13), which should now have fallen out, to relax in a controlled manner if the return spring has popped out of the plastic pack. Carefully insert a new return spring cassette and press down until it engages. Place the cable drum on it and turn it slightly until the return spring engages. Install the spring (6) and driver (8) and screw on tight with screw (7). Tension the spring (see above).

12 10 9 Mounting the fan housing Insert the air guide (3) in the fan housing so that the two recesses (4) engage. Position the fan housing against the housing, press against it lightly and pull the starter grip until the starter engages. Tighten screws (1). Replacing the starter spring **NOTE:** If the spring (6) in the Featherlight-Starting system is broken, more effort will be required to start the engine and you will notice some resistance when pulling the starter cable. If you notice this, check the spring (6) and replace if necessary.

31 Cleaning the air Plter compartment / fan compartment 15 Remove cover. Remove the fan housing. **CAUTION:** To prevent eye injury, always wear eye protection when cleaning the Plter with compressed air! The entire area (15) can now be brushed clean or cleaned with compressed air. 15 Cleaning the cylinder Pins A bottle brush can be used to clean the cylinder Pins. 16 Replacing the suction head The felt Plter (16) of the suction head can become clogged. It is recommended to replace the suction head once every three months in order to ensure unimpeded fuel flow to the carburetor. To remove the suction head for replacement, pull it out through the tank Plter neck using a piece of wire bent at one end to form a hook. 32 Instructions for periodic maintenance To ensure long life, prevent damage and ensure the full functioning of the safety features the following maintenance must be performed regularly. Guarantee claims can be recognized only if this work is performed regularly and properly. Failure to perform the prescribed maintenance work can lead to accidents! The user of the chain saw must not perform maintenance work which is not described in the instruction manual.

All such work must be carried out by a MAKITA service centre. Page General Chain saw Saw chain Chain brake Guide bar Starter cable Before each start Saw chain Guide bar Chain lubrication Chain brake Combination switch, Safety locking button, Throttle lever Fuel/oil tank cap Every day Air Plter Guide bar Guide bar support Idle speed Every week Fan housing Air Plter compartment Fan compartment Cylinder Pins Spark plug Muffler Chain guide Screws and nuts Every 3 months Suction head Fuel, oil tanks Annually Storage Chain saw Chain saw Guide bar/chain Fuel, oil tanks Carburetor Clean exterior, check for damage. In case of damage, have repaired by a qualified service centre immediately Sharpen regularly, replace in good time Have inspected regularly at an authorized service centre Turn over to ensure even wear of bearing surfaces Replace in good time Check for damage. Replace if damaged.



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38, 22045 Hamburg, Germany, conforms to the basic safety and health requirements of the applicable EU guidelines: EU Machinery Directive 98/37/EG. EU EMC Directive 2004/108/EG.

Outdoor Noise Directive 2000/14/EG. Starting on 29 Dec. 2009, Guideline 2006/42/EG will come into force, replacing Guideline 98/37/EG. This product meets the requirements of the new Guideline. The most important standards applied to properly meet the requirements of the above EU Directive were: EN 11681-1, EN ISO 14982, CISPR 12.

The conformity assessment procedure 2000/14/EG was performed per Annex V. The measured noise level (L_{wa}) is 111,7 dB(A). The guaranteed noise level (L_d) is 113 dB(A). The EU Type-Examination Certificate was performed by: TÜV Product Service GmbH, Zertifizierstelle, Ridlerstr. 31, D-80339 Munich.

The technical documentation is on file at DOLMAR GmbH, Jenfelder Strasse 38, Department FZ, 22045 Hamburg, Germany. Hamburg, 8.2.2008 For DOLMAR GmbH Tamiro Kishima Managing Director Rainer Bergfeld Managing Director 38 39 To find your local distributor, please visit www.makita-outdoor.com MAKITA Werkzeug GmbH Postfach 70 04 20 D-22004 Hamburg Germany Specifications subject to change without notice Form: 995 701 421 (4.08 GB).



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