OPERATOR'S MANUAL

Kubota BRUSH MOWER

MODEL K4080



PLEASE READ THIS MANUAL CAREFULLY AND KEEP READY AT ALL TIMES

KUBOTA®

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BEFORE OPERATION

- 1. Keep children out of the operating area under the watchful eye of another responsible adult.
- 2. Never allow another person in the operator's station of the excavator while the machine is in operation.
- 3. Stop machine operation if a person approaches the mowing area.
- 4. The operator should walk through the mowing area to identify and locate hazards.
- 5. Hazards may include large stones, pieces of concrete, glass bottles, discarded wire & cable, discarded automotive parts, fence posts, or exposed pipes.
- 6. Inspect the mowing area for utility lines and features such as electrical lines and enclosures, water and sewer lines, or communications equipment.
- 7. Read and understand this manual and the excavator manual before operating the mower.

This symbol, the ind and on labels on the these instructions ca	FETY FIRST ustry·s "Safety Alert Symbol", is used throughout this manual machine itself to warn of the possibility of personal injury. Read arefully. It is essential that you read the instructions and safety bu attempt to assemble or use this unit.
DANGER:	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING:	Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
IMPORTANT	Indicates that equipment or property damage could result if in- structions are not followed.
NOTE:	Gives helpful information.
K010017	

SAFETY

Failure to heed these warnings may result in personal injury or death.

- Before operating this machinery read the owner's manual carefully.
- Use OSHA approved eye, ear and head protection to protect the operator from any flying debris and noise.





- All personnel except operator should be 150 feet clear of machinery before starting or operating it.
- Never use drugs or alcohol before or while operating your brush mower.



- Be aware that operating equipment for an extended period of time can result in fatigue or boredom and may cause the operator to lose awareness of what he/she is doing. It is recommended that scheduled work breaks be taken to avoid this.
- Keep hands and loose clothing away from any power-driven parts.
- Avoid contact with hot surfaces including pumps, motors, hydraulic oil tanks and hose connections.
- Do not operate this machine without all guards being in good condition and firmly in place.
- Do not operate this machine on a excavator that is not properly maintained. If a control failure should occur while operating this machine, immediately shut it down and perform repairs before continuing.
- Be aware of the cutter drum rotation direction and do not let bystanders stand within 150 feet to either side of the mower.
- Under no circumstances should the blades of this attachment contact the ground or be curled up to where they are visible to the operator. Serious injury or death can occur.
- Always walk the area to be worked to insure the jobsite is free of obstacles and debris that could injure the operator or damage the machine.

SAFETY (cont.)

- Stop the operation of this machine when people or vehicle driver's vision becomes obscured, caused by the discharge of materials and dust. Also avoid operating this attachment in unusually foggy or dusty conditions or at night.
- Never leave the excavator or the brush shredding attachment unattended while it is in the lifted position or while the shredder is spinning.
- Keep away from rotating elements to prevent entanglement.
- Listen for blades to completely stop prior to dismounting machine.
- Use flashing warning lights when operating on highways, except when prohibited by law.
- If using the side shredding method, drive at a speed you can safely operate the vehicle and attachment. Normal ground speed ranges from 0-5 miles per hour. Use slow speeds when operating on or near slopes, ditches, dropoffs, or when debris and foreign objects are to be avoided.
 I.Knives will cut and sever limbs and other body parts.
 I.Surgethe KX080 Excavator is turned off prior to servicing the brush mower.
 Always keep by-standers back a minimum of 150 feet from brush



- Use the following guidelines to reduce the risk of equipment and grass fires:
 - Do not smoke or have an open flame near the machinery.
 - Do not drive into burning areas or areas that have been freshly burned.
 - Do not mow areas that are tinder dry and can burn easily.
 - DO NOT allow debris to collect near hydraulic motors and gearboxes.
- Do not position the attachment or turn it so sharp that the hoses could get pinched or squeezed.



ATTACHING TO THE EXCAVATOR

• Be sure to inspect all safety devices (including safety shields, guards, deflectors, etc.) before each use.



- Maintain all safety decals and make sure they are visible to the operator and bystanders. If decals are worn, contact your nearest Kubota dealer for replacements.
- Replace bent or broken blades with new ones. Do not attempt to weld or bend damaged blades. This can cause cracking or other types of damage that could result in the blade being thrown from the brush mower.
- Wear gloves and eye protection and exercise care when handling blades. Also be alert to worn or damaged surfaces that could have sharp edges.
- Disengage hydraulics and shut off engine, bleed off hydraulic pressure to both high and low flow circuits allowing all movement to stop before leaving the operator's position to adjust, lubricate, clean, unclog, remove or install the attachment. See Kubota KX080-3 Operators Manual for detailed instructions on bleeding off hydraulic pressures.
- Before working on or underneath the attachment, place blocks on both sides (front and back) of operating vehicle tires or treads and under each end of the attachment to prevent accidental lowering of the machine. Also remove the ignition key from the operating vehicle and allow all movement to stop before beginning work.

ATTACHING TO THE KX080

ATTENTION

The K4080 brush mower is designed specifically for the Kubota KX080 excavator and should not be used on any other machine. Make sure the person who is attaching this brush mower has knowledge of attaching regular buckets and can do so in a safe manner. The method used most often for attaching this brush mower is the "curl-in" method.

Note: Remember to allow at least 3-5 minutes for the excavator to warm-up before using with any oil-operated functions or attachments.



Zero Pressure Return Valve To Breaker Mode "clockwise".

- Move the KX080 into position behind the brush mower. Keep in mind that the "back" of the mower is the end with the hydraulic motor.
 - Once the power unit is in position, lower the excavator arm into position, inserting the rear portion of the mount into the Quick-Attach (1) first and then "curling" the front portion down into place. Insert factory pin (2) to keep brush mower locked in place. Refer to photo on left.
 - Extend the main excavator dipper to its full length in front of the excavator and set mower down with the skid shoes firmly on level ground. This will allow for easy access to the (**3**) flat-face couplers. <u>Never stand on attachment to reach couplers.</u> <u>Turn off the excavator and bleed down pressure on both high and low flow hydraulic circuits. See Kubota KX080 Operators Manual.</u>
- Couple the hoses. The female end on the shredder is pressure in (left side) and the male end is return (right side). These hoses should be coupled to the high-flow circuit (26.4 GPM) operated by the right-hand joystick in the excavator. Then enable hydraulic breaker mode on the excavator, allowing for zero pressure return, (4) by turning the valve located near the hydraulic reservoir to the return to tank position. This step is vital and if not followed will result in damage to the hydraulic motor. Also, the high flow circuit is most often the closest to the cab of the excavator as shown in the second photo.
- If equipped with a thumb, plumb to the lowflow circuit (17 GPM), which is operated by the left-hand joystick on the excavator.

ADJUSTMENT & MAINTENANCE

CLEANING YOUR BRUSH MOWER

To preserve life of paint and decals, wash the brush mower after each use. The preservation of your brush mower's decals is essential to safety, so make sure they are kept in good condition. It is also recommended that some sort of degreasing solution be used on all bearings.

- Check for excessive grease in bearing areas. Clean off any excessive amount.
- Clean clippings from hydraulic hose areas, mounting areas or any areas that may be susceptible to excessive heat.
- Clean inside the brush mower with a pressure washer. Make sure the inside of the mower is kept free from mud and compact grass. Keep in mind that mud built up on the cutter drum can cause imbalance resulting in vibration.
- Preserve damaged decals or replace them if they are unreadable. Decal kits can be obtained from your local Kubota dealer.
- Inspect blades for small cracks across the hole and insure they are wearing evenly.
- Inspect attachment hardware such as bolts and roll pins to make sure they are tight.



BASIC OPERATION

Running Your Attachment

The K4080 brush mower is designed to cut all types of vegetation such as grass, brush and small trees. The condition of your terrain and the material to be cut should be evaluated for the best results.

House Rotation Mowing

Brush on flat terrain can be cut by rotating the house control from side-to-side and keeping the cutter head just above ground level, moving the excavator forward 40" at a time into uncut material.

Side Mowing

Another technique is to place the cutter head next to the machine and drive forward keeping the head near the road's shoulder or edge of what you are cutting around.

Top Down Mowing

The last way of operation is to start at the top and work toward the ground. Raise the boom all the way up and curl it away from you. This will allow the head to be inverted and trim tree canopies. Then swing the head from side to side in the vertical position to trim the sides of trees. Finally, position the head parallel to the ground to completely mulch the branches and grass, eliminating any clean-up by hand crews.

Brush cutting covers a wide range of conditions and is more dangerous than mowing because of the hidden objects. For this application, be sure to feed large diameter branches or thick brush into the side of the shredder where the blades are hitting down. To reduce discharge, move into uncut material with the discharge side of the brush mower. This reduces debris throw significantly. Never allow observers within 150' of the brush mowing operation. House Rotation Mowing



Side Mowing



Top Down Shredding



BASIC OPERATION

- Before beginning your job, walk the mowing area and clear all hidden hazards such as large rocks, stumps, utility lines and hidden debris like broken glass, bottles and miscellaneous materials. Projected debris can cause injuries to operators, pedestrians, livestock and property.
- 2. While inspecting your work area for debris, be on the lookout for bees, fire ants, poison ivy and poison oak. Taking note of potential area hazards will increase your productivity as well as your safety. Also avoid improper working conditions such as overly saturated grounds, which can cause slippery conditions.
- 3. Check your discharge path. Most mowers and brush cutters will have some combination of material discharge system. Mulching flail mowers and brush cutters are bi-directional. This allows the utilization of both sides of the blades. Always make sure you know the discharge direction and discharge flaps are properly secured and in good working order. Never start the mower if attachments are not securely fastened to the power unit.
- 4. Your brush cutter is most efficient when the knives are sharp and turning at full RPM. 1500-1800 RPM is the recommended speed the cutter shaft should turn.
- 5. Loading or "lugging down" the cutter excessively will reduce its cutting capacity and result in increased hydraulic oil temperature. Stay aware of the cutter drum speed and lift out of the cut until maximum speed is regained before resuming.
- 6. When cutting larger diameter material, lay the tree down with the blade and plane the tree from side-to-side. This will result in a finer mulch which is quicker and easier on the machine than trying to grind a tree of 3" or more diameter from the top down.
- 7. Never allow bystanders to within 150 feet of mowing or brush cutting.
- 8. Do not use this mower as a bucket to dig up roots and spread out piles of dirt. Damaged caused by such activities will result in expensive repairs which will not be covered under warranty. This weldment design is strong enough to last for decades if cared for properly.
- 9. Frequent and routine maintenance procedures should be followed to insure the safe and efficient operation of your brush mower
- 10. Abuse is indicated by drum damage, where the sides of the knives have left indentations on the drum. Abuse is also indicated by premature knife failure across the whole drum. If cutter abuse is not prevented, ear failure will follow. To prevent abuse, always reduce cutting load before significant cutter drum speed is lost.

BASIC OPERATION

Starting Procedure

- 1. While the excavator's engine is turned OFF, and all moving parts have completely stopped, remove outer spindle cover.
- 2. Check to see that the brush mower is in the down position and blades are not touching the ground. Start the engine and set throttle at idle speed. Important: Do not start the operating vehicle until the brush mower has been carefully checked for correct assembly and installation. Be sure that all observers are at least 100 feet clear of the machine.
- 3. Check pressure settings and make sure that the brush mower circuit is set to 3000 PSI and the thumb circuit is set to 2500 PSI.
- 4. With low RPM, turn on the auxiliary flow hydraulics. **Do not engage auxiliary flow** hydraulics at a high engine speed.
- 5. Slowly bring up the RPM to maximum flow/efficiency. The brush mower should be operating at 1500-1800 RPM. The RPM can be checked on the idler end side of the mower using the shaft center. To do this, you will need a handheld tachometer as shown in the photo below. Simply insert the end of the tachometer into the hole in the center shaft. When checking the RPM with this method, it should be around 1700 at full throttle with nothing else running on the power unit. Use extreme caution when checking RPM near rotating parts!

Tachometer Usage



Auxiliary Hydraulics Control



- 6. Listen and feel for excess vibrations. Should excess vibrations occur, disable auxiliary flow hydraulics and shut the machine down. Determine and correct the problem before continuing work.
- 7. When work is finished, disable auxiliary flow hydraulics, shut off operating vehicle, set parking brake and check hydraulic motor and surrounding parts for excess heat or any leaks. Then replace shaft cover.

MAINTENANCE

ATTENTION

Before doing any service work, observe the following safety rules:

- 1. Remove the ignition key from the operating vehicle and allow all movements to stop before leaving the operator's position and starting any maintenance activities.
- 2. Allow all movements to stop before leaving the operator's position to lubricate or clean the machine.
- 3. Before working on or underneath the brush mower, place blocks on both sides of the operating vehicle tires or treads and under each end of the brush mower to prevent accidental lowering of the machine.

Lubrication

- 1. GREASE DAILY: Two cutter drum bearings. The grease fitting for the bearing on the motor side of the attachment is mounted on the side of the motor housing.
- 2. Inspect rubber isolation disk. This disk will last over 1000 hours but should be inspected daily and replaced whenever the cutter drum is removed.
- 3. When greasing, apply 6-8 full pumps every eight hours of operation. Apply 6-8 full pumps every four hours if running in severe conditions, apply 6-8 full pumps every three hours in wet, boggy conditions.

CAUTION

Over-greasing seals and bearings can cause damage. If an excessive amount of grease is visible, too much grease has been applied.



Lubrication Points

REPLACING KNIVES

IMPORTANT

Never operate brush mower with a damaged knife. This will make the cutter drum unbalanced and severe damage may result!

- 1. Worn knives, bolts, and spacers must be replaced. Neglecting the replacement of these parts could cause the cutting drum to run out of balance. Do not mix new parts with older, worn parts. Always replace wear washers when blades are replaced. Failing to do so could cause the cutter drum to run out of balance.
- 2. In order to replace damaged or worn knives, you need a 3/16" punch, a hammer and access to the knives on the cutter drum. Once the brush mower is tilted to where the knives are exposed, simply take your punch and hammer it against the roll pin going through the castle nut and bolt until it pops out. The nut should come off easily after that.



3. To attach new knives, replace the same as they were removed and tighten the nut down past the hole for the roll pin and reinsert the roll pin using the hammer and punch.

ATTENTION IMPORTANT RECOMMENDATION

Customer & Dealer should always keep replacement knives, hammers and blade bolts on hand. DO NOT OPERATE BRUSH MOWER WITH DAMAGED KNIVES.

HYDRAULIC DIAGRAM

The diagram below represents the hydraulic plumbing system for the Kubota K4080 Brush Mower attachment.



To reverse cutter drum rotation, reverse the hoses on the motor side of the protection valve.

On quick couplers, the female end is usually the pressure in. Double check the excavator plumbing to insure pressure (in) is on the left side of the of the boom while sitting in the cab. AKA pressure in. This will provide clockwise cutter drum rotation.

TRANSPORT

ATTENTION

Allow all movements to stop before leaving the operator's position to lubricate or clean the machine. Before working on or underneath the brush mower, place blocks on both sides of the operating vehicle tires or treads and under each end of the mower to prevent accidental lowering of the machine. Remove the ignition key from the operating vehicle and allow all movements to stop before beginning work. To transport, disengage auxiliary hydraulics and lower the machine to a reasonable ride height.



<u>Removal</u>

- 1. Lower the brush mower all the way onto level ground, extend boom and stick to reach hoses.
- 2. Turn off the excavator and cycle all controls to insure all hydraulic pressure is relieved.
- 3. Unlock the locking devices on the excavator mount, never stand on the attachment.
- 4. Unlock mounting devices at the excavator and uncouple hydraulic hoses.
- 5. Re start and lift the excavator boom to remove it from the mower.
- 6. If transporting excavator and brush mower, leave the shredder mounted and curl forwards so that the underside is exposed to the operator as shown above.

Storage

- 1. Clean the brush mower thoroughly.
- 2. Lubricate the mower as recommended.
- 3. Check hoses and replace if damaged.
- 4. Check for worn parts and replace so you will be ready to operate when necessary.
- 5. Store in a clean, dry place.

TROUBLESHOOTING

T= Trouble C= Countermeasure

- T. Where is the serial number for my machine?
- C. The serial number for your brush shredder is stamped next to the mounting bracket on the opposite side of the motor.



- T. Where do I find replacement parts?
- C. Your local Kubota dealer.
- T. How often should I change my knives?
- C. Replacing the cutting knives is a performance issue. When the cut begins to be inconsistent or rough, consider replacing the knives. It is recommended to always keep an extra set of knives on hand so that loss of work time is minimal. Your dealers has a starter kit of wear parts that shipped with your brush mower.
- T. Do I need to fill the hydraulic motor with oil before I use the brush mower?
- C. No, you do not. Attachments are tested at the factory prior to shipment and come filled with high quality hydraulic fluid.
- T. How can I prevent my hydraulic hoses from coming off during operation?
- C. Be careful! Make sure the hoses are pressed all the way into their corresponding fittings on the operating vehicle. Turn the female coupler collar past bump to lock. Give them a slight tug to make sure they are on all the way.
- T. When I am replacing hydraulic fluid, how much should I add?
- C. Consult your KX080 excavator manual for fluid levels and information.
- T. Are there any advantages to reversing cutter drum rotation?
- C. Obviously the first thing is safety. For example, if you want your cutter drum to rotate so that it throws debris away from property, then it is advantageous. Also, you can reverse rotation to use the other side of the knives instead of having to buy new ones or flip the old ones around.

TROUBLESHOOTING cont.

T= Trouble C= Countermeasure

- T. How do I reverse the cutter drum rotation?
- C. Refer to the Adjustments and Maintenance section of this manual for information on reversing the hydraulic hoses at the motor to reverse the cutter drum direction.
- T. How do I replace my knives?
- C. Refer to the Adjustments and Maintenance section of this manual for information regarding the replacement of knives.
- T. When connecting my hydraulic hoses, is there a specific way they should be attached or can any hose go to any fitting on the operating vehicle?
- C. Make sure the engine is turned off and all the functions have been cycled to insure all hydraulic back pressure has been relieved. You will notice that one hose has a female end and the other hose has a male end. The female hose attaches to the male fitting on the operating vehicle and vice versa. Refer to the Basic Operation section of this manual for further information regarding plumbing.
- T. I keep blowing the seals on my 40EXT and cannot seem to resolve the issue. What should I do?
- C. The main cause of seal ruptures with this machine is a result of high pressure return problems. In order to eliminate these problems, let the operating vehicle warm up for at least 3-5 minutes before attempting to use any oil-operated functions. Check to insure return valve is in the HAMMER / BREAKER clockwise position.

NOTE: Consult your KX080 excavator manual to insure lift capacities are not exceeded. K4080 features custom bolt on hitch mounting to match your existing buckets. Safety begins with a thorough understanding of the equipment. Always make sure you and your operators read the Operator's Manual before using the equipment. Pay close attention to all safety and operating decals and never operate machinery without all shields, protective devices and structures in place. Design, materials and/or specifications are subject to change without notice and without liability therefore. Specifications are applicable to units sold in Canada, the United States, its territories and possessions, and may vary outside these areas.

SPECIFICATIONS

K4080 Brush Mower Specifications

Working Width	40"	(101.6 cm)
Overall Width	58"	(127 cm)
Weight	1,325 lbs.	(600 kg)
Number of knives	24/12 -77 lbs	s.(35 kg)
Capacity	6".	(15.3cm.)
Hyd. Flow required	23 gpm /	87 lpm

FEATURES

- Bolt on excavator bucket style quick attach mount
- 3/4" & 3/8" high strength AR plate structure
- Grade 8 castle nut, roll pin attachment system
- Reversible spiral mounted triple hammer knifes
- · Wire proof hardened cutter shaft protectors
- Integrated thumb saddle motor guard
- Safety chain debris deflector guards

Includes complementary 3/4" hydraulic hoses, 92" long, with flat faced hydraulic couplers and factory quick attach mount.





DRIVE ASSEMBLY 18





NOTES	
KUBOTA. Model K4080 Serial No. KUBOTA TRACTOR CORP. TORRANCE, CA	

	K4080 Complete Parts List	
Qty. Per Unit	Description	Part Number
1	BEARING, FLANGE (1 15/16" 4 BOLT)	77700-00852
24	KNIFE, SHREDDER	77700-00853
12	KNIFE, SHREDDER (CENTER)	77700-00854
1	O RING, SPINDLE HOUSING 5/32"x17"	77700-00855
2	BEARING, BALL 50mm ANGULAR CON- TACT	77700 00050
		77700-00856
<u> </u>	SEAL, SHAFT 3 1/2"x2 3/4" OD	77700-00857
		77700-00858
1		77700-00859
1	GUARD, WIRE - DRIVE SIDE	77700-00860
1	GUARD, WIRE - IDLER SIDE	77700-00861
12	BOLT, KNIFE 1"x4" GR8 -2 1/2" Shoulder	77700-00862
	SPACER, 1" GR8 Flat Washer (KNIFE	
24	BOLT)	77700-00863
12		77700 00964
		77700-00864
12	NUT, CASTLE 1" (KNIFE)	77700-00865
12	PIN, ROLL 3/16"x1 1/2"w/hole (KNIFE BOLT)	77700-00866
1	NUT, LOCK (DRIVESHAFT)	77700-00867
1	SET DECAL	77700-00868
1	FITTING, GREASE 1/4" NPT	77700-00869
1	BARB, HOSE 1/4"MNPTx1/4" 90°	77700-00870
Ι		11100-00010
1	BARB, HOSE 1/4"MNPTx1/4" Straight	77700-00871
1	HOSE, GREASE 1/4"x18"	77700-00872
1	MPV - Aluminum Body	77700-00873
1	MPV - Cartridge, Pressure Relief	77700-00874
1	MPV - Cartridge, Check Valve	77700-00875
4	ADAPTER, 12 MORB x 12 MJIC 90	77700-00876
1	COUPLER, 3/4" FEM FLUSH FACE	77700-00877
1	COUPLER, 3/4" MALE FLUSH FACE	77700-00878
2	ADAPTER, 16 MORB x 12 MJIC 90	77700-00879
2	HOSE, 90" 12 MORB x 12 FJIC Shielded	77700-00880
2	HOSE, 44 " 12FJIC x 12 FJIC	77700-00881
1	MOTOR, HYD 26 gpm flow	77700-00882
1	BREATHER	77700-00883
1	COMP DRUM (CUTTER ASSY)	77700-00884
1	COMP MOUNT, BOLTED QA	77700-00885
1	CAP, END - BEARING GUARD	77700-00886
1	COVER, MOTOR UPPER	77700-00887
1	COVER, MOTOR LOWER	77700-00888

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