

ECHO

WEED AND GRASS TRIMMER

OPERATOR'S MANUAL

GTL-140



CAUTION

Read Rules for Safe Operation
and Instructions Carefully



898 571-0793 3

IMPORTANT

RULES FOR SAFE OPERATION

1. Obey Rules and/or Regulations in your area.
2. Read this Operator's Manual well to acquaint yourself with how to handle the unit safely and effectively before use.
 - Before starting operation, study the working procedures well.
 - If there is anything doubtful, contact and inquire with an Echo distributor or dealer.
3. Never operate the unit when you are fatigued.
 - Fatigue causes carelessness.
 - Keep sufficient rest periods and breaks when operating the unit.
 - Be more cautious before rest periods and before the end of your shift.
4. Handle gasoline with care. It is highly inflammable.
 - Always store gasoline in an approved container.
 - Handle at a clean and cleared place and away from fire.
 - Do not smoke while handling fuel.
 - Always stop the engine to refuel the tank.
 - Do not refuel a hot engine. Wait until the engine has cooled down.
 - Avoid spilling fuel or oil. Spilled fuel should always be wiped up.
 - Move at least 3 meters (10 feet) away from the fueling point before starting engine.
 - Do not move the fuel tank cap when engine is still warm or running.
5. When transporting, checking or adjusting the unit be sure the engine is stopped.
6. Do not operate in unventilated area. Exhaust gas is highly poisonous.
7. Do not attempt to adjust the carburetor while trimming head is rotating.
8. Do not use engine if muffler is defective or missing.
9. Before starting up the engine, make sure that the cutter blade is not contacting anything.
10. Always wear safety footwear, eye protection glasses and gloves.
11. Do not allow other persons, bystanders or animals in the work area.
 - When 2 or more operators should work together, keep a proper distance between them.
12. Do not smoke when operating.
13. Be sure of your footing when operating.
14. Always hold the unit firmly with both hands with the thumb and fingers encircling the handles.
15. Do not cut too close to the ground in order to avoid hitting small stones or other debris.
16. Before setting down the unit switch off the engine.

CONTENTS

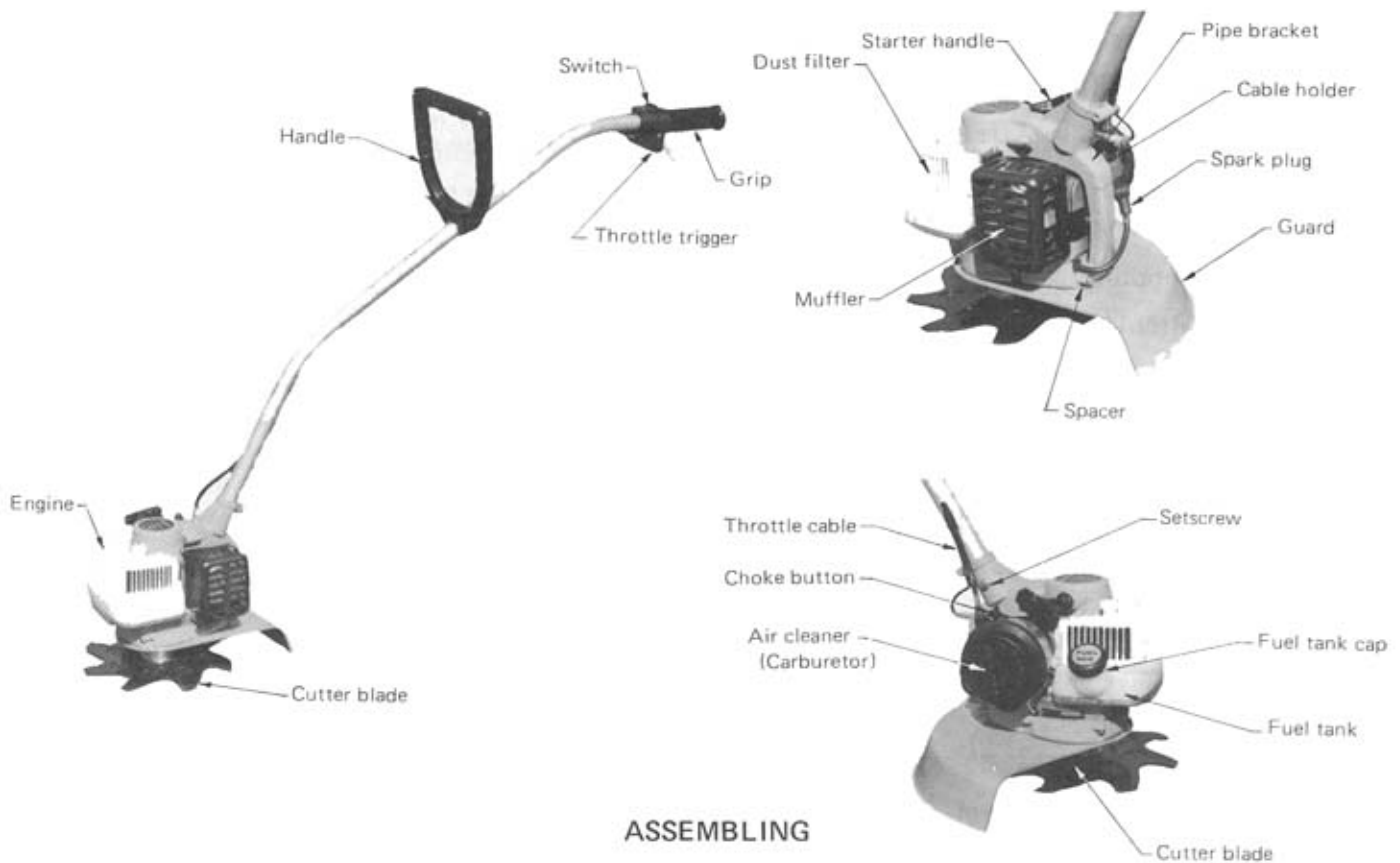
Rules for Safe Operation	1
Technical Data	2
Nomenclature of Parts	3
Assembling	3
Operation	6
Maintenance and Care	8
Trouble Shooting	10
Storage After Use	12
Parts Catalogue	13

TECHNICAL DATA

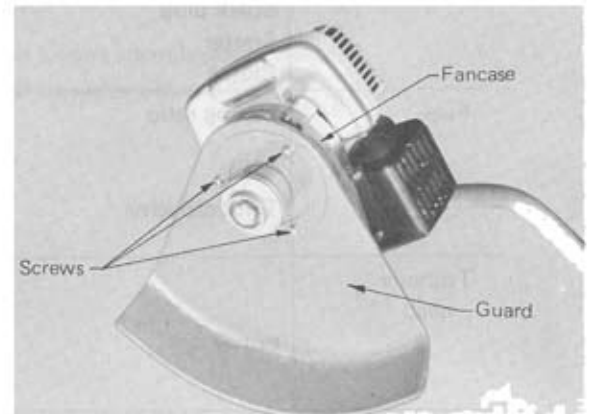
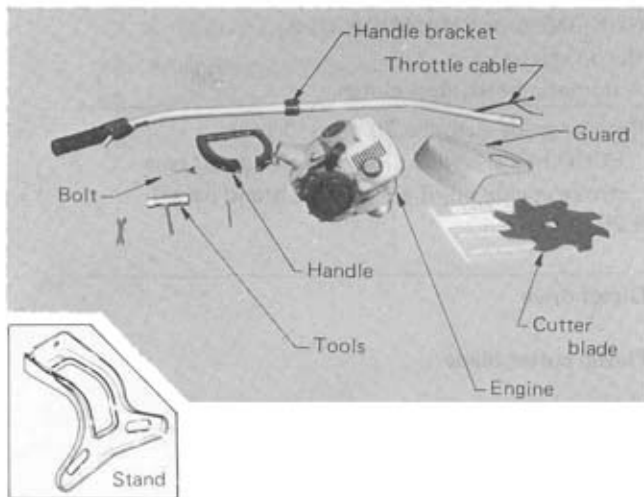
Dimension	L x W x H	cm (in.)	95x18x89 (37.4x7.1x35.0)
Weight		kg (lbs)	3.7 (8.1) w/o Trimmer head
Engine	Type Displacement Max revolution Carburetor Ignition Spark plug Starter Clutch	cc (cu. in.) rpm	Air cooled two-stroke, single-cylinder 13.8 (0.84) 8,000 Walbro diaphragm type WA Flywheel magneto: contact breaker point system NGK-BM6A or CHAMPION CJ-8 Recoil starter Automatic centrifugal clutch
Fuel	Mixing ratio Tank capacity	 litre (fl.oz. US)	Regular grade gasoline 20 parts: 1 part ECHO brand engine oil (or an air cooled two- stroke engine oil of a reputable brand name) 0.25 (8.5)
Trimmer head	Cutter		Direct drive Plastic cutter blade

Technical data subject to change without notice.

NOMENCLATURE OF PARTS



ASSEMBLING



COMPONENTS

- The unit is delivered in two cartons.
- Unpack engine, handle pipe, handle, guard and others as shown.
- Assemble these components as follows.

(NOTE)

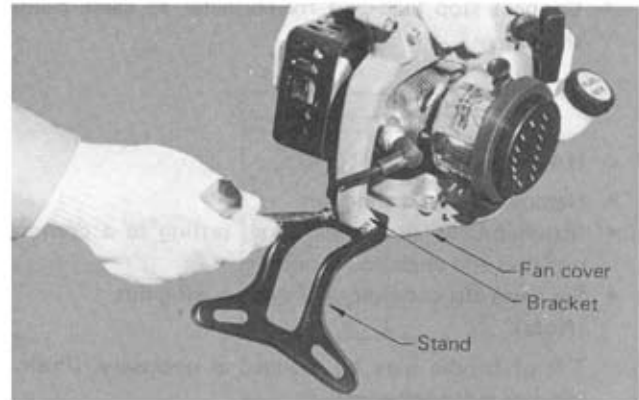
The unit is delivered with either guard or stand as a standard equipment.

GUARD

Install guard to fan cover as shown. (Tighten three screws,) Ensure to use a spacer between fan cover and pipe bracket.

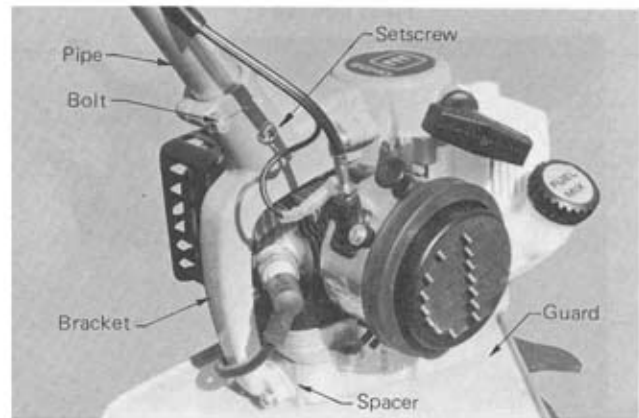
STAND

- Install stand between pipe bracket and fan cover, and tighten two screws securely.



HANDLE PIPE

- Unscrew bolt until washers become free (Approx. two turns), and remove setscrew.
- Insert handle pipe into pipe bracket until holes (made in pipe and bracket) are aligned, tighten setscrew and bolt.



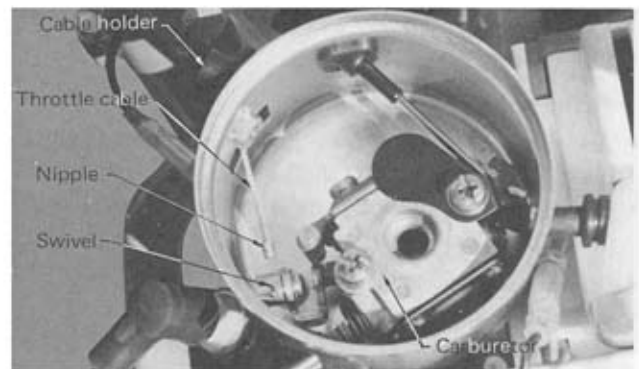
THROTTLE CABLE

- Remove tape on carburetor case to open a hole.
- Remove air cleaner cover (pull tab of cover holder), filter and grid.
- Insert throttle cable into carburetor case through the hole.
- Attach inner cable (w/cable holder and nut) to swivel on throttle lever ensuring that nipple fits into socket provided on one side of slot.
- Tighten screw to fix cable holder. (DO NOT OVER TIGHTEN)
- Check throttle operates freely and returns to idle position.

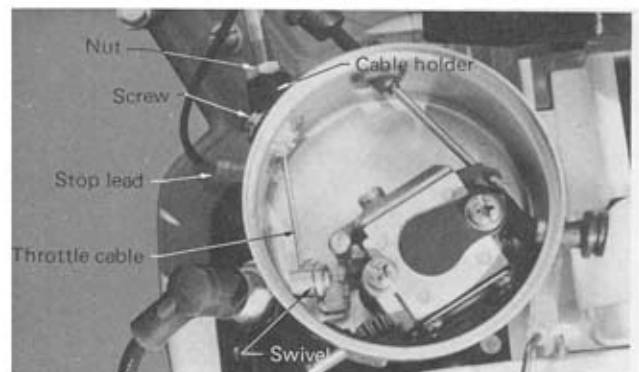
(NOTE)

Outer casing of cable may be adjusted as necessary by loosening nut and readjusting cable holder. Position of cable holder may be adjusted in the range of one turn (clockwise or counterclockwise).

- Put parts of air cleaner back in place.



BEFORE ASSEMBLING



COMPLETE ASSEMBLING

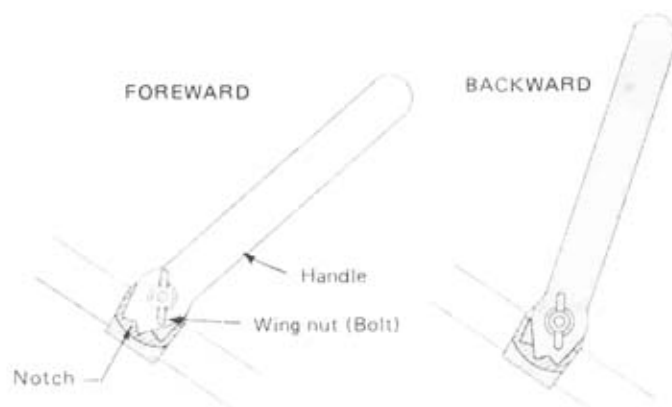
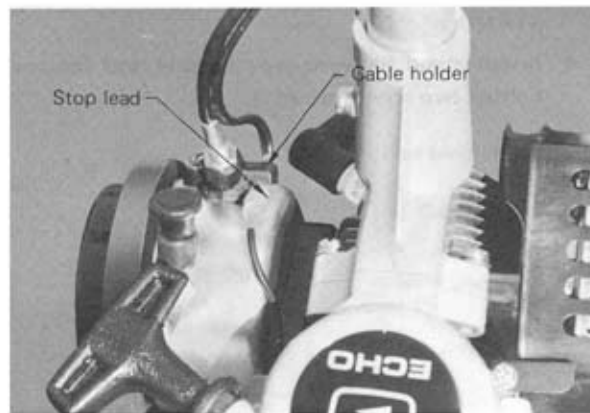
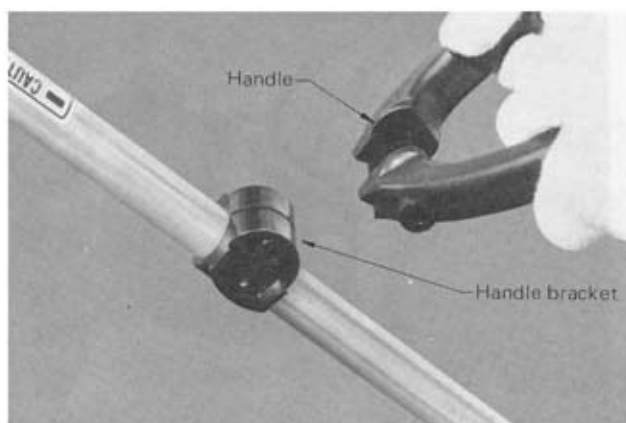
- Connect stop lead and fix connector to cable holder as shown.

○ HANDLE

- Remove bolt and wing nut.
- Install handle on handle pipe, setting to a convenient position and angle for trimming.
- Set wing nut and bolt, and tighten wing nut.

(Note)

Tilt of handle may be changed as necessary. (Push forward or pull backward)

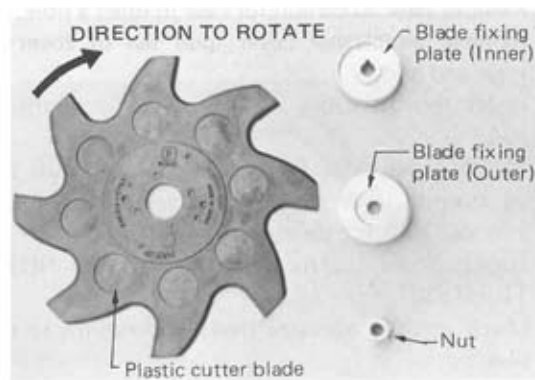
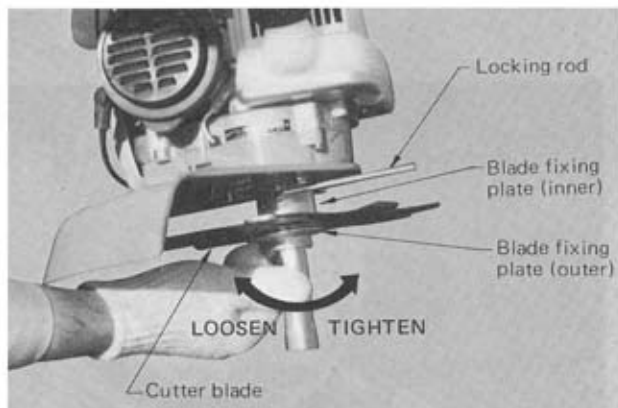


Adjust TILT of HANDLE after removing wing nut.

○ CUTTER HEAD

Plastic cutter blade

- Assemble inner blade fixing plate, cutter blade and outer blade fixing plate to PTO shaft.
- Lock inner blade fixing plate with locking rod and tighten nut. (Turn clockwise)
- Do not use metal blades.
- Use ECHO approved cutting device only.



To sharpen the blade, proceed as follows.

- Cut equal segment from each tooth to remove the dull cutting edge.
- Rotate the blade at full speed and apply very light contact to a flat stone or concrete surface in order to balance the blade and remove vibrations.
- If any part of the blade is broken off, cut a corresponding piece from the opposite side to restore the balance.

(CAUTION)

- Use only for weed and grass trimming.
 - Use only the tip of the blade when cutting against a wire fence, brick, stone, concrete or similar structure.
- Do not dispose of this blade by burning.

OPERATION

FUEL

This engine requires a mixture of gasoline and lubricating oil.

Mixture ratio is as follows.

GASOLINE, regular leaded 20 parts

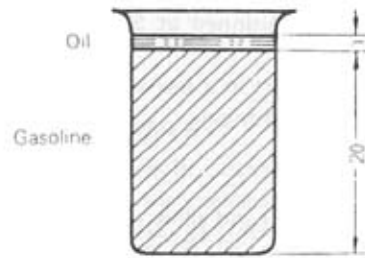
ECHO OIL, two stroke air cooled. 1 part

- Pour half gasoline into safety container designed for storage of gasoline.
- Add oil and mix thoroughly.
- Add remainder of gasoline and mix again.

(CAUTION)

Do not mix in engine tank. Use only good quality air cooled, two stroke oil.

- Fill the tank with fuel, secure the tank cap and wipe all spilled fuel with a dry cloth.

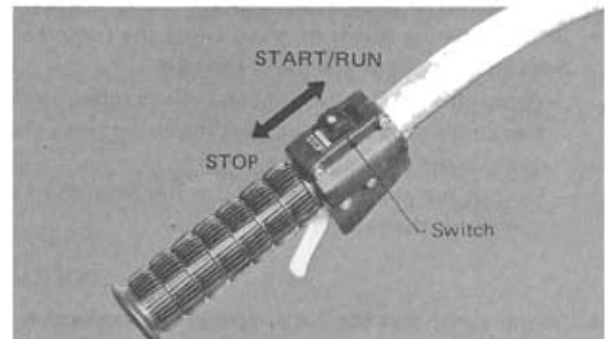


Fuel mix chart

US		IMPERIAL		METRIC	
GAS	OIL	GAS	OIL	GAS	OIL
GAL.	FL.OZ.	GAL.	FL.OZ.	LITERS	C.C.
1	6.4	1	8	4	200
2	12.8	2	16	8	400
5	32.0	5	40	20	(1 Liter) 1,000

STARTING COLD ENGINE

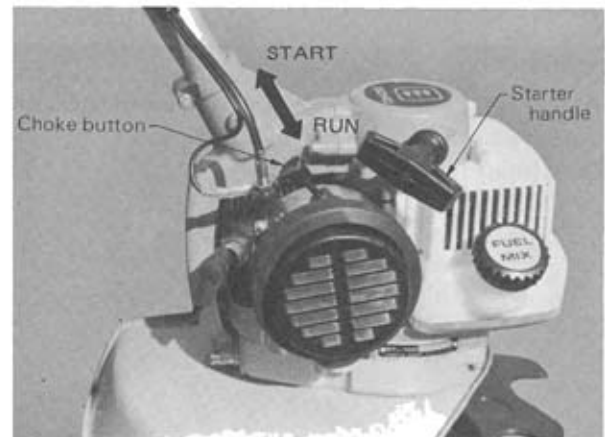
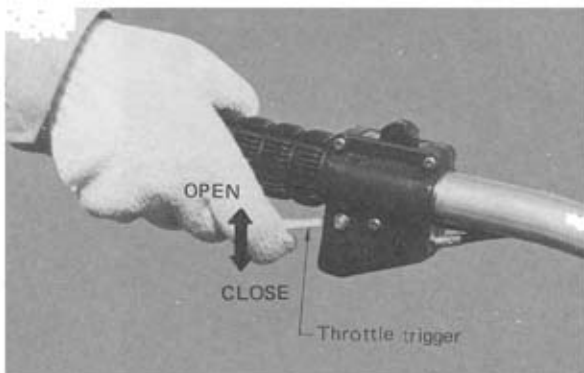
- Turn switch to START/RUN position.
- Pull choke button fully. (CLOSE position)
- Pull recoil starter until the engine fires.
- Push in choke button gradually, (OPEN position), and if necessary, start the engine again and allow to warm up for a few minutes before using.
- After idling, gradually open throttle and the unit will start to operate as the engine attains clutch engagement speed of 3400 ~ 3600 RPM approx.



(NOTE)

Recoil starter: Use short pulls – only 1/2–2/3 of starter rope for starting.

Always hold the unit firmly with both hands



STARTING WARM ENGINE

- When engine is warm, start it by pulling recoil starter rope with switch positioned at START/RUN without using choke.
- If engine does not start in a few tries, follow same procedures as to start cold engine.

STOPPING ENGINE

- Release throttle trigger and allow to run at an idle speed.
- Turn ignition switch to "STOP" position.



Operator with unit in proper starting attitude

OPERATING THE TRIMMER

- Adjust handle to a convenient position for trimming as instructed on page 5.
- Allow the engine to warm up at a fast idle for a few minutes.
- Increase engine speed as necessary.
- When trimming weeds or grass, swing the trimmer from head left to right as you move forward.
 - Avoid striking any obstruction such as rocks, stones or tree stumps which can damage the cutter head. Do not cut into the ground.
 - Do not run the unit unloaded at full throttle to avoid damage to the engine.
- In the event that the cutter strikes an obstruction or is otherwise prevented from rotating in normal operation, the clutch will slip to prevent possible engine damage. In this case, stop the engine, free the cutter and then start the operation again.

(CAUTION)

Do not allow other persons or animals in work area. Always wear eye protection goggles when cutting.
Dress properly. — Avoid loose clothing.



PLASTIC CUTTER



MAINTENANCE AND CARE

= ALWAYS KEEP ALL THE UNIT CLEAN =

CARBURETOR

- Carburetor is adjusted before shipping at the factory, then normally adjustment is unnecessary, when readjustment is required, refer to following instructions.

CARBURETOR ADJUSTMENT

The diaphragm carburetor has three external adjustments, and to some extent, the adjustment of each will affect the other two. It will be necessary, therefore, to readjust each until satisfactory performance is achieved.

1. Idle speed adjusting screw.

This adjustment controls the throttle opening in the idle position.

2. Low (LO) speed needle screw.

The low speed needle controls the volume of fuel/oil mixture at low engine speed. It also controls the supplementary fuel required to obtain smooth progression from idling to high speed.

3. High (HI) speed needle screw.

The high speed needle controls the volume of fuel/oil mixture at full throttle opening.

Turn both 'HI' and 'LO' needles clockwise until fully closed.

DO NOT USE EXCESSIVE FORCE.

- Unscrew the 'LO' needle one complete turn.
- Turn the idle speed adjustment screw clockwise until the throttle is slightly open.
- Start the engine and run for a few minutes on high idle until the engine is warm. Allow the engine to idle, and if necessary, readjust the idle speed screw to keep the engine from stalling.

'LO' SPEED ADJUSTMENT

- Turn the 'LO' needle clockwise slowly and note the position at which the engine speed is reduced. Now turn the 'LO' needle counterclockwise and again note the position when speed is reduced. Set the needle in the midway position.
- Finally adjust the engine idling speed by turning the idle speed screw in a clockwise direction until the clutch just begins to engage. This indicates a speed of 3400–3600 RPM.
- Now reduce engine speed by turning the screw counterclockwise one half turn.

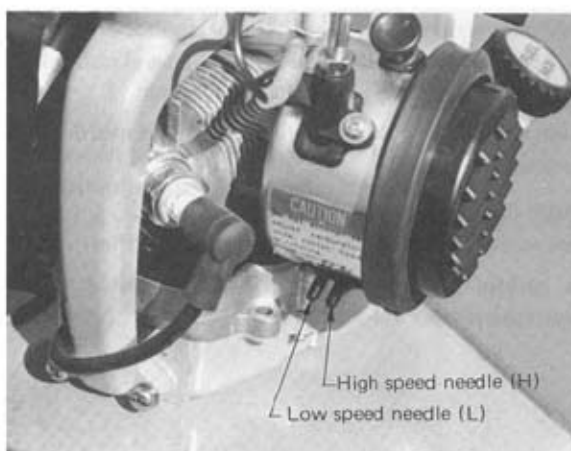
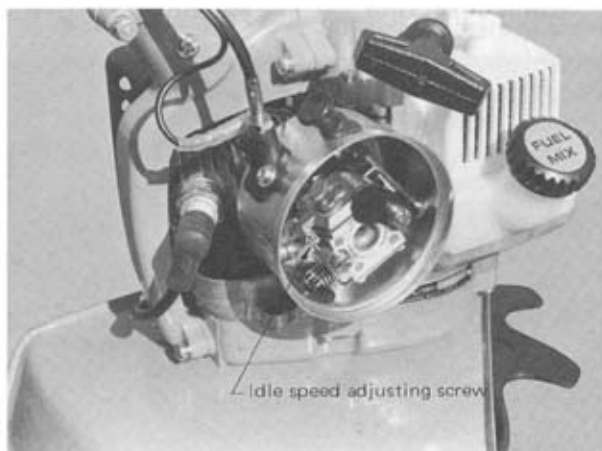
'HI' SPEED ADJUSTMENT

- Engine must be at normal operating temperature.
- Turn the 'HI' needle counterclockwise 1-1/4 turns.
- Turn the 'HI' needle clockwise until the engine runs smoothly without "Four stroking" on no load, repeating following steps.
 1. Run the engine (as raising up the unit by hands) at full throttle and check condition by listening to engine.
 2. Return throttle to IDLE position and turn 'HI' needle clockwise slightly after ensuring that cutter has stopped.
- Turn the needle open again (counterclockwise) 1/8 turn to obtain optimum fuel for full power under load conditions.

(CAUTION)

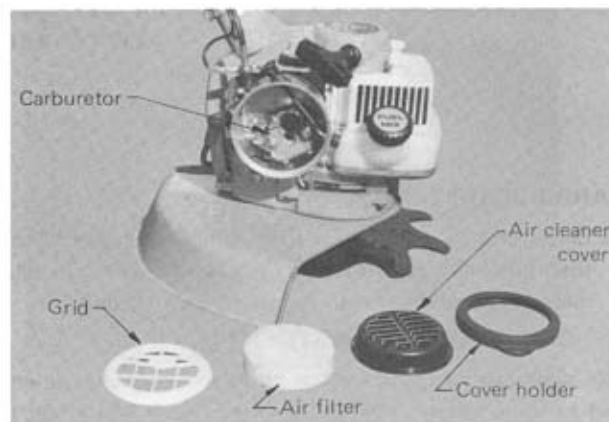
Do not run the engine on full throttle longer than 5–6 seconds to avoid damage to engine.

Do not attempt to adjust carburetor while cutter head is rotating.



AIR FILTER

- Air filter should be checked and cleaned every day after a job. Clogged air filter may cause abnormality in engine performances.
- Remove air cleaner cover (pull tab of cover holder), and filter.
- Tap or brush off dust lightly, if excessively clogged, wash it in a non-inflammable solvent. (in the case dry it completely.) Then, put it in place.

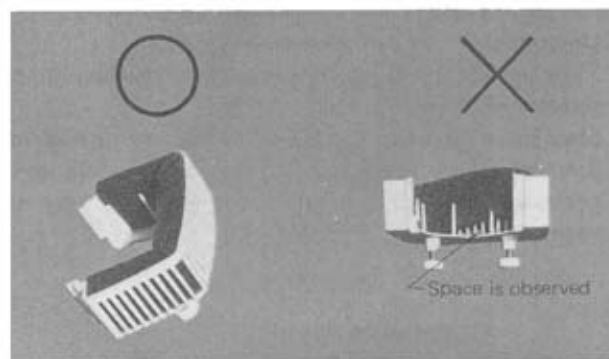
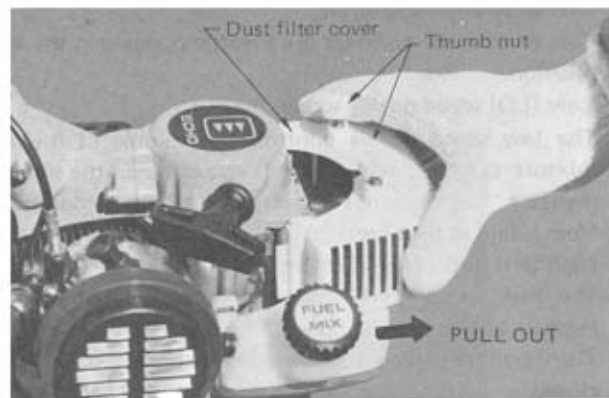
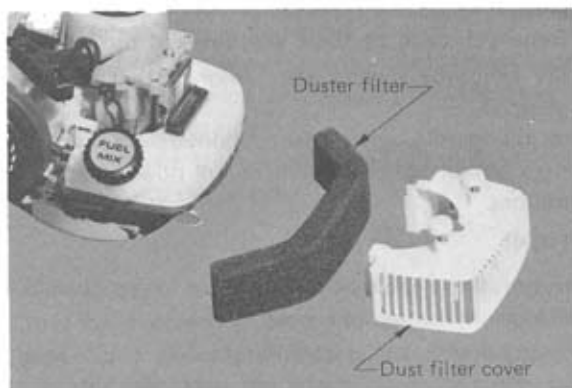


DUST FILTER

- Always clean dust filter after a job. Clogged dust filter may cause engine troubles.
- Remove dust filter cover and filter. (Loosen two thumb nuts and pull out filter cover.)
- Tap or brush off dust, and put back filter and cover in place.
- Clean around cylinder fins at same time.

(CAUTION)

Put it in properly as shown below.
Never leave a space between filter and cover.

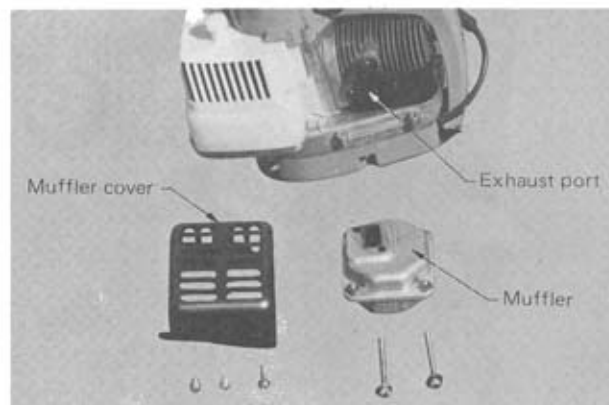


CORRECT SETTING

INCORRECT SETTING

MUFFLER AND EXHAUST PORT

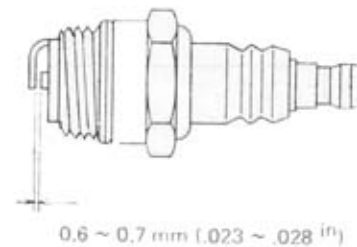
- Clean as necessary.
- Carbon deposit in cylinder exhaust port and muffler will reduce output.
- Remove muffler cover and muffler. (Three screws, Muffler cover: two screws, Muffler)
 - Be careful not to scratch cylinder or piston when cleaning cylinder exhaust port.



SPARK PLUG

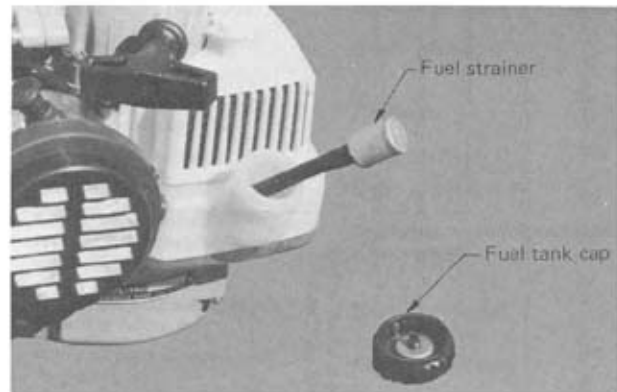
- Check periodically.
- Gap = 0.6–0.7 mm (.023"–.028").
- Replace if either electrode is worn or if the insulator is fouled by oil or other deposits.
- TORQUE = 145–155 kg/cm (125–135 in.lb)

(CAUTION) Do not over torque.



FUEL STRAINER

- Check periodically.
 - Do not allow dust to enter into fuel tank.
 - Clogged strainer will cause difficulty in starting engine or abnormalities in engine performances.
 - Pick up fuel strainer through fuel inlet port with a piece of steel wire or the like.
 - When strainer is dirty, wash it in a non-inflammable solvent. Dry it completely.



TROUBLE SHOOTING

- FAILURES such as difficulty in starting engine, irregularity in functions and abnormality in cutting performances can normally be prevented completely if a careful attention is paid in advance.
- When the engine does not function properly, check the following 3 points systematically in particular:
 - Whether compression of the engine is adequate or not.
 - Whether the fuel system is in good condition and fuel is supplied fluently, or not.
 - Whether the ignition system is in good condition and the spark plug sparks correctly, or not.
- When there is serious trouble with the unit, do not try to repair it yourself, but have your distributor or dealer do it for you.
- For details of TROUBLE SHOOTING refer to Table 1 and 2.
 - Refer to the chart to locate the problem and repair as necessary.

Table 1

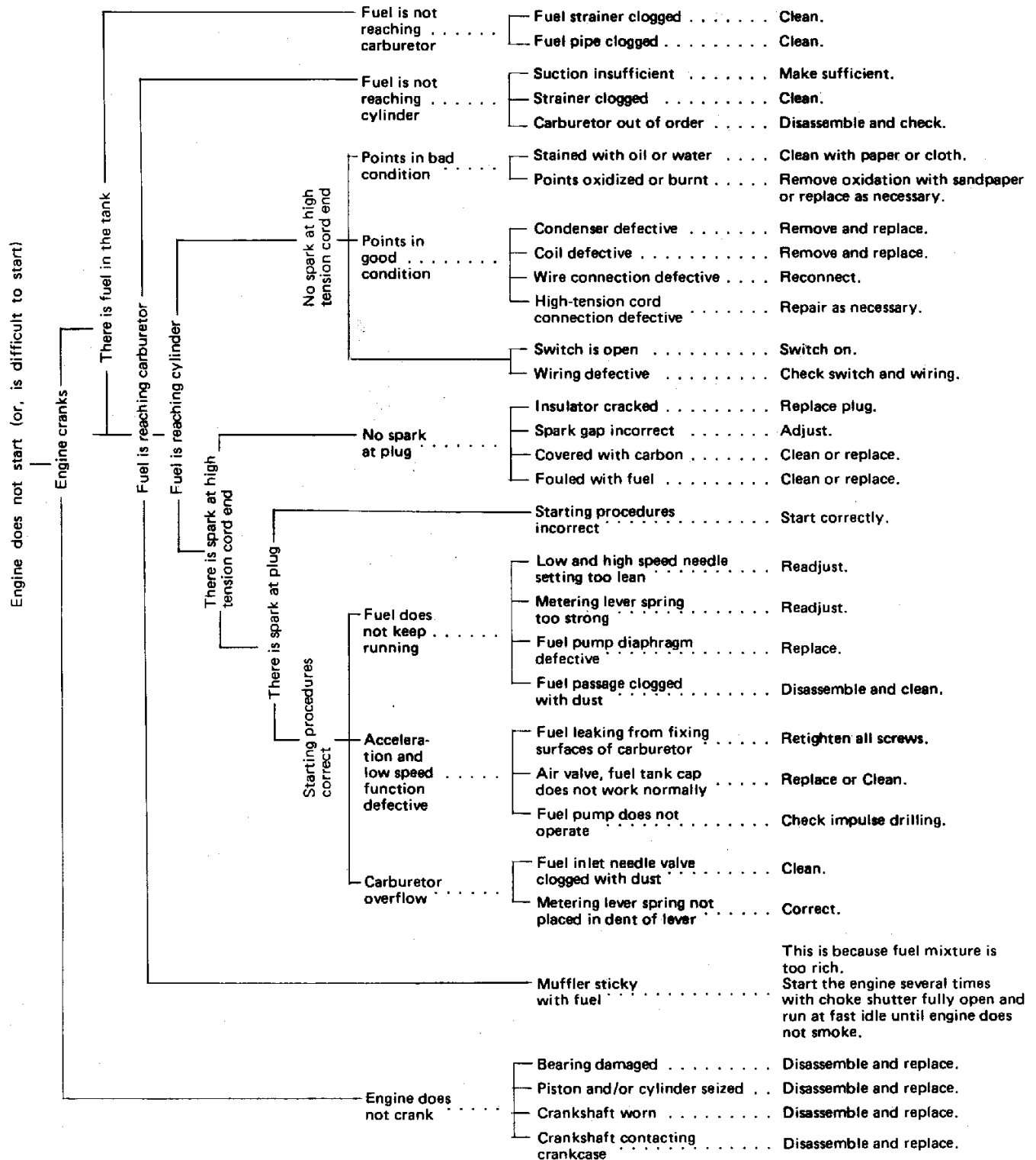
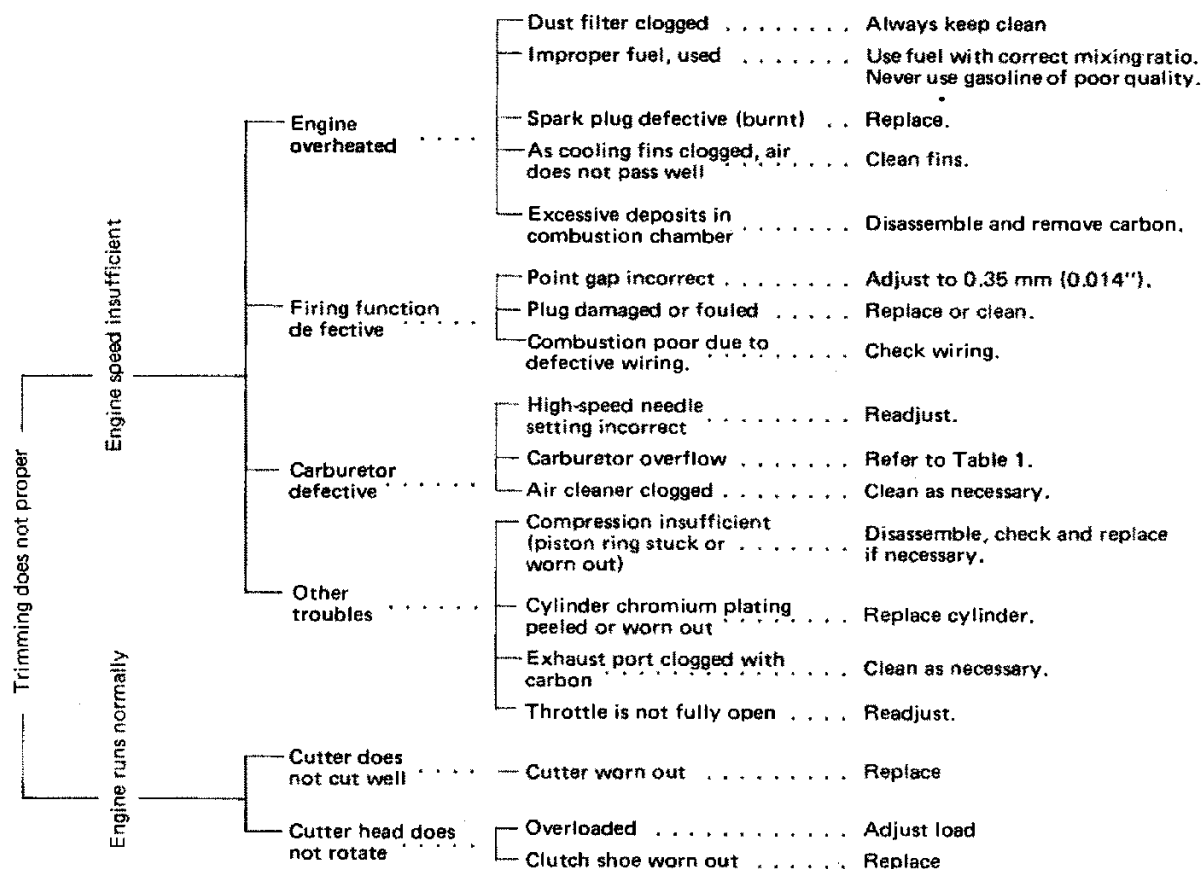


Table 2



STORAGE AFTER USE

- Inspect and adjust every part of the unit.
 - Completely clean every part, and repair, if necessary.
- Drain fuel tank and pull starter handle slowly a few times to drain fuel from carburetor.
- Pour a little clean two stroke oil into spark plug hole, pull starter handle and then crank the engine to the TOP DEAD CENTER.
- Store in a dry area, free from dust.