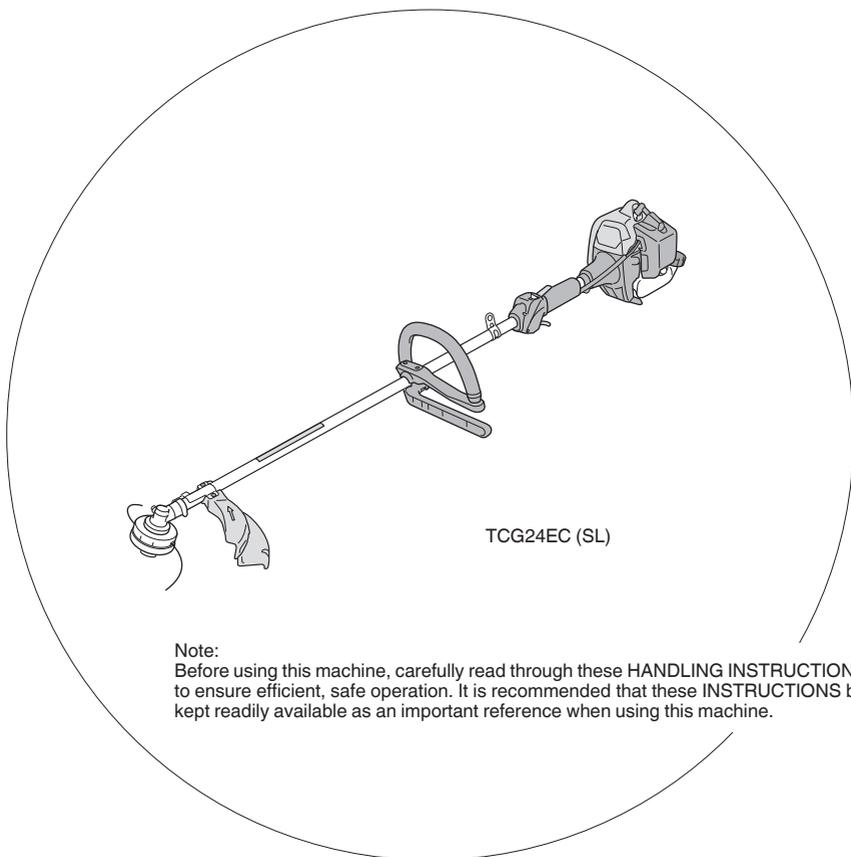


Tanaka

Grass Trimmer/Brush Cutter Model TCG 24EC (SL) / TCG 27EC (S) TCG 27EC (SL) Handling instructions

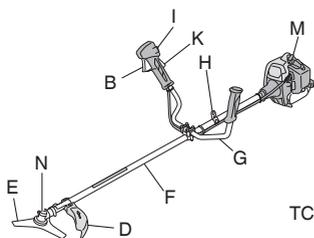


Note:

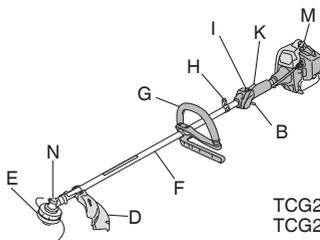
Before using this machine, carefully read through these HANDLING INSTRUCTIONS to ensure efficient, safe operation. It is recommended that these INSTRUCTIONS be kept readily available as an important reference when using this machine.



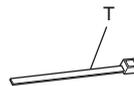
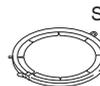
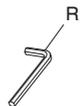
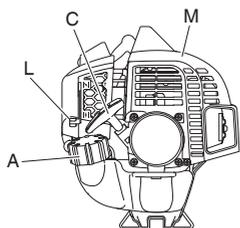
1



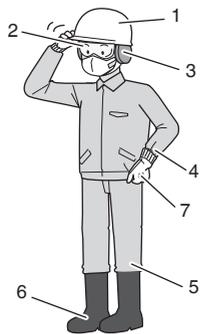
TCG27EC(S)



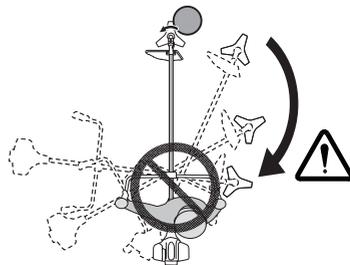
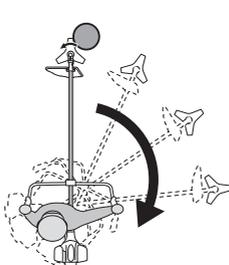
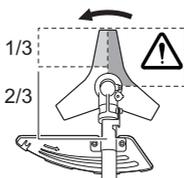
TCG24EC(SL)
TCG27EC(SL)

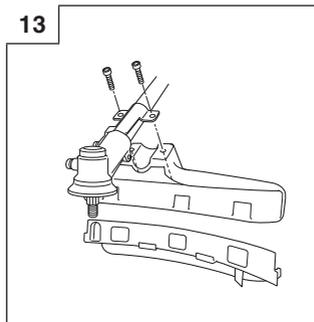
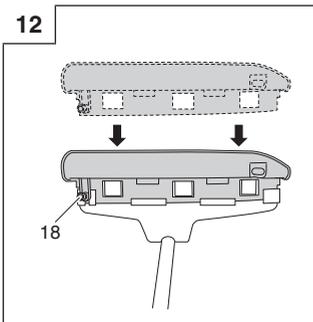
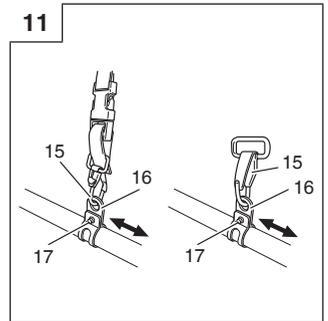
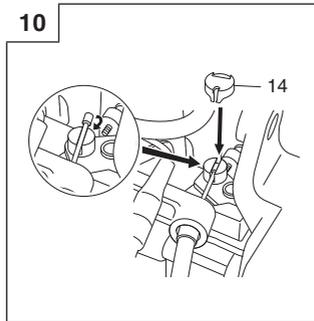
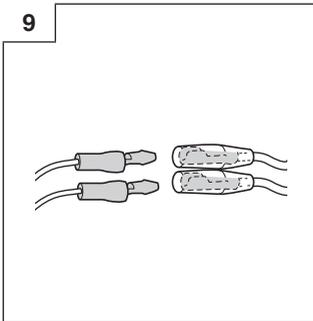
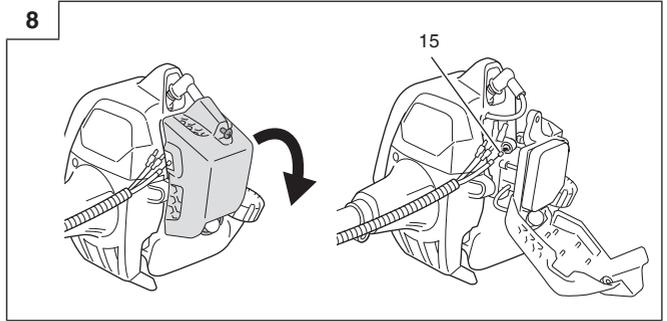
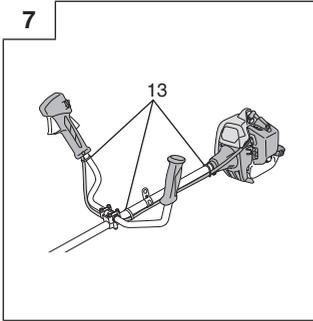
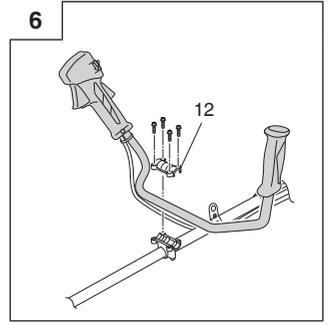
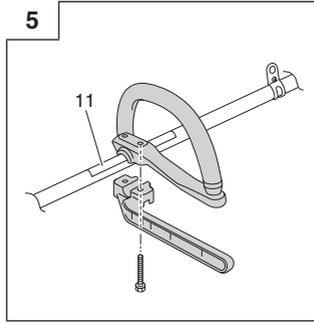
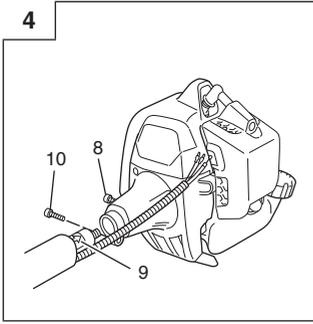


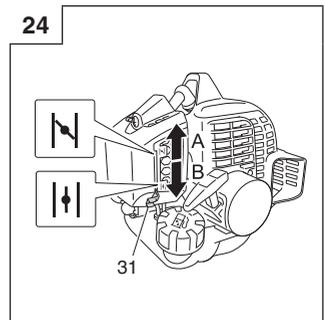
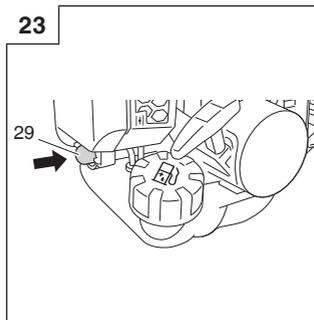
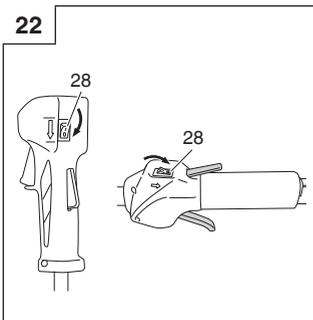
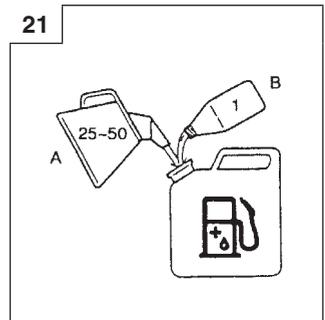
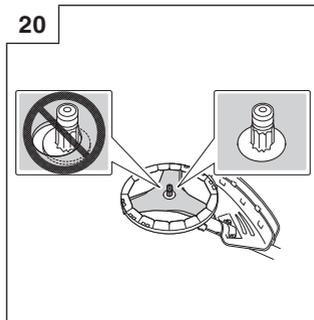
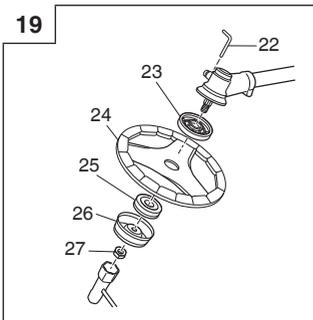
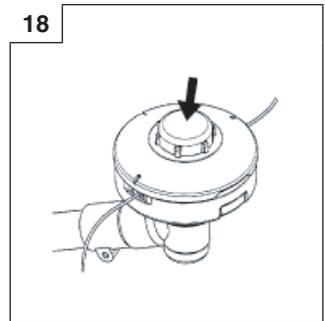
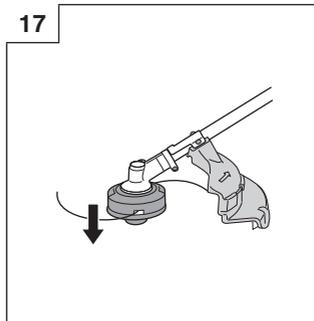
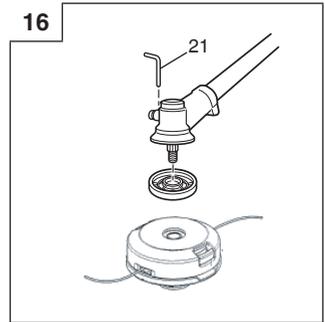
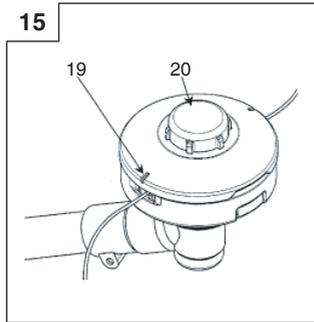
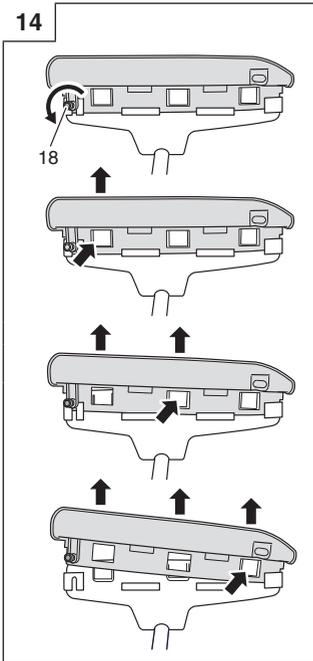
2



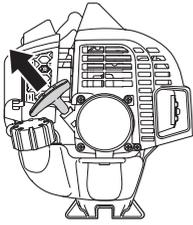
3







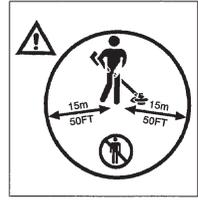
25



26



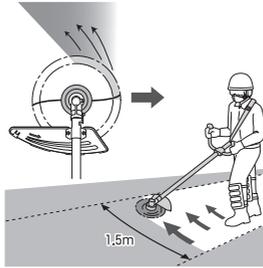
27



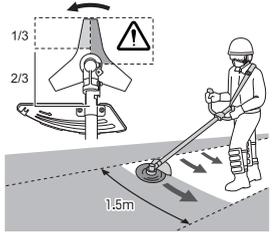
28



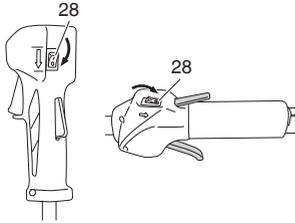
29



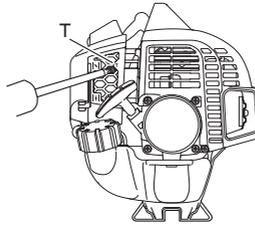
30



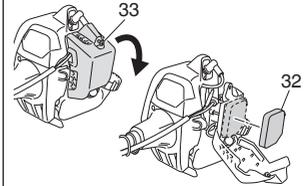
31



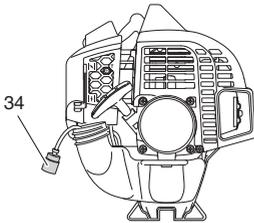
32



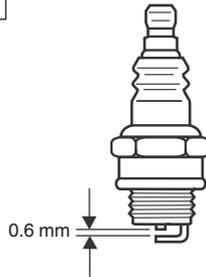
33



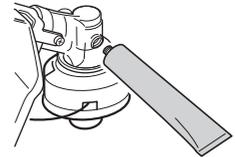
34

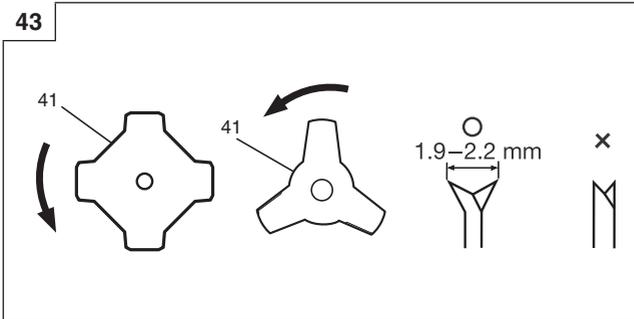
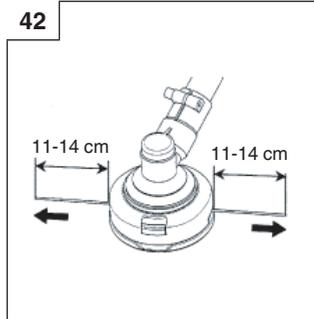
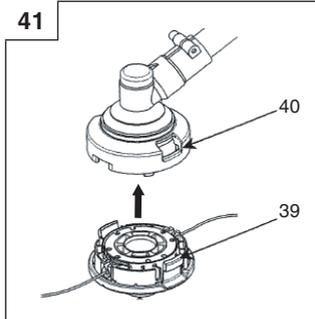
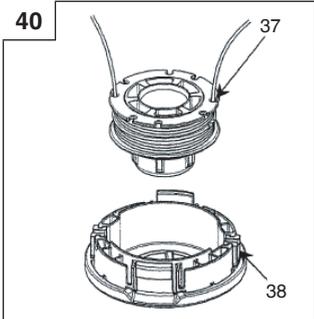
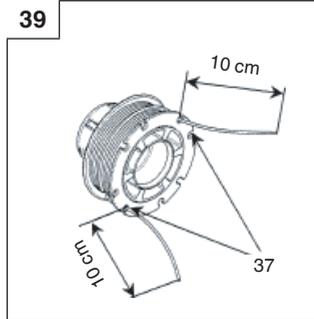
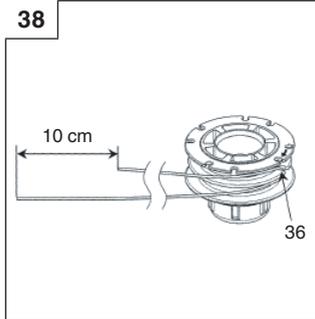
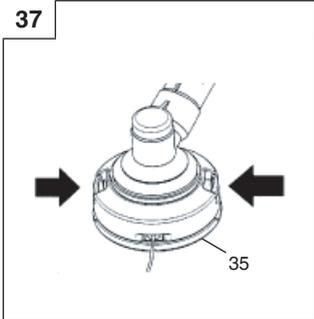


35



36





MEANINGS OF SYMBOLS

NOTE: Some units do not carry them.

	Symbols  WARNING The following show symbols used for the machine. Be sure that you understand their meaning before use.		
	Grass Trimmer / Brush Cutter		Priming pump
	It is important that you read, fully understand and observe the following safety precautions and warnings. Careless or improper use of the unit may cause serious or fatal injury.		Guaranteed sound power level
	Read, understand and follow all warnings and instructions in this manual and on the unit.		Blade thrust may occur when the spinning blade contacts a solid object in the critical area. A dangerous reaction may occur causing the entire unit and operator to be thrust violently.
	Always wear eye, head and ear protectors when using this unit.		This reaction is called blade thrust. As a result, the operator may lose control of the unit which may cause serious or fatal injury. Blade thrust is more likely to occur in areas where it is difficult to see the material to be cut.
	Do not use metal/rigid blades when this sign is shown on the unit.		Hot Surface – Contact with hot surface can cause serious burns.
	Keep all children, bystanders and helpers 15 m away from the unit. If anyone approaches you, stop the engine and cutting attachment immediately.		The hedge trimmer attachment cannot be used on models with this label.
	Be careful of thrown objects.		Indicate handle location. Arrows which show limits for handle positioning.
	Shows maximum shaft speed. Do not use the cutting attachment whose max rpm is below the shaft rpm.		Displacement
	Gloves should be worn when necessary, e.g., when assembling cutting equipment.		Spark plug
	Use anti-slip and sturdy footwear.		Idle speed
	Choke – Run position (Open)		Speed of output shaft
	Choke – Start position (Closed)		Max. engine output
	On/Start		Fuel tank capacity
	Off/Stop		Dry weight (without fuel, cutting attachment, harness and cutting attachment guard)
	Emergency stop		Cutting attachment
	Fuel and oil mixture		Sound pressure level LpA by ISO 22868 Equivalent*
	Idle speed adjustment		Measured sound power level LwA by 2000/14/EC Racing

L_{WA}, Ra(G) 2000/14/EC	Guaranteed sound power level L _{WA} by 2000/14/EC Racing	a_{hv}, eq(R)	Vibration level by ISO 22867 Rear or Right handle / Equivalent*
a_{hv}, eq(F)	Vibration level by ISO 22867 Front or Left handle / Equivalent*	K	Uncertainty
Before using your machine <ul style="list-style-type: none"> • Read the manual carefully. • Check that the cutting equipment is correctly assembled and adjusted. • Start the unit and check the carburetor adjustment. See "MAINTENANCE". 			

NOTE: Equivalent noise level / vibration level are calculated as the time-weighted energy total for noise / vibration levels under various working conditions with the following time distribution:
* 1/2 Idle, 1/2 racing.

WHAT IS WHAT? (Fig. 1)

Since this manual covers several models, there may be some difference between pictures and your unit. Use the instructions that apply to your unit.

- A: Fuel cap
- B: Throttle trigger
- C: Starter handle
- D: Cutting attachment guard
- E: Cutting attachment
- F: Drive shaft tube
- G: Handle
- H: Hanger
- I: Ignition switch
- J: Harness (if so equipped)
- K: Throttle trigger lockout
- L: Choke lever
- M: Engine
- N: Gear case
- O: Combi box spanner
- P: Handling instructions
- Q: Goggles
- R: Hex bar wrench
- S: Blade cover (if so equipped)
- T: Cord clump (if so equipped)

WARNINGS AND SAFETY INSTRUCTIONS

Pay special attention to statements preceded by the following words:

WARNING

Indicates a strong possibility of severe personal injury or loss of life, if instructions are not followed.

CAUTION

Indicates a possibility of personal injury or equipment damage, if instructions are not followed.

NOTE

Helpful information for correct function and use.

Operator safety

- Wear head protection (1). (Fig. 2)
- Always wear a safety face shield or goggles (2). (Fig. 2)
- Wear approved hearing protection (3). (Fig. 2)
Long-term exposure to noise can result in permanent hearing impairment.
Pay attention to your surroundings. Be aware of any bystanders who may be signaling a problem.
Remove safety equipment immediately upon shutting off engine.
- Always wear heavy, long-sleeved shirts (4) and long pants (5) and non-slip boots (6) and gloves (7). (Fig. 2)
Do not wear loose clothing, jewelry, short pants, sandals or go barefoot.
Secure hair so it is above shoulder length.

- Do not operate this tool when you are tired, ill or under the influence of alcohol, drugs or medication.
- Do not operate the tool at night or under bad weather conditions when visibility is poor. And do not operate the tool when it is raining or right after it has been raining. Working on slippery ground could lead to an accident if you lose your balance.
- Never let a child or inexperienced person operate the machine.
- Do not start the engine if there are any flammables such as dry leaves, waste paper or fuel in the vicinity.
- Never start or run the engine inside a closed room or building. Breathing exhaust fumes can kill.
- Keep handles free of oil and fuel.
- Keep hands away from cutting equipment.
- Do not grab or hold the unit by the cutting equipment.
- Gloves should be worn when installing or removing the cutting attachment. Failure to do so may result in injury.
- When the unit is shut off, make sure the cutting attachment has stopped before the unit is set down.
- When operation is prolonged, take a break periodically so that you may avoid possible Hand-Arm Vibration Syndrome (HAVS) which is caused by vibration.

WARNING

- Always operate the tool with proper protective equipment and clothing. Failure to do so may result in accidents such as burns or injuries. (Fig. 2)
- Do not touch the spark plug area or high voltage during operation. Doing so may result in electric shock.
- Do not allow children near the tool during operation.
- Do not touch the engine, muffler cover or exhaust vent during or shortly after operation. Doing so may result in burn or injury.
- Antivibration systems do not guarantee that you will not sustain Hand-Arm Vibration Syndrome or carpal tunnel syndrome. Therefore, continual and regular users should monitor closely the condition of their hands and fingers. If any of the above symptoms appear, seek medical advice immediately.
- If you are using any medical electric/electronic devices such as a pacemaker, consult your physician as well as the device manufacturer prior to operating any power equipment.

Unit/machine safety

- Inspect the entire unit/machine before each use. Replace damaged parts. Check for fuel leaks and make sure all fasteners are in place and securely tightened.
- Replace parts that are cracked, chipped or damaged in any way before using the unit/machine. Faulty parts may increase the risk of accidents and may lead to an injury.
- Make sure the cutting attachment guard and harness are properly attached. Do not operate if cutting attachment guard and harness is not properly attached.
- Keep others away when making carburetor adjustments.
- Use only accessories as recommended for this unit/machine by the manufacturer.

- Before operation, make sure that there are no tools such as the adjustment key or spanner still attached to the unit.

⚠ WARNING

- Never modify the unit/machine in any way. Do not use your unit/machine for any job except that for which it is intended.
- Non-authorized modifications and/or accessories may result in serious personal injury or the death of the operator or others.

Fuel safety

- Mix and pour fuel outdoors and where there are no sparks or flames.
- Use a container approved for fuel.
- Move at least 3 m away from fueling site before starting engine.
- Stop engine before removing fuel cap. Do not remove the fuel cap during operation.
- Empty the fuel tank before storing the unit/machine. It is recommended that the fuel be emptied after each use. If fuel is left in the tank, store so fuel will not leak.

⚠ WARNING

- Fuel is easy to ignite or get explosion or inhale fumes, so that pay special attention when handling or filling fuel.
- Do not smoke or allow smoking near fuel or the unit/machine or while using the unit/machine.
- Wipe up all fuel spills before starting engine.
- Store unit/machine and fuel in area where fuel vapors cannot reach sparks or open flames from water heaters, electric motors or switches, furnaces. etc.
- When using the unit in dry areas, make sure that fire extinguishing equipment is readily available.
- If you shut off the engine for refueling, make sure the unit has cooled down before adding fuel.

Cutting safety

- Do not cut any material other than grass and brush.
- Inspect the area to be cut before each use. Remove objects which can be thrown or become entangled. Do not operate in areas where there are tree roots or rocks.
- For respiratory protection, wear an aerosol protection mask when cutting the grass after insecticide is scattered.
- Keep others including children, animals, bystanders and helpers outside the 15 m hazard zone. Stop the engine immediately if you are approached.
- Please exercise caution as engine startup may be delayed after pulling the starter handle.
- Always keep the engine on the right side of your body.
- Hold the unit/machine firmly with both hands.
- Keep firm footing and balance. Do not over-reach. Losing your balance during work may lead to an injury.
- Keep all parts of your body away from the muffler and cutting attachment when the engine is running.
- Keep cutting attachment below knee level.
- Please exercise caution when operating in areas where electrical cables or gas pipes are present.
- Do not operate the cutting attachment for anything but clearing grass or bushes. Avoid operations where the cutting attachment may touch water such as puddles or dig into dirt. Failure to do so may result in injury or damage to the unit.
- Avoid prolonged use at low speed range in which vibration is high. Doing so may result in engine damage.
- When relocating to a new work area, or inspecting, adjusting or exchanging the unit's cutting attachments, accessories, etc., be sure to shut off the machine and ensure that all cutting attachments are stopped.

- Never place the machine on the ground when running.
- Never touch the cutting attachment when it is rotating.
- Always ensure that the engine is shut off and any cutting attachments have completely stopped before clearing debris or removing grass from the cutting attachment.
- Always carry a first-aid kit when operating any power equipment.
- Turn off the engine and make sure the cutting attachment has come to a full stop before removing the unit from your body or before leaving the unit unattended.
- If you accidentally bump or drop the unit, inspect it immediately to make sure there are no damage, cracks or deformations.
- If the tool is operating poorly and produces strange noise or vibrations, turn off the engine immediately and ask your dealer to have it inspected and repaired. Continued use under these conditions could lead to injury or tool damage.
- Use in accordance with local laws and regulations.

⚠ WARNING KICKBACK DANGER (Fig. 3)

When using metal cutting attachments such as blades, contact with obstacles such as trees or other hard surfaces with the front or right portion of the spinning attachment may force the unit to catch on an obstacle, resulting in a kickback reaction towards the right side of the operator.

Kickback may occur when the cutting attachment comes into contact with tree stumps or rocks hidden behind weeds. Always make sure there are no obstacles hidden by weeds before starting work.

To minimize the danger of kickbacks when they do occur, always position the unit to the right side of the body during operation. With the operator properly positioned as the cutting attachment rotates, this will reduce the danger of the unit's direct contact with the body.

Maintenance safety

- Maintain the unit/machine according to recommended procedures.
- Disconnect the spark plug before performing maintenance except for carburetor adjustments.
- Keep others away when making carburetor adjustments.
- Use only genuine Tanaka replacement parts as recommended by the manufacturer.

CAUTION

Do not disassemble the recoil starter. There is a possibility of personal injury with recoil spring.

⚠ WARNING

Improper maintenance could result in serious engine damage or in serious personal injury.

Transport and storage

- Carry the unit/machine by hand with the engine stopped and the muffler away from your body.
- Allow the engine to cool, empty the fuel tank, and secure the unit/machine before storing or transporting. Failure to do so may result in fire or accidents.
- Empty the fuel tank before storing the unit/machine. It is recommended that the fuel be emptied after each use. If fuel is left in the tank, store so fuel will not leak.
- Store unit/machine out of the reach of children.
- Clean and maintain the unit carefully and store it in a dry place.
- Make sure engine switch is off when transporting or storing.
- When transporting and storing, either remove the cutting attachment or place the blade cover over the blade.
- You have to secure the machine during transport to prevent loss of fuel, damage or injury.
- If a warning label cannot be read, peels off or becomes indistinct, replace it with a new one. To purchase new labels, contact Tanaka dealer.

If situations occur which are not covered in this manual, take care and use common sense. Contact Tanaka dealer if you need assistance.

SPECIFICATIONS

The SPECIFICATIONS of this machine are listed in the table on page 18.

NOTE

All data subject to change without notice.

ASSEMBLY PROCEDURES

Drive shaft to engine (Fig. 4)

(If the engine and shaft are packaged separately)

Loosen tube locking bolt (8) about ten turns so that the bolt point will not obstruct drive shaft tube to be inserted. When inserting drive shaft tube, hold the tube locking bolt outward preventing inside fitting from obstructing as well.

Insert the drive shaft into the clutch case of the engine properly until the marked position (9) on the drive shaft tube meets the clutch case.

NOTE

When it is hard to insert drive shaft up to the marked position on the drive shaft tube, turn drive shaft by the cutter mounting end clockwise or counter-clockwise. Tighten tube locking bolt lining up the hole in the shaft tube.

Then tighten clamp bolt securely (10).

Installation of handle

(1) Loop handle type (Fig. 5)

Attach the handle to the drive shaft tube with the angle towards the engine.

Adjust the location to the most comfortable position before operation.

Make sure to securely attach the handle with the 2 bolts.

NOTE

If your unit has handle location label (11) on drive shaft tube, follow the illustration.

(2) Bike handle type (Fig. 6)

Remove the handle bracket (12) from the assembly.

Place the handle and attach the handle bracket with four bolts lightly. Adjust to appropriate position. Then attach it firmly with the bolts.

Attach the protection tube to the drive shaft tube or handle using cord clamps (13) to make sure there is no slack. (Fig. 7)

Throttle wire / stop cord

Remove air cleaner cover. (Fig. 8)

Connect stop cords. (Fig. 9)

Remove the swivel cap that is attached to the carburetor. (Fig. 10)

Set outer-receiver (15) (if so provided) into wire guide and put throttle wire through the outer-receiver. (Fig. 8)

Connect throttle wire end to carburetor and install swivel cap (14) onto swivel (Fig. 10)

Cover throttle wire and stop cords together with protective tube provided up to air cleaner cover.

Installation of harness

(if so equipped)

WARNING

If the product includes a harness, always make sure to use it.

Attach the harness hook (15) to the hanger (16) on the drive shaft tube. (Fig. 11)

Adjust the length of the harness for easy operation of the tool.

NOTE

You may need to adjust the position of the hanger (16) to balance the unit. To do so, loosen bolt (17) and adjust the position of hanger (16). After adjusting as necessary, make sure to securely tighten the bolt (17). (Fig. 11)

Installation of cutting attachment guard

WARNING

If an incorrect or faulty guard is fitted, this may cause serious personal injury.

CAUTION

Some cutting attachment guards are equipped with sharp line limiters. Be careful with handling it.

NOTE

○ When using a trimmer head with two piece type cutting attachment guard, attach the guard extension to the cutting attachment guard, then tighten the bolt (18). (Fig. 12)

○ The guard extension is already attached to the cutting attachment guard at the time of purchase.

○ The guard bracket may come already mounted to the gear case on some models.

Align the cutting attachment guard with the guard bracket and secure it to the drive shaft tube, using the bolt and cover bracket. (Fig. 13)

WARNING

Remove the guard extension when using metal or plastic blades. Failure to do so may result in injury or damage to the cutting attachment guard.

NOTE

To remove the guard extension, refer to the drawings. Wear gloves as the extension has a sharp line limiter.

Loosen the bolt (18). Then push the three square tabs on the guard one by one in order. (Fig. 14)

Installation of cutting attachment

WARNING

○ Install the cutting attachment properly and securely as instructed in the handling instructions.

If not attached properly or securely, it may come off and cause serious and/or fatal injury.

○ Do not install or remove cutting attachments while the engine is running.

○ Always use genuine Tanaka cutting attachments and metal fittings.

○ Do not use metal or plastic blade cutting attachments with loop handle type.

Installation of semi-auto cutting head

1. Function

Automatically feeds more nylon cutting line when it is tapped at low rpm (not greater than 4500 min⁻¹).

Specifications

Code No.	Type of attaching screw	Direction of rotation	Size of attaching screw
6696454	Female screw	Counter-clockwise	M10xP1.25-LH

Applicable nylon cord

Cord diameter: Φ 3.0 mm Length: 2 m

Cord diameter: Φ 2.4 mm Length: 4 m

2. Precautions

○ The case must be securely attached to the cover.

○ Check the cover, case and other components for cracks or other damage.

OPERATING PROCEDURES

- Check the case and button for wear. If the wear limit mark (19) on the case is no longer visible or there is a hole in the bottom (20) of the button, change the new parts immediately. (Fig. 15)
- The cutting head must be securely mounted to the unit's gear case/cutter case.
- If the cutting head does not feed cutting line properly, check that the nylon line and all components are properly installed. Contact Tanaka dealer if you need assistance.

⚠ WARNING

For Tanaka heads, use only flexible, non-metallic line recommended by the manufacturer. Never use wire or wire ropes. They can break off and become a dangerous projectile.

3. Installation (Fig. 16)

Insert the allen wrench (21) into the hole of the gear case/cutter case in order to lock the drive shaft tube. Install cutting head on gear case/cutter case of grass trimmers/brush cutters. The mounting nut is left-hand-threaded. Turn clockwise to loosen/counter-clockwise to tighten.

NOTE

Since the cutter holder cap is not used here, keep it for when a metal blade is used, if so equipped.

4. Adjusting line length

Set the engine speed as low as possible and tap the head on the ground. The nylon line will be drawn out about 3 cm with each tap. (Fig. 17)
Also, you can extend the nylon line by hand but the engine must be completely stopped. (Fig. 18)
Adjust the nylon line to the proper length of 11–14 cm before each operation.

Installation of cutting blade (Fig. 19)

Insert the allen wrench (22) into the hole of the gear case in order to lock the shaft.
Assemble in the following order: Cutter holder (A) (23), blade (24), cutter holder (B) (25), nut cover (26).
Tighten the fixing nut with the box wrench. Please note that the cutter fixing nut (27) has left-handed threads (clockwise to loosen/ counter-clockwise to tighten).

NOTE

- When installing cutter holder (B) (25), be sure to set concave side upward.
- When installing or removing a blade, make sure to wear gloves and place the blade cover over the blade.

CAUTION

Check a nut cover (26) for wear or cracks before operation. If any damage or wear is found, replace it, as it is an article of consumption.

⚠ WARNING

- When installing a cutting blade, make sure that there are no cracks or any damage in it and that the cutting edges are facing the correct direction.
- Remove any surface grit from blade installation fittings (cutter holder (A) (23), cutter holder (B) (25), nut cover (26), nut (27)). Failure to do so may result in the loosening of nuts.
- The protrusion of the cutter holder (A) (23) may become misaligned with the blade (24) while tightening nut (27). Before operation, make sure the blade has been properly installed. (Fig. 20)
- Rotate the blade by hand and make sure there is no rocking or abnormal noise. Rocking may cause abnormal vibrations or result in the loosening of nuts.

Fuel (Fig. 21)

⚠ WARNING

- The trimmer is equipped with a two-stroke engine. Always run the engine on fuel, which is mixed with oil. Provide good ventilation, when fueling or handling fuel.
- Fuel is highly flammable and it is possible to get seriously injured when inhaling or spilling on your body. Always pay attention when handling fuel. Always have good ventilation when handling fuel inside building.

Fuel

- Always use branded 89 octane unleaded gasoline.
- Use genuine two-cycle oil or use a mix between 25:1 to 50:1, please consult about the mixture ratio to Tanaka dealer.
- If genuine 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.
- Never use multi-grade oil (10 W/30) or waste oil.
- Never mix fuel and oil in machine's fuel tank. Always mix fuel and oil in a separate clean container.

Always start by filling half the amount of gasoline, which is to be used.

Then add the whole amount of oil. Mix (shake) the fuel mixture. Add the remaining amount of gasoline.

Mix (shake) the fuel-mix thoroughly before filling the fuel tank.

Mixing amount of two-cycle oil and gasoline

Gasoline (Liter)	Two-cycle oil (ml)	
	Ratio 50:1	Ratio 25:1
0.5	10	20
1	20	40
2	40	80
4	80	160

Fueling

⚠ WARNING

- Always shut off the engine and let it cool for a few minutes before refueling. Do not smoke or bring flames or sparks near the fueling site.
- Slowly open the fuel tank, when filling up with fuel, so that possible over-pressure disappears.
- Tighten the fuel tank cap carefully, after fueling.
- Always move the unit at least 3 m from the fueling area before starting.
- Always wash any spilled fuel from clothing immediately with soap.
- Be sure to check any fuel leakage after refueling.
- Before fueling, in order to remove static electricity from the main body, the fuel container and the operator, please touch the ground that is slightly damp.

Before fueling, clean the tank cap area carefully, to ensure that no dirt falls into the tank. Make sure that the fuel is well mixed by shaking the container, before fueling.

Starting

⚠ WARNING

- Before starting the tool, ensure that the cutting attachment is not touching any objects or the ground. Otherwise, the cutting attachment may unexpectedly rotate and cause an injury.

- Ensure that the cutting attachment does not rotate while the engine is idling. If it does rotate, adjust the idle speed according to the instructions in "Idle speed adjustment" in the "MAINTENANCE" section. If the cutting attachment still rotates after this adjustment, immediately stop the engine and cease use, then bring the tool to the nearest Tanaka dealer.

CAUTION

Ensure that the throttle outer end is in the holder.

- (1) Starting the cold engine
 1. Set ignition switch (28) to ON position. (Fig. 22)
 2. Push priming bulb (29) about ten times so that fuel flows into carburetor. (Fig. 23)
 3. Set choke lever (31) to START position (closed) (A). (Fig. 24)
 4. Pull recoil starter briskly, taking care to keep the handle in your grasp and not allowing it to snap back. (Fig. 25)
 5. When you hear the engine want to start, return choke lever to RUN position (open) (B). (Fig. 24)
 6. Pull recoil starter briskly again. (Fig. 25)

NOTE

If engine does not start, repeat procedures from 2 to 5.

7. Then allow the engine about 2-3 minutes to warm up before subjecting it to any load.
 8. Check that the cutting attachment does not rotate when the engine is idling.
- (2) Starting the warm engine

Use only 1, 2, 6 and 8 of the starting procedure for a cold engine.

If the engine does not start, use the same starting procedure as for a cold engine.

Cutting

⚠ WARNING

- Always use the harness (if so equipped) and wear the proper attire and protective equipment when operating the unit. (Fig. 26)
- Keep others including children, animals, bystanders and helpers outside the 15 m hazard zone. Stop the engine immediately if you are approached. (Fig. 27)
- When grass or vines wrap around attachment, stop engine and attachment and remove them. Continuing operation with grass or vines wrapped around the attachment may result in damages such as early abrasion of the clutch.

CAUTION

Use and points of caution will vary depending on the type of cutting attachment. For safe use, make sure to follow the instructions and guidelines provided with each type.

NOTE

- Press the quick release button or pull emergency release flap (if so equipped) in the event of emergency. (Fig. 28)
 - Use in accordance with local laws and regulations.
- (1) Using a semi-auto cutting head
 - Set the engine at high speed when using this attachment.
 - Cut grass from left to right. The cut grass will be discharged away from the body, minimizing transfer to your clothes. (Fig. 29)
 - With nylon cord, use about 2 cm of the end of the cord to cut grass. Using the full length of the cord will reduce rotation speed and make cutting difficult.

NOTE

Automatically feeds more nylon cutting line when it is tapped at low rpm (not greater than 4500 min⁻¹).

⚠ WARNING

- This product is equipped with a line limiter that will automatically cut any excess cord. When operating the unit, do not remove the guard or line limiter.

As the resistance is greater for nylon cords as opposed to blades, mishandling could increase engine load and result in damage.

- Do not use with the engine set at low speeds. If the engine speed is low, grass may wrap around the attachment, causing the clutch to slip which could result in clutch abrasion.
 - With nylon cord cutters, always use over 15 cm of cord. If the length of the cord is too short, rotation speed will increase and may cause damage to the nylon cord cutter. As the curved drive shaft tube model in particular is not equipped with a deceleration mechanism, the possibility of increased rotation speed for the cutting attachment is high.
- (2) Using a blade
 - Adjust engine speed according to the resistance of the grass. For soft grass, use low speeds, For tough clumps of grass, use high speeds.
 - Cut grass from right to left, using the left side of the blade to cut. (Fig. 30)
 - Slightly tilting the blade to the left while cutting will pile the cut grass to the left, making collection easy.

NOTE

Excessively increasing rotation speed may cause increased blade wear, vibration and noise. It will also result in increased fuel consumption.

⚠ WARNING

- Blade thrust may occur when the spinning blade contacts a solid object in the critical area. A dangerous reaction may occur causing the entire unit and operator to be thrust violently. This reaction is called blade thrust. As a result, the operator may lose control of the unit which may cause serious or fatal injury. Blade thrust is more likely to occur in areas where it is difficult to see the material to be cut.
- If cutting attachment should strike against stones or other debris, stop the engine and make sure that the attachment and related parts are undamaged.

Stopping (Fig. 31)

Decrease engine speed and run at an idle for a few minutes, then turn off ignition switch (28).

⚠ WARNING

A cutting attachment can injure while it continues to spin after the engine is stopped or power control is released. When the unit is turned off, make sure the cutting attachment has stopped before the unit is set down.

MAINTENANCE

MAINTENANCE, REPLACEMENT OR REPAIR OF THE EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY NON-ROAD ENGINE REPAIR ESTABLISHMENT OR INDIVIDUAL.

Carburetor adjustment (Fig. 32)

The carburetor is a precision part that mixes air and fuel, and it is designed to ensure high performance from the engine. Before the tool is shipped from the factory, its carburetor is adjusted during a test run. Only make adjustments if it is necessary because of environmental conditions (the climate or atmospheric pressure), the type of fuel, the type of two-cycle oil, etc.

⚠ WARNING

- Because the carburetor is manufactured with a high degree of precision, do not disassemble it.
- For this product, the only setting of the carburetor that can be adjusted is the idle speed (T).
- Never start the engine without the complete clutch cover and tube assembled! Otherwise the clutch can come loose and cause personal injuries.

T = Idle speed adjustment screw.

Idle speed adjustment (T)

WARNING

- When the engine is stopped, do not excessively turn the idle speed adjustment screw (T) in a clockwise direction. Otherwise, when the engine starts, the cutting attachment may unexpectedly rotate and cause an injury.
- Do not adjust the idle speed adjustment screw (T) for any reason other than to adjust the idling.

Run the engine while adjusting the idling.

- (1) If the engine stops during idling
Start the engine, and slowly turn the idle speed adjustment screw (T) in a clockwise direction until it is in a position at which the engine rotates smoothly. At that time, ensure that the cutting attachment is not spinning.
- (2) If the cutting attachment rotates during idling
Slowly turn the idle speed adjustment screw (T) in a counter-clockwise direction until it is in a position at which the cutting attachment does not rotate. At that time, ensure that the rotation of the engine is smooth.

WARNING

- If the cutting attachment still rotates after adjustment of the idle speed adjustment screw (T), immediately stop the engine and cease use, then contact the nearest Tanaka dealer.

Air filter (Fig. 33)

The air filter (32) must be cleaned from dust and dirt in order to avoid:

- Carburetor malfunctions.
- Starting problems.
- Engine power reduction.
- Unnecessary wear on the engine parts.
- Abnormal fuel consumption.

Clean the air filter daily or more often if working in exceptionally dusty areas.

Loosen the screw (33), then open the air filter cover and remove the air filter (32). Rinse it in warm soap suds.

Check that the filter is dry before reassembly.

An air filter that has been used for some time cannot be cleaned completely. Therefore, it must regularly be replaced with a new one. A damaged filter must always be replaced.

Fuel filter (Fig. 34)

Remove the fuel filter (34) from the fuel tank, and replace it if it is dirty.

NOTE

A blocked fuel filter (34) can prevent the supply of fuel and cause a rotation malfunction of the engine.

Spark plug (Fig. 35)

The spark plug condition is influenced by:

- An incorrect carburetor setting.
- Wrong fuel mixture (too much oil in the gasoline)
- A dirty air filter.
- Hard running conditions (such as cold weather).

These factors cause deposits on the spark plug electrodes, which may result in malfunction and starting difficulties. If the engine is low on power, difficult to start or runs poorly at idling speed, always check the spark plug first.

If the spark plug is dirty, clean it and check the electrode gap. Re-adjust if necessary. The correct gap is 0.6 mm. The spark plug should be replaced after about 100 operation hours or earlier if the electrodes are badly eroded.

NOTE

In some areas, local law requires using a resistor spark plug to suppress ignition signals. If this machine was originally equipped with resistor spark plug, use same type of spark plug for replacement.

Gear case (Fig. 36)

Check gear case or angle gear for grease level about every 50 hours of operation by removing the grease filler plug on the side of gear case.

If no grease can be seen on the flanks of the gears, fill the gear case with quality lithium based multipurpose grease up to 3/4. Do not completely fill the gear case.

CAUTION

- Make sure to remove any dirt or grit when attaching the plug to its original position.
- Before attempting inspection or maintenance of the gear case, make sure the case has cooled.

Semi-auto cutting head

Nylon line replacement

1. Remove the case (35) by firmly pushing inward the locking tabs with your thumbs as shown in **Fig. 37**.
2. After removing the case, take out the reel and discard the remaining line.
3. Fold the new nylon line unevenly in half as shown in picture.
Hook the U-shaped end of the nylon line into the groove (36) on the center partition of the reel.
Wind both halves of the line on the reel in the same direction, keeping each half of the line on its own side of the partition. (**Fig. 38**)
4. Push each line into the stopper holes (37), leaving the loose ends approx. 10 cm in length. (**Fig. 39**)
5. Insert both loose ends of the line through the cord guide (38) when placing the reel in the case. (**Fig. 40**)

NOTE

When placing a reel in the case, try to line up the stopper holes (37) with the cord guide (38) for easier line release later.

6. Place the cover over the case so that the cap locking tabs (39) on the case meet the long holes (40) on the cover. Then push the case securely until it clicks into place. (**Fig. 41**)
7. The initial cutting line length should be approx. 11–14 cm and should be equal on both sides. (**Fig. 42**)

Blade (Fig. 43)

WARNING

Wear protective gloves when handling or performing maintenance on the blade.

- Use a sharp blade. A dull blade is more likely to snag and thrust.
Replace the fastening nut if it is damaged and hard to tighten.
- When replacing blade, purchase one recommended by Tanaka, with a 25.4 mm (one inch) fitting hole.
- In the case of a 3 or 4 tooth blade (41), it can be used on either side.
- Use the correct blade for the type of work.
- When replacing blades, use appropriate tools.
- When cutting edges become dull, re-sharpen or file as shown in the illustration. Incorrect sharpening may cause excessive vibration.
- Discard blades that are bent, warped, cracked, broken or damaged in any way.

NOTE

When sharpening blade it is important to maintain an original shape of radius at the base of the tooth to avoid cracking.

For long-term storage

Drain all fuel from the fuel tank. Start and let engine run until it stops. Repair any damage which has resulted from use. Clean the unit with a clean rag, or the use of high pressure air hose. Put a few drops of two-cycle engine oil into the cylinder through the spark plug hole, and spin the engine over several times to distribute oil.

Cover the unit and store it in a dry area.

Maintenance schedule

Below you will find some general maintenance instructions. For further information please contact Tanaka dealer.

Daily maintenance

- Clean the exterior of the unit.
- Check that the harness is undamaged.
- Check the cutting attachment guard for damage or cracks. Change the guard in case of impacts or cracks.
- Check that the cutting attachment is properly centered, sharp, and without cracks. An off-center cutting attachment induces heavy vibrations that may damage the unit.
- Check that the cutting attachment nut is sufficiently tightened.
- Make sure that the blade cover is undamaged and that it can be securely fitted.
- Check that nuts and screws are sufficiently tightened.
- Check that the unit is undamaged and free of defects.

Weekly maintenance

- Check the starter, especially the cord and return spring.
- Clean the exterior of the spark plug.
- Remove the spark plug and check the electrode gap. Adjust it to 0.6 mm, or change the spark plug.
- Check that the angle gear is filled with grease up to 3/4.
- Clean the air filter.

Monthly maintenance

- Rinse the fuel tank with gasoline.
- Clean the exterior of the carburetor and the space around it.
- Clean the fan and the space around it.

SELECTING ACCESSORIES

The accessories of this machine are listed on page 19.

SELECTING CUTTING ATTACHMENTS

Recommended accessories for each model are presented in the table below.
For purchases, contact Tanaka dealer.
Please check carefully as those accessories not marked with “●” cannot be attached.

List of recommended accessories

Type	Name	Specification			LOOP HANDLE		BIKE HANDLE	
		Diameter	Feed System Adapter or No. of Teeth (Blade)	Blade Thickness (mm) or Trimmer line Diameter (mm)	TCG24EC (SL)	TCG27EC (SL)	TCG27EC (S)	
ALUMINUM HEADS	NYLON HEAD CH-100 (W/NYLON LINE)	4"	Pre-Cut Line	2.2 – 3.0	●	●	●	
	NYLON HEAD CH-100				●	●	●	
	NYLON HEAD CH-300 (W/CUTTER HOLDER CAP)	5"	Manual line feed	2.2 – 2.7		●	●	
	NYLON HEAD CH-300					●	●	
TAP & GO NYLON HEADS	NYLON HEAD BF-4	4"	R M8 x 1.25 Nut	2.2 – 3.0				
	NYLON HEAD BF-5	5"	L M10 x 1.25 Nut L M8 x 1.25 Nut	2.2 – 3.0	●	●	●	
BLADES	BLADE B4/9/1.6		9"	4	1.6			●
	BLADE B4/10/1.6		10"	4	1.6			●
	BLADE B3/10/1.8		10"	3	1.8			●

TROUBLESHOOTING

Use the inspections in the table below if the tool does not operate normally. If this does not remedy the problem, consult your dealer or the Tanaka dealer.

Condition		Cause	Remedy
Engine does not start	Fuel system	Fuel tank is empty or fuel level is low	Fill the fuel tank with the correct fuel mix (25:1-50:1)
		Fuel tank contains old fuel (offensive odor)	Replace with new fuel
		Too much fuel is absorbed and spark plug is wet	1. Disconnect the spark plug and allow to dry 2. Pull the starter handle 5 or 6 times to remove the surplus fuel 3. Attach the spark plug 4. Set the choke lever to RUN position and pull the starter handle
		Fuel filter is clogged with dirt	Clean the fuel filter
		Fuel pipe is bent or disconnected	Ensure that the fuel flows smoothly
		Carburetor malfunction	Contact Tanaka dealer
	Electrical system	Stop switch lead has short-circuited	Contact Tanaka dealer
		Spark plug is dirty	Replace or clean the spark plug
		Electrode gap is too big	Adjust the gap to 0.6mm
		Poor connection between high tension cable and spark plug	Reconnect
		Electrical system malfunction	Contact Tanaka dealer
	Other	Muffler exhaust port is clogged with carbon	Contact Tanaka dealer for repair
Engine starts but cuts out straightaway Engine is apt to cut out	Fuel system	Fuel tank is empty or fuel level is low	Fill the fuel tank with the correct fuel mix (25:1-50:1)
		Fuel tank contains old fuel (offensive odor)	Replace with new fuel
		Two-cycle oil has not been added	Contact Tanaka dealer
		Choke lever is in START position	Set the choke lever to RUN position
		Air has got into fuel system	Reconnect the fuel pipe or joint
		Carburetor malfunction	Contact Tanaka dealer
	Electrical system	Ignition failure	
		Spark plug failure	Replace with new spark plug
		Electrical system failure	Contact Tanaka dealer
	Other	Engine overheating	
		Wrong spark plug model	Replace with designated part See "SPECIFICATIONS"
		Dirty air cleaner	Clean
Carbon clogging (muffler exhaust port)		Clean	
Insufficient compression (piston, piston ring, cylinder)		Contact Tanaka dealer	
Abnormal vibration	Cutting attachment is not properly installed		See "Installation of cutting attachment"
	Handle, handle bracket or other fastening part is loose		Check and tighten
	Blade is bent or damaged		Replace with new blade
	Grass is wrapped round gear case		Remove grass
Engine is running but blade does not move Movement is poor	Grass is wrapped round gear case		Remove grass and dirt

Condition	Cause	Remedy
Engine does not stop	Stop switch failure	Set the choke lever to START position to stop the engine Cease use immediately and contact Tanaka dealer
Engine stops when throttle is closed	Idle speed is too low	Contact Tanaka dealer
Blade continues rotating when throttle is closed	Idle speed is too high Throttle wire is too taut	Contact Tanaka dealer

Model		TCG24EC (SL)	TCG27EC (SL)	TCG27EC (S)
	(cm ³)	23.9	26.9	
	—	TORCH L7RTC (NGK BPMR7A)		
 Idle	(min ⁻¹)	2800 – 3200		
 Max. 9,900 min ⁻¹	(min ⁻¹)	9900		
	(min ⁻¹)	7500		
P	(kW)	0.72	0.81	
	(cm ³)	400		
	(kg)	4.1	4.1	4.2
	(— / mm)			 255
L_{pA, eq} / K ISO22868	(dB(A))	84 / 3	84 / 3	85 / 3
L_{WA, Ra(M)} 2000/14/EC	(dB(A))	104	104	105
L_{WA, Ra(G)} 2000/14/EC	(dB(A))	106	106	107
a_{hv, eq(F)} / K	(m/s ²)	5.2 / 1.5	5.6 / 1.5	4.2 / 1.5
a_{hv, eq(R)} / K	(m/s ²)	5.9 / 1.5	5.1 / 1.5	3.9 / 1.5



6684764



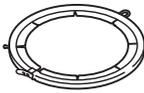
944458



875769



6698711



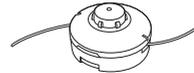
6699756



6696448



6696184



6696454

Koki Holdings Co., Ltd.

Shinagawa Intercity Tower A, 15-1, Konan 2-chome,
Minato-ku, Tokyo, Japan