



OPERATOR'S MANUAL

BRUSHCUTTER



BKZ315L

⚠ WARNING ⚠

- Before using our products, please read this manual carefully to understand the proper use of your unit.
- Keep this manual handy.

SAFETY FIRST

Instructions contained in warnings within this manual marked with a **▲** symbol concern critical points which must be taken into consideration to prevent possible serious bodily injury, and for this reason you are requested to read all such instructions carefully and follow them without fail.

NOTES ON TYPES OF WARNINGS IN THE MANUAL

WARNING

This mark indicates instructions, which must be followed in order to prevent accidents, which could lead to serious bodily injury or death.

IMPORTANT

This mark indicates instructions, which must be followed, or it leads to mechanical failure, breakdown, or damage.

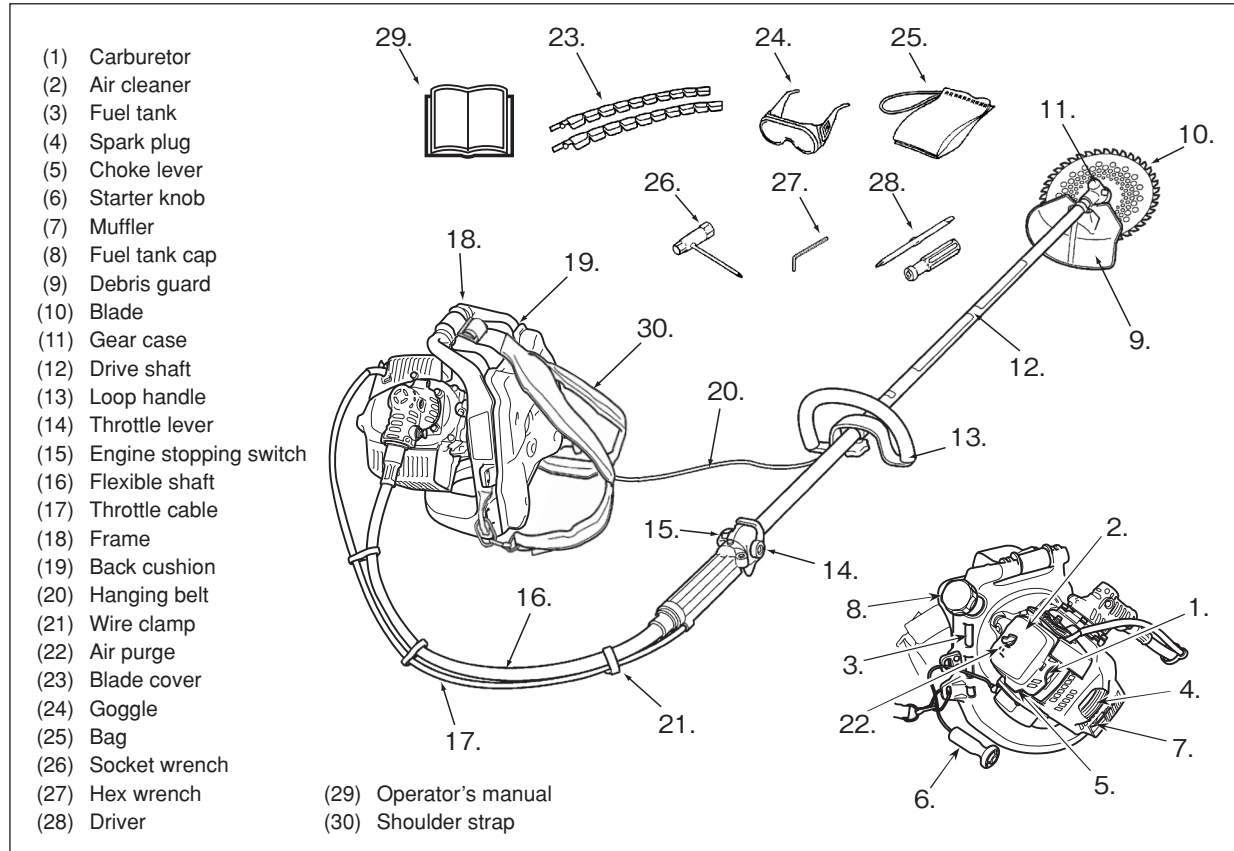
NOTE

This mark indicates hints or directions useful in the use of the product.

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1. Parts location



2. Specification

Model		BKZ315L
Handle Type		Loop
Dry Weight (*1) kg		8.4
Overall size (L x W x H) (*2) mm		2655 x 305 x 370
Standard blade		10-inch, Chip saw
Power Transmission Method		Automatic centrifugal clutch, spiral gear
Reduction Rate		1.67
Blade Rotating Direction		Counterclockwise (from operator's view)
Blade mounting bolt size		M7
Main pipe (Outer diameter mm)		Aluminum (Φ24)
Engine	Model name	GZ30N
	Displacement cc	29.5
	Fuel tank capacity L	1.1
	Fuel Used	Lubricating oil mixed gasoline
	Lubricating Oil Used	2-stroke engine oil
	Mixing rate	GASOLINE 50 : OIL 1 When using ZENOAH genuine oil
	Carburetor	Diaphragm-type rotary valve
	Sparking Method	Fly wheel magnet (CDI)
	Spark Plug	NGK CMR7H-10
	Starting Method	Pressure-accumulator type recoil starter (EZ start)
	Stopping Method	Ground a primary coil

(*1) Excluding blade and fuel

(*2) Total length including blade with assembled engine and shaft unit.

Note that detailed specifications of the product might differ from the information described herein due to modifications, etc.

3. Symbols on the machine

For safe operation and maintenance, symbols are carved in relief on the machine. According to these indications, please be careful not to make a mistake.



The port to refuel the "MIX GASOLINE"
Position: FUEL TANK CAP



The direction to close the choke
Position: AIR CLEANER COVER



The direction to open the choke
Position: AIR CLEANER COVER

4. Warning labels on the machine

Warning / Attention

①

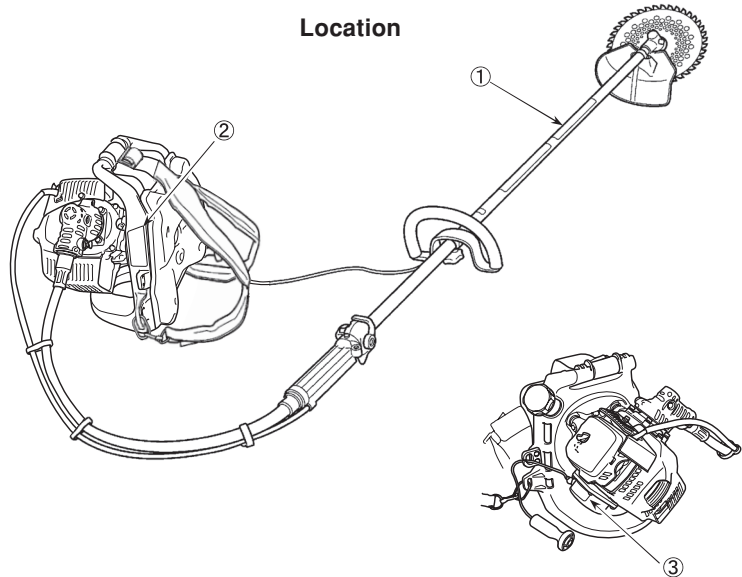


- (1) Read operator's manual before operating this machine.
- (2) Wear head, eye and ear protection.
- (3) Wear foot protection.
- (4) Wear gloves.
- (5) Beware of thrown objects.
- (6) Warning / Attention
- (7) Keep all children, bystanders and helpers 15 meters away from the brushcutter.

②



Location



③



The engine may start in retard of pulling the recoil starter. Hold the machine firmly till the engine start.



If warning label peels off or becomes soiled and impossible to read, you should contact the dealer from which you purchased the product to order new labels and affix them in the required location(s).



Never modify your machine.
We won't warrant the machine, if you use the remodeled brushcutter or if you don't observe the proper usage written in the manual.

▲ 5. For safe operation

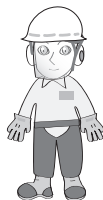


1. Read this manual carefully until you completely understand and follow all safety and operating instructions.
2. Keep this manual handy so that you may refer to it later whenever any questions arise. Also note, if you have any questions which cannot be answered herein, contact the dealer from whom you purchased the product.
3. Always be sure to include this manual when selling, lending, or otherwise transferring the ownership of this product.
4. Never allow children or anyone unable to fully understand the directions given in the manual to use the machine.



■ WORKING CONDITION

1. When using the product, you should wear proper clothing and protective equipment.



- (1) **Helmet**
- (2) **Ear protectors**
- (3) **Protection goggles or face protector**
- (4) **Thick work gloves**
- (5) **Non-slip-sole work boots**

2. And you should carry with you.
 - (1) Attached tools
 - (2) Properly reserved fuel
 - (3) Spare blade
 - (4) Things to notify your working area (rope, warning signs)
 - (5) Whistle (for collaboration or emergency)
 - (6) Hatchet or saw (for removal of obstacles)



3. Do not wear loose clothing, jewelry, short trousers, sandals, or go barefoot. Do not wear anything which might be caught by a moving part of the unit. Secure hair so it is above shoulder length.



■ WORKING CIRCUMSTANCE

1. Never start the engine inside a closed room or building. Exhaust gases contain dangerous carbon monoxide.

2. Never use the product,
 - (1) When the ground is slippery or when you can't maintain a steady posture.
 - (2) At night, at times of heavy fog, or at any other times when your field of vision might be limited and it would be difficult to gain a clear view of the working area.
 - (3) During rain storms, during lightning storms, at times of strong or gale-force winds, or at any other times when weather conditions might make it unsafe to use the product.



■ WORKING PLAN

1. You should never use the product when under the influence of alcohol, when suffering from exhaustion or lack of sleep, when suffering from drowsiness as a result of having taken cold medicine or at any other time when a possibility exists that your judgment might be impaired or that you might not be able to operate the product properly and in a safe manner.
2. When planning your work schedule, allow plenty of time to rest. Limit the amount of time over which the product is to be used continuously to somewhere around 30 ~ 40 minutes per session, and take 10 ~ 20 minutes of rest between work sessions. Also try to keep the total amount of work performed in a single day under 2 hours or less.



▲ WARNING

1. If you don't observe the working time, or working manner (**See "USING THE PRODUCT"**), Repetitive Stress Injury (RSI) could occur. If you feel discomfort, redness and swelling of your fingers or any other part of your body, see a doctor before getting worse.
2. To avoid noise complaints, in general, operate product between 8 a.m. and 5 p.m. on weekdays and 9 a.m. to 5 p.m. on weekends.



▲ 5. For safe operation

NOTE

Check and follow the local regulations as to sound level and hours of operations for the product.

■ BEFORE STARTING THE ENGINE

1. The area within a perimeter of 15 m of the person using the product should be considered a hazardous area into which no one should enter. If necessary, yellow warning rope, warning signs should be placed around the perimeter of the area. When work is to be performed simultaneously by two or more persons, care should also be taken to constantly look around or otherwise check for the presence and locations of other people working so as to maintain a distance between each person sufficient to ensure safety.
2. Check the condition of working area to avoid any accident by hitting hidden obstacles such as stumps, stones, cans, or broken glass.



ⓘ IMPORTANT

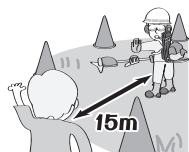
Remove any obstacle before beginning work.



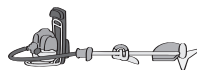
3. Inspect the entire unit for loose fasteners and fuel leakage. Make sure that the cutting attachment is properly installed and securely fastened.
4. Be sure the cutting attachment guard is firmly attached in place.
5. Always use the harness. Adjust the harness for comfort before starting the engine. The harness should be adjusted so the left hand can comfortably hold the handlebar grip approximately waist high.

■ STARTING THE ENGINE

1. Keep bystanders and animals at least 15 m away from the operating point. If you are approached, immediately stop the engine.
2. The product is equipped with a centrifugal clutch mechanism, so



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the cutting attachment begins to rotate as soon as the engine is started by putting the throttle lever into the start position. When starting the engine, place the product onto the ground in a flat clear area and hold it firmly in place so as to ensure that neither the cutting part nor the throttle lever come into contact with any obstacle when the engine starts.

▲ WARNING

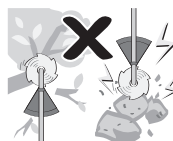
Never place the throttle lever into the high-speed position when starting the engine.

3. After starting the engine, check to make sure that the cutting attachment stops rotating when the throttle is moved fully back to its original position. If it continues to rotate even after the throttle lever has been moved fully back, turn off the engine and take the unit to your authorized ZENOAH servicing dealer for repair.

■ USING THE PRODUCT

ⓘ IMPORTANT

Cut only materials recommended by the manufacturer. And use only for tasks explained in the manual.



1. Grip the handles firmly with both hands using your whole hand. Place your feet slightly apart (slightly further apart than the width of your shoulders) so that your weight is distributed evenly across both legs, and always be sure to maintain a steady, even posture while working.
2. Keep cutting attachment below waist level.
3. Maintain the speed of the engine at the level required to perform cutting work, and never raise the speed of the engine above the level necessary.
4. If the unit starts to shake or vibrate, turn off the engine and check the whole unit. Do not use it until the trouble has been properly corrected.
5. Keep all parts of your body away



▲ 5. For safe operation

from rotating cutting attachment and hot surfaces.

- Never touch the muffler, spark plug, or other metallic parts of the engine while the engine is in operation or immediately after shutting down the engine. Doing so could result in serious burns or electrical shock.

■ IF SOMEONE COMES

- Guard against hazardous situations at all times. Warn adults to keep pets and children away from the area. Be careful if you are approached. Injury may result from flying debris.
- If someone calls out or otherwise interrupts you while working, always be sure to turn off the engine before turning around.

■ MAINTENANCE

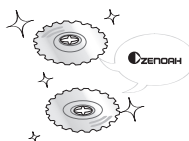
- In order to maintain your product in proper working order, perform the maintenance and checking operations described in the manual at regular intervals.
- Always be sure to turn off the engine and disconnect the spark plug wire before performing any maintenance or checking procedures.



▲ WARNING

The metallic parts reach high temperatures immediately after stopping the engine.

- When replacing the cutting attachment or any other part, or when replacing the oil or any lubricant, always be sure to **use only ZENOAH products or products which have been certified by ZENOAH for use with the ZENOAH product.**
- In the event that any part must be replaced or any maintenance or repair work not described in this manual must be performed, please contact a representative from the store nearest ZENOAH authorized servicing dealer for assistance.
- Do not use any accessory or attachment other than those bearing the ZENOAH mark and rec-



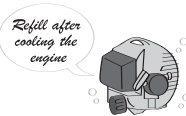
ommended for the unit.

- Under no circumstances should you ever take apart the product or alter it in any way. Doing so might result in the product becoming damaged during operation or the product becoming unable to operate properly.

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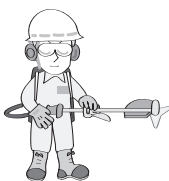
■ HANDLING FUEL

- The engine of the ZENOAH product is designed to run on a mixed fuel, which contains highly flammable gasoline. Never store cans of fuel or refill the tank of the unit in any place where there is a boiler, stove, wood fire, electrical sparks, welding sparks, or any other source of heat or fire which might ignite the fuel.
- Never smoke while operating the unit or refilling its fuel tank.
- When refilling the tank, always turn off the engine and allow it to cool down. Take a careful look around to make sure that there are no sparks or open flames anywhere nearby before refueling.
- Wipe spilled fuel completely using a dry rag if any fuel spillage occurs during refueling.
- After refueling, screw the fuel cap back tightly onto the fuel tank and then carry the unit to a spot 3 m or more away from where it was refueled before turning on the engine.



■ TRANSPORTATION

- When hand-carrying the product, cover over the cutting part if necessary, lift up the product and carry it paying attention to the blade.
- Never transport the product over rough roads over long distances by vehicle without removing all fuel from the fuel tank. If doing so, fuel might leak from the tank during transport.



▲ WARNING

■ CONTROLLING BLADE THRUST

Blade thrust can cause serious personal injury. Carefully study this section. It is important that

▲ 5. For safe operation

you understand what causes blade thrust, how you can reduce the chance of blade thrust and how you can remain in control of the unit if blade thrust does occur.

1. What causes blade thrust:

Blade thrust can occur when the moving blade contacts an object that it cannot cut. This contact causes the blade to stop for an instant and then suddenly move or "bounce" away from the object that was hit. The operator can lose control of the unit and the blade can cause serious personal injury to the operator or any person nearby if the blade contacts any part of the body.

2. How you can reduce the chance of blade thrust:

- (1) Recognize that blade thrust can happen. By understanding and knowing about bounce, you can help eliminate the element of surprise.
- (2) Cut fibrous weeds and grass only. Do not let the blade contact materials it cannot cut such as hard, woody vines and brush or rocks, fences, metal, etc
- (3) Be extra prepared for blade thrust if you must cut where you cannot see the blade making contact such as in areas of dense growth.
- (4) Keep the blade sharp. A dull blade increase the chance of blade thrust.
- (5) Avoid feeding the blade too rapidly. The blade can bounce away from material being cut if the blade is fed faster than its cutting capability.
- (6) Cut only from your right to your left.
- (7) Keep your path of advance clear of material that has been cut and other debris.

3. How you can maintain the best control:

- (1) Keep a good, firm grip on the unit with both hands. A firm grip can help neutralize bounce. Keep your right and left hands completely around the respec-

tive handles.

- (2) Keep both feet spread apart in a comfortable stance and yet braced for the possibility that the unit could bounce. Do not overreach. Keep firm footing and balance.

6. Set up

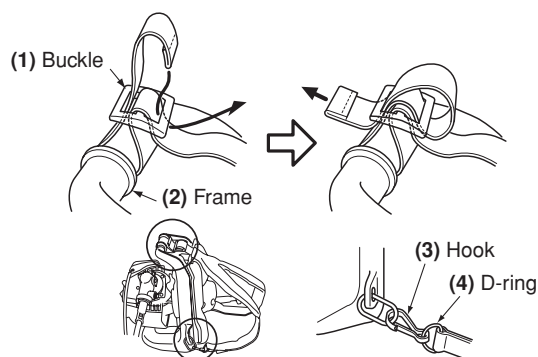
▲ WARNING

- Assemble each part correctly. Wrong assembly might cause an accident.
- If you cannot do the assembling yourself, consult the shop where you bought this product.

G
B

■ INSTALLING THE SHOULDER STRAP

1. Hook the upper part of the shoulder strap at the notch on the top of the frame and pass it through the buckle as shown in the Figure, then secure it firmly.
2. Put the hook at the lower part of the shoulder strap in the strap installing location at the bottom of the frame.



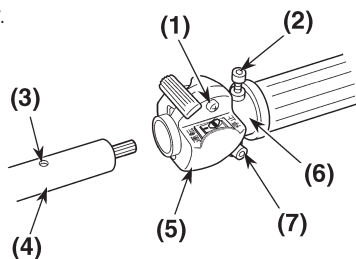
■ CONNECTING THE FLEXIBLE SHAFT

1. Remove the clamping bolt (M5xL9) in the center of the end of the joint, and loosen the fastening bolt (M5xL20) and the screw (M5xL18) for mounting the throttle lever.
2. Insert the main pipe into the joint while turning it clockwise and counterclockwise slightly.
3. Align the safety-lock hole of the joint with the hole of the main pipe, screw the clamping bolt and fasten it tightly.
4. Tighten the fastening clumping bolt (7) of the joint, and fix the main pipe firmly.

[Tightening torque]

4.9 to 7.8 N·m (0.5~0.8 kg·m)

5. Screw the throttle-lever mounting screw, and fasten it tightly.

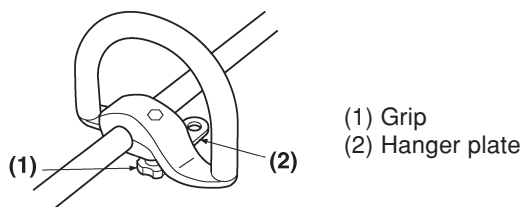


- | | |
|---------------------------|----------------------------|
| (1) Screw (M5xL18) | (5) Throttle lever |
| (2) Clamping bolt (M5xL9) | (6) Joint |
| (3) Safety-lock hole | (7) Clamping bolt (M5xL20) |
| (4) Main pipe | |

6. Set up

■ MOUNTING THE HANDLE

1. Mount the loop handle on the main pipe in accordance with the serial-number label. Turn the grip and tighten it slightly, then fasten the hanger plate together in the position shown in SE8.
2. Adjust the position of the loop handle to the position where you can work easily, and tighten the loop handle firmly.

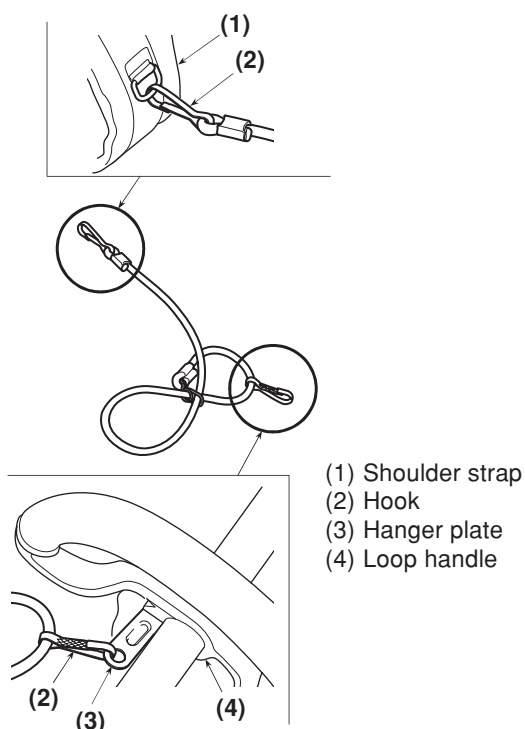


▲ WARNING

- Tighten the grip firmly. If the grip becomes loose, it might move while you are working, causing danger.
- Do not loosen or twist the grip while you are working.
- Always stop the engine and make sure the blade has stopped before adjusting the position of the loop handle.

■ INSTALLING HANGING BELT

1. Put the hook at the hanging belt in the D-ring at the shoulder strap and adjust the length where it is easy to work.
2. Carrying the unit on the back, put the other side of the hook in the hanger plate.



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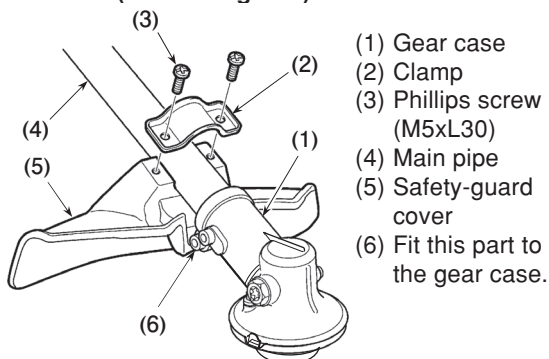
■ INSTALLING DEBRIS GUARD

▲ WARNING

Do not use this machine without the debris guard.

Fit the top of the debris guard to the gear case, install the debris guard on the main pipe with the accessory clamp, and tighten the debris guard evenly with two Phillips screws (M5xL30).

[Tightening torque]
1 to 2 N·m (10 to 20 kgf·cm)



■ MOUNTING THE CUTTING BLADE

▲ WARNING

- Be sure to stop the engine before demounting and remounting the cutting blade. Never try to touch the blade while the engine is running.
- Always use Zenoah genuine cutting blades and fittings for replacement.
- When demounting and remounting the cutting blade, firmly secure the brush cutter and wear heavy-duty gloves.
- The cutter blade rotates left (counterclockwise) when viewed from the gear case. When the mounting side of a cutting blade is predetermined, select the mounting side correctly when mounting it. Particularly, when a chip saw blade is mounted reversely, the teeth may be chipped and fly away. This is very dangerous.
- Be sure to clean the gear shaft thread completely before mounting the cutting blade. Dirt and sand on the thread will cause loosening of the blade mount. This is very dangerous.
- Never use a power impact driver or other high torque tool or put all of your weight to fasten the mounting bolt of the cutting blade. An excessive tightening force will damage the mounting bolt or the gear shaft and cause hazardous accident or personal injury. Be sure to use the accompanying socket wrench and tighten them firmly.

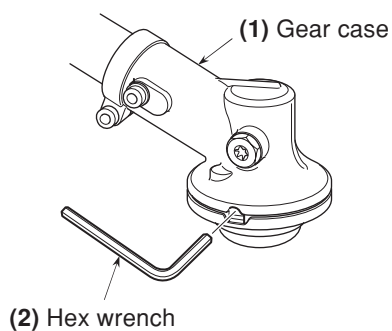
6. Set up

Mounting a metal blade

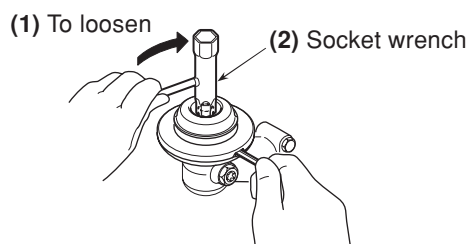
⚠ WARNING

Use a blade of 255mm or less in diameter. Never use a blade of a greater diameter. The greater blade will damage the brush cutter or broken and exploding cutter teeth may cause accidents or serious personal injuries.

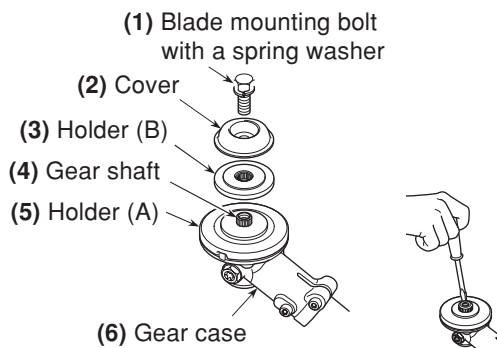
1. Align the fixing hole of the tooth rest fitting to the insertion hole of the gear case, and insert the Hex wrench into the holes to lock the shaft.



2. Turn the gear case upside down and turn the blade mounting bolt clockwise with the accompanying socket wrench to loosen.



3. Remove the blade mounting bolt that is assembled with a spring washer, the holder (B) and the cover.
4. Clean the threaded portion of the gear shaft completely if dirty with earth and sand.

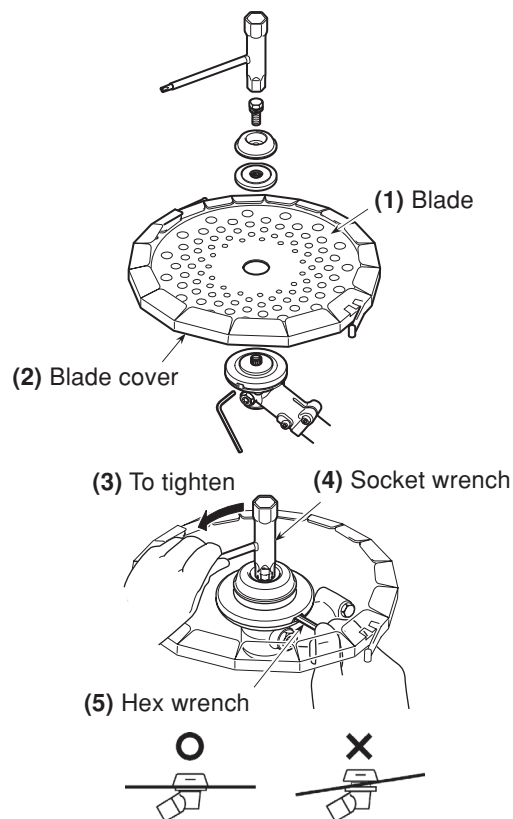


5. Fit the blade cover to the blade. (See on Page 12.)
6. Place the blade on the Holder (A) with the marked side of the blade faced to the gear case.

⚠ IMPORTANT

Fit the center hole of the blade exactly to the projection of the Holder (A).

7. Fit the Cover to the gear shaft. Be careful not to reverse it.



8. Lock the gear shaft and the blade with the Hex wrench, insert the blade mounting bolt that is assembled with a spring washer into the Cover and Holder (B), and tighten the bolt counterclockwise firmly with the Hex wrench.

[Tightening torque]

14.7 to 19.6 N.m (= 150 to 200 kgf.cm)

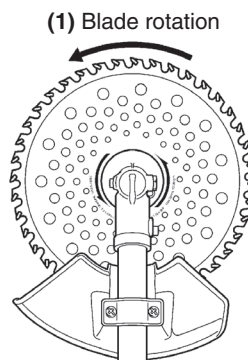
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6. Set up

Confirmation of rotational direction of the blade

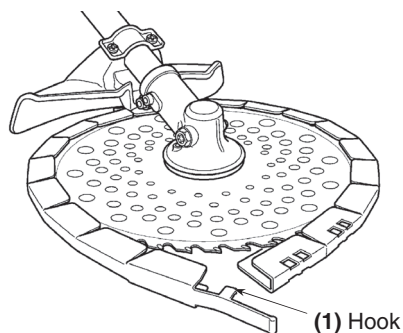
❗ IMPORTANT

View the blade from above it and make sure the blade is mounted correctly as shown left.



Remounting the blade cover

1. Fit the blade edge to the groove of the blade cover, and lock the cover with the hook.
2. To remove the blade cover, unhook and open the blade cover ends outward to remove the cover from the blade.



Installing the nylon cutter (available as an option)

❗ IMPORTANT

Since the resistance of the nylon cutter is larger than that of the metal cutter, wrong operation of the nylon cutter will cause the clutch to overheat, deform and be damaged. When using the nylon cutter, carefully note the following.

- Use ZENOAH's genuine nylon cutter. When using a commercially-available nylon cutter, make sure that it is no longer than 10 cm in external shape.
- Make sure that the length of the nylon cord is 17 cm or shorter.
- Keep the engine rotating at high speed while working.

1. Install the blade rest plate and the outer holder on the gear shaft correctly, and stop their whirl with the accessory L-shaped round rod.

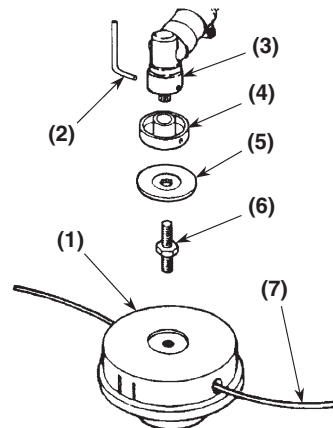
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2. Screw the mounting bolt (M7 left-handed) attached to the nylon cutter into the gear shaft, and tighten it firmly with a wrench.

[Tightening torque]

14.7 to 19.6 N·m (150 to 200 kgf·cm)

3. Screw the main body of the nylon cutter into the mounting bolt while fixing the blade rest plate with the L-shaped round rod, and tighten the main body of the nylon cutter firmly by hand.



- (1) Main body of the nylon cutter
- (2) L-shaped round rod
- (3) Gear case
- (4) Blade rest plate
- (5) Outer holder
- (6) Mounting bolt
- (7) Nylon cord

📖 NOTE

The bolt, washer, and other parts for mounting the blade are required when using the metal blade. Keep them carefully so as not to lose them.

■ BALANCE UNIT

1. Put on strap and attach unit to strap.
2. Slide clamp up or down until unit balances with head aparting from the ground when using it.



7. Fuel

■ FUEL

▲ WARNING

- **Gasoline is very flammable. Avoid smoking or bringing any flame or sparks near fuel. Make sure to stop the engine and allow it cool before refueling the unit. Select outdoor bare ground for fueling and move at least 3 m (10 ft) away from the fueling point before starting the engine.**



- The Zenoah engines are lubricated by oil specially formulated for air-cooled 2-stroke gasoline engine use. If Zenoah oil is not available, use an anti-oxidant added quality oil expressly labeled for air-cooled 2-stroke engine use (JASO FD GRADE OIL or ISO-L-EGD GRADE).
- Do not use BIA or TCW (2-stroke water-cooling type) mixed oil.



■ RECOMMENDED MIXING RATIO GASOLINE 50 : OIL 1

<when using ZENOAH genuine oil>

- **Exhaust emission are controlled by the fundamental engine parameters and components (eq., carburation, ignition timing and port timing) without addition of any major hardware or the introduction of an inert material during combustion.**
- These engines are certified to operate on unleaded gasoline.
- Make sure to use gasoline with a minimum octane number of 89RON (USA/Canada: 87AKI).
- If you use a gasoline of a lower octane value than prescribed, there is a danger that the engine temperature may rise and an engine problem such as piston seizing may consequently occur.
- Unleaded gasoline is recommended to reduce the contamination of the air for the sake of your health and the environment.
- Poor quality gasolines or oils may damage sealing rings, fuel lines or fuel tank of the engine.

■ HOW TO MIX FUEL

▲ WARNING

- **Pay attention to agitation.**

1. Measure out the quantities of gasoline and oil to be mixed.
2. Put some of the gasoline into a clean, approved fuel container.

3. Pour in all of the oil and agitate well.
4. Pour in the rest of gasoline and agitate again for at least one minute. As some oils may be difficult to agitate depending on oil ingredients, sufficient agitation is necessary for the engine to last long. Be careful that, if the agitation is insufficient, there is an increased danger of early piston seizing due to abnormally lean mixture.
5. Put a clear indication on the outside of the container to avoid mixing up with gasoline or other containers.
6. Indicate the contents on outside of container for easy identification.

■ FUELING THE UNIT

1. Untwist and remove the fuel cap. Rest the cap on a dustless place.
2. Put fuel into the fuel tank to 80% of the full capacity.
3. Fasten the fuel cap securely and wipe up any fuel spillage around the unit.

▲ WARNING

1. **Select flat and bare ground for fueling.**
2. **Move at least 10 feet (3 meters) away from the fueling point before starting the engine.**
3. **Stop the engine before refueling the unit. At that time, be sure to sufficiently agitate the mixed gasoline in the container.**

■ FOR YOUR ENGINE LIFE, AVOID:

1. **FUEL WITH NO OIL (RAW GASOLINE)** – It will cause severe damage to the internal engine parts very quickly.
2. **GASOHOL** – It can cause deterioration of rubber and/or plastic parts and disruption of engine lubrication.
3. **OIL FOR 4-STROKE ENGINE USE** – It can cause spark plug fouling, exhaust port blocking, or piston ring sticking.
4. **Mixed fuels which have been left unused for a period of one month or more** may clog the carburetor and result in the engine failing to operate properly.
5. In the case of storing the product for a long period of time, clean the fuel tank after rendering it empty. Next, activate the engine and empty the carburetor of the composite fuel.
6. In the case of scrapping the used mixed oil container, scrap it only at an authorized repository site.

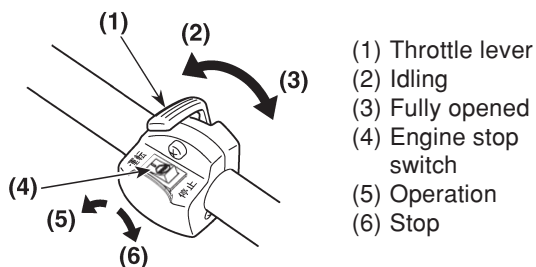
NOTE

As for details of quality assurance, read the description in the section Limited Warranty carefully. Moreover, normal wear and change in product with no functional influence are not covered by the warranty. Also, be careful that, if the usage in the instruction manual is not observed as to the mixed gasoline, etc. described therein, it may not be covered by the warranty.

8. Operation

■ STARTING A COOLED ENGINE

1. Set the engine stop switch to "operation."
2. Set the throttle lever to "idling."



3. Fill the carburetor with fuel by using the carburetor starting pump. Repeatedly push and release the pump with the fingers until excess fuel flows out in the clear tube.

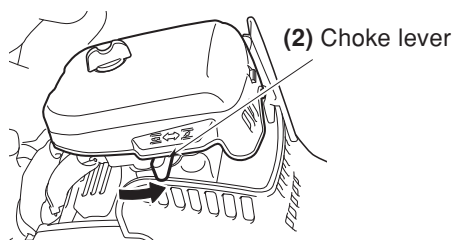
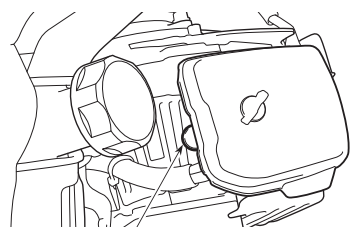
NOTE

- The pumping operation is not required when restarting the engine immediately after stopping it while fuel remains in the tank.

4. Close the choke lever at the bottom of the air cleaner.

NOTE

- Pull the starter rope while leaving the choke open if you restart the engine immediately after the engine stops.



5. Place the unit on flat, firm ground. Make sure that the cutting head is clear of everything around it, then pull the starter knob while grasping the main pipe with

the left hand and weighing down the frame with the right foot.

IMPORTANT

- Do not pull all the rope at a time or return it by releasing the knob. Doing so may cause a starter failure.
6. When the engine starts, open the choke gradually.
 7. Allow the engine to warm up at low speed for two to three minutes before starting operation.

IMPORTANT

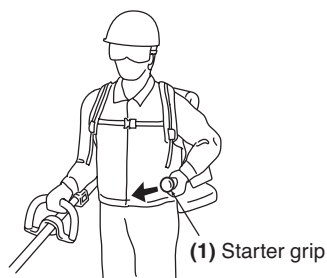
- Overchoking may make the engine hard to start due to excess fuel. If the engine fails to start after several attempts, open the choke and repeatedly pull the rope, or remove the spark plug and dry it before trying again.



■ STARTING A WARMED ENGINE

You can start a warmed engine while carrying the unit on the back.

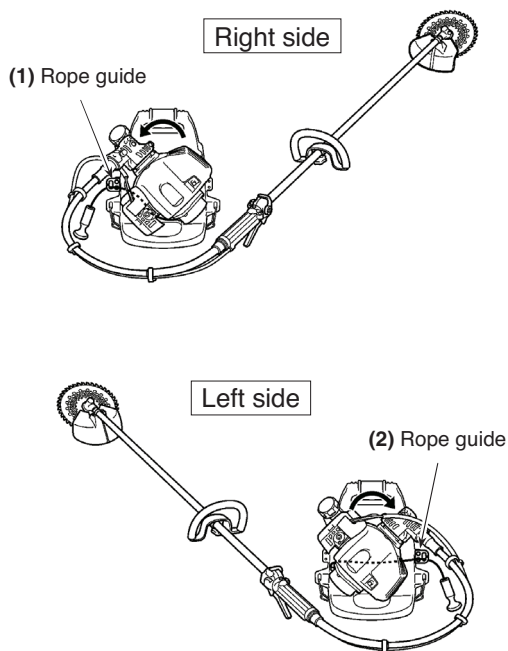
1. Set the ignition switch to the RUN position.
2. Release the throttle lever.
3. Set the choke lever to the Open position.
4. Hold the handle firmly with the right hand and keep the cutter head away from surroundings such as the ground.
5. Pull the starter grip with the left hand.



8. Operation

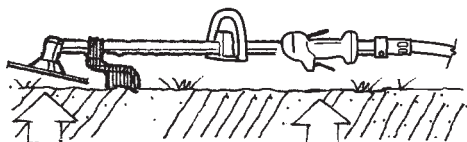
NOTE

- This brush cutter can be operated in either the right side or left side position. The rope guide position is fixed for right side position operation when shipped from the factory.
- Adjust the rope guide position as shown in the figure to allow the operator in the left-hand position to pull the recoil starter with the right hand.
- When changing the position from right to left side, or from left to right side position, be sure to stop the engine and place the frame on the ground. Change the orientation of the shaft and carry the frame on the back again.
- Do not change the orientation of the shaft while carrying the unit on the back. Otherwise, accidental injury may occur.



WARNING

- **The product is equipped with a centrifugal clutch mechanism, so the cutting attachment begins to rotate as soon as the engine is started by putting the throttle into the start position. When starting the engine, place the product onto the ground in a flat clear area and hold it firmly in place so as to ensure that neither the cutting part nor the throttle come into contact with any obstacle when the engine starts.**



STOPPING THE ENGINE

WARNING

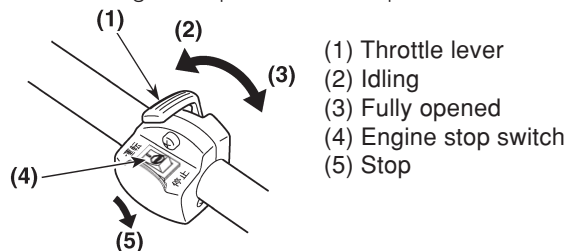
- Stop the engine immediately in an emergency.
- The blade rotates by inertia for a while after the engine has stopped. Do not touch the blade until the engine has stopped completely.
- Do not touch the muffler or spark plug with bare hands immediately after the engine has stopped. Otherwise you may suffer burns because the muffler and spark plug are extremely hot.

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B**

IMPORTANT

If you stop the engine while keeping the revolution speed high, the engine could become damaged. Return the throttle lever to its original position and reduce the engine speed before stopping the engine except in an emergency.

1. Return the throttle lever to the idling position.
2. Set the engine stop switch to "stop."



NOTE

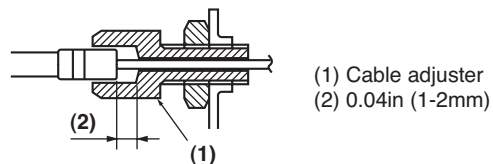
Pressing the engine stop switch once stops the engine.

IMPORTANT

- Except for an emergency, avoid stopping the engine while pulling the throttle lever.

ADJUSTING THROTTLE CABLE

- The normal play is 1 or 2 mm when measured at the carburetor side end. Readjust with the cable adjuster as required.

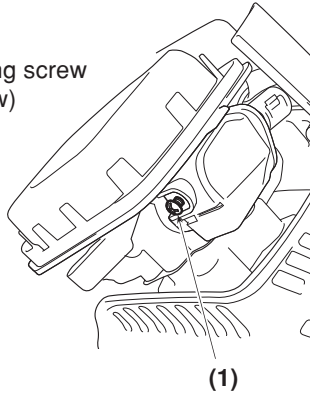


8. Operation

■ ADJUSTING IDLING SPEED

1. When the engine tends to stop frequently at idling mode, turn the adjusting screw clockwise.
2. When the cutting head keeps rotating after releasing the lever, turn the adjusting screw counter-clockwise.

(1) Idle adjusting screw
(cross screw)



NOTE

- Warm up the engine before adjusting the idling speed.

■ PUTTING ON THE UNIT

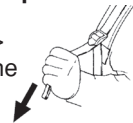
NOTE

- When carrying the unit on the back, make sure that the throttle lever is set to the idling position and that the throttle wire will not become twisted and tensioned.
1. After confirming that there is no person or obstacle nearby, grasp the end of the main pipe handle (cutter head side) with the left hand and put the right shoulder strap around the right shoulder.
 2. Hold the main pipe with the right hand and put the left shoulder strap around the left shoulder.
 3. Join the right and left shoulder straps in front of the chest.
 4. Adjust the length of the right and the left shoulder straps to fit the body of the operator so that the back cushion is slightly above waist level and the weight of the unit is equally carried by the right and left shoulders.



How to adjust the length of the shoulder strap

<Shortening the strap>
Pull down the end of the strap.



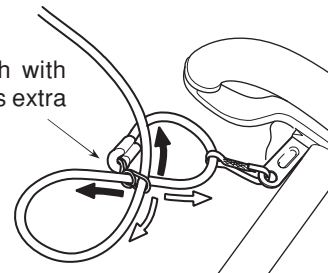
<Lengthening the strap>
Pull up the bottom end of the buckle.



■ ADJUST HANGING BELT

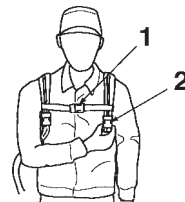
It is comfortable to use the hanging belt when you work with the unit. Adjust the length of hanging belt as shown in the below picture.

Adjust the length with the amount of this extra loop.



■ HOW TO OPERATE THE EMERGENCY RELEASE PINCH

In case of emergency, pinch the depressed portions (1 and 2) on the hook of the shoulder strap. The shoulder strap will then be released from the shoulder and the brush cutter will be separated from the body.



- By using the shoulder strap, hang the unit on your right side. Adjust the strap length so that the cutting head may become parallel to the ground.

8. Operation

⚠ WARNING

- Make sure to use shoulder strap and debris guard. If not, it is very dangerous when you slip or lose your balance.



■ CUTTING OPERATION

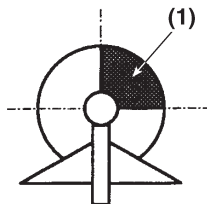
⚠ WARNING

- 1 Always wear eye protection such as safety goggles. Never lean over the rotating cutting head. Rocks or other debris could be thrown into eyes and face and cause serious personal injury.
- 2 Keep the debris guard in place at all times when the unit is operated.

■ CUTTING OPERATION

⚠ WARNING

When using a metal blade, do not cut grass with the right half of the blade. Otherwise, the machine might kick back, causing a serious injury.



- (1) Area of the blade where the machine is prone to kick back

⚠ WARNING

- When using this machine, read and obey the precautions and instructions described in “For safe operation” (pages 5 to 8) of this manual.
- Before shouldering the main body of the brushcutter, return the throttle lever to the idling position and make sure the blade has stopped rotating.
- When shouldering the main body of the brushcutter, be careful that the throttle wire does not get tangled, and that the blade does not touch the ground.

⚠ WARNING

This product employs a plot type carburetor. If the engine is tilted too much, the fuel in the breather or carburetor of the fuel tank might leak out. Do not tilt the engine upward or downward during cutting, or

when storing or transporting the brushcutter.

ⓘ IMPORTANT

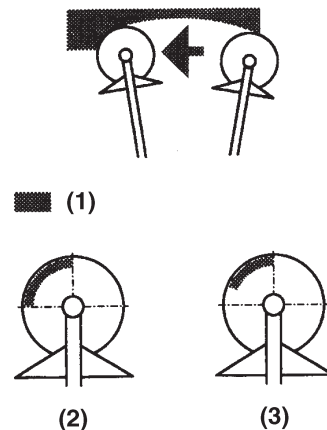
Be careful not to hit the blade against any object during cutting. Hitting the blade against stones, etc. might damage the blade and driving unit, or bend the main pipe.

■ WHEN USING A METAL BLADE

- Swing the blade from right to left to cut grass.
- To cut usual grass, use the part of the blade corresponding to 1/2 of the diameter of the blade. To cut tough weeds such as Japanese pampas grass and Solidago altissima, use the part of the blade corresponding to 1/3 of the diameter of the blade.
- Adjust the rotation speed of the engine in accordance with the resistance of grass. Cut young grass at middle speed, and cut tough and thick grass such as Japanese mugwort and vines at high speed.

ⓘ IMPORTANT

Operating the engine at low speed might cause grass, weeds or twigs to be caught up in the blade. It also wears down the clutch more quickly.



- (1) Usable area of the blade
 (2) Area to be used for cutting young grass
 (3) Area to be used for cutting tough grass

G
B











8. Operation

■ SELECTION OF BLADE

▲ WARNING

- When cutting branches and plants, always use a saw blade, and never use an eight-tooth blade or a four-tooth blade.
- If you cut grass and plants with the wrong type or size of blade, the blade might damage the shaft and external pipe of this machine.

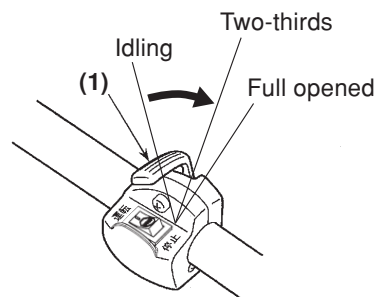
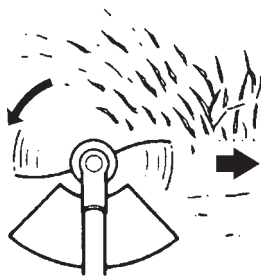
Select an appropriate blade to suit the material being cut.

CUTTER APPLICATION CHART	Saw blade	8-teeth blade	4-teeth blade	2-teeth blade	Nylon cutter
Under growth 					
Heavy weeds 					
Light weeds 					
Grass 					

For details, refer to the operating manual supplied with each blade.

TRIMMING GRASS AND WEEDS (WHEN USING A NYLON CUTTER)

- Always remember that the TIP of the line does cutting. You will achieve better results by not crowding the line into the cutting area. Allow the unit to trim at its own pace.
1. Hold the unit so the head is off the ground and is tilted about 20 degrees toward the sweep direction.
 2. You can avoid thrown debris by sweeping from your left to the right.
 3. Use a slow, deliberate action to cut heavy growth. The rate of cutting motion will depend on the material being cut. Heavy growth will require slower action than will light growth.
 4. Never swing the unit so hard as you are in danger of losing your balance or control of the unit.
 5. Try to control the cutting motion with the hip rather than placing the full workload on the arm and hands.
 6. Take precautions to avoid wire, grass and dead, dry, long-stem weeds from wrapping around the head shaft. Such materials can stall the head and cause the clutch to slip, resulting in damage to the clutch system if repeated frequently.
 7. Keep the throttle lever at more than two-thirds of the full opened position when you work with nylon cutter, due to nylon cutter consuming a lot of power.



9. Maintenance

▲ WARNING

- Be sure to stop the engine when carrying out inspection and maintenance.
- Do not modify the machine or disassemble the engine.
- Use ZENOAH's genuine parts or designated parts when replacing parts.
- If you cannot inspect or maintain the machine yourself, contact the shop where you bought it.

■ INSPECTION BEFORE AND AFTER CUTTING

Inspect the following items before and after cutting.

INSPECTION ITEMS			MEASURES
1	Blade	<ul style="list-style-type: none"> • The mounting bolt has become loose. • Broken, cracked, chipped, or bent. • The blade edges have worn out. 	<ul style="list-style-type: none"> • Tighten • Replace • Re-sharpen or replace
2	Debris guard	<ul style="list-style-type: none"> • Mounted has become loose. • Broken. 	<ul style="list-style-type: none"> • Tighten • Replace
3	Handle	<ul style="list-style-type: none"> • Mounted has become loose. • Bended or broken. 	<ul style="list-style-type: none"> • Tighten • Replace
4	Grip	<ul style="list-style-type: none"> • Oil has stuck to the grip. 	<ul style="list-style-type: none"> • Wipe off
5	Throttle lever	<ul style="list-style-type: none"> • Does not move smoothly. 	<ul style="list-style-type: none"> • Repair or replace
6	Throttle wire	<ul style="list-style-type: none"> • The play is too large or too small. • The throttle wire does not move smoothly. 	<ul style="list-style-type: none"> • Repair • Repair or replace
7	Shoulder belt	<ul style="list-style-type: none"> • Broken or cracked. 	<ul style="list-style-type: none"> • Repair or replace
8	Engine mounting	<ul style="list-style-type: none"> • Loose or slipped off. 	<ul style="list-style-type: none"> • Tighten or repair
9	Fuel tank	<ul style="list-style-type: none"> • Fuel leaks out. • The fuel pipe has been damaged. 	<ul style="list-style-type: none"> • Repair or replace • Replace
10	Flexible shaft	<ul style="list-style-type: none"> • The connecting part has become loose. • Cut off, cracked, discolored, or deformed. 	<ul style="list-style-type: none"> • Repair or replace • Replace
11	Gear case	<ul style="list-style-type: none"> • The shaft has become loose. 	<ul style="list-style-type: none"> • Repair or replace
12	Muffler	<ul style="list-style-type: none"> • Mounted has become loose. • Carbon buldup on muffler exhaust vent. 	<ul style="list-style-type: none"> • Tighten • Remove carbon

■ REGULAR INSPECTION

Carry out inspection for each period of use as specified below.

INSPECTION AND MAINTENANCE ITEM		PERIOD OF USE			REMARKS
		25 hours	50 hours	100 hours	
Engine	Removal of dust from cylinder fin	○	○	○	
	Cleaning of the air cleaner element	○	○	○	
	Checking, cleaning and adjustment of the spark plug	○	○	○	Gap 0.9 to 1.0 mm
	Cleaning of the fuel filter	○	○	○	
	Additional tightening of the bolt for mounting the cylinder			○	
	Additional tightening of the parts for the engine			○	
	Removal of the carbon from the muffler			○	
	Removal of the contamination of the clutch drum			○	
Main body	Supply of grease for the gear case	○	○	○	
	Supply of grease for the flexible shaft	○	○	○	

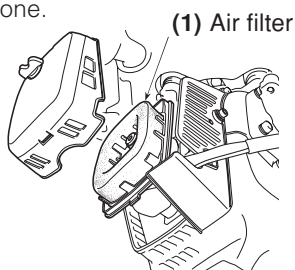
9. Maintenance

⚠ WARNING

- Make sure that the engine has stopped and is cool before performing any service to the machine. Contact with moving cutting head or hot muffler may result in a personal injury.

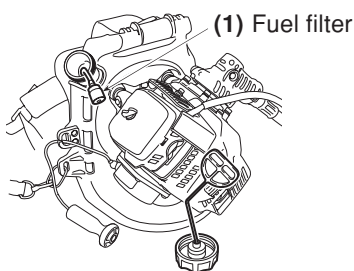
AIR FILTER

- The air filter, if clogged, will reduce the engine performance. Check and clean the filter element in warm, soapy water as required. Dry completely before installing. If the element is broken or shrunk, replace with a new one.



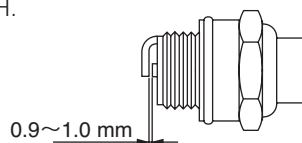
FUEL FILTER

- When the engine runs short of fuel supply, check the fuel cap and the fuel filter for blockage.



SPARK PLUG

- Starting failure and misfiring are often caused by a fouled spark plug. Clean the spark plug and check that the plug gap is in the correct range. For a replacement plug, use the correct type specified by ZENOAH.



- REPLACEMENT PLUG IS A NGK CMR7H-10

❗ IMPORTANT

- Note that using any spark plug other than those designated may result in the engine failing to operate properly or in the engine becoming overheated and damaged.
- To install the spark plug, first turn the plug until it is finger tight, then tighten it a quarter turn more with a socket wrench.

[Tightening torque]

9.8 to 13.7 N·m (100 to 140 kgf·cm)

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MUFFLER

⚠ WARNING

- Inspect periodically, the muffler for loose fasteners, any damage or corrosion. If any sign of exhaust leakage is found, stop using the machine and have it repaired immediately.
- Note that failing to do so may result in the engine catching on fire.

■ GEAR CASE

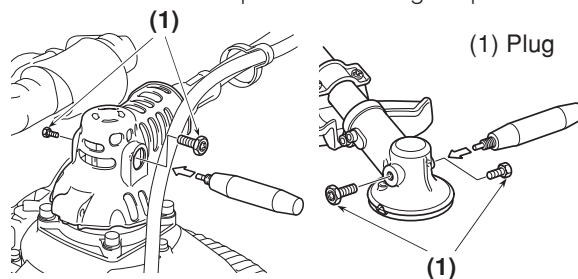
Supply lubricating grease to the gear case every 25 hours of use.

Designated grease

Lithium-based heat-resistant grease (#2)

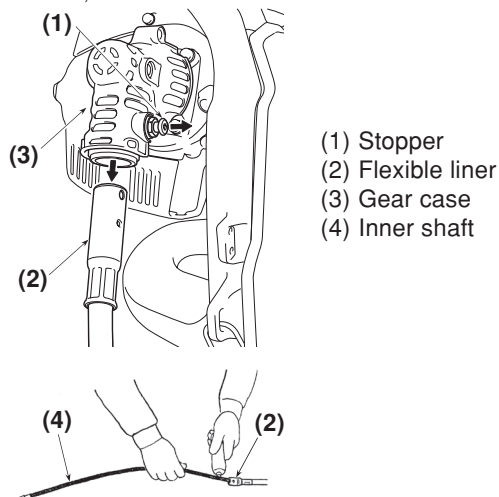
[How to supply grease]

1. Remove plugs both sides of gear case, and pour grease from the one side plug hole.
2. Stop supplying the grease when all the old grease has been pushed out from the opposite plug hole, and mount the plug in its original position.
3. Wipe off the pushed-out grease, and mount the blade and the blade rest plate in their original positions.



FLEXIBLE SHAFT

1. Pull out the flexible liner while pulling the stopper upward.
2. Pull out the inner shaft from the clutch housing side hole, apply Zenoah Genuine Power Grease (3180-96251) or lithium-based heat-resistant grease (#2) to the shaft, and insert the shaft back into the liner.



- (1) Stopper
- (2) Flexible liner
- (3) Gear case
- (4) Inner shaft

9. Maintenance

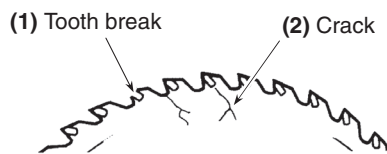
■ BLADE

⚠ WARNING

- In order to carry out cutting work safely, be sure to check the blade before you begin and after you finish your work. If you continue to use a blade which has become loosened, chipped, cracked, broken, or bent, such a blade might disintegrate and broken pieces might hit you or adjacent workers, causing a serious injury.
- Be sure to stop the engine before checking the blade. If you check the blade with the engine still in operation, the blade might begin to rotate because of overturning of the machine, etc.

⚠ WARNING

- When checking the blade, be sure to stop the engine and wear gloves. Handling the blade with bare hands might cause an injury.



❗ IMPORTANT

Check the blade for tooth breaks, cracks, chips, bends, worn-out, and other fault. If any, replace the blade by a new one.

■ MAINTENANCE BEFORE LONG-TERM STORAGE

⚠ WARNING

This machine is highly inflammable.

- When you take fuel out, keep the fuel tank well away from flames.
- Be careful not to spill the fuel, and completely wipe off all fuel spills.

❗ IMPORTANT

- If you will not use the machine for a long time (two months or more), take out the fuel from the fuel tank and carburetor. If you leave the fuel tank and carburetor filled with fuel for a long time, the fuel might deteriorate and clog the inside of the carburetor, thus causing engine problems (such as wrong start or insufficient output).
 - When storing the machine for a long time, loosen the cap of the fuel tank slightly. Excessive tightening of the cap might deform its packing over time.
1. Brush off dirt from the machine, and check the damage or slack of each part. If you find any abnormal part, repair it completely ready for the next time the machine is used.
 2. Extract fuel from the fuel tank, switch on the engine, and leave it running until it stops naturally.
 3. Remove the spark plug, and pour 1 to 2 ml of 2-stroke oil into the engine. Draw the starter rope two to three times, set the plug back, and stop it at the contraction position.
 4. Supply some grease to the gear case, and apply anti-rust oil to the metal parts such as the throttle wire.
 5. Apply a little oil to the blade, put the cover on the blade, and keep the machine in a safe place away from heat and humidity.

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9. Maintenance

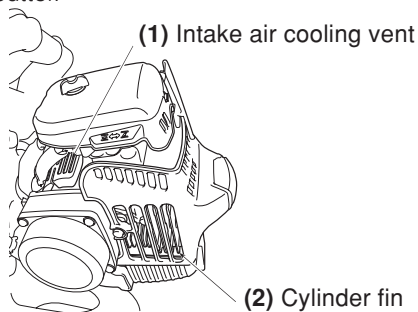
■ INTAKE AIR COOLING VENT

⚠ WARNING

- **Never touch the cylinder, muffler, or spark plugs with your bare hands immediately after stopping the engine. The engine can become very hot when in operation, and doing so could result in severe burns.**
- **When checking the machine to make sure that it is okay before using it, check the area around the muffler and remove any wood chips or leaves which have attached themselves to the brushcutter. Failing to do so could cause the muffler to become overheated and that in turn could cause the engine to catch on fire. Always make sure that the muffler is clean and free of wood chips, leaves, and other waste before use.**
- **Check the intake air cooling vent and the area around the cylinder cooling fins after every 25 hours of use for blockage, and remove any waste which has attached itself to the brushcutter. Note that it is necessary to remove the upper cover and the lower cover shown in in order to be able to view the upper part of the cylinder.**

❗ IMPORTANT

- If waste gets stuck and causes blockage around the intake air cooling vent or between the cylinder fins, it may cause the engine to overheat, and that in turn may cause mechanical failure on the part of the brushcutter.



PROCEDURES TO BE PERFORMED AFTER EVERY 100 HOURS OF USE

1. Remove the muffler, insert a screwdriver into the vent, and wipe away any carbon buildup. Wipe away any carbon buildup on the muffler exhaust vent and cylinder exhaust port at the same time.
2. Tighten all screws, bolts, and fittings.
3. Check to see if any oil or grease has worked its way in between the clutch lining and drum, and if it has, wipe it away using oil-free, lead-free gasoline.



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10. Storage

Aged fuel is one of major causes of engine starting failure. Before storing the unit, empty the fuel tank and run the engine until it uses all the fuel left in the fuel line and the carburetor. Store the unit indoor taking necessary measures for rust prevention.

11. Troubleshooting

PHENOMENON	MAIN CAUSE	MEASURES
The engine does not start.	• Bad fuel (different quality, deterioration)	• Replace it with normal fuel (page 13).
	• Excessive sucking of fuel	• Open the choke, open the throttle full open, and pull out the rope repeatedly (page 14).
	• Clogging of the muffler exhaust vent	• Clean the muffler (page 22).
	• Contamination of the spark plug electrodes, Short-circuit or breaking of a wire	• Clean the electrodes or replace the plug (page 20☆).
The engine does not stop when operate engine stop switch.	• Stop switch cords disconnect.	• Connect stop switch cords properly.
The engine does not accelerate.	• Bad fuel (different quality, deterioration)	• Replace it with normal fuel (page 13).
	• Clogging of the muffler exhaust vent	• Clean the muffler (page 22).
The engine stop when the throttle is returned to its original position.	• The idling revolution speed is too low.	• Readjust the idling adjustment screw (page 16).
The blade continue rotating when the throttle is returned to its original position.	• The idling revolution speed is too high.	• Readjust the idling adjustment screw (page 16).
	• There is no play of the throttle cable.	• Readjust the throttle cable play (page 15).
The engine rotation speed changes.	• Clogging of the fuel filter	• Clean or replace the fuel filter (page 20☆).
Abnormal vibration	• Deformation or damage of the blade	• Replace the blade (page 21☆).
Deterioration of fuel consumption	• Clogging of the air cleaner	• Clean the air cleaner (page 20).
	• Blunt blade	• Replace the blade (page 21☆).
	• Bad lubrication of the flexible shaft	• Supply grease (page 20).

- When the symptoms in the left column do not improve after taking the measures in the right column, please contact the shop where you bought this product.
- For the measures marked with ☆, please buy ZENOAH's genuine parts at the shop where you bought this product.

⚠ WARNING

- **Do not modify or disassemble the machine. Modification or disassembly of the machine might cause the machine to be damaged during operation, or cause an unexpected accident due to the leakage of fuel or malfunction of the machine.**
- **When you carry out inspection or maintenance of the machine, keep the machine clear of fire (such as a lit cigarette). Otherwise, the fuel might catch fire.**
- **Use ZENOAH's genuine or dedicated tightening parts (bolts, nuts and screws). Use of other manufacturers' parts might damage the machine, or cause an unexpected accident due to parts falling off while the machine is in operation.**

12. Disposal

- When you dispose of the machine, do not disassemble the machine.
- When you dispose of the machine, fuel, oil, be sure to follow your local regulations.

Limited warranty

Should any failure occur on the product under normal operating conditions within the applicable warranty period, the failed part will be replaced or repaired free of charge by a ZENOAH authorized dealer.

WARRANTY PERIOD: Six (6) months after purchased by end-user subject to 12 months from produced month. (30 days if used for rental purpose)

THE PURCHASER SHALL BEAR COSTS OF TRANSPORTING THE UNIT TO AND FROM THE ZENOAH DEALER.

THE PURCHASER SHALL NOT BE CHARGED FOR DIAGNOSTIC LABOR WHICH LEADS TO THE DETERMINATION THAT A WARRANTED PART IS DEFECTIVE, IF THE DIAGNOSTIC WORK IS PERFORMED AT THE ZENOAH DEALER.

THE PURCHASER OR OWNER IS RESPONSIBLE FOR THE PERFORMANCE OF THE REQUIRED MAINTENANCE AS DEFINED BY THE MANUFACTURER IN THE OWNER/OPERATOR MANUAL.

ANY WARRANTED PART WHICH IS NOT SCHEDULED FOR REPLACEMENT AS REQUIRED MAINTENANCE, OR WHICH IS SCHEDULED ONLY FOR REGULAR INSPECTION TO THE EFFECT OF REPAIR OR "REPLACE AS NECESSARY" SHALL BE WARRANTED FOR THE WARRANTY PERIOD. ANY WARRANTED PART WHICH IS SCHEDULED FOR REPLACEMENT AS REQUIRED MAINTENANCE SHALL BE WARRANTED FOR THE PERIOD OF TIME UP TO THE FIRST SCHEDULED REPLACEMENT POINT FOR THE PART.

ANY REPLACEMENT PART THAT IS EQUIVALENT IN PERFORMANCE AND DURABILITY MAY BE USED IN NON-WARRANTY MAINTENANCE OR REPAIRS, AND

SHALL NOT REDUCE THE WARRANTY OBLIGATION OF THE COMPANY.

THE COMPANY IS LIABLE FOR DAMAGES TO OTHER ENGINE COMPONENTS CAUSED BY THE FAILURE OF A WARRANTED PART STILL UNDER WARRANTY.

THE WARRANTY DOES NOT APPLY TO THOSE UNITS WHICH HAVE BEEN DAMAGED BY NEGLIGENCE OF INSTRUCTION LISTED IN THE OWNER/OPERATOR MANUAL FOR PROPER USE AND MAINTENANCE OF THE UNITS ACCIDENT MISHANDLING, ALTERATION, ABUSE, IMPROPER LUBRICATION, USE OF ANY PARTS OR ACCESSORIES OTHER THAN THOSE SPECIFIED BY THE COMPANY, OR OTHER CAUSES BEYOND THE COMPANY'S CONTROL.

THIS WARRANTY DOES NOT COVER THOSE PARTS REPLACED BY NORMAL WEAR OR HARMLESS CHANGES IN THEIR APPEARANCE.

THERE ARE NO OTHER EXPRESS WARRANTIES.

ANY IMPLIED WARRANTY is limited to the duration of the limited warranty. Otherwise, this limited warranty is in lieu of all other expressed or implied warranties, including any warranty of **FITNESS FOR A PARTICULAR PURPOSE OR USE** and any implied warranty **MERCHANTABILITY** otherwise applicable to this product.

LIABILITIES FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE UNDER ANY AND ALL WARRANTIES ARE EXCLUDED.

IF YOU NEED TO OBTAIN MORE INFORMATION, PLEASE CALL YOUR NEAREST SERVICE CENTER, OR CHECK PLEASE ZENOAH WEB SITE:

<https://www.zenoah.com/jp/>