

Please, read this manual
carefully before use!

Owner's Manual

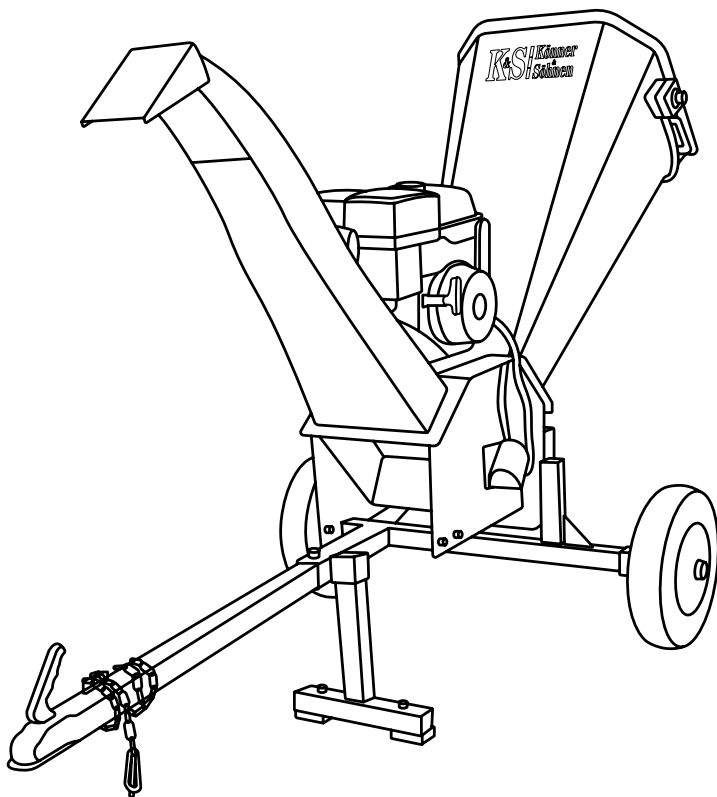


TRADITIONELLE DEUTSCHE QUALITÄT

K&S
Könner
&
Söhne

Wood chipper shredder

KS 400WS
KS 500WS
KS 700WS





Thank you for your purchase of **Könner & Söhnen** products. This manual contains a brief description of safety, use and debugging. More information can be found on the official manufacturer's website in the support section: ks-power.de/betriebsanleitungen.

You can also go to the support section and download the full version of the manual by scanning the QR code, or on the website of the official importer of Könner & Söhnen products: www.ks-power.de/en.



We care about the environment, therefore, we consider it expedient to save paper and leave in print a short description of the most important sections.



Be sure to read the full version of the manual before getting started!



Manufacturer reserves the right to make alterations into the generators, which may not be reflected in this manual. Pictures and photos of the product may vary from its actual appearance. At the end of this manual, You may find contact information which you are free to use in case of any issues occurrence.

All data, specified in this operation manual is the most up to date for the moment of its publishing. The current list of service centers you can find at the website of official importer: www.ks-power.de/en.



ATTENTION – DANGER!



Failure to follow the recommendations marked with this sign may lead to serious injury or death of the operator or third parties.



IMPORTANT!



Useful information while operating the machine.

Safety symbols and description of inscriptions can be found in the full web version.

IMPORTANT SAFETY INFORMATION

1



WARNING!



This is a high-powered machine, with moving parts operating with high energy. You must operate the machine safely. Unsafe operation can create a number of hazards for you, as well as anyone else in the nearby area.

SAFETY INSTRUCTIONS

1.1

Read and understand all instructions. Failure to follow all instructions may result in serious injury or property damage.

- Use only original equipment and spare parts. All liability is renounced in the event of an accident or other damage caused by the use of non-approved parts.
- DO NOT allow persons to operate or assemble the product until they have read this manual and have developed a thorough understanding of how it works.
- DO NOT modify this product in any way. Unauthorized modification may impair the function and/or safety and

could affect the life of the product. There are specific applications for which the product was designed.

- DO NOT allow children to operate this chipper shredder. Keep small children away from the area while chipper shredder is in use.
- Anyone who uses this chipper shredder must read the instructions and be familiar with the controls.



ATTENTION – DANGER!



Engine exhaust gases, wood dust and gasoline vapors contain health hazardous substances! Use a safety respirator and safety goggles when working with the chipper shredder!

- Dress appropriately when operating the chipper shredder. Always wear sturdy footwear and safety goggles. Never wear sandals, sneakers or open shoes, and never operate the chipper shredder with bare feet. Do not wear loose clothing that might get caught in moving parts.
- Always wear an ANSI approved respirator when operating machinery that produces dust. Wood dust is a

carcinogen and can cause cancer and severe respiratory illnesses.

- Always use hearing protection when operating machinery. Machinery noise can cause permanent hearing damage.



WARNING!



This unit discharges debris at high speeds. Always wear protective goggles.

Do not allow anyone in the area while the unit is running. If someone does enter the area, shut the unit off immediately until they leave. Organize the work area prior to starting work.

- Be sure the area is clear of other people before operating.
- ALWAYS maintain secure footing and solid balance while starting or operating the chipper shredder. Never lean directly over the machine.
- Operate the machine only in daylight or good artificial light.
- DO NOT operate the unit while under the influence of alcohol or drugs.
- Keep in mind the operator is responsible for accidents occurring to other people or property.
- Exercise extreme caution when operating on or crossing gravel drives, walks or roads.
- Make sure chipper shredder is free of debris before starting the engine.
- DO NOT put hands or feet near rotating parts or under the machine. Keep clear of the discharge opening at all times.
- ALWAYS operate the chipper shredder outdoors, on a firm, level, earthen or grassy surface where the unit will be stable and stay in position.
- Never attempt to operate the unit on a slope, or on a wet or slippery surface where you could slip and fall toward the chipper cone or hopper openings.
- ALWAYS obey the size limitations for tree limbs and branches stated in the Waste Materials Guide portion of this manual.
- NEVER leave the machine running unattended. Always turn off the engine, wait for the rotor to come to a complete stop before leaving the area.
- ALWAYS keep hands out of the shredder hopper when feeding materials. Never wrap fingers tightly around branches as you are feeding them into the unit, as a sudden inward surge could pull your hands and arms into the unit.
- NEVER allow material to build up in the discharge area or shredding chamber, as this may cause new material being fed into the machine to kickback with sufficient force to injure you or other bystanders.
- NEVER attempt to reposition or move the chipper shredder unit while it is running. Doing so could cause the machine to tip over, and reaching to steady the unit could result in accidental insertion of your hands into the chipper cone or shredder hopper areas.
- NEVER continue to operate the machine if it starts making unusual noise or vibration. Shut the engine off immediately, allow the rotor to stop, disconnect the spark plug wire. Inspect the unit for any signs of damage or foreign material in the chipping or shredding areas. Remove any solid material that may be preventing the unit from operating properly.
- NEVER attempt to unclog a shredder hopper or discharge chute, or perform any maintenance work while the machine is running. Before doing this, always shut the engine off and allow the rotor to come to a complete stop.
- ALWAYS make sure that the shredding chamber, shredder hopper are empty before starting the unit after it has been idle. Attempting to start the unit with material in these areas could cause the engine starting cord to stop suddenly, injuring your hand and fingers, or toppling the unit over. Vibration is generally a warning sign of trouble.
- NEVER attempt to make any adjustments while the engine is running.
- After striking a foreign object, stop the engine (motor) and wait for all moving parts to come to a complete stop. Thoroughly inspect the machine for any damage, repair the damage before restarting and operating the machine.
- DO NOT change the engine governor settings or over-speed the engine.

GASOLINE FIRES AND HANDLING FUEL SAFELY

1.2

Use extra care in handling gasoline. It is flammable and gasoline vapors are explosive.

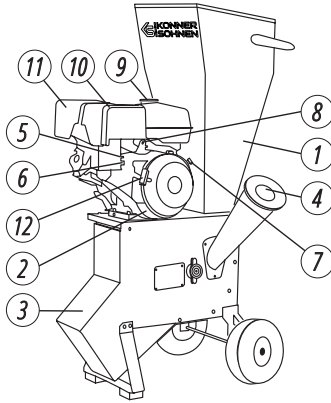


ATTENTION - DANGER!



The running engine produces carbon monoxide, which is hazardous to health and life.

- NEVER add fuel to a running engine or hot engine.
- Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
- Replace gasoline cap securely and clean up spilled fuel before restarting.
- ALWAYS start and run engine outdoors. Do not start or run engine in an enclosed area, even if doors or windows are open.
- DO NOT change the engine governor settings or over-speed the engine.

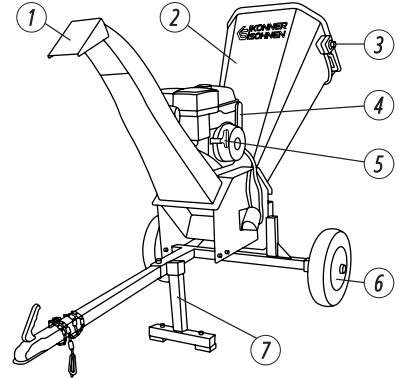


Model KS 400WS

- 1. Hopper
- 2. Motor
- 3. Chip Outlet
- 4. Chipper Funnel
- 5. Choke
- 6. Fuel Cock
- 7. ON/OFF Switch
- 8. Throttle
- 9. Fuel Tank Cap
- 10. Air Cleaner
- 11. Exhaust
- 12. Pull Start Handle

Models KS 500WS, KS 700WS

- 1. Discharge chute
- 2. Feed hopper
- 3. Emergency stop button (only for model KS 700WS)
- 4. Electric start key (only for model KS 700WS)
- 5. Transport handle
- 6. Transport wheels
- 7. Support frame (looks differently for KS 500WS)



SPECIFICATIONS

Model	KS 400WS	KS 500WS	KS 700WS
Engine power	6.5 HP	6.5 HP	15 HP
Engine start	manual	manual	manual/electro
Number of cutting blades	2 pcs.	2 pcs.	2 pcs.
Max total diameter (for upper hopper)	76 mm	76 mm	120 mm
One branch diameter (for upper hopper)	10 mm	30 mm	30 mm
Max total diameter (for side cone)	76 mm	-	-
One branch diameter (for side cone)	60 mm	-	-
Chip ejection height	-	1100 mm	1600 mm
Shredded chip size	3-4 mm	10-15 mm	10-20 mm
Max. blade speed	2400 rpm	3000 rpm	3000 rpm
Engine type	gasoline 4 stroke		
Engine cylinder volume	196 cm ³	196 cm ³	420 cm ³
Engine model	KS 230	KS 230	KS 430
Engine speed	3600 rpm	3600 rpm	3600 rpm
Fuel tank volume	3.6 l	3.6 l	6.5 l
Crank case volume	0.6 l	0.6 l	1.1 l
Wheels	10"	12"	16"
Gross dimensions (L*W*H)	750x480x1150 mm	880x480x760 mm	1140x660x1120 mm
Gross weight	80 kg	110 kg	230 kg
Protection class	IP54M	IP54M	IP54M

**ATTENTION – DANGER!****DO NOT attempt to start this machine until all assembly has been completed. Serious personal injury and damage to the machine could occur.**

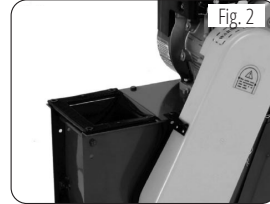
STEP 1. Tip the chipper/shredder over and remove the four bolts shown in Pic.1. DO NOT turn the chipper/shredder over once it is full of oil and gas. The oil and gas will spill out

STEP 2. Attach the wheel assembly and the leg with the bolts that were removed in Step 1.

STEP 3. Set the chipper shredder upright and set the hopper gasket around the chute as shown in Pic. 2.



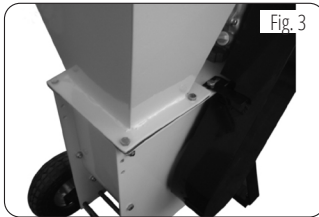
Attaching the leg



Positioning the hopper gasket

STEP 4. Place the hopper on top of the gasket and line up all of the holes. Secure it with hex bolts, washers and lock nuts. (See Pic. 3).

STEP 5. Place the handle on the hopper and line up all of the holes. Secure it with washers and bolts. (See Pic. 4).

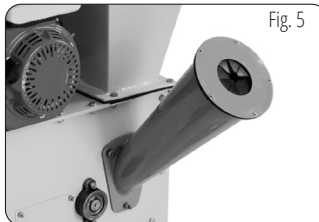


Attaching the hopper



Installing the handle

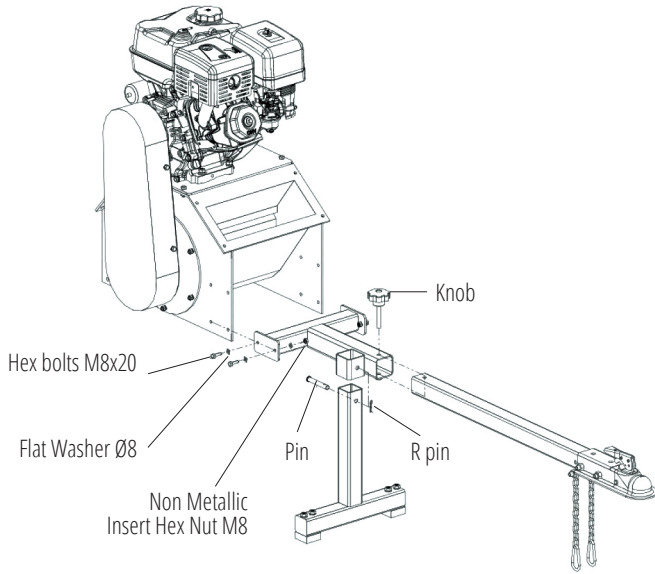
STEP 6. Place the funnel over the studs in the side of the chipper/shredder and secure it with washers and lock nuts. (See Pic. 5).



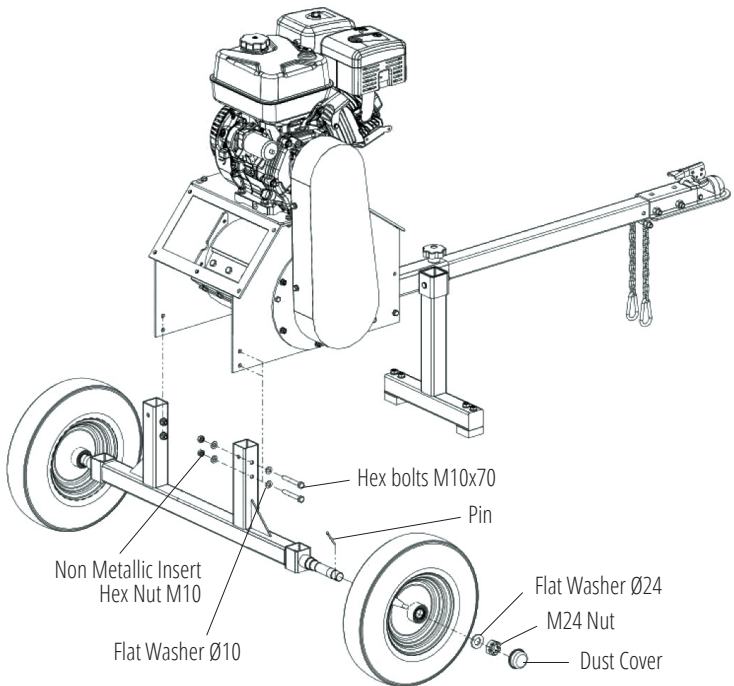
Funnel installation

STEP 7. Before operating, fill the motor with oil and gas according to the instructions.

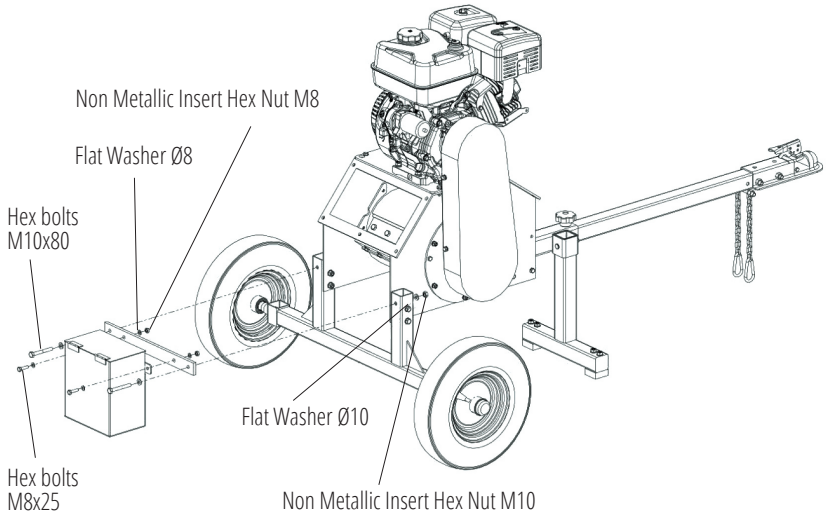
STEP 1



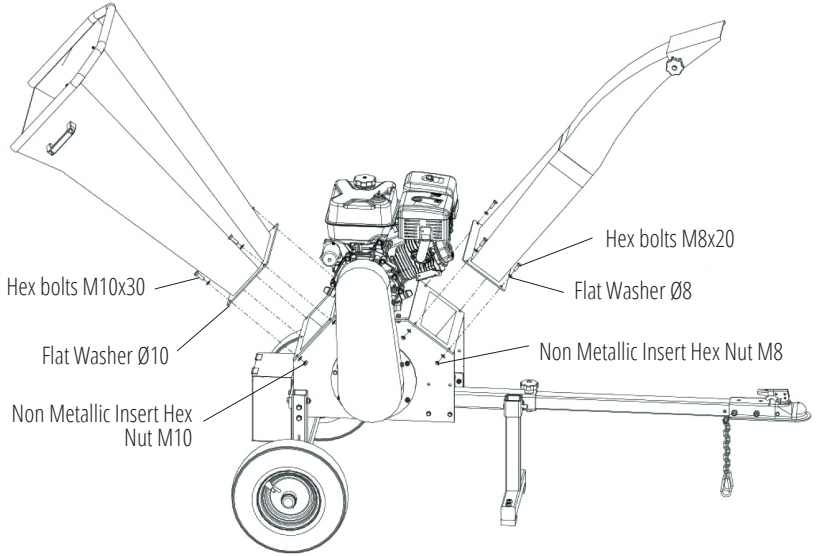
STEP 2



STEP 3



STEP 3



WORKING PROCESS

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There are hopper and discharge port on the machine, drawing materials in hopper when it is in operation, the materials through hopper to get into inner crusher room. Due to the blades of cutter wheel in inner crusher room are made a relative movement in high speed and cut the materials during the movement. After cutting, materials are discharged through the discharge port.



IMPORTANT!



The engine is supplied without oil and fuel.

If there are many uncut materials, blades may be needed to sharpen or intervals are needed to make adjustment. It is easy to cause injury due to blades are sharp enough. Sharpen or adjust blades should go to indicate maintenance point. The recommendation of blade intervals is 1-2min.

CHIPPER OPERATION KS 400WS

The chipper is designed to handle tree limbs and branches up to approximately 3" (7,6 cm) in max. aggregate diameter of feed material. The total diameter of the branches should not exceed 15 mm. The chipping knives also permit the processing of course organic matter like corn stalks. Tree branches must be inserted large-end first into the chipper cone. Since occasional kick-backs may occur, always stand off to the side of the unit. Allow the self-feeding action of the unit to draw the sticks in.



SHREDDER OPERATION KS 400WS

The shredder is designed to shred leaves, and other soft but bulky organic waste and branches up to 15 mm in diameter. As material is loaded into the shredder hopper it is pulled into the path of the triangular and J-hammers by air flow.



FOR MODELS KS 500WS, KS 700WS choice of chipping material: the fresh cut trees branches in max. aggregate diameter of feed material indicated in the table with technical data on page 3 (the total diameter of the branches should not exceed 15-40 mm), and straws can be chipped directly. Due to different hardness and moisture content, the engine may stop midway or the machine body may shake during the working, that's normal. Our recommend max. chipping capacity point to the annual plant, such as trees, bamboo and straws. If chipping the perennial plant, you should shorten the chipping diameter and lessen the material to feeding hopper. The ideal chipping for this machine is suitable for fresh cut with 80% moisture content plant. During the chipping process, you should obey the rule: Big side first, small side later, the trunk first, the branch later. In order to get good chipping, it's better put branches and leaves together with the the bulk or segment of big trees. Block and short materials are not allowed to be chipped separately, for the safety of the operator and the good of the blades, they are better to be crushed with branches or straw.

CHECKING THE FUEL LEVEL

1. Unscrew the fuel cap and check the fuel level in the tank.
2. Fill the fuel tank to the fuel filter level.
3. Tighten the fuel cap securely.

Recommended fuel: only unleaded gasoline.

Fuel tank volume: see specifications table.



IMPORTANT!



Wipe up spilled fuel immediately with a clean, dry, soft cloth, as the fuel may harm painted surfaces or plastic parts.



IMPORTANT!



Use only unleaded gasoline. Using leaded gasoline can cause serious damage to the inside of the engine. It is forbidden to use kerosene or other fuel types.

CHECKING THE OIL LEVEL

The wood chipper shredder is transported free of motor oil. Do not start the engine until it is filled with sufficient amount of motor oil.

1. Unscrew the oil dipstick and wipe it out with a clean cloth.

2. Insert the dipstick without screwing it in.
3. Check the oil level by a mark on the oil dipstick.
4. Add oil if its level is below the mark on the oil dipstick.
5. Screw on the dipstick.

Recommended motor oil: SAE 10W30, SAE 10W40.

Recommended motor oil grade: API Service SG type or higher.

Motor oil quantity: see specifications table.



COMMISSIONING

1. Fill the crankcase with engine oil. The recommended amount of oil for each model is indicated in the specification chart.
2. Check oil level with an oil dipstick. It should be between the MIN and MAX marks on the oil dipstick.
3. Check fuel level.
4. Check the air filter for correct installation

IN THE FIRST 20 OPERATING HOURS, THE FOLLOWING REQUIREMENTS SHOULD BE MET:

1. After the first 20 operating hours, be sure to change the oil. It is better to drain oil while the engine is still hot after operation to ensure quick and complete oil draining.
2. Check and clean the air filter and spark plug.

OPERATION

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Become familiar with all of the controls and how to stop the unit. Check all hardware (bolts, screws, etc) before every use for tightness to be sure machine is in safe working condition. Upon start-up and shut-down, you may hear the metal-to-metal sound of the triangular hammers and J-hammers positioning themselves on the rotor. This is normal.

If this sound continues after the machine has reached full speed, contact your dealer for an inspection of the unit. Overloading the equipment will shorten its life, and can cause mechanical failures.

STARTING THE ENGINE

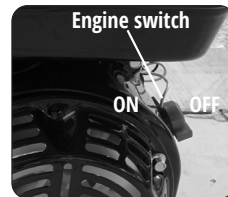
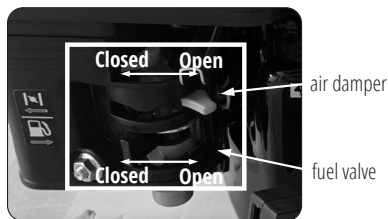


IMPORTANT!



Allow the engine to warm up for several minutes before use.

Before starting the engine, make sure the switch is in the "I" (ON) position (see the pictures below). Turn the rotary engine speed dial to MAX. Set the engine switch to the "CHOKE" position. Grasp the starter handle and slowly pull it until resistance is felt, then pull it with a rapid movement all the way. Repeat the operation until the engine starts. After starting the engine, allow the rope to retract without throwing the starter handle. Put the flaps in the "RUN" position.



Electric start
for model KS 700WS



STOPPING THE ENGINE

To stop the engine, turn the switch to the "OFF" position. Turn the fuel valve to the "CLOSED" position.

SHREDDING TIPS

- Alternate loads of wet and dry material to prevent the discharge from becoming plugged.
- Never use any object to force material into the shredding chamber.



IMPORTANT!



Don't overload the shredder by dumping large volumes of material into the hopper opening.

STORAGE

The machine must be stored in a dry, well-ventilated and dust-free indoor area.



NOTICE



Do not store a fueled unit in an enclosed structure.

- DO NOT store the chipper/shredder near an ignition source
- Store the chipper/shredder in a well ventilated area.
- If the engine is not to be used or is to be stored for more than one month the following storage procedure should be carried out. Drain all the fuel from the fuel tank and the carburetor ensure that all the fuel has been removed. Remove the spark plug and pour approximately one tablespoon full of clean engine oil into the spark plug hole. With the ignition turned OFF gently pull on the recoil starter cord several times. Re-fit the spark plug continue to pull the recoil starter cord until the piston is on the compression stroke (when resistance is felt) then stop pulling.

TRANSPORTING

- ALWAYS use the built-in wheels to move the chipper shredder. Handling must only be carried out with the engine off!

TROUBLESHOOTING

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ATTENTION!



Never put your hands into the shredder hopper. Never put very hard or dry materials such as kiln-dried bulky lumber (2x4) or other building materials into the shredder hopper. Never load wood products that have been preservative-treated under pressure into the shredder.

THE COMMON FAULTS	ELIMINATION METHOD
The engine cannot be started	Check the fuel ON-OFF, see if it's ON, check if gets enough fuel and lubrication oil, check the emergency stop button.
Engine flameout midway	Check if the engine is stopped by overloading, check if something blocked in the chipping hopper, check the emergency stop button and protection switch.
The hopper blocked	Stop the machine, and remove the hoppers and the cap of bearing, turn the shaft of roller by the right spanner in the toolkit to clear the blocked material. Don't touch the blade during the working, make sure your hands not to be cut by the blades.
Has strange noise	Stop the machine, check if the fastener gets loose, if not, let the professionals to check the repair.
The blade destroyed	Go to the professional repair point to change or repair the blades.
The belt damage	Open the belt cover and change the belt.
The material grinding not sufficient	Let the professional to adjust the blade space, the recommended space for rough chipping is 1 for fine chipping is 0.1 mm- 1.2 mm

REGULAR MAINTENANCE CHECKLIST

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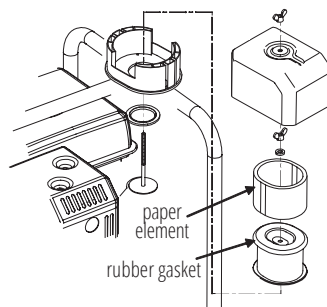
This manual compliance! You can find a list of service center addresses on the website of exclusive importer: www.ks-power.de/en

PROCEDURE		Before each use	First start or 20 operating hours	Every month	Each 3 months or after 50 working hrs
Motor oil	Check	✓			
	Replace		✓		✓
Blades	Check (replacement if necessary)			✓	
All parts, incl. bearing, belt	Check			✓	
				1-2 times a month	

PROCEDURE		Every start or 20 hours	Before each use	Each 3 months or after 50 working hrs	Each 6 months or after 100 working hrs
Air filter	Check		✓		
	Clean out	✓			
	Replace			✓	
Spark plug	Gap check and control			✓	
	Replace				✓

MAINTENANCE OF AIR FILTER

A dirty air filter restricts air flow into the carburetor, decreases engine performance and reduces log splitter performance. Check the air filter and clean before every start. If the air filter is damaged, replace it. When working in extremely dirty conditions, clean the filter every 10 hours, replace it every 25 hours if needed.



IMPORTANT!



Never operate engine without air filter. Air filter allows to avoid highspeed wear of engine.

SPARK PLUGS TECHNICAL MAINTENANCE

Spark plug has to be intact, without soot deposits and to have a correct gap.

SPARK PLUG VERIFICATION:

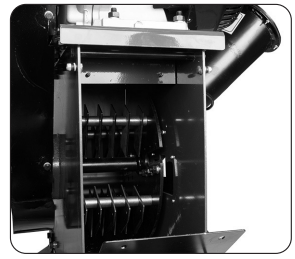
1. Remove the cap from the spark plug.
2. Remove the spark plug by means of a corresponding spanner.
3. Examine the spark plug. If it is shattered – it is necessary to replace it. Recommended replacement spark plugs – F7RTC.
4. Measure the gap. It has to be within range 0.7 – 0.8 mm.
5. In case of repeated use, the spark plug has to be cleaned by means of a metal brush. After that – set the correct gap.
6. Place the spark plug in its place by means of a spark plug spanner.
7. Replace the spark plug cap.

REPLACING BLADES FOR MODEL KS 400WS

Sharpen or replace the blades as soon as the chipping performance begins to deteriorate, or if you notice dings, chips, or cracks.

To perform this procedure:

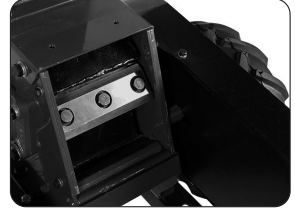
1. Turn off the machine, allow all moving parts to come to a complete stop, and disconnect the spark plug wire!
2. Remove the side cover plate to expose the blades. (See pic.).
3. Remove one blade, rotate the impeller, and remove the second blade.
4. Have the original blades professionally sharpened, or order a replacement set, then re-install the blades.
5. Replace the side cover plate and re-attach the spark plug wire.



for model KS 400WS

REPLACING BLADES FOR MODELS KS 500WS, KS 700WS:

Remove the hopper, unscrew the screws that attach the blades to the shaft. If one side of the double bevel blade goes blunt, you can flip the blade and use the other side which is sharp. When both sides go blunt, order a new blade or consult a specialist to sharpen the blade.



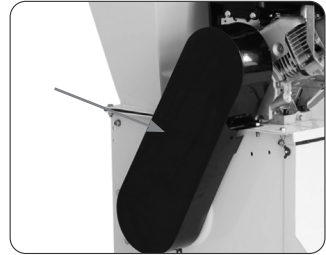
for models KS 500WS, KS 700WS

REPLACING V-BELT

Replace or tighten the V-belt if you notice the motor running and the chipper blades are not spinning. If an abnormal squeaking sound is heard when you start the chopper, it is time to replace the belt.

To perform this procedure:

1. Turn off the machine, allow all moving parts to come to a complete stop, and disconnect the spark plug wire!
2. Remove the V-belt cover as shown in pic.
3. Roll the belt off of the pulleys and install the new belt.
4. Replace the V-belt cover and re-attach the spark plug wire.



CLEANING

Clean the machine after each use. Allow the motor to cool and remove the spark plug wire.

Brush off or vacuum wood chips and wipe off the remaining dust from the exterior of the machine with a dry cloth. DO NOT rinse off the chipper/ shredder with water. Remove any chips or debris from the hopper and the discharge chute.

It is much harder to clean the machine if you allow it to sit for a while after use. You may need to use an engine cleaner to remove the built up resins from the motor. Engine cleaners are available at most auto parts stores.

WARRANTY SERVICE TERMS

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The international manufacturer warranty is 1 year. The warranty period starts from the date of purchase. In cases where a warranty period is longer than 1 year according to local legislation, please contact your local dealer. The Seller of the product is responsible for granting the warranty. Please contact the Seller for warranty. If the product fails within the warranty period because of defects in workmanship, it will be exchanged for the same product or repaired.

The warranty card should be kept throughout the warranty period. In case of warranty card loss, a second one will not be provided. The Customer must provide the warranty card and proof of purchase when requesting any repair or exchange. Otherwise, the warranty service will not be provided. The warranty card attached to the product during sale should be correctly and fully completed by the retailer and customer, signed and stamped. In other cases, the warranty shall be deemed invalid.

Provide clean product to the service center. Parts that must be replaced are the property of the service center.



EC Declaration of Conformity

Nr. 090

The following products have been tested by us with the listed standards and found in compliance with the European Community Machinery Directive 2006/42/EC, Electromagnetic compatibility Directive (EMC) 2014/30/EC, Noise Directive 2000/14/EC.

Manufacturer: DIMAX INTERNATIONAL GmbH
 Address: Hauptstr. 134, 51143 Cologne, Germany
 Product: Wood chipper-shredder "Könner & Söhnen"
 Type / Model: KS 400WS, 500WS, KS 700WS

The statement is based on a single evaluation of above mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab. logo. The manufacturer should ensure that all product in series production are in conformity with the product sample detailed in this report. The applicant should hold the whole technical report at disposal of the competent all the right.

Applied EC Directives: 2006/42/EC Machinery Directive
 2014/30/EC Electromagnetic compatibility Directive
 (EU) 2016/1628 Non-Road mobile machinery emissions
 2000/14/EC Noise Directive

Applied Standards: EN ISO 14982:2009
 EN ISO 12100:2010
 EN 13683:2003+A2:2011/AC:2013

Gasoline engine KS 230, KS 430 corresponds to European Emission Standard Euro V.
 This is confirmed by EU TYPE-APPROVAL CERTIFICATE granted by NSAI certification.
 Technical service responsible for carrying out the test -TÜV SÜD Auto servise GmbH in München, Germany
 Date of issue 17/01/2019

2000/14/EC_2005/88/EC Annex VI

For model KS 400WS, KS 500WS noise guaranteed L_{wa} = 113 dB (A), KS 700WS noise guaranteed L_{wa} = 117 dB (A).



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Place of issue: Cologne city
General director: Fomin P. *P. Fomin*

DIMAX
 International
 GmbH
 Steuer-Nr.: 103 5722 2493
 USt-IdNr.: DE296177274

We DIMAX INTERNATIONAL GmbH hereby declare that specified above conforms covering European Parliament and Council Directives, 2006/42/EC of 17 May 2006 Machinery Directive, Electromagnetic compatibility Directive (EMC) 2014/30/EC of 26 February 2014, Noise Directive 2000/14/EC of 8 May 2000. The CE mark above can be used under the responsibility of manufacturer. After completion of an EC declaration of Conformity and compliance with all relevant EC directives.

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