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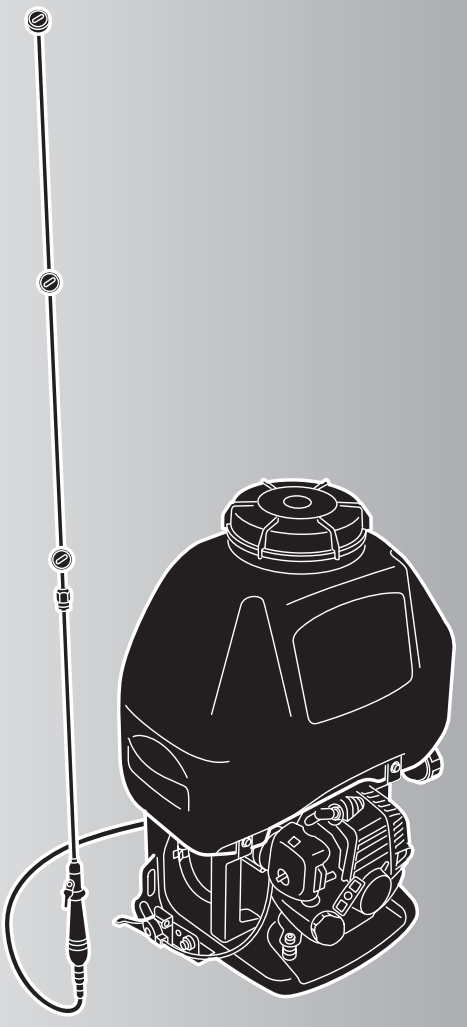
ZENOAH

G
B

OWNER'S MANUAL

POWER SPRAYER





NS3526S

⚠ WARNING ⚠

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

⚠ SAFETY PRECAUTIONS

Warning labels bearing the ⚠ mark on the product and in this Manual refer to important safety matters. Please familiarize yourself with them and observe them well.
If a warning label on the product becomes soiled or detached, please order a replacement label from your dealer and attach it in the requisite place.

PRECAUTIONS

In this Operator's Manual, precautions that are considered to be particularly important are indicated as follows.

WARNINGS IN THE MANUAL

⚠ WARNING
Failure to observe the precaution may result in the risk of death or serious injury.

❗ IMPORTANT
Failure to observe the precaution may result in damage or malfunction of the product.

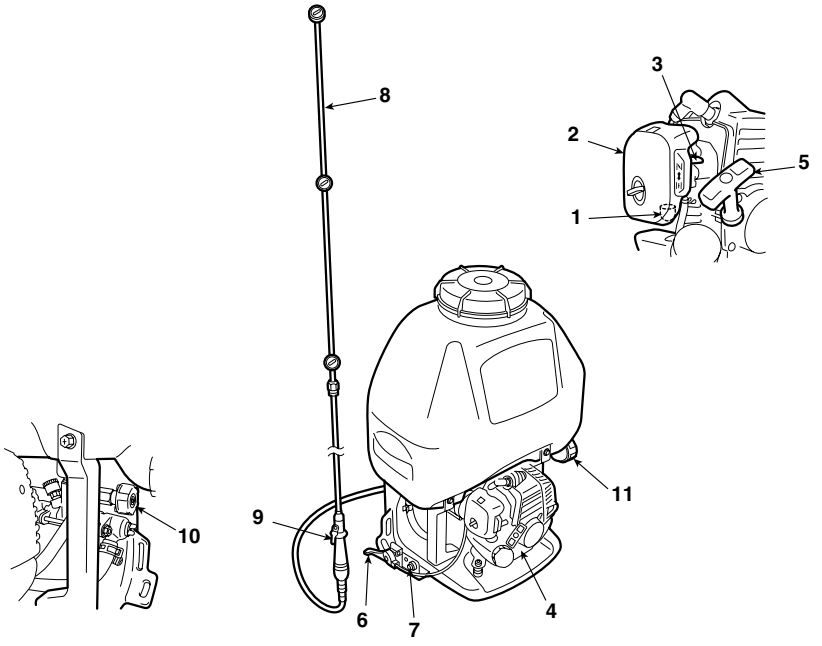
NOTE
Other additional explanations that may be of use when operating the product.

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1. Parts location

(1) Primer
(2) Air cleaner cover
(3) Choke lever
(4) Fuel tank
(5) Starter knob
(6) Throttle lever
(7) Stop switch
(8) Spray rod
(9) Grip
(10) Pressure regulating dial
(11) Fluid drain cap



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2. Specification

Model name and number				Zenoah Back-Packed Motorized Sprayer
				NS3526S
Purpose				Spraying agricultural chemicals and cold water for pest control, weeding, and growth control
Dry weight ∗			(kg)	9.8
External dimensions of main unit (length x width x height) ∗∗			(mm)	335x410x670
Capacity of chemical fluid tank			(litres)	25
Capacity of fuel tank			(litres)	0.6
Pump	Type			Plunger type
	Speed		(rpm)	1450
	Spray output	Normal	(MPa)	0.5 - 3.5
		Maximum	(MPa)	3.5
	Maximum water absorption		(litres/min)	4.8
	Motor transmission system			Centrifugal clutch
Engine	Type			Single-cylinder air-cooled 2-cycle gasoline engine
	Model number			G26LS
	Exhaust capacity		(cc)	25.4
	Fuel used			Lubricating oil/gasoline mix
	Lubricating oil used			2-cycle engine oil
	Admixture ratio			Gasoline 50 : Oil 1 (when using ZENOAH genuine oil)
	Carburetor			Diaphragm, rotary valve type
	Ignition system			Electronic controlled flywheel magnet type
	Spark plugs			CHAMPION RCJ-6Y
	Starter system			Recoil starter type
	Stopping system			Primary cable short circuit
	Air cleaner			Dry type
Standard accessories				1 spray rod, 1 rod, 1 cock, 1 grip, 1 joint, 1 hose, 1 plug wrench

∗ When nozzle (supplied) is attached.
∗∗ Nozzle and back belt are not included.
Due to product improvements, these specifications are subject to change without notice.

3. Symbols in the manual



(1) (2) (3) (4) (5)

(1) Read owner's manual before operating this machine.
(2) Wear head, eye and ear protection.
(3) Wear foot protection.
(4) Wear gloves.
(5) Warning / Attention

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

4. 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

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⚠ 5. For safe operation

Before using this product, please read this Operator's Manual thoroughly to ensure correct operation. The following are precautions that should be observed in order to use the product smoothly. Elsewhere in the Manual, the ⚠ warning mark is used to bring your attention to these precautions.



BEFORE USING THE PRODUCT

- This product has been designed mainly for the purpose of spraying pest control chemicals and weedkillers. Please do not use it for any other purpose, as this may cause unforeseen accidents.
- Since this product uses agricultural chemicals that require careful operation, misuse can be dangerous. Do not use this product when tired or otherwise in poor physical condition, or when you may be unable to judge correctly or operate accurately, such as after taking cold relief medicines or drinking alcohol. Also, children or persons who are unable to understand the contents of this Manual should under no circumstances be permitted to use the product.





- The engine exhaust gas contains toxic carbon monoxide. Please do not use the product indoors, in vinyl houses or tunnels, or in other poorly ventilated places.



- Do not use this product in the following cases.

1. When the product could fall over or in other situations when it is difficult to hold or operate.
2. After sunset or at other times when eyesight is poor and the safety of the spraying area is difficult to ascertain.
3. In worsening weather (rain, fog, strong wind, lightning, etc.)



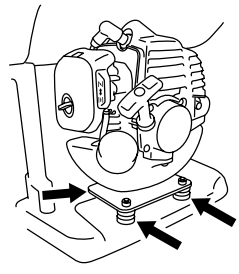
- When using for the first time, before commencing actual spraying please receive guidance in operating the product from a person with adequate experience.
- Fatigue reduces powers of concentration and increases the risk
  of accidents. When planning work, please allow ample time,
  setting a limit of 30-40 minutes for single spraying sessions and breaks of 10-20 minutes in between. Also, do not spray for more than 2 hours in any one day.



- Please take good care of this Operator's Manual and refer to it for additional information from time to time.
- When selling or lending this product, it should be accompanied by this Operator's Manual.

⚠ WARNING

- Check to see if the shock-absorbing rubber mount has become cracked or otherwise damaged. Note that failing to replace this rubber mount when it has become cracked or damaged may cause the engine to come loose from its frame during use, thus resulting in possible serious bodily injury.
- If cracked, be sure to replace without delay.



⚠ WARNING



1. If you don't observe the working time, or working manner, 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.

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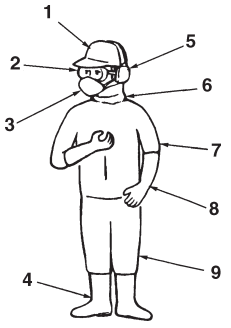
⚠ 5. For safe operation

IMPORTANT

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

PRECAUTIONS BEFORE SPRAYING

- Make sure you have the correct protective clothing, headgear, rubber gloves and boots, a protective mask, goggles, a towel, protective cream, etc., to prevent chemicals from coming into contact with your skin or entering your lungs. When spraying, please wear this protective gear to prevent any risk of injury.





1. Protective headgear
2. Protective goggles
3. Protective mask
4. Rubber boots
5. Ear muffs
6. Neck covering
7. Protective clothing
8. Rubber gloves
9. Protective clothing

- Please store chemicals in a locked storage box, locker, or other safe place out of the reach of children.
- Carefully read the instructions for using the chemicals, and familiarize yourself with the level of toxicity, method of use, etc.
- Please pay all due consideration to the area in which you will be spraying, to ensure that you do not pollute the water supply, rivers, lakes, ponds, etc., or cause any damage to residents, passers-by, livestock, etc.
- Prepare yourself physically on the day before spraying, by for example cutting down on alcoholic beverages or late-night work.
- Do not allow children, animals, etc., to enter the chemical spraying area.



- Before spraying, please prepare fully by inspecting sprayer nozzles and checking for abnormalities such as loose screws or spray hose connections, fuel leaks, defective or broken fluid gaskets, or damage to the carrying band.

PRECAUTIONS WHEN TRANSPORTING CHEMICALS

- When transporting chemicals, please handle with care to ensure that there is no spillage of chemicals from torn bags, broken bottles, or loose stoppers.
- Do not carry chemicals in the same container as food.

PRECAUTIONS WHEN TRANSPORTING THE SPRAYER

- Do not transport the sprayer while it has chemicals or fuel in the tank, as these could leak out as a result of impact during transportation.
- When transporting in a vehicle, please use a rope or similar to fix the sprayer firmly to the cargo trailer in an upright position. Please do not transport by bicycle or motorbike, as this is dangerous.

GB

PRECAUTIONS CONCERNING FUEL

- The engine of this product is fueled by "mixed gasoline" that includes highly combustible fuel. Do not refuel or store fuel containers where there is any risk of combustion from incinerators, burners, bonfires, kitchen stoves, electric sparks, welding sparks, etc.



- Smoking while spraying or refueling is dangerous. Please avoid this at all costs.
- When refueling during use, always stop the engine and make sure there are no naked flames in the vicinity before refilling.
- Any fuel spilt during refueling should be wiped off completely with a rag or similar before starting the engine.
- After refueling, seal the fuel container, tightly close the fuel tank cap, and start the engine at least 3 meters away.

PRECAUTIONS WHEN REFILLING CHEMICALS

- Before filling the tank with chemicals, please make sure that the spray lever is completely at rest.
- After chemical refilling, firmly tighten the tank cap. If not fully tightened the cap may become loose during spraying, with the risk of physical exposure to the chemicals.

PRECAUTION WHEN STARTING THE ENGINE

- Please keep children, animals, etc. well away when starting the engine and spraying.

PRECAUTIONS WHEN SPRAYING

- Since protective clothing generally offers poor ventilation and thus places stress on the body, there is a risk of contracting heatstroke or other illness when operating for long periods under high temperatures. Please avoid spraying on hot days, aiming instead for early morning and late afternoon times when temperatures are relatively cool and winds are low.
- When starting work, please pay all due consideration to the spraying time, wind direction, etc., to ensure that no noise disturbance or chemical hazard is caused to nearby residents, passers-by, farm crops, and so on.
- While spraying please hold the grip firmly at all times and be careful not to point the nozzle in the direction of people or animals.

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⚠ 5. For safe operation

- While spraying please be careful of the wind direction and always stand on the upwind side, to avoid spraying yourself with chemicals.
- Should you begin to feel even slightly unwell while spraying, consult a doctor immediately. When doing so, inform the doctor of the name of the chemical you were using, the conditions of use, etc.
- If the sprayer is tilted the chemical may leak out through the air holes in the cap. When spraying always make sure you have a firm footing and maintain your balance.
- Do not touch the spark plugs or plug cords while the engine is running, as you may get an electric shock.



- Do not touch the muffler, spark plugs, or other metal parts with your bare hands while the engine is running or immediately after stopping the engine, as there is the risk of burns due to high temperatures.



PRECAUTIONS AFTER SPRAYING

- Please seal unused chemicals and store them out of the reach of children.
- Do not simply discard empty chemical containers, but dispose of them safely by incinerating, burying, or another similar method. In addition, please take every care that the water used to clean spraying tools does not create any hazard.
- Fully inspect and maintain protective clothing, masks, gloves, and other protective gear in preparation for the next session.
- After completing the work and tidying away chemicals and spraying tools, you should immediately take a bath or wash your hands, feet, face, etc. thoroughly with soap, as well as washing your mouth out.
- You should change all clothes worn, including underwear, and wash them thoroughly. Clothes worn during spraying should not be worn again the following day.
- After spraying, please limit your alcohol intake and rest thoroughly by going to bed early. If you feel even slightly unwell, please see a doctor as soon as possible.

OTHER PRECAUTIONS

- When engaged in spraying work over a protracted period of time, please have your health checked regularly.
- Please carry out spraying in a planned fashion, keeping a daily record of the date and time of spraying, the chemicals used, the target pest, contents of the work, duration of the work, and other details.
- Please keep the following points in mind when selecting or using protective gear.

a) Protective clothing
Choose clothing that is cool to wear and offers good ventilation and waterproofing. In addition, wear items that enable you to carry out spraying work in total comfort and safety.

b) Spraying hood
Use a hood with a brim that is waterproof and covers your neck and shoulders.

c) Gloves
Use gloves that are difficult for chemicals to penetrate and do not slip even if you perspire while doing the work.

d) Rubber apron
When mixing chemicals, wear a long, thick, and wide apron that cannot be penetrated by chemical splashes.

e) Protective goggles, mask, etc.
Select suitable protective goggles, mask, rubber boots, eye washer, and protective cream, etc., paying attention to standards and the recommendations of farm work safety promotion organizations.



MAINTENANCE PRECAUTIONS

- In order to maintain the functions of the product, regularly carry out the maintenance inspections listed in this Manual. When maintenance or parts replacement not indicated in this Manual are required, please consult your product supplier or nearest ZENOAH product dealer.
- Never keep the engine running while carrying out inspections or maintenance.
- Do not modify the sprayer or dismantle the engine. This could lead to breakdown and serious accidents during operation.
- Do not touch the muffler or spark plugs with your bare hands immediately after stopping the engine. There is the risk of burns due to high temperature.



- For replacement parts, please use original ZENOAH parts or brands designated by ZENOAH.

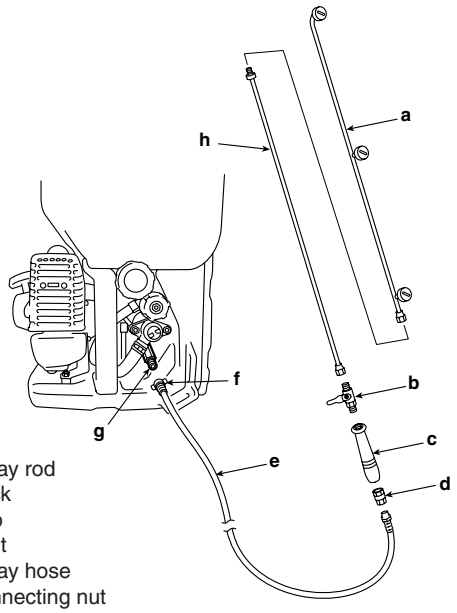
MAINTENANCE OF LABELS

1. Please keep warning labels clean and unmarked.
2. If warning labels become soiled or peel off, please order from your supplier and replace with new ones.
3. When affixing new labels please wipe off all dirt and moisture.

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6. Set up

■ Connecting the spray hose and nozzle



a. spray rod
b. cock
c. grip
d. joint
e. spray hose
f. connecting nut
g. spray outlet
h. rod

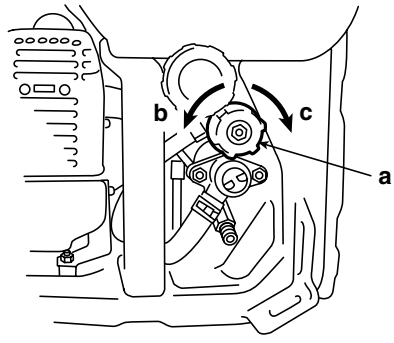
1. Connect the spray hose to the pump spray outlet and firmly tighten the connecting nut.
2. Tightly screw the joint onto the hose.
3. Tightly screw the grip onto the joint.
4. Tightly screw the cock onto the grip.
5. Tightly screw the rod onto the cock.
6. Tightly screw the spray rod onto the rod.

■ Adjusting spray pressure

- NS3526S has a pressure regulating dial to change spray pressure. Set the pressure at a level appropriate to the spray conditions.

Set the pressure regulating dial as follows:

- Turn in a clockwise direction to increase the pressure.
- Turn in a counterclockwise direction to decrease the pressure.



a. Pressure regulating dial
b. Decreasing the pressure
c. Increasing the pressure

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7. Fuel

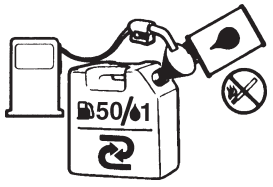
■ FUEL

⚠ 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-cycle gasoline engine use. If Zenoah oil is not available, use an anti-oxidant added quality oil expressly labeled for air-cooled 2-cycle engine use (JASO FC GRADE OIL or ISO EGC 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: 87AL).
- 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 bare ground for fueling.
2. Move at least 3 meters (10 feet) 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-CYCLE 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.

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8. Chemical filling

⚠ WARNING

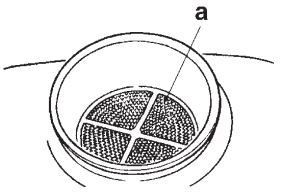
- Chemical substances should be handled correctly, observing the precautions marked on the container. Some chemicals are extremely hazardous to humans and animals, and handling errors can cause serious poisoning or even fatal accidents.
- When not in use, chemical substance containers should be stored separately from other containers out of the reach of children.

❗ IMPORTANT

- Do not fill the chemical tank with undiluted fluid. This could cause the gasket and valves to lose their durability.

■ **Procedure for filling**

1. Use a bucket or other suitable container and dilute the chemical to the requisite strength.
2. Place the sprayer on an even and stable surface and remove the chemical tank cap.
3. Fill the tank by passing chemical through the strainer.
4. When filling is complete, firmly tighten the cap.



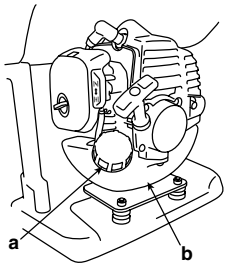
a. strainer

Chemical tank capacity: 25 litres

9. Operation

⚠ WARNING

- **Highly combustible. When refueling, switch the engine off and keep well away from naked flames.**
- **After filling the tank with fuel, firmly tighten the cap.**

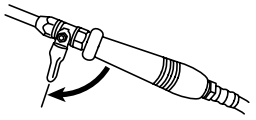


a. cap
b. fuel tank

■ **Starting engine**

⚠ WARNING

- Before starting the engine, make sure that the spray lever (spray valve) is completely returned. Starting with the spray lever still pulled out is dangerous, as chemical fluid may spray out of the nozzle as soon as the engine is started.

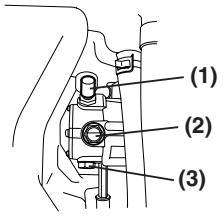


- To start the engine, place the sprayer on an even and stable surface or platform. If the sprayer is unstable, the reaction on starting etc. may cause it to fall.

❗ IMPORTANT

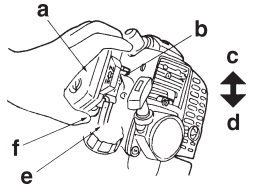
- Do not allow the chemical fluid or water in the tank to run out while the engine is running. If the engine runs empty it may cause breakage of the spray pump.

- Make sure that the gear oil is filled until the middle of the check-window. If it is not enough, loose the upper bolt and fill the gear oil. (SAE40CC)



(1) bolt
(2) window
(3) drain bolt

1. Press the primer at the bottom of the carburetor a few times with your finger until the fuel starts to flow through the transparent pipe.

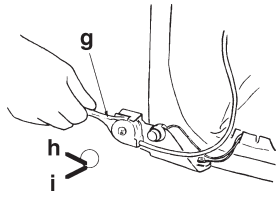


a. air cleaner
b. choke lever
c. close
d. open
e. transparent pipe
f. primer

NOTE

- There is no need to operate the primer when restarting immediately after stopping the engine, provided there is fuel left in the fuel tank.

2. Lift the choke lever on the right of the air cleaner until it is in the "closed" position, then open the throttle lever on the main unit side about 1/3-1/2 from the "slow" position.



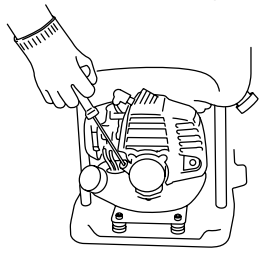
g. throttle lever
h. fast
i. slow

9. Operation

NOTE

- When restarting immediately after stopping the engine, set the choke lever to "open" and the throttle lever to "slow".

3. Place the sprayer in a stable location, and pull the starter knob with the right hand while holding the chemical tank down with the left hand. The starter knob should first be pulled out lightly, then, when resistance is felt, pulled more swiftly and vigorously.



IMPORTANT

- Do not pull the rope out completely or release the knob so that the rope returns, as this can cause starter malfunction.

4. Once the engine has started, gradually open the choke, warm up at low speed for 1-2 minutes, then return the throttle lever to the "slow" position.

IMPORTANT

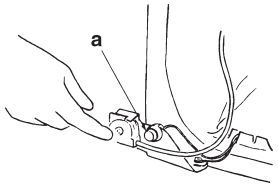
- If the rope is pulled continuously with the choke closed, the spark plugs may become flooded and the engine may fail to start. If so, you should first remove the spark plugs and dry the electrodes, then repeat the starting procedure.

■ Stopping engine

WARNING

- Stop the engine immediately in the event of an emergency.

1. Lower the throttle lever fully and cool the engine down for 1-2 minutes at low speed.
2. Hold down stop switch on the left side of the sprayer frame until the engine has come to a complete stop .



a. Stop switch

IMPORTANT

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

■ Spraying

WARNING

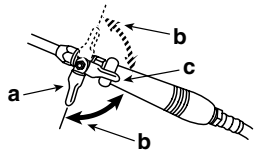
- Please use correctly, observing the precautions in this Manual ("For Safe Operation", p5 to 7).
- Before lifting the sprayer onto your back, check that the chemical tank and fuel tank caps are tightly closed.
- When spraying, do not point the nozzle at your face, or at other people, animals, etc.
- If the sprayer is tilted too much, chemical fluid or fuel may leak out through the air holes in the cap. When using, always try to maintain an upright posture.

IMPORTANT

- If the chemical tank becomes empty while spraying, reduce the engine to low speed immediately. Empty running of the engine may cause the spray pump to break.
- Please avoid using multiple nozzles, jet nozzles, or other nozzles that give a large spray volume, as spraying efficiency is sometimes impaired owing to insufficient pressure.

■ Spraying procedure

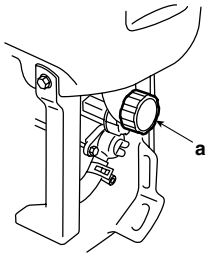
1. Start the engine, and lift the sprayer onto your back.
2. Adjust the carrying band to a suitable length for carrying.
3. Increase the engine speed, and open the spray cock. Chemical fluid starts to spray out from the nozzle in the form of mist.
4. When stopping work, close the spray cock fully and reduce the engine speed.



a. Spray cock
b. Close
c. Open

■ Cleaning after completion of spraying

1. Loosen the fluid drain cap , transfer the chemical fluid left inside the tank into a suitable container, and process appropriately with all due consideration to safety.
2. Pour about 5 litres of clean water into the chemical tank, spray through the nozzle for 2-3 minutes, and drain the water left inside the tank.



a. Fluid drain cap

■ Disposal

When disposing your machine, fuel or oil for the machine, be sure to allow your local regulations.

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10. Maintenance

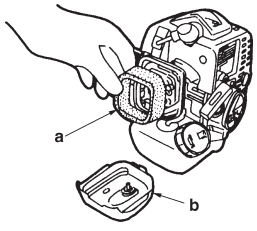
	System/components	Procedure	Before use	Every 25 hours after	Every 50 hours after	Every 100 hours after	Note
ENGINE	fuel leaks, fuel spillage	wipe out	✔				
	fuel tank, air filter, fuel filter	inspect/clean	✔	✔			replace, if necessary
	idle speed adjuster	see adjusting idling speed	✔				replace carburetor if necessary
	spark plug	clean and readjust plug gap			✔		GAP: 0.6 to 0.7 mm (.025 in) replace, if necessary
	cylinder fins, intake air cooling vent	clean		✔			
	muffler, cylinder exhaust port	clean				✔	
	throttle lever, stop switch	check operation	✔				
	screws/nuts/bolts	tighten/replace	✔			✔	except adjusting screws
PUMP	gear oil	replace				✔	

⚠ WARNING

- Make sure that the engine has stopped and is cool before performing any service to the machine. Contact with hot muffler may result in a personal injury.
- Do not modify the sprayer or dismantle the engine.
- When replacing parts please use Zenoah original parts or designated parts.

■ Air cleaner

- After every 25 hours of operation, please remove the air cleaner cover and inspect the element. If it is too dirty, wash it carefully in warm water containing a neutral detergent, and return it to its original position after drying it thoroughly.
- If the element is distorted or damaged, please replace it with a new one.



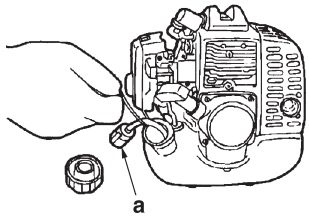
a. Element
b. Air cleaner cover

❗ IMPORTANT

- If the air cleaner element is blocked, the efficiency of the engine will be reduced. In addition, the engine interior will suffer abnormal wear if operated without the element or if continually operated with a distorted or damaged element fitted.

■ Fuel filter

After every 25 hours of operation, empty the fuel tank, detach the fuel filter from the tank, and remove all dirt. If the filter is too clogged, please replace it with a new one.



a. Fuel filter

❗ IMPORTANT

- If the fuel filter is clogged, the engine speed may be limited or speed fluctuations may occur.
- If the engine is operated without a fuel filter, dirt will accumulate in the carburetor and cause it to malfunction.

■ Spark plug

⚠ WARNING

- Do not touch the spark plug with your bare hands immediately after operation, as there is the risk of burns due to high temperature.

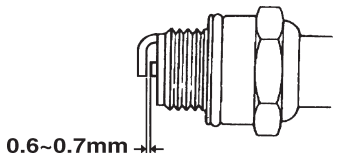


- After every 50 hours of operation, detach the spark plug and remove dirt from the electrodes with a wire brush or similar.
- The correct electrode gap is 0.6 to 0.7mm.

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10. Maintenance

- When replacing plugs, please use designated items.



CHAMPION (RCJ-6Y)

IMPORTANT

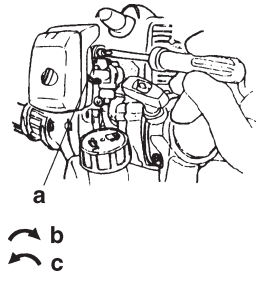
- If too much fuel is absorbed or poor quality oil is used, the spark plug electrodes become dirty, making the engine harder to start.
- Note that using any spark plug other than those designated may result in the engine failing to operate properly or in the engine becoming overheated and damaged.
- 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: 14.7 to 21.6 N.m. (150 to 220 kgf-cm)

■ Adjusting the engine

Although the engine is adjusted on leaving the factory, after repeated use it may sometimes require readjustment or maintenance. Please consult your original supplier regarding inspections and maintenance other than those shown below.

- **Idling speed**
  If the engine stalls or the pump continues to move when in idling position with the throttle lever completely lowered, readjust the engine speed using the idle speed adjuster on the left of the carburetor.



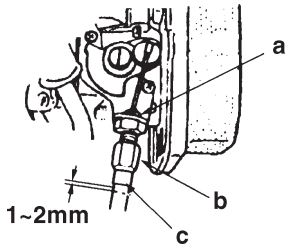
a. idle speed adjuster
b. increase speed
c. reduce speed

- **Turn the idling adjustment screw:**
  — counter-clockwise to reduce engine speed
  — clockwise to increase engine speed

NOTE

- Warm up the engine before adjusting the idling speed.

- **Throttle wire play**
  Throttle wire play should be 1 to 2 mm. After completely returning the throttle lever, take the throttle wire at the carburetor end in your fingers and give a light tug. If the play is too great or too small, readjust the position of the wire retaining nut. Loosen the lock nut and turn the wire retaining nut clockwise (screw in) to increase the play and counter-clockwise (unscrew) to reduce it. After adjusting, please fasten the wire retaining nut by tightening the lock nut.



a. lock nut
b. wire retaining nut
c. wire sleeve

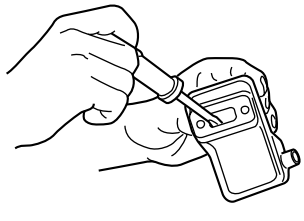
MUFFLER

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.**

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. Maintenance

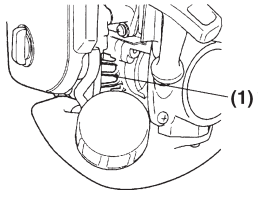
INTAKE AIR COOLING VENT

⚠ 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. Note that it is necessary to remove the upper cover and the lower cover in order to be able to view the upper part of the cylinder.**

❗ IMPORTANT

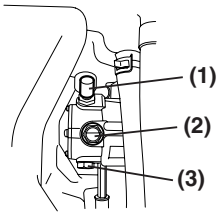
- If waste gets stuck and causes blockage around the intake air cooling vent or between the cylinder fins, it may cause the engine to overheat, and that in turn may cause mechanical failure on the part of the brushcutter.



(1) Intake air cooling vent

OIL

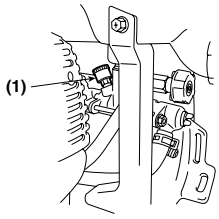
- After first 20 hours of use, replace the gear oil. After that, replace it after every 100 hours of use (SAE40CC, 100cc).



(1) bolt
(2) window
(3) drain bolt

GREASE

- Open the upper lid of the grease cup and check the grease amount. Fill it up if it is decreasing. (#3)



(1) grease cup

11. Storage

⚠ WARNING

- When draining fuel, please be careful not to spill it. If fuel is spilt, wipe off thoroughly. In addition, please be sure to close the storage container cap tightly.

❗ IMPORTANT

- If fuel is left in the engine for protracted periods, the inside of the carburetor may become clogged and cause engine malfunction (faulty starting and insufficient output).
- During storage, slightly loosen the cap of the chemical fluid tank. If screwed too tightly, the gasket may become distorted.

On completion of all work procedures, when not planning to use again for a protracted period please carry out the following pre-storage care, to prevent trouble caused by time-lapse changes.

1. Clean the chemical fluid tank and nozzle (see page 10).
2. Remove dirt from the sprayer, inspect it for any damage or looseness, and, if any abnormality is found, correct it thoroughly in preparation for the next time you use the unit.
3. Drain the fuel tank.
4. Start the engine, and leave it in idling condition until all the fuel inside the carburetor is spent and the engine comes to a natural stop.
5. Remove the spark plug and put a few drops (1 to 2 cc) of 2-cycle oil inside the engine. After pulling the starter rope 2 or 3 times, return the spark plugs to their original position and stop in compressed position.
6. After oiling the throttle lever and other metal parts with anti-corrosive oil, cover the sprayer and store indoors in a low-humidity location.

12. Disposal

When disposing your machine, fuel or oil for the machine, be sure to allow your local regulations.

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13. Troubleshooting guide

Case 1. Starting failure

CHECK		PROBABLE CAUSES		ACTION
fuel tank	→	incorrect fuel	→	drain it and use correct fuel
fuel filter	→	fuel filter is clogged	→	clean
carburetor adjustment screw	→	out of normal range	→	adjust to normal range
sparking (no spark)	→	spark plug is fouled/wet	→	clean/dry
	→	plug gap is incorrect	→	correct (GAP: 0.6 to 0.7 mm)
spark plug	→	disconnected	→	retighten

Case 2. Engine starts but does not keep running/hard re-starting

CHECK		PROBABLE CAUSES		ACTION
fuel tank	→	incorrect fuel or staled fuel	→	drain it and use correct fuel
carburetor adjustment screw	→	out of normal range	→	adjust to normal range
muffler, cylinder (exhaust port)	→	carbon is built-up	→	wipe away
air cleaner	→	clogged with dust	→	wash
cylinder fin, fan cover	→	clogged with dust	→	clean

When your unit seems to need further service, please consult with our ZENOAH service shop in your area.

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: 1 year (6 months if used professionally, and 30 days if used for rental purpose) from the date of initial purchase.

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 FAIRURE OF A WARRANTED PARTS 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.

IMPLIED WARRANTIES INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE **ARE LIMITED** TO TWO (2) YEARS OF HOME USE [ONE (1) YEAR FOR ANY OTHER USE] FROM THE ORIGINAL DELIVERY DATE.

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 http://www.zenoah.net

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