

ECHO

WEED AND GRASS TRIMMER

OPERATOR'S MANUAL

SRM-300



CAUTION

Read Rules for Safe Operation
and Instructions Carefully



898 571-0913 1

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 three 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 areas. Exhaust gas is highly poisonous.
7. Do not operate without the safety guard in correct position.
8. Use only the cutter blade designated by the manufacturer for this model. Make sure that the cutter is correctly fixed according to the instructions. Blade has to be well leveled and sharpened, teeth bottom must be well rounded.

Levelling should not be adjusted while engine is in motion. When crack is noticed on the cutter blade, never use it, but replace with a new one.
9. Before starting up the engine, make sure that the cutter blade is not contacting anything.
10. Always wear safety footwear, safety goggles and ear protectors where possible.
11. Do not allow either people or animals into the work area.
 - When two or more operators are working together, a safe distance should be kept 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. To avoid hitting small stones or other debris, do not cut too close to the ground.
16. Before setting down the unit, switch off the engine.

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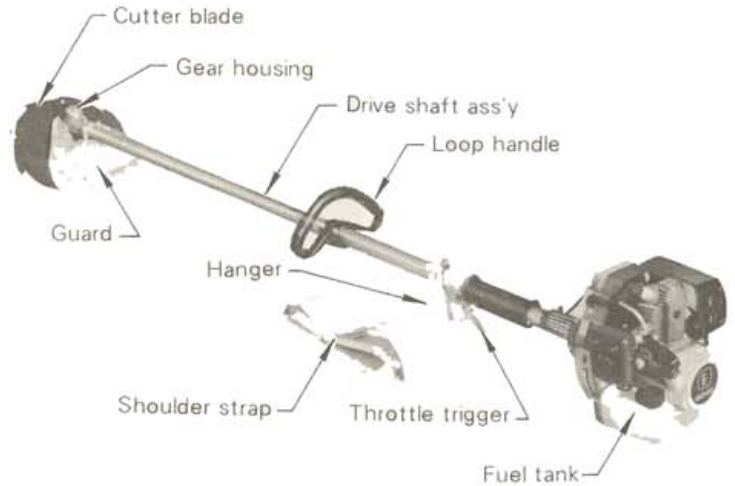
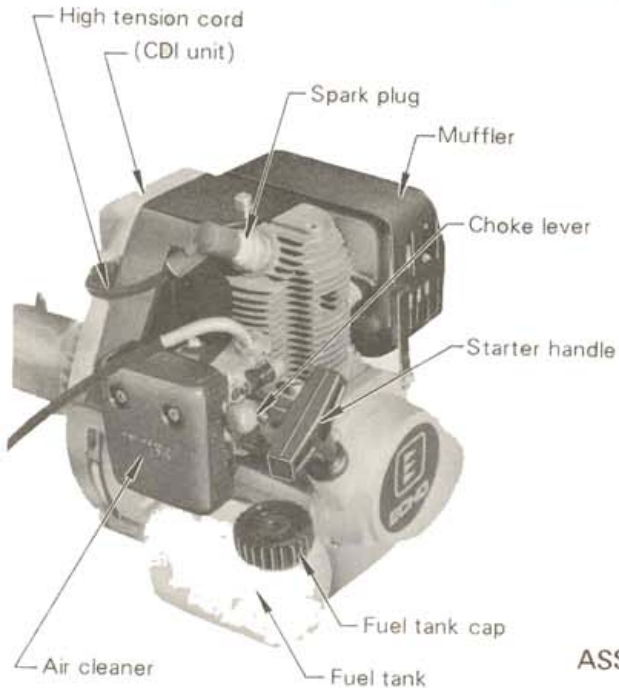
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TECHNICAL DATA

Dimension	L x W x H	cm (in.)	170 x 21 x 22 (66.9 x 8.3 x 8.7)
Weight		kg (lbs)	6.6 (14.5): w/o shoulder harness and cutter head
Engine	Type Displacement Max revolution Carburetor Ignition Spark plug Starter Clutch	cc (cu.in.) rpm	Air cooled two stroke single cylinder 30.8 (1.87) 9,000 Walbro diaphragm type WA Flywheel magneto: CDI (Capacitor Discharge Ignition) 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: ECHO brand motor oil (or an air cooled two stroke engine oil of a reputable brand name) 1 part 0.5 (16.9)
Drive shaft ass'y	Cutter Cutter Cutter (option) Gear housing Lubrication Drive shaft Safety guard		8 cutter blade, 10 in. Circular saw, 10 in. Nylon cord cutter head 60 degree spur bevel gears, ratio 1:1 (Counter-clockwise) Shell Delpena or good quality lithium grease High tensile solid steel, 5 bearings Steel plate mounted on the gear housing

Technical data subject to change without notice.

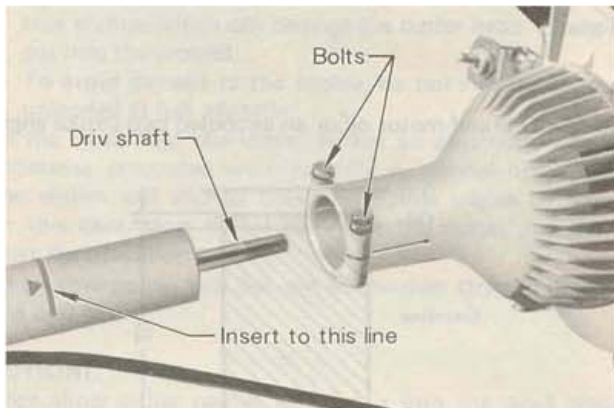
NOMENCLATURE OF PARTS



ASSEMBLING

DRIVE SHAFT

- Stand engine upright on a level floor.
- Loosen two bolts at drive shaft end of the engine. Fit drive shaft assembly ensuring that the drive shaft is correctly engaged.
- The line on drive shaft housing must be in contact with the engine.
- Rotate drive shaft housing until gear housing is in line with the engine.
- Tighten both bolts to fasten drive shaft ass'y. Do not over tighten.



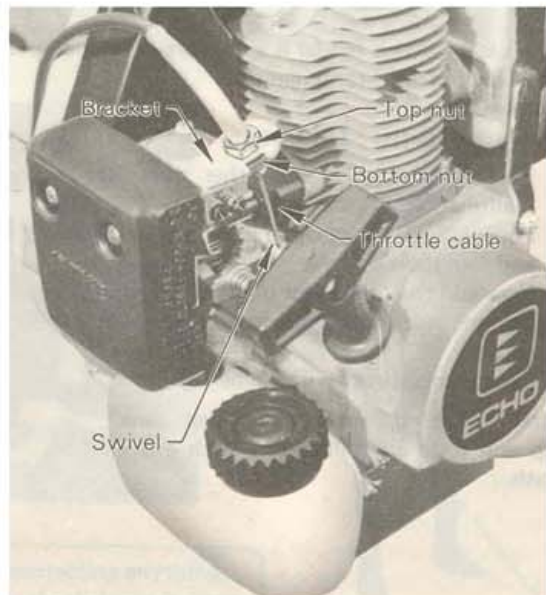
HANGER FOR SHOULDER STRAP

- Install hanger for shoulder strap as shown.
 - Remove screw and set hanger with a spacer.
 - Tighten screw securely.
 (See figure, next page.)

THROTTLE CABLE

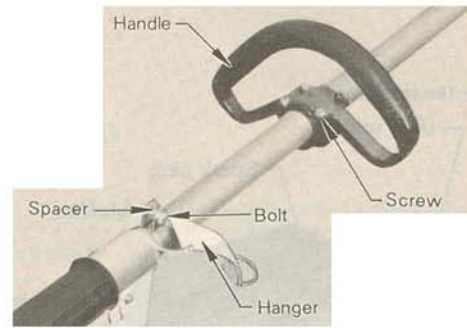
As the engine is delivered with throttle cable (engine side) separated, assemble the cable to carburetor as follows.

- Attach the inner cable to swivel on throttle lever ensuring that the nipple fits into socket provided on one side of slot.
- Attach the cable adjuster to slotted bracket with nuts fitting into slot as illustrated.
- Tighten unpainted nut and washer to secure in this position.
- Check that throttle operates freely and returns to idle position.
- Do not loosen painted nut unnecessarily, as it is located properly at the factory.



LOOP HANDLE

- Assemble loop handle and loop handle bracket to drive shaft ass'y loosely.
- Adjust location of handle to a convenient position. Tighten four bolts securely.

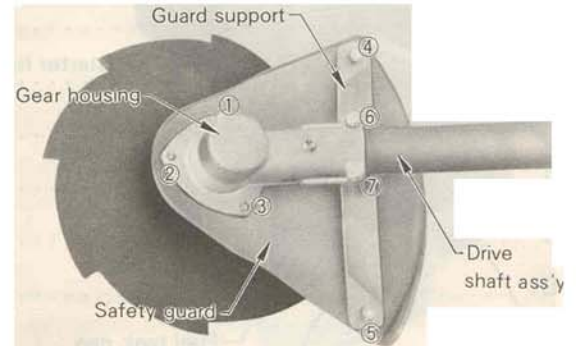


SAFETY GUARD

- Fit the safety guard on the gear housing and tighten the screws or nuts using the spring washers. (Seven points)
- For safe operation, never use the trimmer without safety guard.

CUTTER BLADE

- After fixing the safety guard, assemble the inner blade fixing plate, blade and outer blade fixing plate to the PTO shaft, then fit the nut finger tight.
- Lock the bearing housing and inner blade fixing plate with locking rod and tighten the nut with box wrench. (Counterclockwise)

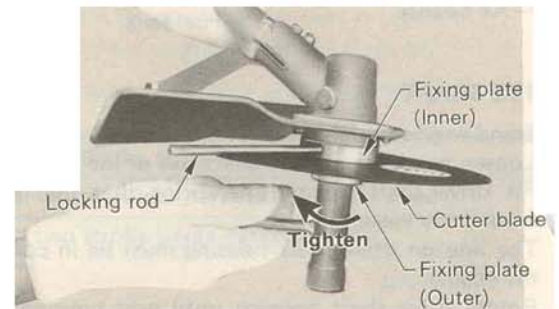


(NOTE) The nut has left hand threads.

- As for the NYLON CORD CUTTER HEAD follow the instructions, shown for each cutter head. (It is available as optional supply at extra cost.)

SHOULDER STRAP

- Fit shoulder strap to hanger, and readjust length of strap to maintain the cutter head parallel to the ground.

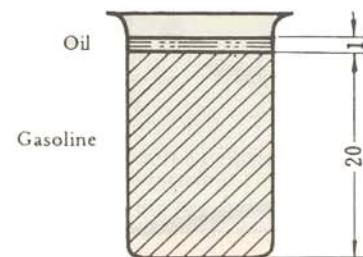


OPERATION

- Check for loose nuts, bolts and screws before using the unit every use.

FUEL

- Fuel used for this model is a mixture of regular grade gasoline and ECHO brand motor oil or an aircooled two stroke engine oil of a reputable brand name.
- Mixture ratio is
Gasoline 20 parts: Oil 1 part.
 - Fuel mixture at a rate other than 20:1 may cause malfunction of the engine.
 - Pour 1/2 of the gasoline into a safe container, add oil and mix thoroughly.
 - Now add the remainder of gasoline and mix again.
 - Do not use motor oil other than that recommended above.
 - Do not mix directly in engine fuel tank.
- After refueling, secure the fuel 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	1,000 (1 Liter)

STARTING COLD ENGINE

Turn switch to START/RUN position as shown.
Turn choke lever to START (Close) position.

- Pull recoil starter until the engine fires.
Now, turn choke lever to RUN (Open) position, and if necessary, restart the engine again and allow to warm up for a few minutes before using.
- After idling, gradually open throttle and cutter blade will start to operate as the engine attains clutch engagement speed of 3000 ~ 3400 RPM approximately.

(NOTE)

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

Always hold the unit firmly.

STARTING WARM ENGINE

- When engine is warm, start it by pulling recoil starter rope with switch positioned at START/RUN. (Keep choke lever in RUN (Open) position.)
- 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.

OPERATING THE TRIMMER

Adjust handle to a convenient position for cutting as instructed on page 4.

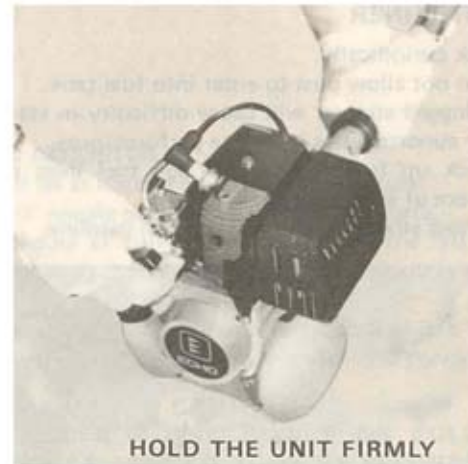
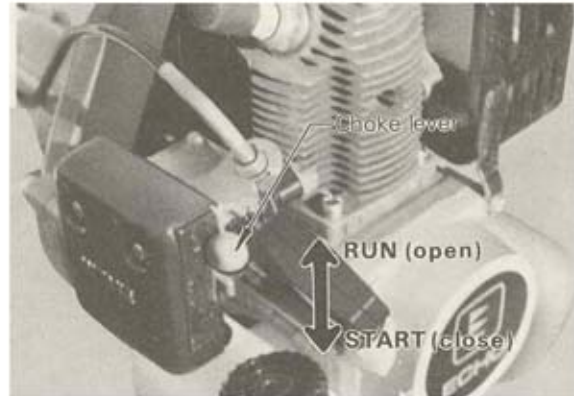
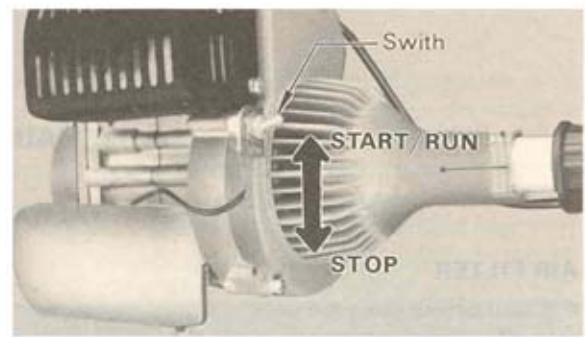
- Allow the engine to warm up at a fast idle for a few minutes.
- Increase engine speed as necessary.
- When cutting shrub, weed or grass, swing the cutter head from right to left as you move forward.
 - Avoid striking any obstruction such as rocks, stones or tree stumps which can damage the cutter head. Do not cut into the ground.
 - To avoid damage to the engine, do not run the engine unloaded at full throttle.
- 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.
- In an emergency, pull out pin of shoulder strap to detach the unit.

(CAUTION)

Do not allow either people or animals into the work area.
Always wear safety goggles when cutting.
Dress properly – Avoid loose clothing.

When grass or weeds have clogged the cutter head affecting normal operation, first, stop the engine and then remove it.

- Before starting up the engine, make sure that the cutter blade is not contacting anything.
- When two or more operators are working together, ensure that a safe distance is kept between them.

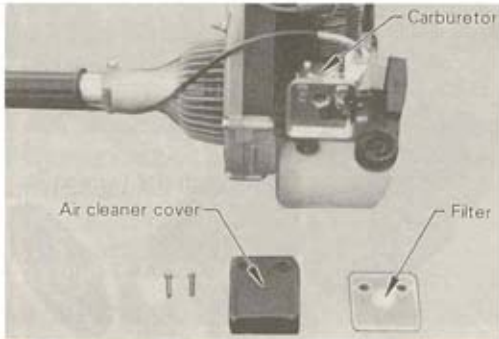


MAINTENANCE AND CARE

= ALWAYS KEEP THE UNIT CLEAN =

AIR FILTER

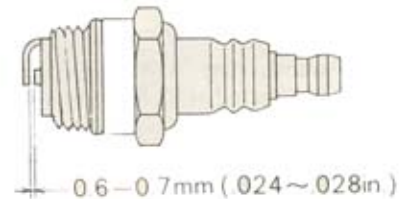
- Clean before using the unit.
 - Remove air cleaner cover and filter.
 - Brush off dust lightly or wash it in a non-inflammable solvent.
 - When you wash it in a solvent, dry it completely before putting back in place.



SPARK PLUG

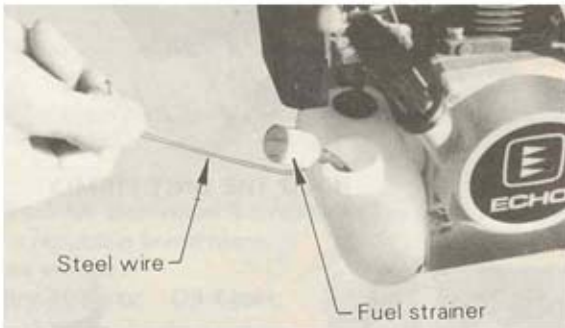
- Check periodically.
- Standard spark gap is 0.6–0.7 mm (0.024–0.028 in.).
- Replace if either electrode is worn or if the insulator is fouled by oil or other deposits.
- TORQUE = 145 – 155 kg-cm (125 – 135 in. lb)

CAUTION
Do not over torque.



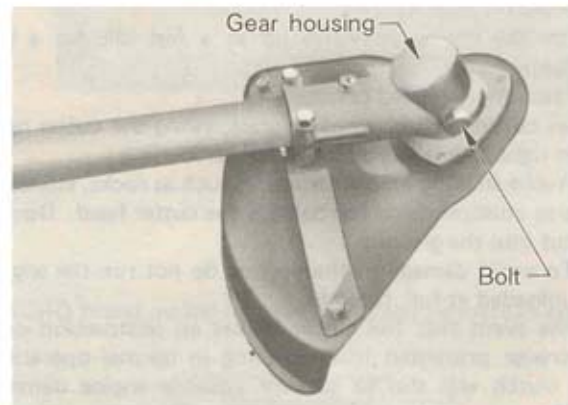
FUEL STRAINER

- 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 gasoline.



GEAR HOUSING

- Remove the bolt every 50 hours and check.
- Replenish as necessary, but do not overfill.
 - Shell delpena or good quality lithium multi gear is recommendable.

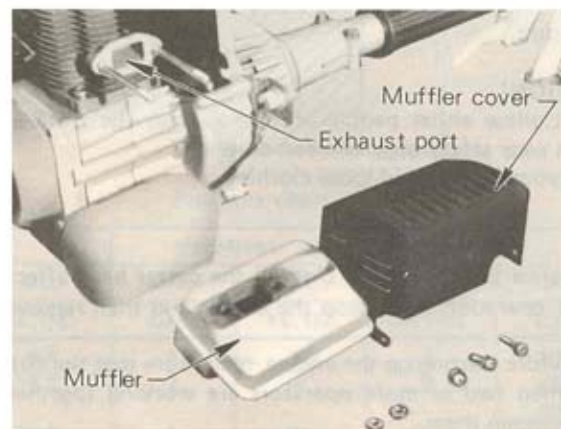


MUFFLER AND EXHAUST PORT

- Clean as necessary.
- Carbon deposit in cylinder exhaust port and muffler will reduce engine output.
 - Muffler can be removed by taking off muffler cover.
 - Be careful not to scratch cylinder or piston when cleaning cylinder exhaust port.

CYLINDER FINS

- Check periodically.
- Clogged fins will result in poor engine cooling.
- Remove dirt and dust from between fins to let cooling air pass easily.



CARBURETOR

Carburetor is set at the factory. So normally, further adjustment is unnecessary. If readjustment is required, refer to the 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

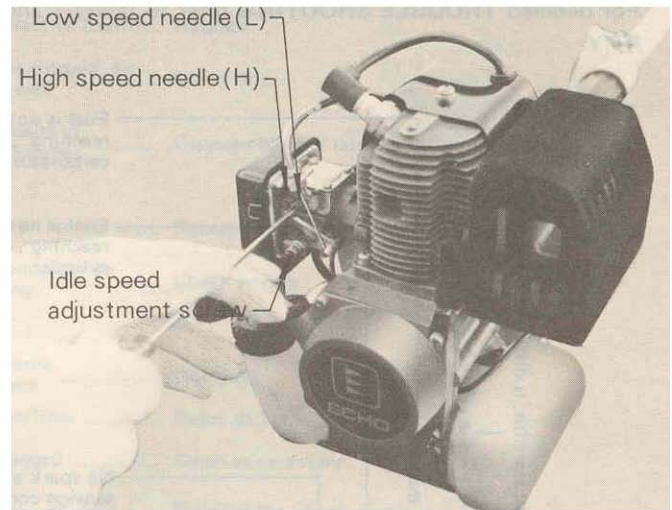
Unscrew the 'LO' needle one complete turn.

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 'falling'.

'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 3000–3400 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.

Run the engine at full throttle and turn the 'HI' needle slowly clockwise until the engine runs smoothly without "four stroking" on no load.

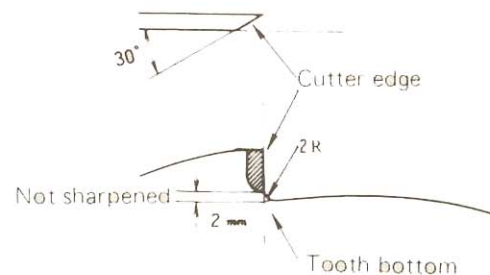
Turn the needle open again (counterclockwise) 1/8" turn to obtain optimum fuel for full power under load conditions.

CAUTION

DO NOT RUN THE ENGINE ON FULL THROTTLE LONGER THAN 5-6 SECONDS TO AVOID DAMAGE TO ENGINE.

8 CUTTER BLADE

- Use only the blade designated by the manufacturer for this model.
- When crack is noticed on the blade, never use it, but replace with a new one.
- Round the teeth bottom for 1 – 2 mm radius in order to avoid the crack using a round file.
 - Rounded part is not to be sharpened.
 - Sharpen each cutter equally so as to retain the balance of the blade.
 - In sharpening the edge by use of a grinder, do not cool the cutter abruptly by immersing it in water.



MAGNETO

The unit is incorporated with magneto of C.D.I. (Capacitor Discharge Ignition) system, which does not require adjustment of ignition timing and the contact breaker point gap. Ensure wire connections and couplers assembling.

TROUBLE SHOOTING

Poor performance of the engine and/or trimming mechanism can normally be prevented by carefully following the above instructions.

Poor performances can easily be corrected even by a beginner.

When the engine does not function properly check the following three (3) points first.

- Is engine compression adequate?
- Is fuel system in good condition and is enough fuel being supplied?
- Is electrical system in good condition and is spark plug operating normally?

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 detailed **TROUBLE SHOOTING** refer to tables 1 and 2. Locate the problem on the following charts and repair as necessary.

Table 1

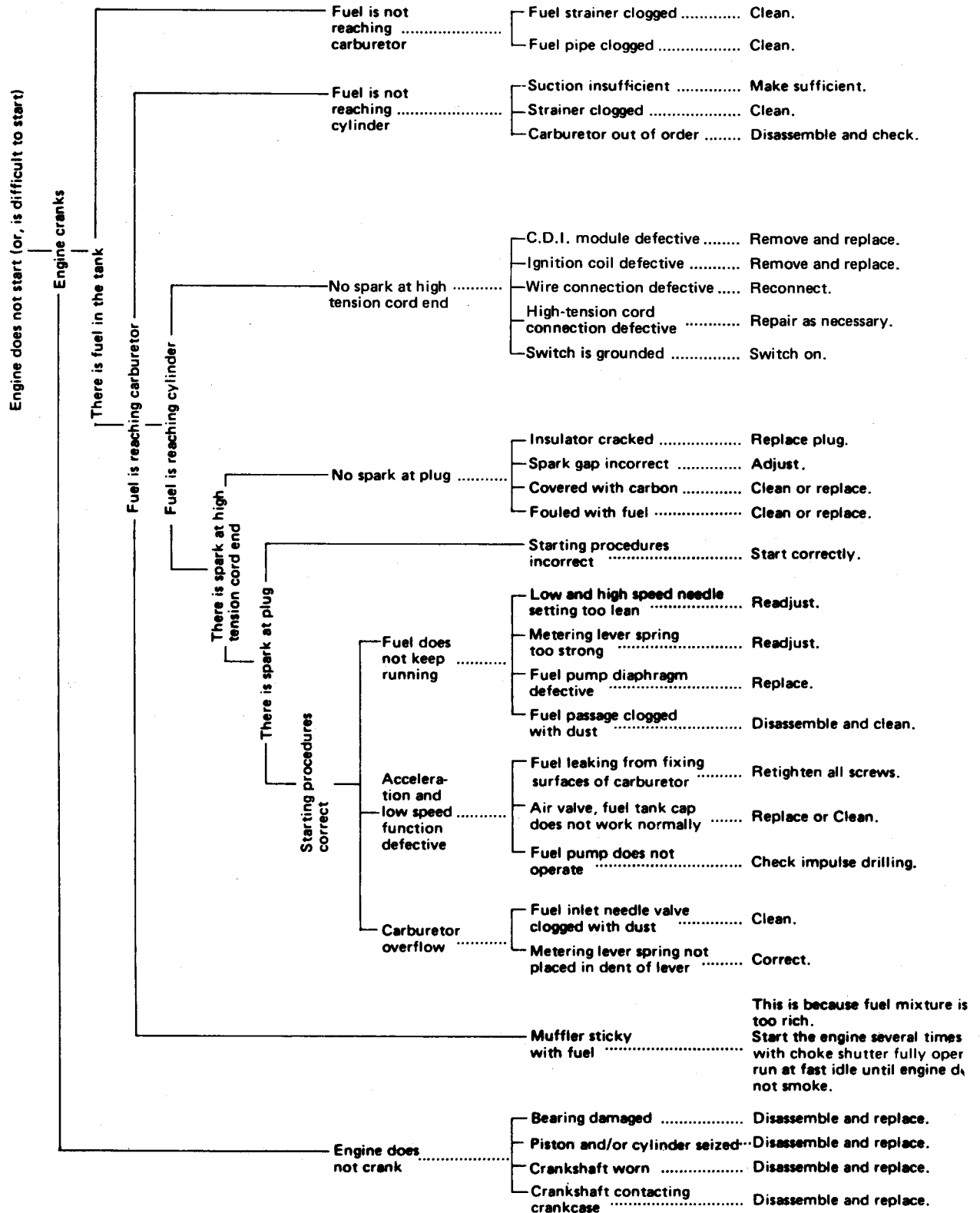
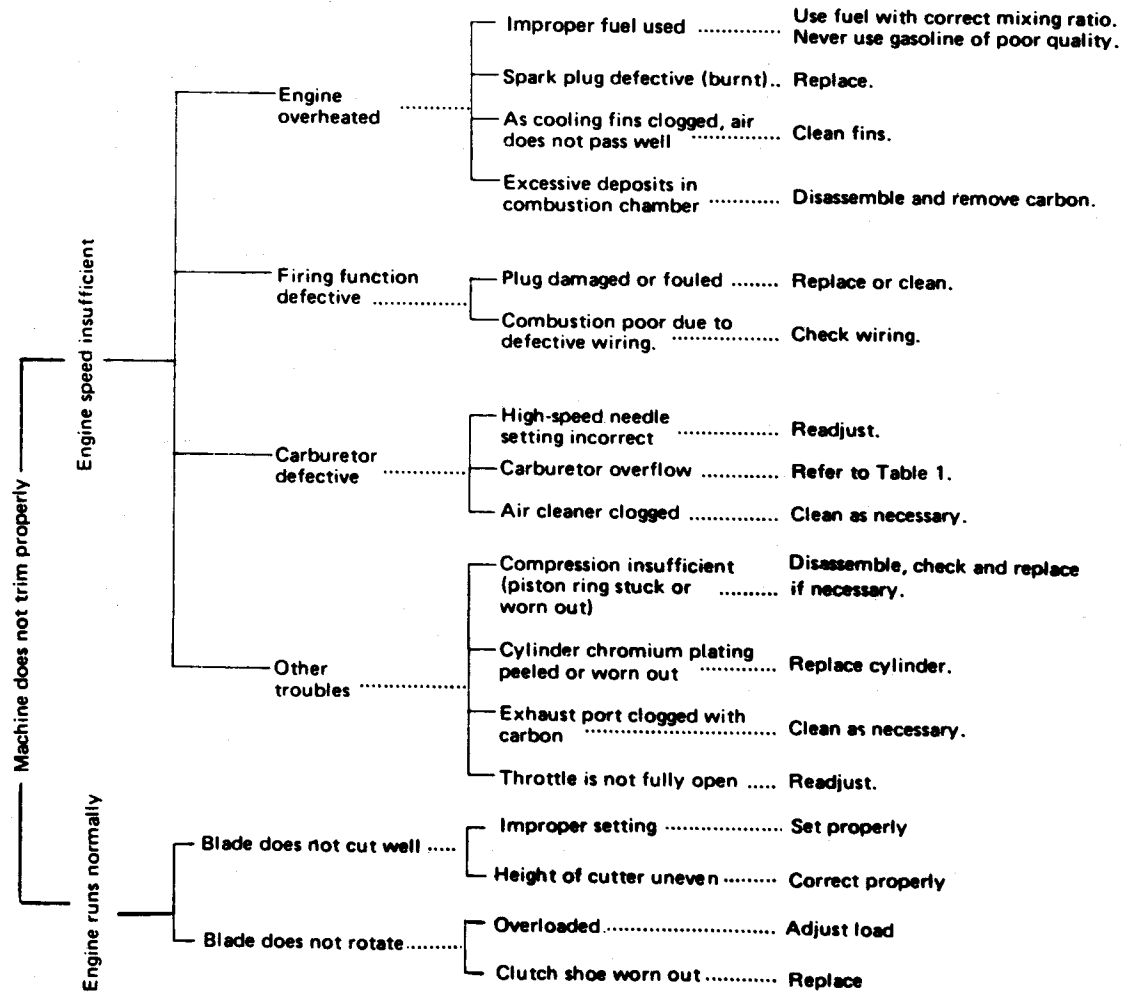


Table 2



STORAGE AFTER USE

- Inspect and adjust every part of the unit.
 - Completely clean every part, and repair, if necessary.
 - Apply thin coating of oil on metal parts to prevent rust.
 - Remove the cutter head, apply sufficient oil coating and wrap up in plastic.
- Drain fuel tank, pull starter handle slowly a few times to drain fuel from carburetor. Pour a small amount of clean motor oil into spark plug hole, pull starter handle and then crank the engine until TOP DEAD CENTER. Store in a dry area, free from dust.