

Bannerman Line Trimmer

BW2015-M
Operation & Parts Manual



Read the following instructions before use.

Dear Owner,

Welcome to Bannerman, the Home of Sports Turf Magic.

Your new BW2015 Commercial Line Trimmer is designed to meet your trimming requirements. The ease of operation and low maintenance will give you many trouble free hours of operation. Please make certain that you read and understand the important instructions for the assembly, adjustments, operations, safety and the maintenance contained in this manual. If there are any instructions which you do not fully understand, contact your dealer or Bannerman Ltd. for clarification prior to using the unit.

When in need of replacement parts, specify the model and serial number of your BW2015 Commercial Line Trimmer, along with the engine information (if you require parts for the engine). The serial plate that identifies your model number and the serial number is located on the shaft of the trimmer, and engine information is found on the engine. To give you many years of service, regular preventative maintenance is required. Should you require further assistance, please feel free to contact your local Bannerman dealer, or Bannerman directly at:

Bannerman Ltd.
41 Kelfield Street ~ Rexdale, ON M9W 5A3
Tel # 416-247-7875 ~ Fax # 416-247-6540
CDN 1-800-325-4871 ~ USA 1-800-665-2696
Email: info@sportsturfmagic.com
Website: www. sportsturfmagic.com

BW2015-M Operation & Parts Manual

Read the following instructions before use. Keep this manual in a safe place, it contains very important data pertaining to this unit.

	MODEL	MY SERIAL NO.
ENGINE	MITSUBISHI TLE-27	
SHAFT	BW2015	

Warranty Statement

Bannerman Ltd. warrants all Bannerman BW2015 Commercial Line Trimmer's that have been registered in our system. By receiving the Warranty Card & Declaration or Delivery Card completely filled out, via post, fax, or email within 15 days of Date of Sale for Registration, or Warranty is Null & Void. Some dealers or distributors may do this on behalf of their customers, but it is the responsibility of the end user to make sure that the Warranty Card has been filled out and submitted to Bannerman Ltd. Warranty Cards are included in the package with this booklet, and are also able to be filled in and printed off of our website: www.sportsturfmagic.com.

Bannerman BW2015 Commercial Line Trimmer's are covered by warranty when used properly, to be free from defects in material workmanship under normal use and service, for a period of 90 days. This warranty does not guarantee a particular service life of the product. Service life will vary with application, operating environment, level of maintenance and other factors beyond our control.

Bannerman's sole responsibility for the BW2015 Commercial Line Trimmer or parts determined to be defective and covered by this warranty, is limited to repairing, or replacing the product or part.

Prior authorization from Bannerman Ltd. must be obtained, before replacing or returning parts, or incurring any cost for labor. No charges for expense incurred in parts, labor or transportation, by unauthorized persons will be allowed under this warranty. Bannerman Ltd, reserves the right to request the return of any part or assembly (with transportation charges prepaid) claimed to be covered under this warranty.

Bannerman Ltd. shall not be liable, in event, for proximate, incidental, consequential, special or other damages, including, but not limited to, damages for loss of production, loss of profit, loss of opportunity, or injury to persons or property arising out of any breach of this warranty.

There are no warranties, expressed or implied, including the warranty of the merchantability, warranty, warranty of fitness for particular purpose, or any other warranty extending beyond that set forth above.



I have submitted the Warranty Card & Declaration or Delivery Card completely filled out, via post, fax, or email within 15 days of Date of Sale for Registration.


Name:


Date:

Safety Warnings and Definitions


Understanding signal words and follow safety instructions

	<p>Safety Alert Symbol – This is the safety alert symbol. When you see this symbol in this manual, be alert and avoid personal injury. When accompanied by the words “CAUTION” and “WARNING”, it calls your attention to items or operations which can lead to a serious injury.</p>
	<p>Prohibition Symbol - A circular band with a diagonal slash symbol means whatever is prohibited.</p>

 **WARNING:** You should pay special attention to these instructions since failure to do so could result in injury or death to the operator. In this manual you will find these “Warning” signal text.

 **WARNING:** To avoid serious injury

 **CAUTION:** Instructions which, if not followed, could result in mechanical damage or failure. In this manual you will find this “**CAUTION**” signal text.

 **CAUTION:** To avoid serious injury

NOTE

This symbol refers to an area or subject of special merit emphasizing either the product’s capabilities, common errors in operation, maintenance and instructions which are of special interest. In this manual you will find this “**NOTE**” signal text.

NOTE

Safety Rules



Read the operator's manual carefully. Be familiar with the controls and the proper use of the unit, and how to turn off, and unhook the harness quickly in an emergency.



⚠ WARNING: To avoid serious injury

There is a great risk to eyes from thrown objects. Always wear proper eye protection.



⚠ WARNING: To avoid serious injury

Dress in long pants and wear boots or safety shoes.

Wear leg guards when cutting large or thorny material.

⊘ DO NOT wear open-toed shoes, go barefoot, or bare legged.

⊘ DO NOT wear loose or dangling clothing, neckties, scarfs, or jewelry which could be caught in the unit or in the vegiation.



Secure long hair under a hat.

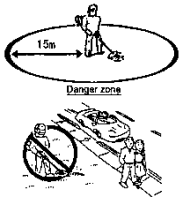
⚠ WARNING: To avoid serious injury

Wear safety goggles, safety shoes, gloves and helmet whenever operating.

Precautions



- ⚠ **WARNING:** To avoid serious injury
- ⊘ **NEVER** allow children to operate or play with the machine.
- ⊘ **NEVER** allow anyone to use this machine without proper instruction.



- ⚠ **WARNING:** To avoid serious injury
- Keep people out of the danger zone. This is a circle of 15 meter radius around the unit and operator.



- ⚠ **WARNING:** To avoid serious injury
- Operate only where firm footing is assured.
- ⊘ **DO NOT** operate from a ladder or any other place where use of hands would ordinarily be necessary to prevent falls.

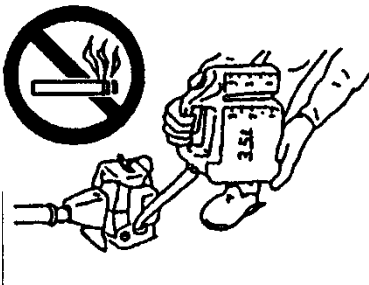
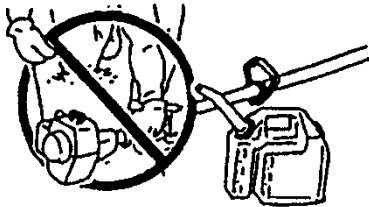


- ⚠ **WARNING:** To avoid serious injury
- ⊘ **DO NOT** operate under the influence of alcohol, drugs, or medications that affect your vision, dexterity or judgement. You must be in good physical and mental health in order to operate this machine.



- ⚠ **WARNING:** To avoid serious injury
- ⊘ **DO NOT** operate in unventilated areas. Exhaust gas is highly poisonous.

Strictly NO FIRE



⚠ WARNING: To avoid serious injury

ALWAYS HANDLE GASOLINE WITH CARE.

IT IS HIGHLY FLAMMABLE.

Always stop the engine to refuel.

- ⊘ DO NOT refuel a hot engine. Wait until the engine has cooled down.
- ⊘ DO NOT remove the fuel cap when the engine is still warm or running.

Eliminate all sources or sparks or flame (including smoking, open flames, or work that could cause sparks) in the areas where fuel is mixed, poured or stored.

Handle in a clean and cleared place and away from fire.

- ⊘ DO NOT smoke while handling fuel.

Avoid spilling fuel or oil. Spilt fuel or oil should always be wiped up immediately.

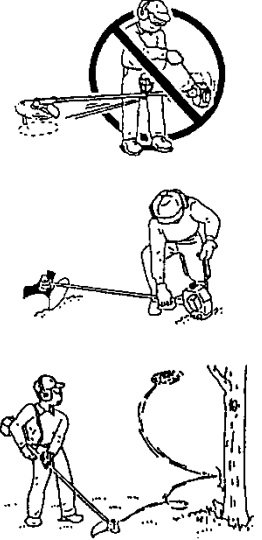
Mix, pour, and store gasoline in as approved marked container and in a well ventilated area.

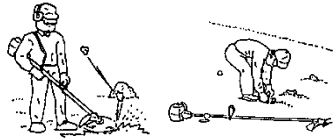
Checks before Starting

Adjust the handle to a position for comfort and keeping a good balance is recommended.

Make sure that the unit is assembled properly.

If using the shoulder strap that is provided with this unit, balance the unit as recommended by adjusting the position of the clamp on the shaft.

	<p>⚠ WARNING: To avoid serious injury</p> <p>Hold the unit down firmly so you may not lose control while cranking. If not held down properly, the engine could pull you off balance or swing the cutting line into an obstruction or your body.</p> <p>⊘ DO NOT cut with a dull, cracked or damaged metal blade.</p> <p>Keep the unit and attachments in good working condition. Tighten fastening parts at regular intervals. Check the cutting head assembly before using each time.</p>
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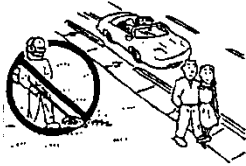
	<p>Thoroughly inspect the area where the unit is to be used and remove all stones, sticks, wire and other objects that could cause injury if thrown at high speeds.</p>
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<p>⚠ WARNING: To avoid serious injury</p> <p>⊘ NEVER operate this unit without proper guards, shields and other safety protective devices in place and properly connected. Inspect to determine that these safety devices are installed properly, are in good condition and operate properly. If the condition or operations of these devices are abnormal, they must be repaired or replaced before using the unit.</p>
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Make sure the cutting head stops turning when the throttle lever is released and the engine runs at idle speed.

<p>⚠ WARNING: To avoid serious injury</p> <p>⊘ DO NOT use any accessory or attachment other than those supplied by the manufacturer for use with this particular unit.</p>
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Cautions during Operation

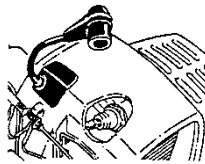


NOTE: If necessary to cut where people or cars could be hit by thrown, cut at a reduced (slow) throttle speed to reduce the speed of the cutting head.



⚠ WARNING: To avoid serious injury

Shut down immediately if the unit starts to shake or vibrate. This could be a sign of danger from a broken part or missing fasteners.



NOTE: Disconnect the spark plug wire before you work on the unit or leave it unattended.

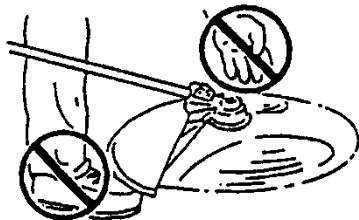


⚠ WARNING: To avoid serious injury

Always keep both hands on the control handles.

⊘ DO NOT operate one-handed.

⊘ DO NOT hold material you are cutting.



⚠ WARNING: To avoid serious injury

After shutting down the engine, keep fingers and feet away from the cutting head until all rotation stops.

⊘ DO NOT put hands or feet near or under rotating parts while the engine is running.

⚠ WARNING: To avoid serious injury

⊘ NEVER use wire in place of the nylon monofilament cutting line. The wire tip can break off during cutting and become a dangerous missile.

⚠ WARNING: To avoid serious injury

BLADE THRUST may occur when the spinning blade contacts a solid object in the critical area. A dangerous reaction may occur causing the entire unit and operator to be thrust violently. This reaction is called BLADE THRUST. As a result, the operator may lose control of the unit which may cause serious or fatal injury. BLADE THRUST is more likely to occur in areas where it is difficult to see the material to be cut.



⚠ WARNING: To avoid serious injury

To avoid hitting small stones or other debris, do not cut too close to the ground.

Keep cutting attachment below waist level.

After striking a foreign object or if the unit vibrates abnormally, stop the engine, disconnect and secure the spark plug wire. Inspect the unit for damage and repair the damage.

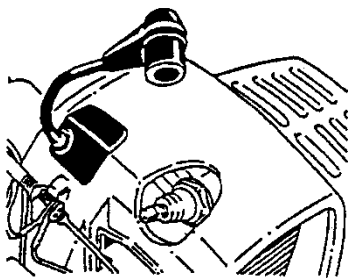
Cover the blade during transport.

The muffler side of the engine should be away from your body. This is necessary to avoid burns.

Cautions after Operation

⚠ WARNING: To avoid serious injury

⊘ DO NOT store the unit with fuel in the tank, because a fuel leak could start a fire. Allow the engine to cool before storing in any enclosure.

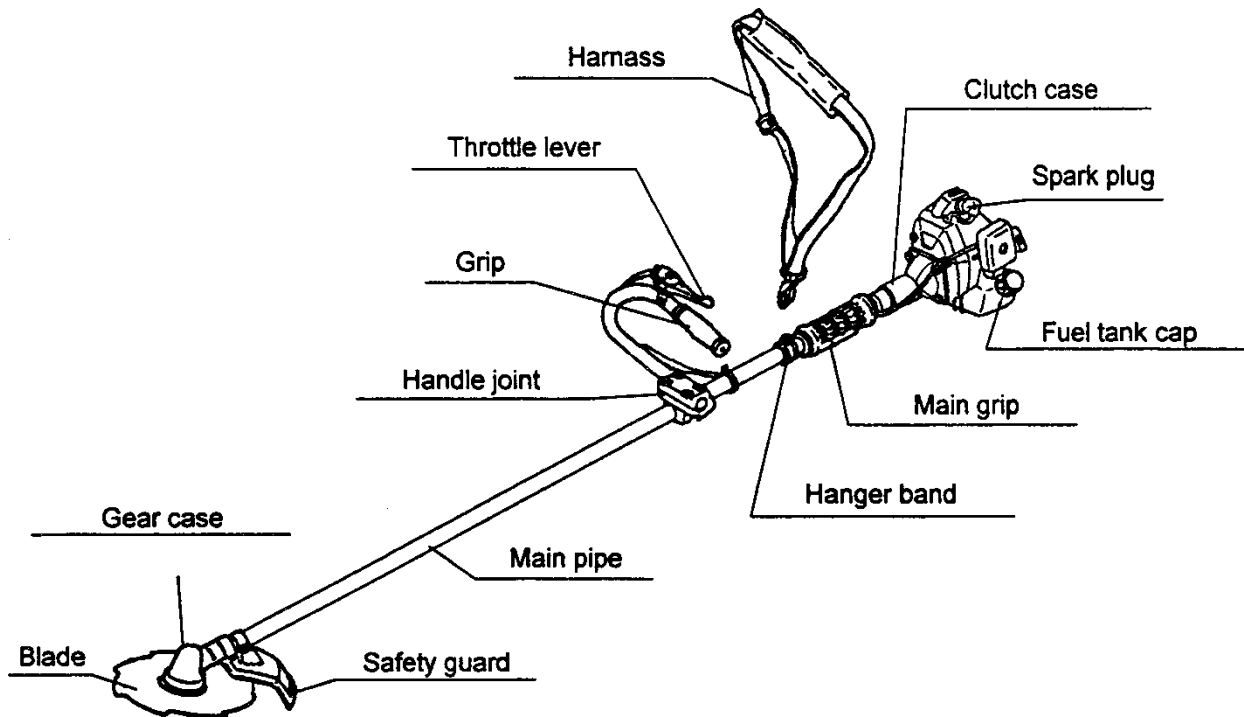


NOTE: Before cleaning, repairing or inspecting, make certain that the cutting head has stopped.

Disconnect and secure the spark plug wire away from the plug to prevent accidental starting.

Use only recommended genuine replacement parts to avoid creating a hazard and/or voiding your warranty. Store in a dry area and out of the reach of children.

Names and Specifications for each part



Technical Data

Drive System:	Auto Centrifugal clutch spiral bevel gear
Reduction Ratio:	14:19
Rated cutter edge rotation speed (rpm):	4,300 to 6,500
Direction of blade rotation:	Left (Top View)
Throttle Lever:	Fixed Type
Vibration Dampener:	Genuine Vibration Dampener

MITSUBISHI TLE-27	
Engine Type	Air cooled Single Cylinder 2 cycle engine
Displacement	26.3 cm ³
Maximum Output	.90 Kw
Carburetor	Diaphragm
Ignition System	Transistor type magneto
Starting System	Recoil Starter Assembly
Fuel	Mixed (Gasoline: Oil = 50:1)
Fuel Tank Capacity	0.50 Liters


All specifications are subject to change without notice

 **CAUTION: Instructions which, if not followed, could result in mechanical damage or failure.**

NOTE:

the FUEL MIXTURE for the MITSUBISHI engine is 50:1

Only use premium two-stroke engine oil that is formulated for modern, high performance, air-cooled two-stroke engines. **Oil Specification JASO Service Classification – FC Class.**

-  **DO NOT** use BIA or TCW2 cycle water cooled engine oils (this oil is for engines that operate at 600 degrees Fahrenheit, The MITSUBISHI TLE-27 engine operates at up to 900 degrees Fahrenheit).

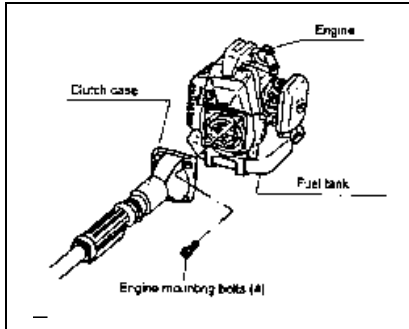
Prepare the gasoline/oil mixture in a clean approved portable container.

Mix the oil with fresh premium, or **minimum 89 octane gasoline.**

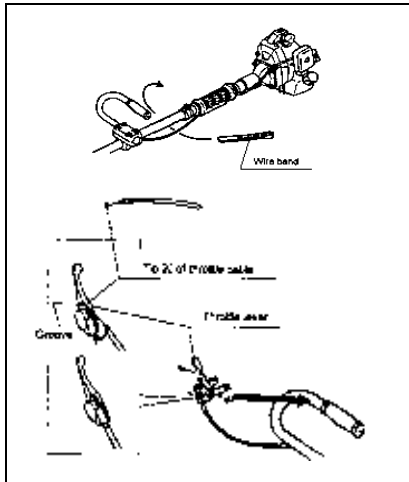
Shake vigorously to ensure complete mixing.

 **CAUTION: Failing to follow these directions will cause irreparable damage that will void all warranties.**

Installations

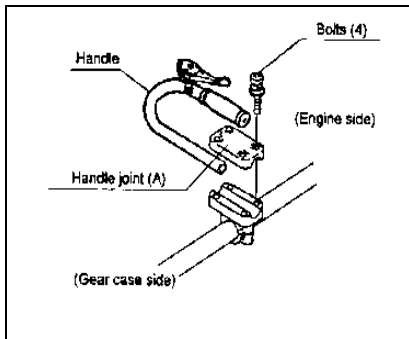


Installing the Engine - Fasten the engine together with the fuel tank facing down. Be sure to fasten the engine mounting bolts uniformly and secure.

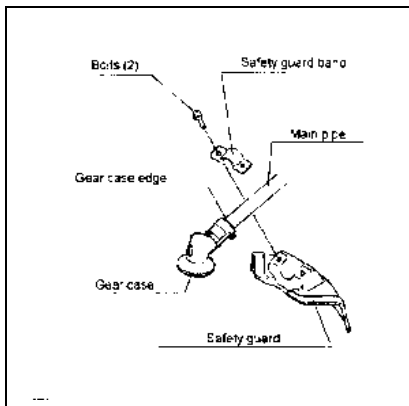


Installing the throttle lever and connecting the throttle cable - Insert the throttle cable through the cable passage in the main grip.

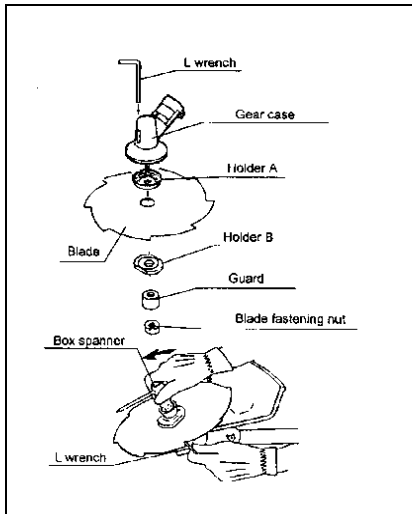
Engage the trip (A) of the throttle cable into the groove of the throttle lever. Install the throttle cable into the throttle lever. Using the adjuster that is located at the engine, adjust the throttle cable so that the play is between 1mm and 2mm.



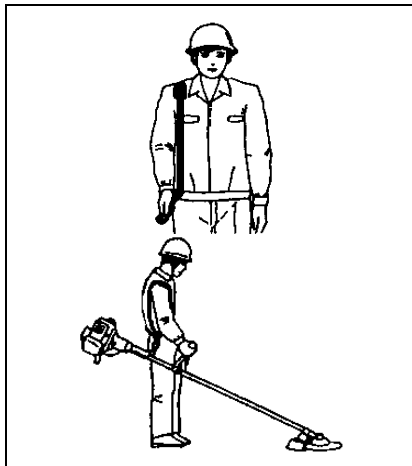
Installing the handle - Slightly loosen the clamp on the throttle lever and slip onto the hook handle. Slightly loosen the 4 bolts in the handle joint (A) and insert the handle. Tighten the handle joint (A) temporarily. After adjusting the handles to a comfortable angle, fasten the 4 bolts uniformly. Tighten the clamp on the thumb lever.



Installing the safety guard - Using the 2 bolts, install the safety guard. To position the safety guard properly, press the safety guard against the edge of the gear case. Tighten both bolts evenly and securely. To ensure safety, make sure that the safety guard is in place during operation.



Installing the blade (Optional Equipment) - Install the parts in the following order: Holder A – Blade Holder B. Make sure that the blade's direction of rotation is orientated properly before installing the blade. Use an "L" wrench to prevent Holder A from spinning and tighten the blade fastening nut. The blade fastening nut has a left hand thread. This process must be handled carefully to prevent injury to your hands. To ensure safety, be sure to wear gloves during the installation or removal of the blade.



Installing the shoulder strap - Place the shoulder band on the shoulder. Adjust the length of the shoulder strap so that the blade will be most parallel to the ground.

Starting and Stopping the Engine

Be sure to read the engine operation manual from proper starting, stopping, adjusting, and other important information concerning the engine operation.

Starting; before starting the engine, verify that the surroundings to ensure safety. Be extremely careful during starting because depending on where the throttle lever is set, the blade, or line head could rotate.

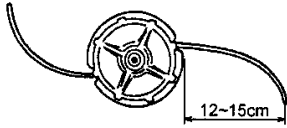
Stopping; if there is no other work remaining; make sure to empty the fuel in the fuel tank. Restart the engine and operate it until it stops. The fuel that remains in the carburetor is consumed within 2 to 3 minutes, the engine stops. Leaving the carburetor empty of fuel in this manner will ensure ease of starting next time.

Adjusting the Carburetor;

1. At the time of shipping, the carburetor is adjusted for optimal fuel delivery. Do not adjust the carburetor needlessly, as it could malfunction.
2. Because the carburetor could malfunction when the engine is hot avoid prolonged operation and allow the unit to cool in shade.
3. Adjusting the carburetor could lead to problems. In case of any malfunction, contact your dealer.

Working Methods

Nylon Cutter



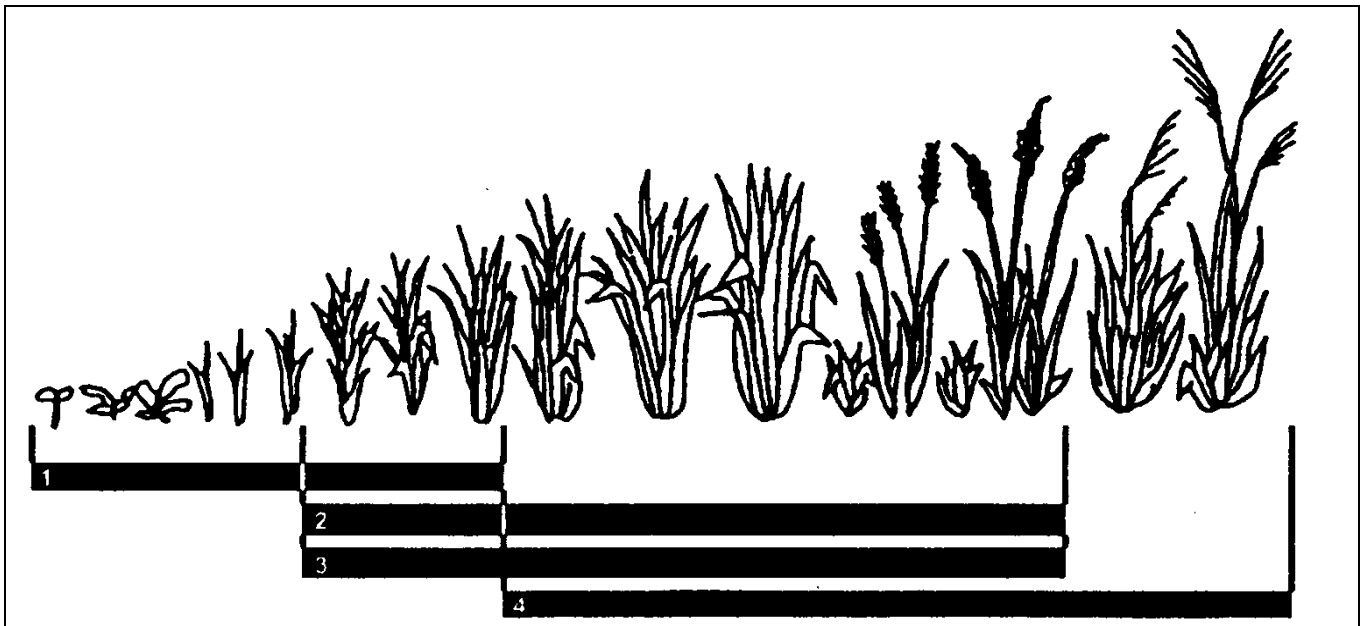
Pull out the cord of the nylon cutter by 12 to 15 cm.

⚠ WARNING: To avoid serious injury

Use only nylon line.

⊘ DO NOT use any type of blade for edging or scalping. Always check that there is a safe distance between the cutting device and your feet.

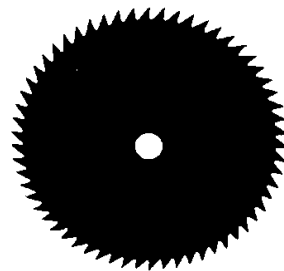
Blade



BW-LH-10 Line Head
Assembly or soft and low weeds



BW-BB Brush Blade - 4 Tooth
For relatively low weeds

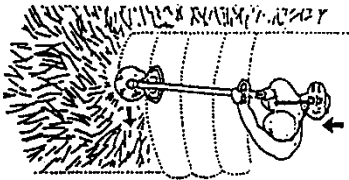


BW-SB Saw Blade - 60 Tooth for relatively hard weeds

NOTE: to ensure safety, be sure not to cut wood and twigs with the BW-BB Brush Blade – 4 Tooth Blade.

⚠ WARNING: To avoid serious injury

For the sake of safety the blade used shall be one designed by this manufacturer.



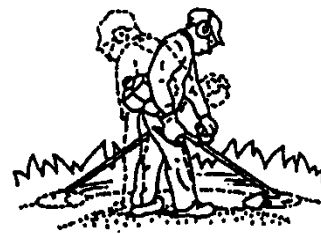
Since rotary blades rotate in the left direction (as seen from the top), it is more efficient to mow grass from right to left.



Scalping



Edging



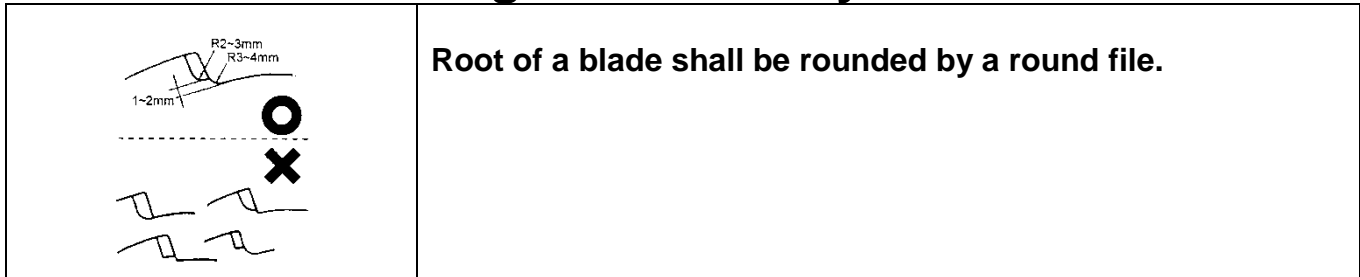
Scything

⚠ WARNING: To avoid serious injury

In case of the rotary blades hits anything is should not (stone or the like), stop the engine and check that the blade has no cracks.

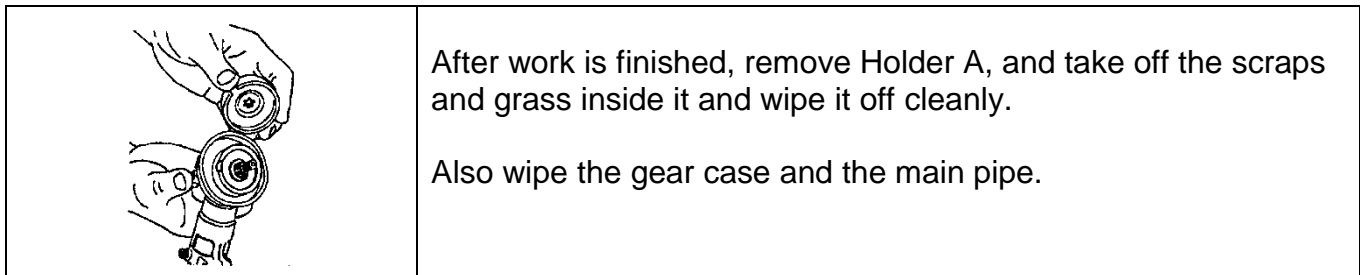
- ⊘ **DO NOT** use any accessory or attachment other than those supplied by the manufacturer for use with this particular unit.
- ⊘ Use only for jobs explained in this manual.
- ⊘ Inspect the entire unit before using each time for worn, loose, or damaged parts.
- ⊘ **DO NOT** attach any blade to a unit without the proper installation of all required parts.

Setting of the Rotary Blade

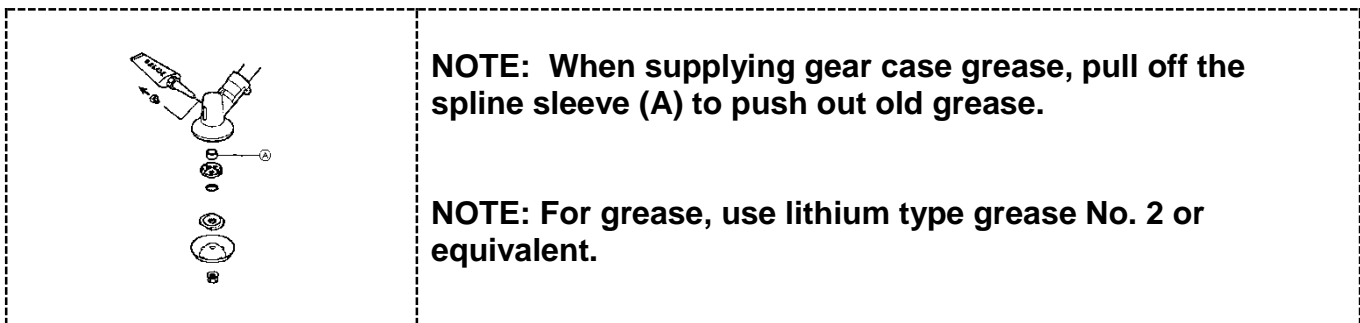


Inspection and Maintenance

Inspect and maintain satisfactory for achieving a longer life of the equipment and nice safe work.



NOTE: the gear case is hot just after the engine is stopped. Perform maintenance when it has cooled down.



Inspection Table

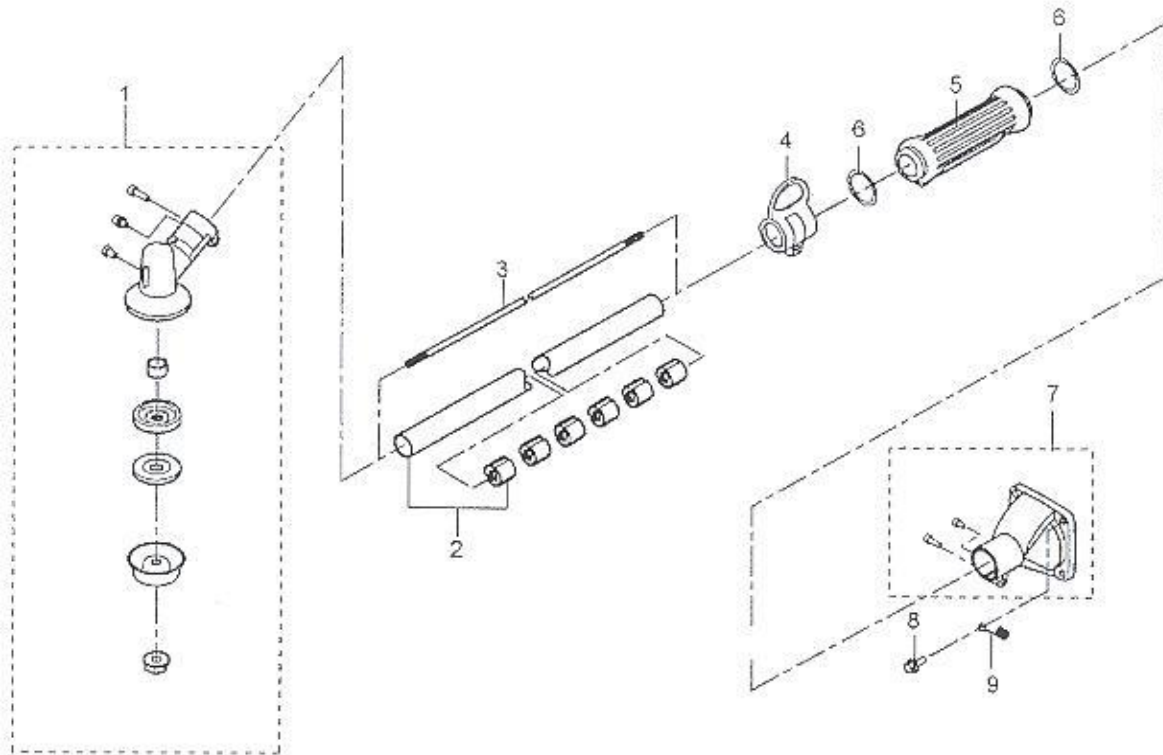
Items for Inspection and Maintenance	Inspection and Maintenance Period			
	Before Work	After Work	Every 25 Hours	Every 100 hours
Inspection of cutters	*			
Inspection of clamping bolts of gear case	*			
Inspection of safety guard	*			
Inspection of bolts	*			
Inspection of main pipe	*	*		
Cleaning of gear case		*		
Supply of gear case grease			*	
Cleaning of clutch drum				*
Tightening of parts				*

Long Term Storage

When the working season is over and the equipment will be stored for a long time, please do the following;

1. Clean every part sufficiently and apply a little oil over metal parts.
2. Adjust loosening clamping positions of every part.
3. Remove cutters, clean then and apply oil over both sides.
4. Remove fuel from the fuel tank, and use up fuel in the carburetor chamber.
5. Pour a little oil from the hole of the spark plug, pull the recoil starter and stop it where compression is felt.
6. Check air cleaner, fuel strainer, etc. and clean dry and install them.
7. Keep the equipment where less humidity exists so that dust will not become attached to it. Damage parts shall be repaired.

BW-2010 Gear Case & Driving Apparatus

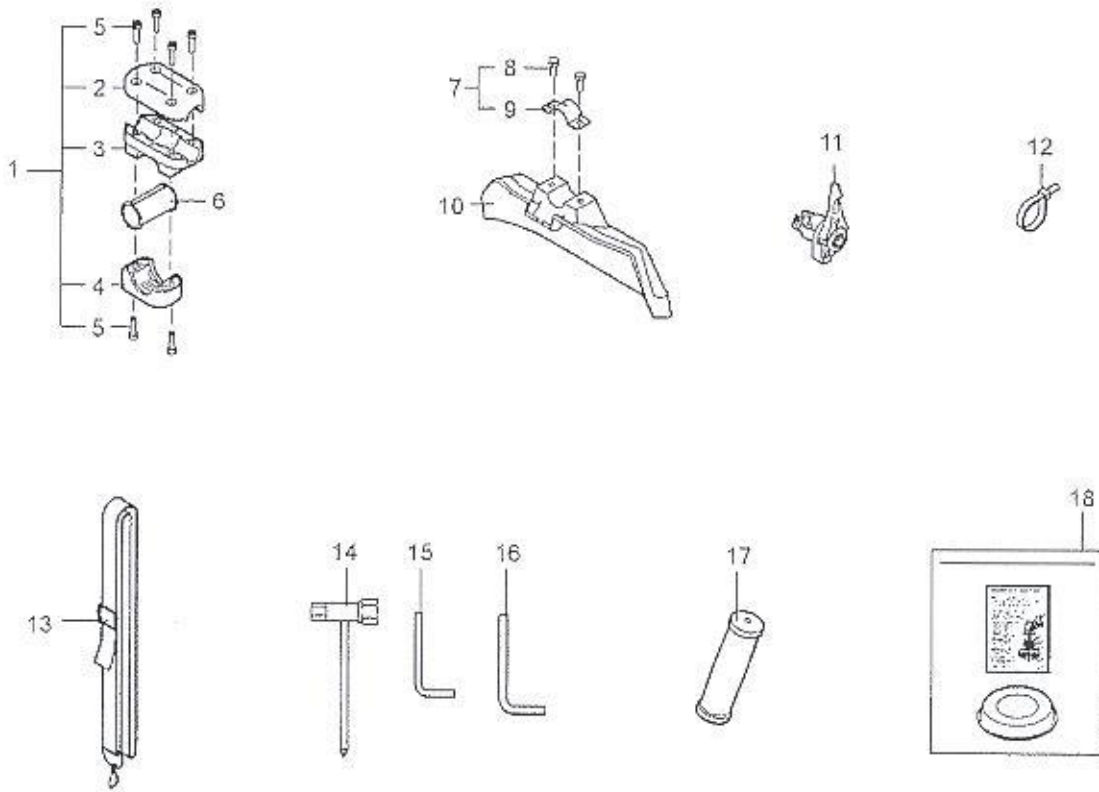


Reference No.	Part No.	Description	Qty.
1	N71008-320	Gear Case Assembly	1
2	N17730-189	Main Pipe	1
3	N64011-250	Main Shaft	1
4	N71012-145	Hanger Band Assembly	1
5	N36001-110	Main Grip	1
6	N68013-136	Spring	2
7	N71010-263	Clutch Case Assembly	1
8	N0416N0620	Socket Screw (6mm X 20mm W/SW/PW)	4
9	N51104-143	Guide	1

Throttle Cables

KAWASAKI TJ027E-AC56E	N54012-2207
mitsubishi TLE-27	N91001-273

BW-2015-M Handle & Fitting



Reference No.	Part No.	Description	Qty.
1	N71011-153	Handle Joint Assembly	1
2	N51009-143	Handle Joint A	1
3	N51010-146	Handle Joint B	1
4	N51013-122	Handle Joint C	1
5	N0412N0615	Socket Screw (6mm X 25mm)	6
6	N61023-192	Sleeve	1
7	N71038-171	Guard Band Set	1
8	N0412N0515	Socket Screw (6mm X 15mm)	2
9	N11029-107	Guard Band	1
10	N36046-164	Safety Guard	1
11	N91010-155	Throttle Lever	1
12	N68028-103	Wire Band	1
13	N36063-185	Shoulder Band	1
14	N66006-117	Box Spanner	1
15	N66007-103	"L" Wrench (4mm)	1
16	N66007-104	"L" Wrench (5mm)	1
17	N36007-129	Handle Grip	1
18	N71001-124	Grass Cover Set	1