



# Owner's Manual

Model Numbers:

**TPE-2501, TPE-2510**

**TPE-250PF, TPE-270PF/PN**

**POLE EDGERS**

P/N 28575

Date 02-27-01



TPE-2510



TPE-270PF

*Supplier To The Outdoor Power Equipment Industry*

ISM, Inc. • 1028 4<sup>th</sup> Street SW • Auburn, WA 98001 • Phone: (253) 333-1200 • Fax: (253) 333-1212

### Before using this unit:

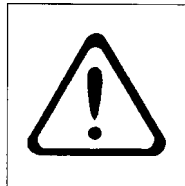
- Read the operator's manual carefully.
- Check that the cutting equipment is correctly assembled and adjusted.
- Start the unit and check the carburetor adjustment. See "Maintenance".

## **WARNING**

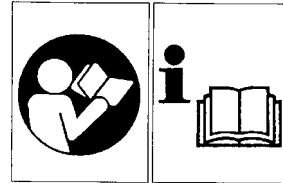
**The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.**



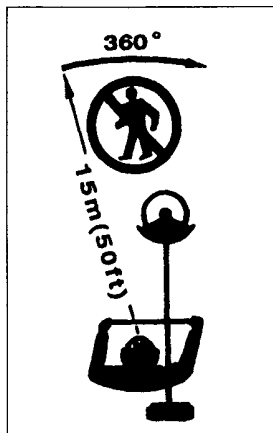
Always wear eye, head and ear protectors when using this unit.



Read, understand and follow all warnings and instructions in this manual and on the unit.



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.

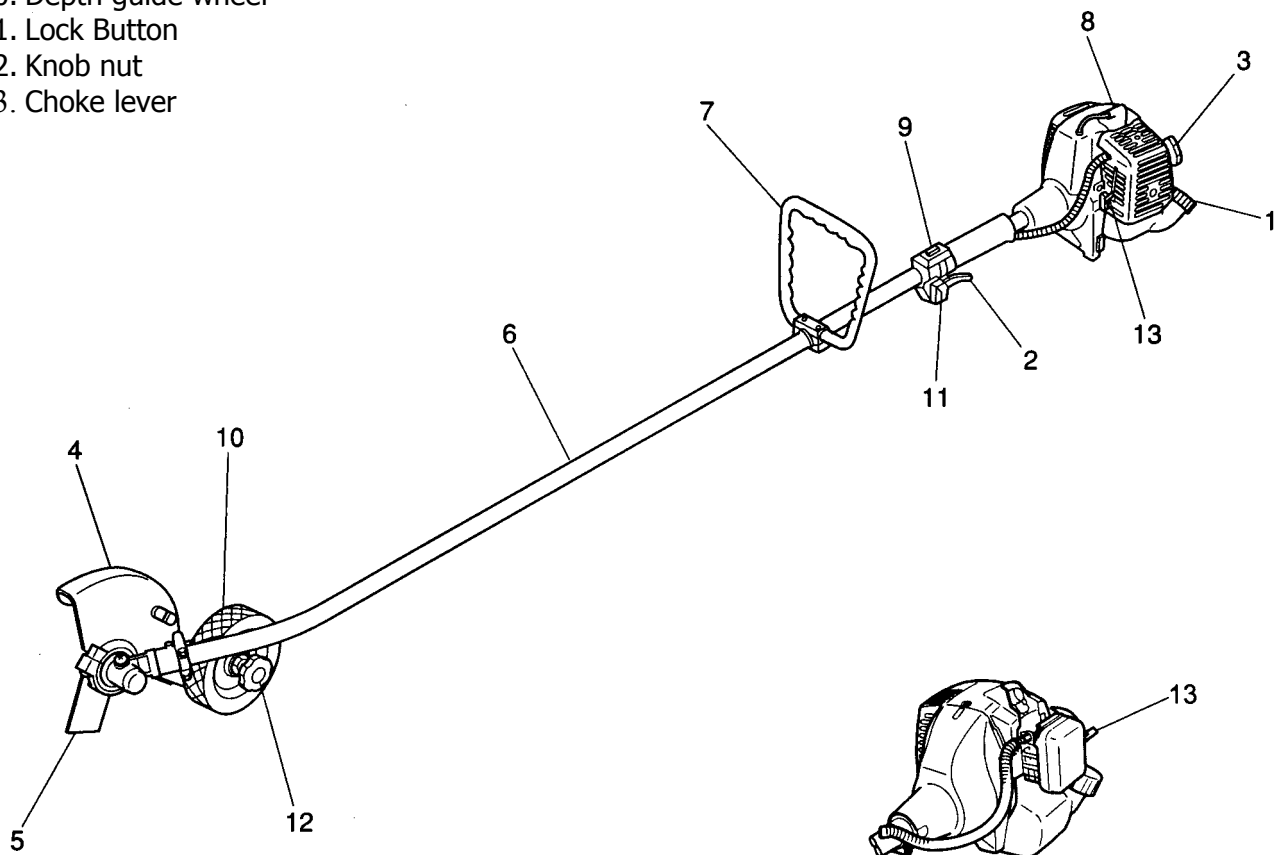


Keep all children, bystanders and helpers 15m (50ft.) away from the unit. If anyone approaches you, stop the engine and cutting attachment immediately.

## 1. 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. Blade guard
5. Blade
6. Drive shaft pipe
7. Loop handle
8. Spark plug
9. Ignition Switch
10. Depth guide wheel
11. Lock Button
12. Knob nut
13. Choke lever



## 2. Warnings and safety instructions

### Operator safety

- Always wear a safety face shield or goggles.
- Always wear heavy, long pants, boots and gloves. Do not wear loose clothing, jewelry, short pants, sandals or go barefoot. Secure hair so it is above shoulder length.
- Do not operate that 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 hearing protection.
- 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.
- 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 white finger disease which is caused by vibration.

### Tool safety

- Inspect the entire tool before each use. Replace damaged parts. Check for fuel leaks and make sure all fasteners are in place and securely fastened.
- Replace parts that are cracked, chipped or damaged in any way before using the tool.
- Make sure the safety guard is properly attached.
- Keep others away when making carburetor adjustments.
- Use only accessories as recommended for this tools by the manufacturer.



### WARNING!

Never modify the tool in any way. Do not use your cutting tool for any job except that for which it is intended.

### Fuel safety

#### NOTE!

- **Empty the fuel tank before storing the tool. Especially, in case of over three month storage, it is a must otherwise fuel may corrode causing carburetor damage. It is recommended that the fuel be emptied after each use. If fuel is left in the tank, store so fuel will not leak.**
- Mix and pour fuel outdoors and where there are no sparks or flames.
- Use a container approved for fuel.
- Do not smoke or allow smoking near fuel or the tool or while using the tool.
- Wipe up all fuel spills before starting engine.
- Move at least 3 m (10ft.) away from fueling site before starting engine.
- Stop engine before removing fuel cap.
- Empty the fuel tank before storing the tool. 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 tool and fuel in area where fuel vapors cannot reach sparks or open flames from water heaters, electric motors or switches, furnaces, etc.



### WARNING!

Anti-vibration systems do not guarantee that you will not sustain white finger disease 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.

### Cutting safety

- Inspect the area to be cut before each use. Remove objects which can be thrown or become entangled.
- 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.
- Always keep the engine on the right side of your body.
- Hold the tool firmly with both hands.
- Keep firm footing and balance. Do not over-reach.
- Keep all parts of your body away from the muffler and cutting attachment when the engine is running.
- Keep cutting attachment below waist level.

### Maintenance safety

- Maintain the tool 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 replacement parts as recommended by the manufacturer.

### Transport and storage

- Carry the tool 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 tool before storing or transporting in a vehicle.
- Empty the fuel tank before storing the tool. 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 tool out of the reach of children.
- Clean the unit carefully and store it in a dry place.
- Make sure engine switch is off when transporting or storing.
- When transporting in a vehicle, cover blade with blade cover.

If situations occur which are not covered in this manual, take care and have a good judgment. Contact your dealer if you need assistance.

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.

### 3. Assembly procedures.

#### Drive shaft to engine (Fig. 1 -1)

Loosen tube locking bolt (1) 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 (2) 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 counterclockwise. Tighten tube locking bolt lining up the hole in the shaft tube.

Then tighten clamp bolt securely (3).

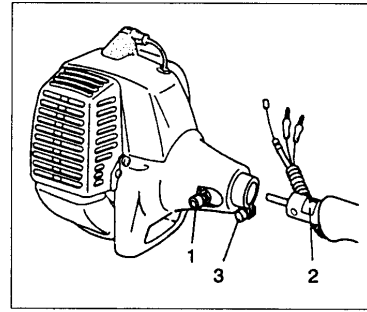


Fig. 1-1

#### Installation of handle (Fig. 1-2)

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

Adjust the location to the most comfortable position before operation.

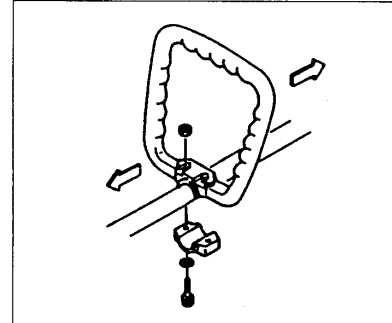


Fig. 1-2

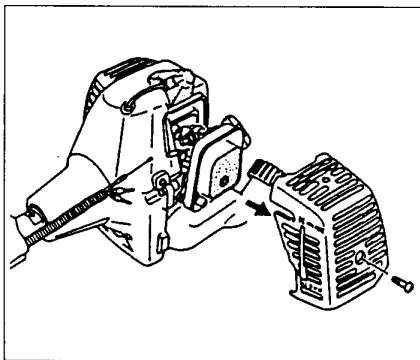


Fig. 1-3

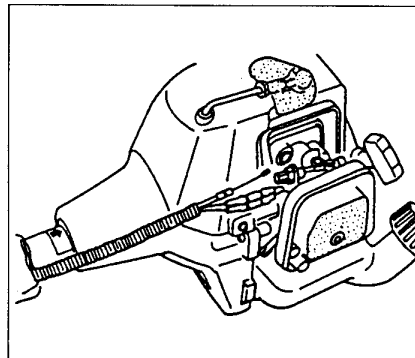


Fig. 1-4

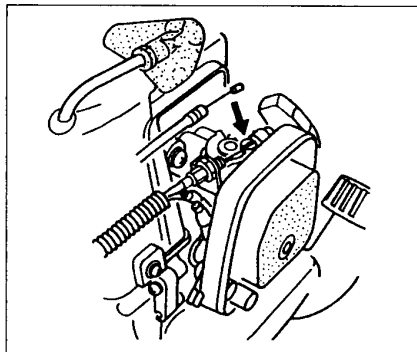


Fig. 1-5

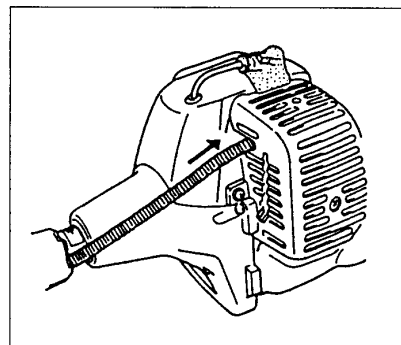


Fig. 1-6

#### Throttle wire/stop cord

Remove air cleaner cover. (Fig. 1-3)

Connect stop cords. (Fig. 1 -4)

Connect throttle wire end to carburetor. (Fig. 1 -5)

Cover throttle wire and stop cords together with protective tube provided up to air cleaner cover. (Fig. 1-6)

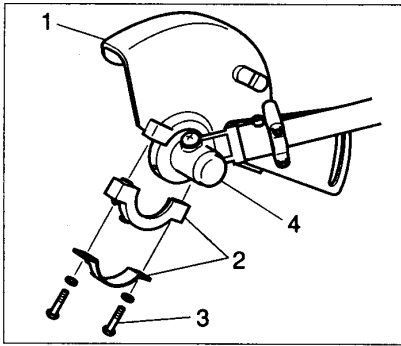


Fig. 1-7

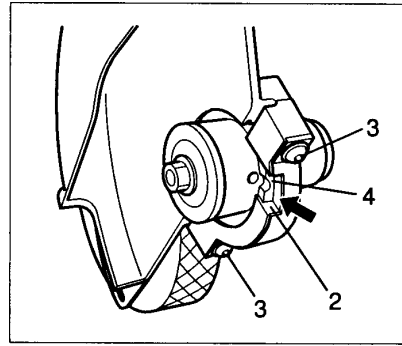


Fig. 1-7B

### Installation of blade guard (Fig. 1-7)

- 1) Install blade guard (1) on gear case (4) temporarily by clamping with guard brackets (2) and screws (3). Then tighten as needed.
- 2) Line up the slot of guard bracket (2) with the same of gear case (4), then tighten screws (3) securely. (Fig. 1-7B)

### Installation of wheel (Fig. 1-7C)

- 1) Installation the wheel as the illustration.
- 2) After installation, check if the wheel turns smoothly.

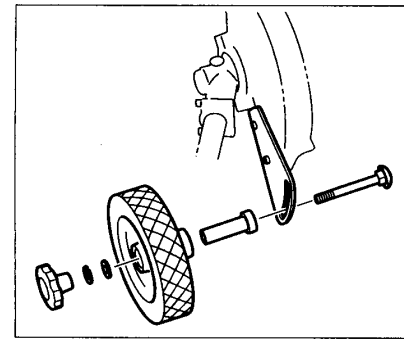


Fig. 1-7C

### Installation of blade (Fig. 1-8)

- 1) Before installation of blade, take off left hand threaded fixing nut (1), cutter holder cap (2) from the blade shaft.
- 2) Install blade (3) on the shaft and then replace the cutter holder cap and fixing nut in order.

#### NOTE!

When installing cutter holder cap (2), be sure to set concave side facing blade.

- 3) Insert the locking bar (4) into the hole of the cutter holder (5) and gear case by lining up each hole.
- 4) Tighten the fixing nut securely (clockwise to loosen/counter-clockwise to tighten).

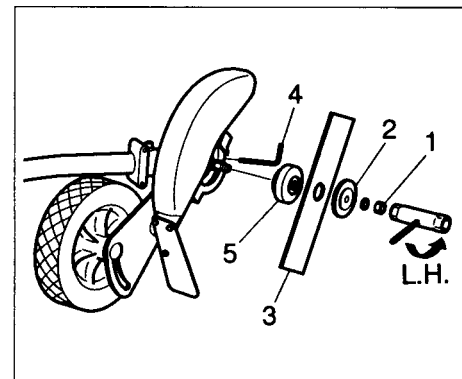


Fig. 1-8

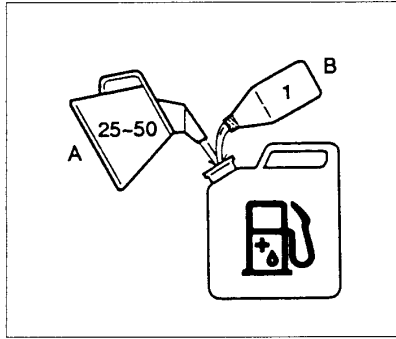


Fig. 2-1

## 4. Operating procedures.

### ⚠ WARNING!

This unit 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

- Always use branded 89 octane unleaded gasoline.
- Use Tanaka two-cycle oil or a quality two-cycle oil at mixing ratio of 25-50:1 (Gasoline (A) : Oil (B)), only for the state of California at 50: 1.
- Never use multi-grade oil (10 W/30) or waste oil.
- Always mix fuel and oil in a separate clean container.

Always start by filling half the amount of fuel, which is to be used. Then add the whole amount of oil. Mix (shake) the fuel mixture.

Add the remaining amount of fuel.

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

### Fueling

### ⚠ WARNING!

- Always shut off the engine before refueling.
- 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 unit at least 3 m (10 ft.) from the fueling area before starting.

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.

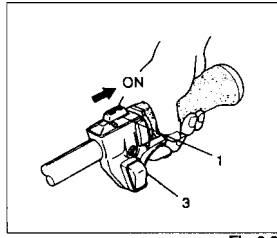


Fig. 2-2

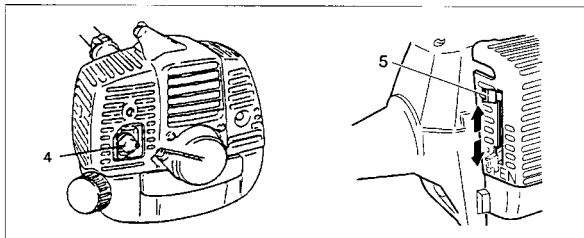


Fig. 2-2B

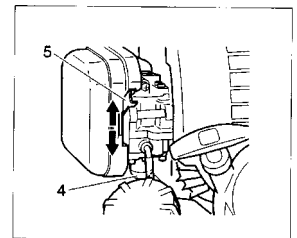


Fig. 2-3

## Starting (Fig. 2-2)

### CAUTION!

Before starting, make sure the cutting attachment does not touch anything.

1. Set ignition switch (1) to ON position.

\*Push priming bulb (4) several times so that fuel flows through bulb into carburetor. (if so equipped)(Fig. 2-2B,3)

2. With the safety lever (2) pressed (if so equipped), pull throttle trigger and push lock button (3), then slowly release the throttle trigger first, then the safety lever. This will lock the throttle in starting position.

3. Set choke lever to CLOSED position (5). (Fig. 2-2B,3)

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

5. When you hear the engine want to start, return choke lever to RUN position (open). Then pull recoil starter briskly again.

### NOTE!

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

6. After starting engine, pull throttle lever to release lock button.

## Cutting (Fig. 2-4,2-4B)

Use edger properly. Use only for edging the type of grass and other growth for which the machine is designed. Do not abuse engine.

1) Adjust cutting depth by loosening knob nut (1) and moving location of wheel up or down. To increase cutting depth, move the wheel location upwards and to decrease, move it lower. After the location is decided, tighten knob nut (1) securely.

### NOTE!

The adjustment should be made after engine stopped completely and stop switch is in stop position.

2) Always hold unit firmly with both hands and keep your body well balanced. 3) Always operate the power edger positioned at the right-side of the operator. (Fig. 2-4C)

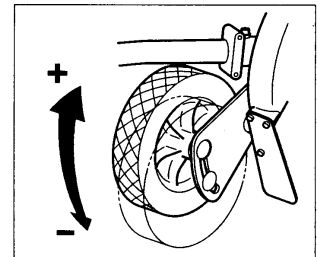


Fig. 2-4

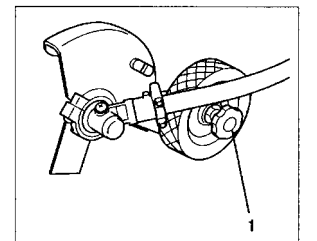


Fig. 2-4B



Fig. 2-4C

### ⚠ WARNING!

Operate the unit from position where guards block the line of sight to the cutting blade.

### ⚠ WARNING!

If cutter should strike against stones or other debris, stop the engine and make sure that the cutter and related parts are undamaged. When grass or vines wrap around cutter, stop engine and blade and remove it.

## Stopping (Fig. 2-5)

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

### ⚠ WARNING!

A blade 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.

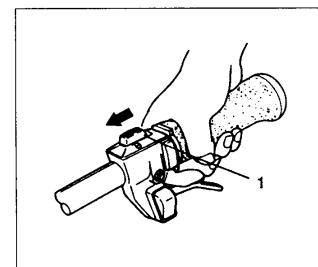


Fig. 2-5



## 5. Maintenance.

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

### Carburetor adjustment (Fig. 3-1)

**⚠ WARNING!**

The cutting attachment may be spinning during carburetor adjustments.

**⚠ WARNING!**

Never start the engine without the complete clutch cover and tube assembled! Otherwise the clutch can come loose and cause personal injuries.

In the carburetor, fuel is mixed with air. When the engine is test run at the factory, the carburetor is basically adjusted. A further adjustment may be required, according to climate and altitude. The carburetor has one adjustment possibility:

T = Idle speed adjustment screw.

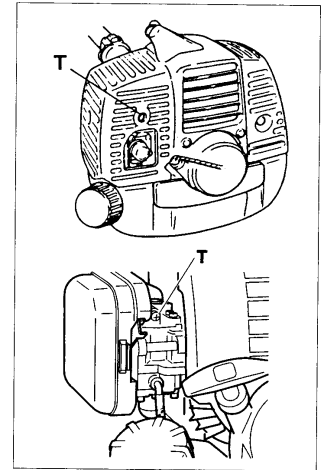


Fig. 3-1

### Idle speed adjustment (T)

Check that the air filter is clean. When the idle speed is correct, the blade will not rotate. If adjustment is required, close (clockwise) the T-screw, with the engine running, until the blade starts to rotate. Open (counterclockwise) the screw until the blade stops.

You have reached the correct idle speed when the engine runs smoothly in all positions well below the rpm when the blade starts to rotate. If the blade still rotates after idle speed adjustment, contact your service workshop.

**NOTE!**

Standard Idle rpm is 2500-3000 rpm.

**⚠ WARNING!**

When the engine is idling the blade must under no circumstances rotate.

### Air filter (Fig. 3-2)

The air filter 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.

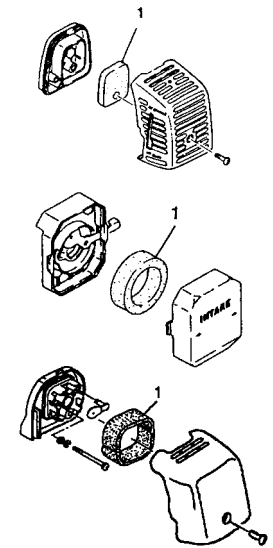


Fig. 3-2

### Cleaning the air filter

Remove the air filter cover and the filter (1).

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 by a new one. A damaged filter must always be replaced.

### Fuel filter (Fig. 3-2B)

Drain all fuel from fuel tank and pull fuel filter line from tank. Pull filter element out of holder assembly. Replace filter if it appears to be discolored or hardened from use. The filter has a white, felt-like appearance when new.

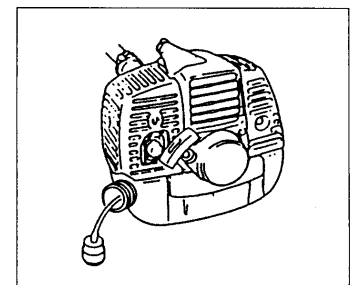


Fig. 3-2B

## Spark plug (Fig. 3-3)

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. Readjust 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.

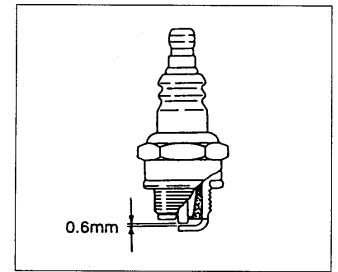


Fig. 3-3

### 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.

## Muffler (Fig. 3-3B)

Remove the muffler and clean out any excess carbon from the exhaust port or muffler inlet every 100 hours of operation.

## Cylinder (Engine cooling) (Fig. 3-3C)

The engine is air cooled, and air must circulate freely around engine and over cooling fins on cylinder head to prevent overheating.

Every 100 Operating hours, or once a year (more often if conditions require), clean fins and external surfaces of engine of dust, dirt and oil deposits which can contribute to improper cooling.

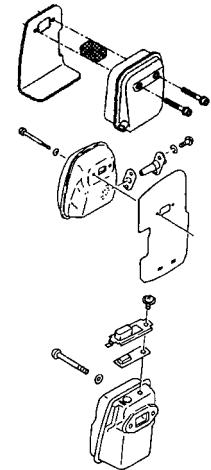


Fig. 3-3B

### NOTE!

Do not operate engine with engine shroud or muffler guard removed as this will cause overheating and engine damage.

## Blade (1) (Fig. 3-4)

### ⚠ WARNING!

- Wear protective gloves when handling or performing maintenance on the blade.
- When replacing blade, purchase one recommended by TANAKA, with a 25.4mm (one inch) fitting hole.
- Use correct blade for the type of work.
- When replacing blade, use appropriate tools.
- Discard blades that are bent, warped, cracked, broken or damaged in any way.

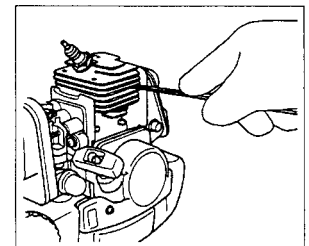


Fig. 3-3C

## Angle transmission (Fig. 3-5)

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

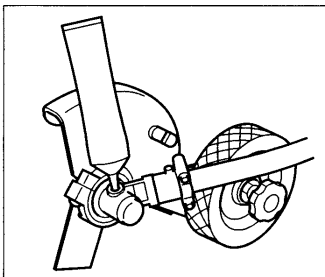


Fig. 3-5

If no grease can be seen on the flanks of the gears, fill the transmission with a quality lithium based multipurpose grease up to 3/4.

Do not completely fill the transmission.

## Spark Arrestor

If your unit comes with spark arrestor screen and yet your local regulation requires use of spark arrestor for prevention against a possible fire, please attach it to the muffler by removing muffler protector and other related parts. (The spark arrestor meets the regulation of SAE J335-SEP90 and CSA CAN3-Z62.1-M77.)

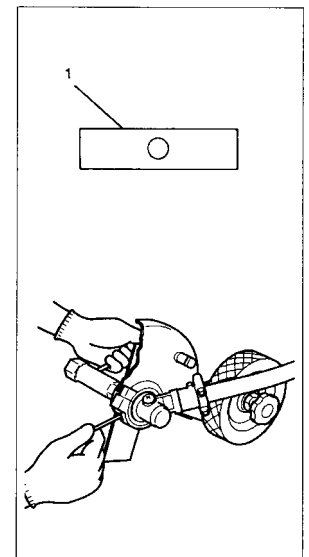


Fig. 3-4

## Maintenance schedule

Below you will find some general maintenance instructions.

For further information please contact your service dealer.

### Daily maintenance

- Clean the exterior of the unit.
- Check the blade 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. As off-centered 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.

### Weekly maintenance

- Check the starter, especially cord and return spring.
- Clean the exterior of the spark plug.
- Remove it and check the electrode gap. Adjust it to 0.6 mm, or change the spark plug.
- Clean the cooling fins on the cylinder and make sure the air intake at the starter is not clogged.
- Check that the angle gear is filled with grease up to  $\frac{3}{4}$ .
- 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.

## 6. Specifications

Model	TPE-2501	TPE-250PF	TPE-2510	TPE-270PF/PN
<b>Engine Size</b>	24 ml (1.4 cu. in.)	←	←	26 ml (1.58 cu. in.)
<b>Carburetion System (Optional)</b>	Walbro Diaphragm (w/Priming Pump)	←	←	←
<b>Spark Plug</b>	NGK BM-7A or equivalent	←	NGK BPM 6-A or equivalent	CHAMPION CJ6Y or equivalent
<b>Fuel</b>	Mixed Fuel of Gasoline & 2-cycle engine oil at 25~50:1	←	←	←
<b>Fuel Tank Capacity (l)</b>	0.50 (16.9 fl. oz.)	←	0.76 (25.7 fl. oz.)	0.65 (22.0 fl. oz.)
<b>Dry Weight (kg)</b>	5.9 (13.0 lbs)	6.0 (13.2 lbs.)	6.1 (13.4 lbs.)	6.7 (14.7 lbs)
<b>Standard and/or Optional Accessories</b>	Steel Cutting Blade	←	←	←

Note: To improve the performance, the specifications are subject to change without notice.

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