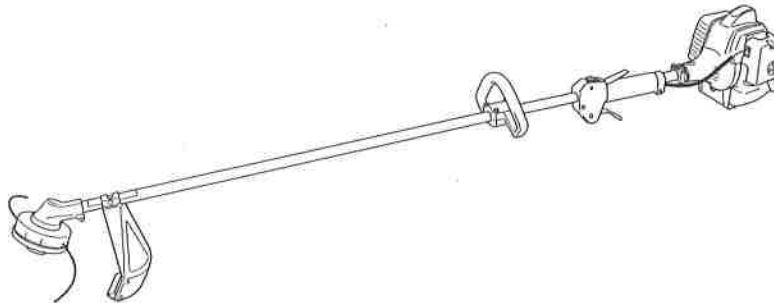


Tanaka

Designed for operating in USA & Canada only.
When this product is used in areas other than the USA & Canada,
we cannot guarantee the product quality and performance.

TCG 23ECP (SL)

**Grass Trimmer
Coupe-Herbes
Motoguadañas**



SAFETY INSTRUCTIONS AND INSTRUCTION MANUAL

⚠ WARNING

IMPROPER OR UNSAFE use of this power tool can result in death or serious bodily injury!
This manual contains important information about product safety. Please read and understand this manual **BEFORE** operating the power tool. Please keep this manual available for other users and owners before they use the power tool. This manual should be stored in safe place.

INSTRUCTIONS DE SECURITE ET MODE D'EMPLOI

⚠ AVERTISSEMENT

Une utilisation **INCORRECTE OU DANGEREUSE** de cet outil motorisé peut entraîner la mort ou de sérieuses blessures corporelles !
Ce mode d'emploi contient d'importantes informations à propos de la sécurité de ce produit. Prière de lire et de comprendre ce mode d'emploi **AVANT** d'utiliser l'outil motorisé. Garder ce mode d'emploi à la disponibilité des autres utilisateurs et propriétaires avant qu'ils utilisent l'outil motorisé. Ce mode d'emploi doit être conservé dans un endroit sûr.

INSTRUCCIONES DE SEGURIDAD Y MANUAL DE INSTRUCCIONES

⚠ ADVERTENCIA




















¡La utilización **INAPROPIADA O PELIGROSA** de esta herramienta eléctrica puede provocar lesiones graves o la muerte!
Este manual contiene información importante sobre la seguridad del producto. Lea y comprenda este manual **ANTES** de utilizar la herramienta eléctrica. Guarde este manual para que puedan leerlo otras personas antes de utilizar la herramienta eléctrica. Este manual debe ser guardado en un lugar seguro.



Hitachi Koki

MEANINGS OF SYMBOLS

NOTE: Some units do not carry them.

Symbols			
<p>⚠ WARNING The following show symbols used for the machine. Be sure that you understand their meaning before use.</p>			
	<p>It is important that you read, fully understand before use, and observe the following safety precautions and warnings. Careless or improper use of the unit may cause serious or fatal injury.</p>		Choke - Run position (Open)
			Choke - Start position (Closed)
	<p>Read, understand and follow all warnings and instructions in this manual and on the unit.</p>		On/Start
	<p>Always wear eye, head and ear protectors when using this unit.</p>		Off/Stop
	<p>Do not use metal/rigid blades when this sign is shown on the unit.</p>		Fuel and oil mixture
	<p>Keep all children, bystanders and helpers 15 m away from the unit. If anyone approaches you, stop the engine and cutting attachment immediately.</p>		Idle speed adjustment
			Priming pump
	<p>Be careful of thrown objects.</p>		Hot surface – Contact with hot surface can cause serious burns.
	<p>Shows maximum shaft speed. Do not use the cutting attachment whose max rpm is below the shaft rpm.</p>		Indicate handle location. Arrows which show limits for handle positioning.
	<p>Gloves should be worn when necessary, e.g., when assembling cutting equipment.</p>		Indicates cutting attachment guard location for a trimmer head or semi-auto cutting head.
	<p>Use anti-slip and sturdy footwear.</p>		
<p>Before using your machine</p> <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". 			

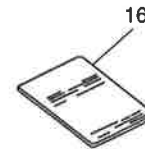
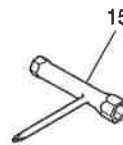
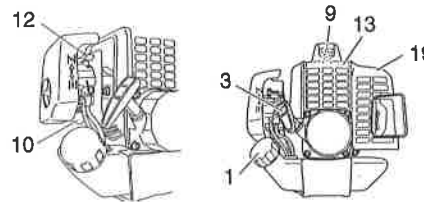
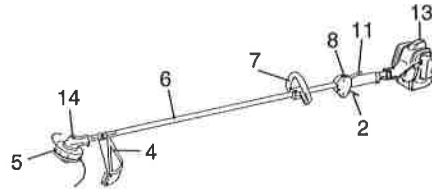
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 WARNINGS AND SAFETY INSTRUCTIONS 4
 SPECIFICATIONS 7

ASSEMBLY PROCEDURES 8
 OPERATING PROCEDURES 9
 MAINTENANCE 12

WHAT IS WHAT

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

1. Fuel cap
2. Throttle trigger
3. Starter handle
4. Cutting attachment guard
5. Cutting attachment
6. Drive shaft tube
7. Handle
8. Ignition switch
9. Spark plug
10. Priming pump
11. Throttle trigger lockout
12. Choke lever
13. Engine
14. Gear case
15. Combi box spanner
16. Handling instructions
17. Goggles
18. Hex bar wrench
19. Top cover



⚠ WARNING

The engine exhaust from this product contains chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

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

- Always wear a safety face shield or goggles.
- Approved protective goggles comply with standard ANSI Z87.1 in the USA.
- Always wear heavy, long pants, non-slip boots, gloves and a long-sleeve shirt. 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.
- Never let a child or inexperienced person operate the machine.
- Wear approved hearing protection.
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.
- Wear head protection.
- Never start or run the engine inside a closed environment, such as a room or building. Breathing carbon monoxide 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.
- When the unit is turned off, make sure the cutting attachment has stopped before the unit is set down.

- When operation is prolonged, take a break from time to time so that you may avoid possible Hand-Arm Vibration Syndrome (HAVS) which is caused by vibration.
- 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.
- Do not start the engine if there are any flammables such as dry leaves, waste paper or fuel in the vicinity.
- Gloves should be worn when installing or removing the cutting attachment. Failure to do so may result in injury.

⚠ WARNING

- **Always operate the tool with proper protective equipment and clothing. Failure to do so may result in accidents such as burns or injuries.**
- **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, top 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 symptoms of the above 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 is properly installed and securely fastened.

- 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 where there are no sparks and flames.
 - Use a container approved for fuel.
 - Move at least 10 ft (3 m) away from fueling site before starting engine.
 - Slowly remove the fuel cap only after stopping the engine. 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 and fueling or mixing fuel.**
 - **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.
 - Clear the area to be cut before each use. Remove objects which can be thrown or become entangled in the cutting attachment.
 - 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 50 ft (15 m) hazard zone. There is still a risk of injury from thrown object. Bystanders should be encouraged to wear eye protection. 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.

English

- 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.

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 before storing or transporting.
Secure the machine during transport to prevent loss of fuel, damage or injury.
- 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

		Model	TCG23ECP (SL)
	Engine Size (cu. in.)		1.37 (22.5 ml)
	Spark Plug		TORCH AC6RA (NGK CMR6A)
	Fuel Tank Capacity (fl. oz)		16.2 (0.48 l)
	Dry Weight (lbs)		10.8 (4.9 kg)
	Sound pressure level LpA (dB (A)) (ISO22868)	Equivalent	 95.3
	Measured sound power level LwA (dB (A))	(ISO22868) Racing	 112
	Guaranteed sound power level LwA (dB (A))	(ISO22868) Racing	 115
	Vibration level (m/s ²) (ISO22867)		
	Equivalent (Front / Left handle)		6.0
	Equivalent (Rear / Right handle)		6.3
	Uncertainty		1.5

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.

All data subject to change without notice.

ASSEMBLY PROCEDURES

Installation of handle (Fig. 1)

Attach the handle to the drive shaft tube.
Adjust the location to the most comfortable position before operation.
Make sure to securely attach the handle with the 4 bolts.

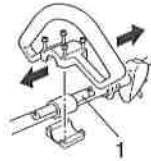


Fig. 1

NOTE

If your unit has handle location label (1) on drive shaft tube, follow the illustration.

⚠ WARNING

Do not use metal or plastic blade cutting attachments.

Installation of cutting attachment guard

⚠ WARNING

- Do not start or operate unit unless each guard is properly assembled to unit.
- 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.

Aligning to the position indicated by the guard location label (2), firmly secure the cutting attachment guard to the drive shaft tube with the bolt (3) and guard bracket (4). (Fig. 2)

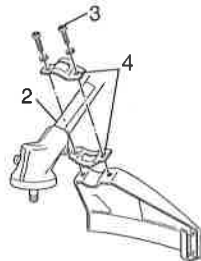


Fig. 2

⚠ WARNING

- If unit is operated without a sharp line limiters, the line will become too long, the engine will overheat, and engine damage may occur.
- Check sharp line limiters surely cut nylon line when operating.

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.

Installation of semi-auto cutting head

1. Function

Automatically feeds more nylon cutting line when it is tapped at low rpm (not greater than 6,000 min⁻¹).

Specifications

Code No.	Type of attaching screw	Direction of rotation	Size of attaching screw
6600570	Female screw	Counterclockwise	M10×P1.25-LH

Applicable nylon cord

Cord diameter: 3/22" (Φ2.4 mm) Length: 16.3 ft (5 m)

2. Precautions

- The case must be securely attached to the cover.
- Check the cover (5), case (6) and other components for cracks or other damage. (Fig. 3)
- Check the case and button for wear.
- If there is a hole in the bottom (7) of the button, change the new parts immediately. (Fig. 3)

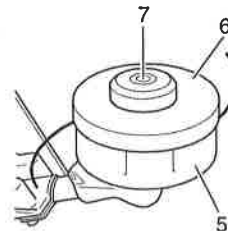


Fig. 3

- 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. 4)

Insert the Hex bar wrench (8) into the hole of the gear case and groove of the Cutter holder (9) in order to lock the shaft.

Install cutting head on gear case of grass trimmers. The mounting nut is left-hand-threaded. Turn clockwise to loosen/counter-clockwise to tighten.

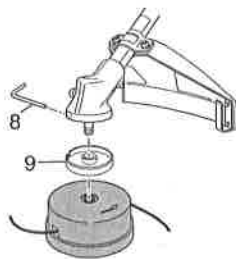


Fig. 4

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 1-3/16" (3 cm) with each tap. (Fig. 5)

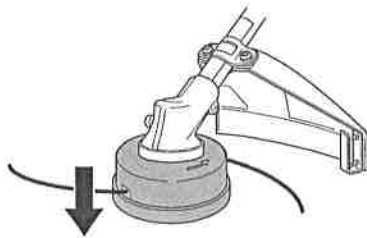


Fig. 5

Also, you can extend the nylon line by hand but the engine must be completely stopped. (Fig. 6)

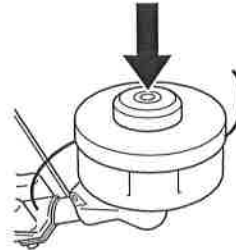


Fig. 6

Adjust the nylon line to the proper length of 4-11/32"-5-1/2" (11-14 cm) before each operation.

OPERATING PROCEDURES

Fuel (Fig. 7)

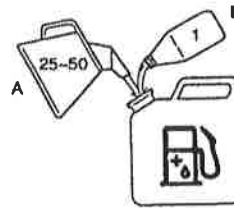


Fig. 7

⚠ 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 fuelling or handling fuel.
- Fuel contains highly flammable and it is possible to get the serious personal injury 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.
- Only for the state of California at 50:1.

English

- 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 cap carefully, after fueling.
- Always move the trimmer at least 10 ft (3 m) from the fueling area before starting.
- Always wash any spilled fuel from clothing immediately with soap.
- Be sure to check for 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.

1. Starting the cold engine

- (1) Set ignition switch (10) to ON position. (Fig. 8)

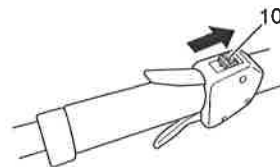


Fig. 8

- (2) Push priming bulb (11) several times so that fuel flows through return pipe (12). (Fig. 9)

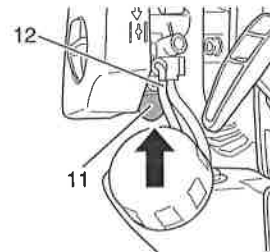


Fig. 9

- (3) Set choke lever (13) to START position (closed) (A). (Fig. 10)

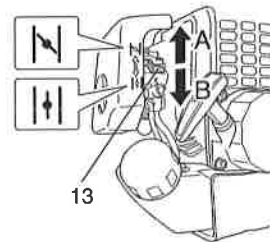


Fig. 10

- (4) Pull recoil starter briskly, taking care to keep the handle in your grasp and not allowing it to snap back. (Fig. 11)



Fig. 11

- (5) When you hear the engine want to start, return choke lever to RUN position (open) (B). (Fig. 10)
 (6) Pull recoil starter briskly again. (Fig. 11)

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, 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. 12)
- Keep others including children, animals, bystanders and helpers outside the 15 m hazard zone. Stop the engine immediately if you are approached. (Fig. 13)
- 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.



Fig. 12



Fig. 13

NOTE

Use in accordance with local laws and regulations.

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. 14)
- Cut grass from right to left as the cutting attachment of the curved drive shaft tube model rotates clockwise.
- With nylon cord, use about 3/4" (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.

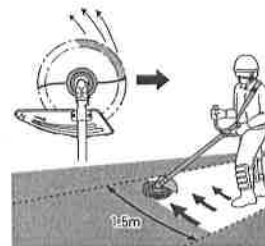


Fig. 14

NOTE

Automatically feeds more nylon cutting line when it is tapped at low rpm (not greater than 6,000 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 5-7/8" (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.

Stopping (Fig. 15)

Decrease engine speed and run at an idle for a few minutes, then turn off ignition switch (10).

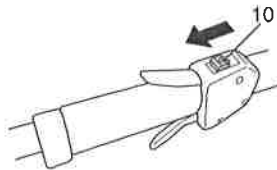


Fig. 15

⚠ WARNING

A cutting attachment can injure while it continues to spin after the engine is stopped or Throttle trigger 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. 16)

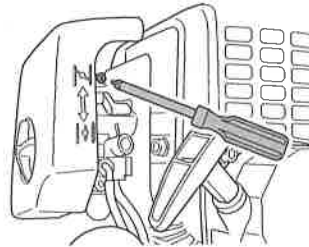


Fig. 16

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 twocycle 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. 17)

The air filter (14) 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.

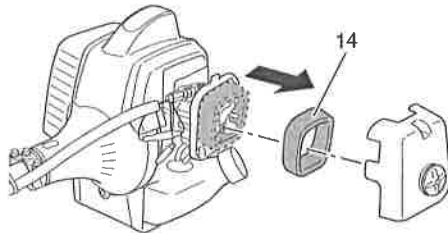


Fig. 17

Cleaning the air filter

Open the air filter cover and remove the air filter (14). Clean it.

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.

NOTE

To put the air filter cover back into place, hook it on the upper tabs and then attach it.

Fuel filter (Fig. 18)

Remove the fuel filter (15) from the fuel tank, and replace it if it is dirty.

NOTE

A blocked fuel filter (15) can prevent the supply of fuel and cause a rotation malfunction of the engine.

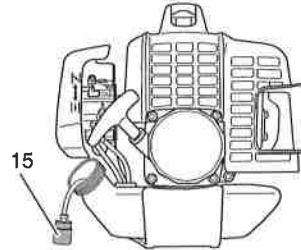


Fig. 18

Spark plug (Fig. 19)

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 0.024" (0.6 mm). The spark plug should be replaced after about 100 operation hours or earlier if the electrodes are badly eroded.

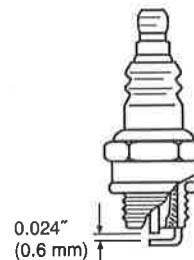


Fig. 19

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. 20)

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.

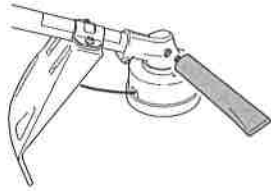


Fig. 20

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 (16) by firmly pushing inward the locking tabs with your thumbs as shown in Fig. 21.

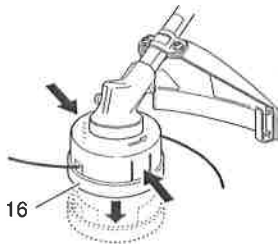


Fig. 21

- (2) After removing the case, take out the reel and discard the remaining line.
- (3) Fold the new nylon line unevenly (approx. 10 cm) in half as shown in picture.
Hook the U-shaped end of the nylon line into the groove (17) 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. 22)

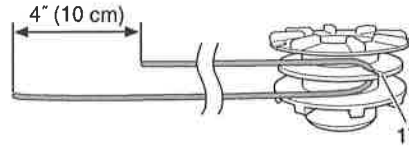


Fig. 22

- (4) Push each line into the stopper holes (18), leaving the loose ends approx. 4" (10 cm) in length. (Fig. 23)

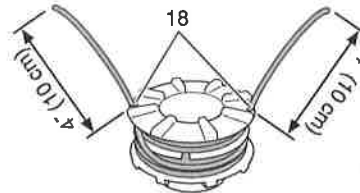


Fig. 23

- (5) Insert both loose ends of the line through the cord guide (19) when placing the reel in the case. (Fig. 24)

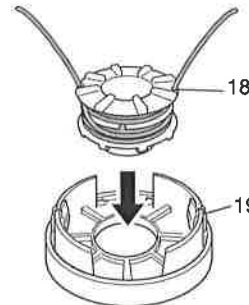


Fig. 24

NOTE

When placing a reel in the case, try to line up the stopper holes (18) with the cord guide (19) for easier line release later.

- (6) Place the cover over the case so that the cap locking tabs (20) on the cover meet the long holes (21) on the case. Then push the case securely until it clicks into place. (Fig. 25)

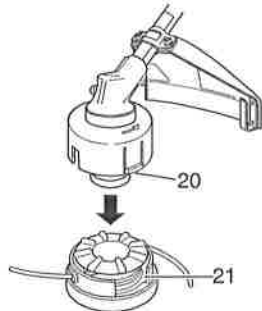


Fig. 25

(7) The initial cutting line length should be approx. $4\text{-}11/32\text{''}$ – $5\text{-}1/2\text{''}$ (11–14 cm) and should be equal on both sides. (Fig. 26)

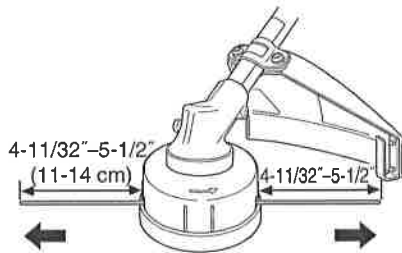


Fig. 26

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 the cutting attachment guard for damage or cracks. Change the guard in case of impacts or cracks.
- Check that the cutting attachment is properly centred, sharp, and without cracks. An off-centre cutting attachment induces heavy vibrations that may damage the unit.
- Check that the cutting attachment nut is sufficiently tightened.

- 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.
- Clean the exterior of the spark plug.
- Remove the spark plug and check the electrode gap. Adjust it to 0.024'' (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.

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 0.6 mm	
		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	

Condition	Cause	Remedy
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
	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
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