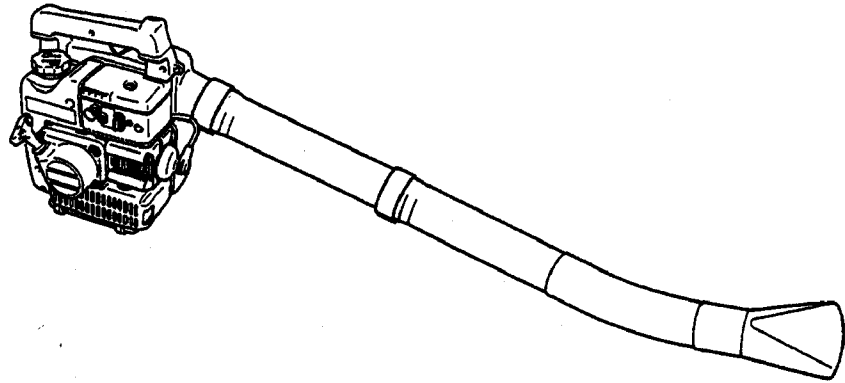


**ECHO®**



# **OPERATOR'S MANUAL**

## **ECHO POWER BLOWER PB-210E TYPE1-E**

### **CAUTION**

Read Rules for Safe Operation  
and Instructions Carefully

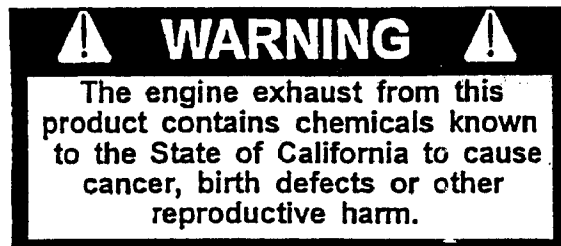


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## IMPORTANT

### RULES FOR SAFE OPERATION

1. Handle gasoline with care. It is highly inflammable.
  - Refuel before starting work.
  - Do not smoke while handling fuel.
  - Do not refuel a hot engine.
  - Avoid spilling fuel or oil. Always wipe unit dry before using.
  - Move at least 3m (10 feet) away from the fueling point before starting engine.
  - Always store gasoline in approved container.
2. Do not operate in unventilated area.
3. Do not allow bystanders in work area.
4. Do not point the blower pipe in the direction of people.
5. Always wear safety glasses.
6. Always wear ear protectors wherever possible.
7. Avoid wearing loose clothing or loose scarf.
8. Always use a face filter mask to avoid breathing dust.
9. Do not block blower pipe in order to avoid engine damage due to over revolution.



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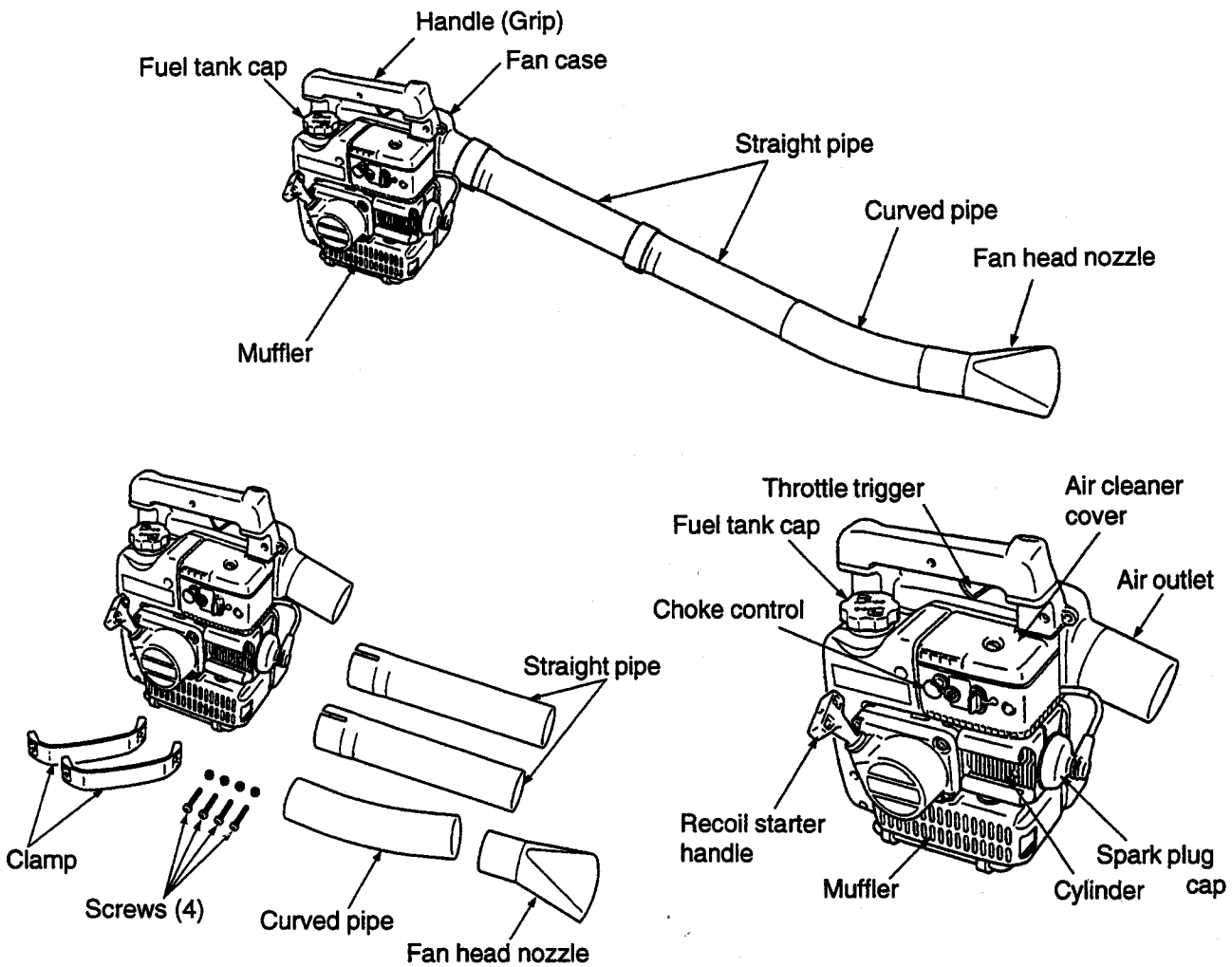
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### TECHNICAL DATA

			PB-210E TYPE1-E
Dimension	L x W x H	mm (in.)	290 x 220 x 335 (11.4" x 8.7" x 13.2")
Masses		kg (lbs)	4.2 (9.26)
Engine	Type Displacement Carburetor Ignition Spark plug Starter	mL (cu.in.)	Air cooled 2 cycle single cylinder 21.2 (1.29) Walbro diaphragm type WA Flywheel magneto: CDI system. NGK BPM7A or CHAMPION CJ-7Y Recoil starter
Fuel	Mixing ratio  Tank capacity	L (FL.OZ.US)	Mixture of gasoline (unleaded, 89 octane minimum) and specially blended 50:1 ECHO two cycle engine oil.  0.45 (15.2)
Blower	Air speed (Max.) Air volume (Max.)	m/s (MPH) m <sup>3</sup> /min (Cu.ft./min)	60 (135) 8 (280)

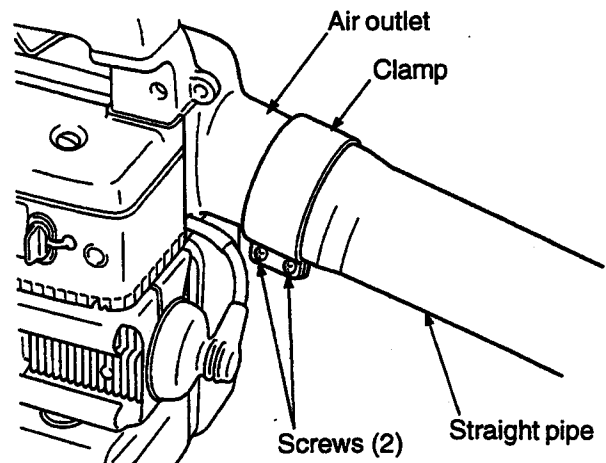
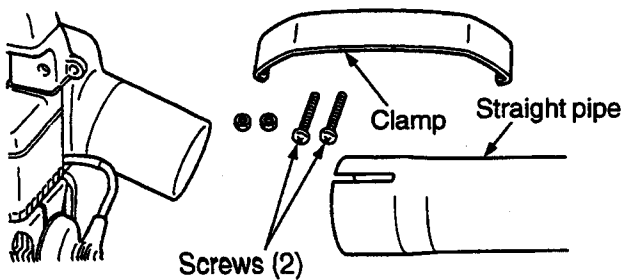
\* Technical data subject to change without notice.

## NOMENCLATURE OF PARTS



## ASSEMBLING

- Assemble both straight pipes using a clamp and two screws each as shown.
  - Assemble curved pipe and fan head nozzle to the straight pipe.
  - Rotate the curved pipe to a convenient angle for operation.
- Ensure that all pipes are connected firmly.



# OPERATION

## GENERAL CHECK

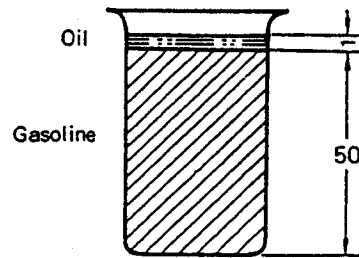
- Ensure that all nuts, screws and bolts installed are properly tightened.

## FUEL STATEMENT

**GASOLINE** - Use 89 Octane [ $\frac{R+M}{2}$ ] gasoline or gasohol known to be good quality. Gasohol may contain maximum 10% ethyl (grain) alcohol or 15% MTBE (methyl tertiary-butyl ether). Gasohol containing methyl (wood) alcohol is not approved.

**OIL** - ECHO brand premium two-stroke 50:1 oil is preferred. Mix oil and gasoline/gasohol according to instructions on the oil container label.

**MIXING** - Follow directions on the oil container.



Fuel mix chart

(50:1)

US		METRIC	
GAS	OIL	GAS	OIL
GAL.	FL. OZ.	L	mL
1	2.6	4	80
2	5.1	8	160
5	12.8	20	400

### IMPORTANT

Stored fuel ages: Do not mix more fuel than you expect to use in thirty (30) days, ninety (90) days when a fuel stabilizer is added.

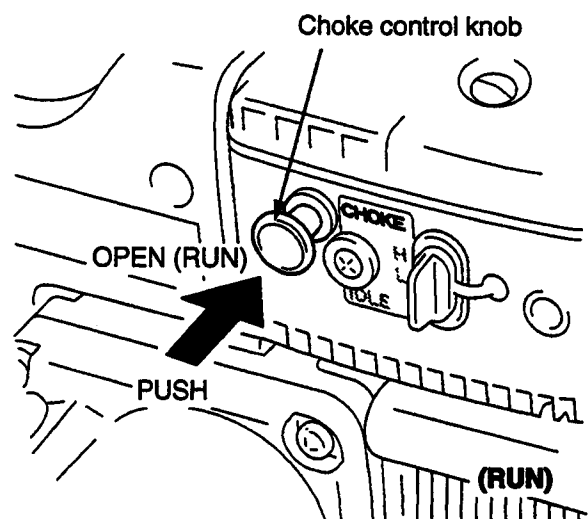
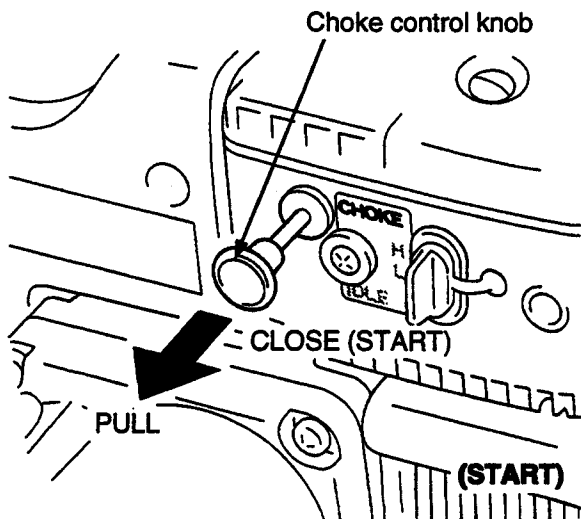
Stored two-stroke fuel may separate. ALWAYS shake fuel container thoroughly before each use.

## STARTING COLD ENGINE

- Stand engine upright on a level surface.
- Ignition switch to "START/RUN" position. (Opposite side of STOP position)
- Pull the choke control knob. (CLOSE position)
- Open throttle trigger to a fast idle. (Squeeze it slightly)
- Pull recoil starter until engine fires.
- Push in the choke control knob (OPEN position), and if necessary, start engine again and allow to warm up before using.

### (Caution)

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



### STARTING WARM ENGINE

- Ignition switch to "START/RUN" position.
- Pull starter handle until engine fires.
  - Do not use the choke.

### STOPPING ENGINE

- Release throttle trigger and allow engine to cool at an idle for a few minutes.
- Ignition switch to "stop" position.

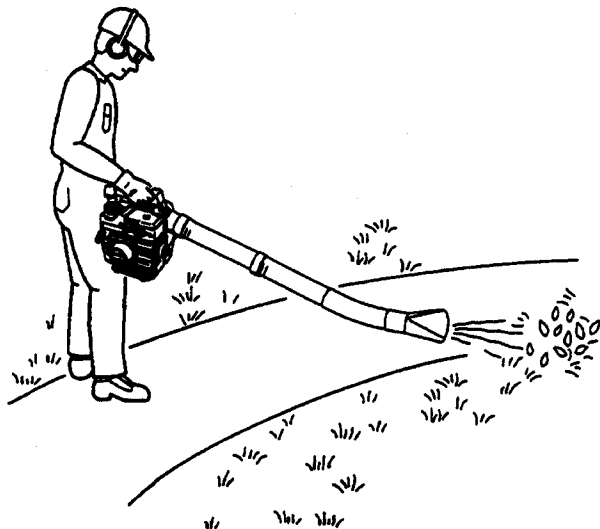
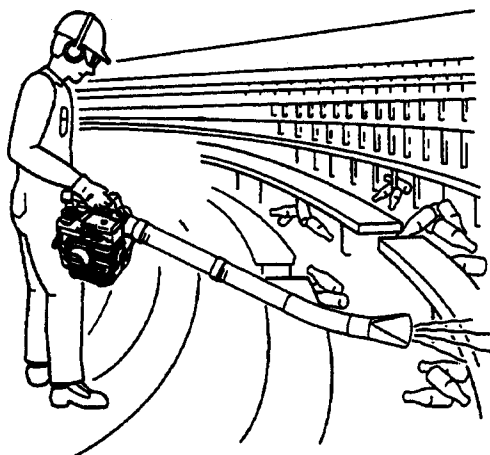
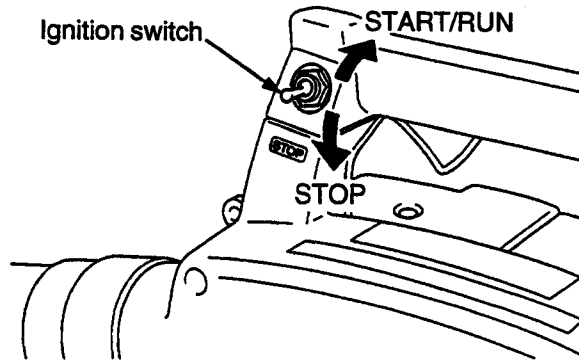
(Note) When engine does not stop, pull choke control knob all the way out to stop engine. Check and repair switch before starting engine again.

### OPERATING BLOWER

- Allow the engine to warm up at a fast idle for a few minutes.
- ECHO PB-210E can be run at any speed between an idle of 2500–2800 r/min and maximum load speed of 7000 r/min, approximately. The velocity of the air stream can therefore readily be controlled from a gentle breeze to a high speed blast moving at approximately 46 m/s (103 MPH) which will move debris ranging from garden leaves to bottles and be accumulated in sports stadiums.
  - Use a low speed to blow dry leaves from a lawn or flower bed.
  - Use a medium to high speed to clean grass and leaves from walks, patios and drives.
  - Use a high speed to move gravel, dirt, snow, bottles or cans from a driveway, street, parking lot, or stadium.

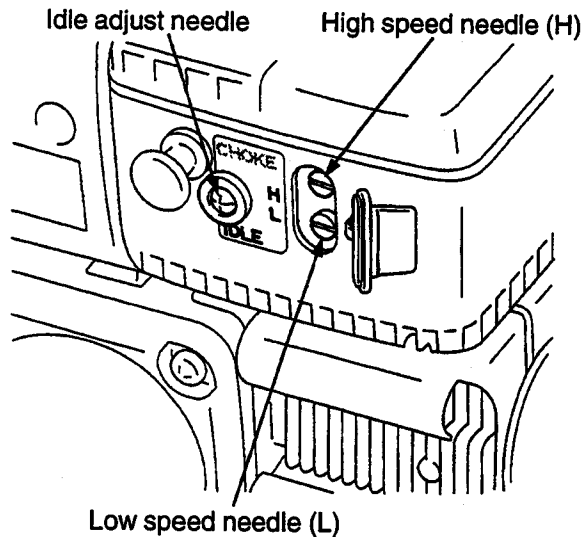
### (Caution)

Do not point the blower pipe in the direction of people or pets.  
Always wear safety glasses and use a face filter mask.  
Read carefully "Rules for safe operation" on page 2.



## MAINTENANCE AND CARE

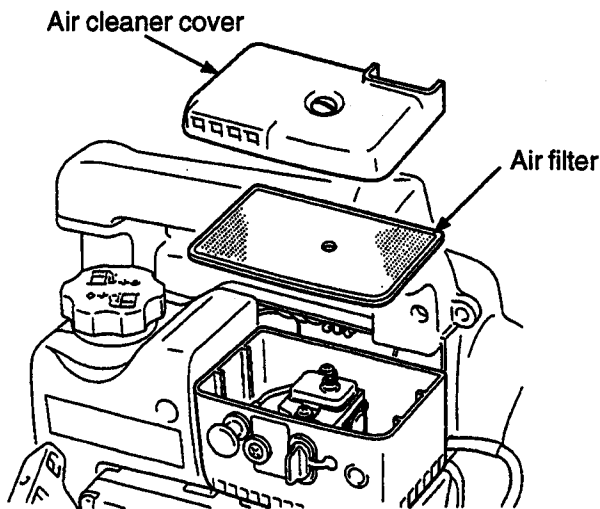
### CARBURETOR ADJUSTMENT



Every unit is run at the factory and the carburetor is set in compliance with California Emission Regulations. In addition, the carburetor is equipped with "H" (High Speed Needle) and "L" (Low Speed Needle) needle adjustment limiters that prevent settings outside acceptable limits.

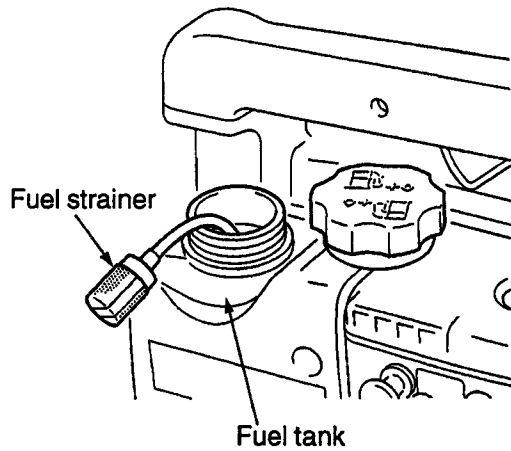
1. Before adjusting carburetor clean or replace air filter and muffler, "Spark Arrestor Screen".
2. Start engine and run several minutes to bring to operating temperature. Flash choke twice during warm-up to clear any air from the fuel system.
3. Stop engine. Turn "H" speed needle CCW (Counter Clockwise) to stop. Turn "L" speed needle midway between full CW (Clockwise) stop and CCW stop.
4. Idle Speed Adjustment
  - Before adjusting blower, install all blower pipes.
  - Start engine, turn "idle" speed adjustment screw either CW or CCW until the tip just contacts the throttle plate. Then turn (2) two additional turns CW for initial setting. Blower should operate with an even idle at low r / min.
5. Accelerate to full throttle for 2-3 seconds to clear any excess fuel in the engine, then return to idle. Accelerate engine to full throttle to check for smooth transition from idle to high speed. If engine hesitates turn "L" needle CCW 1/8 turn and repeat acceleration. Continue adjustment until smooth acceleration results.
6. Check idle speed and reset if necessary as described in item 4.

### AIR CLEANER



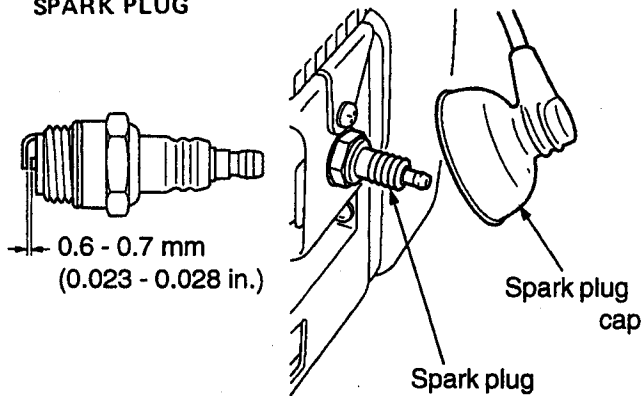
- Clean every day.
  - Remove the air cleaner cover.
  - Brush off dust lightly, or wash it in suitable cleaning liquid if necessary.
  - Dry it completely before installation.

## 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 carefully through fuel inlet port with a piece of steel wire or the like.
  - When strainer is dirty, wash it in suitable cleaning fluid.

## SPARK PLUG



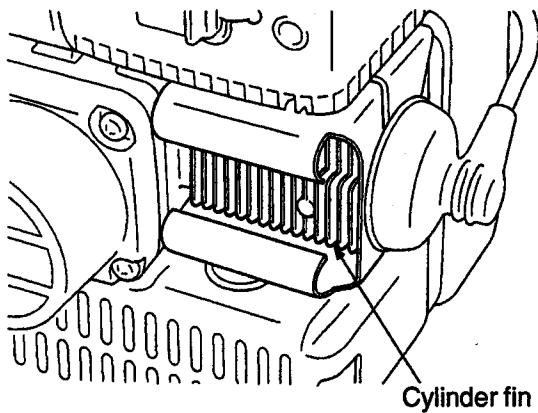
- Check periodically.
  - Remove spark plug cap.
  - The standard spark gap is 0.6–0.7 mm (0.023–0.028 in.).
  - Correct spark gap if it is wider or narrower than the standard gap.
  - When it is deposited with carbon or stained, clean it before fitting to engine.

- Fastening torque = 15 to 17 N•m (130 to 145 in.lb)

(Caution) Do not over tighten plug.

- Check periodically.
  - Clogged fins result in poor engine cooling.
  - Clean passage of air between cylinder fins to let cooling air pass easily.

## CYLINDER FINS



## MUFFLER AND EXHAUST PORT

- Carbon deposits in cylinder exhaust port and muffler will cause drop of engine output and sparking from muffler.
  - Muffler can be removed by taking off muffler cover.
  - Be careful not to scratch cylinder or piston when cleaning cylinder exhaust port.

## TROUBLE SHOOTING

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



Table 1

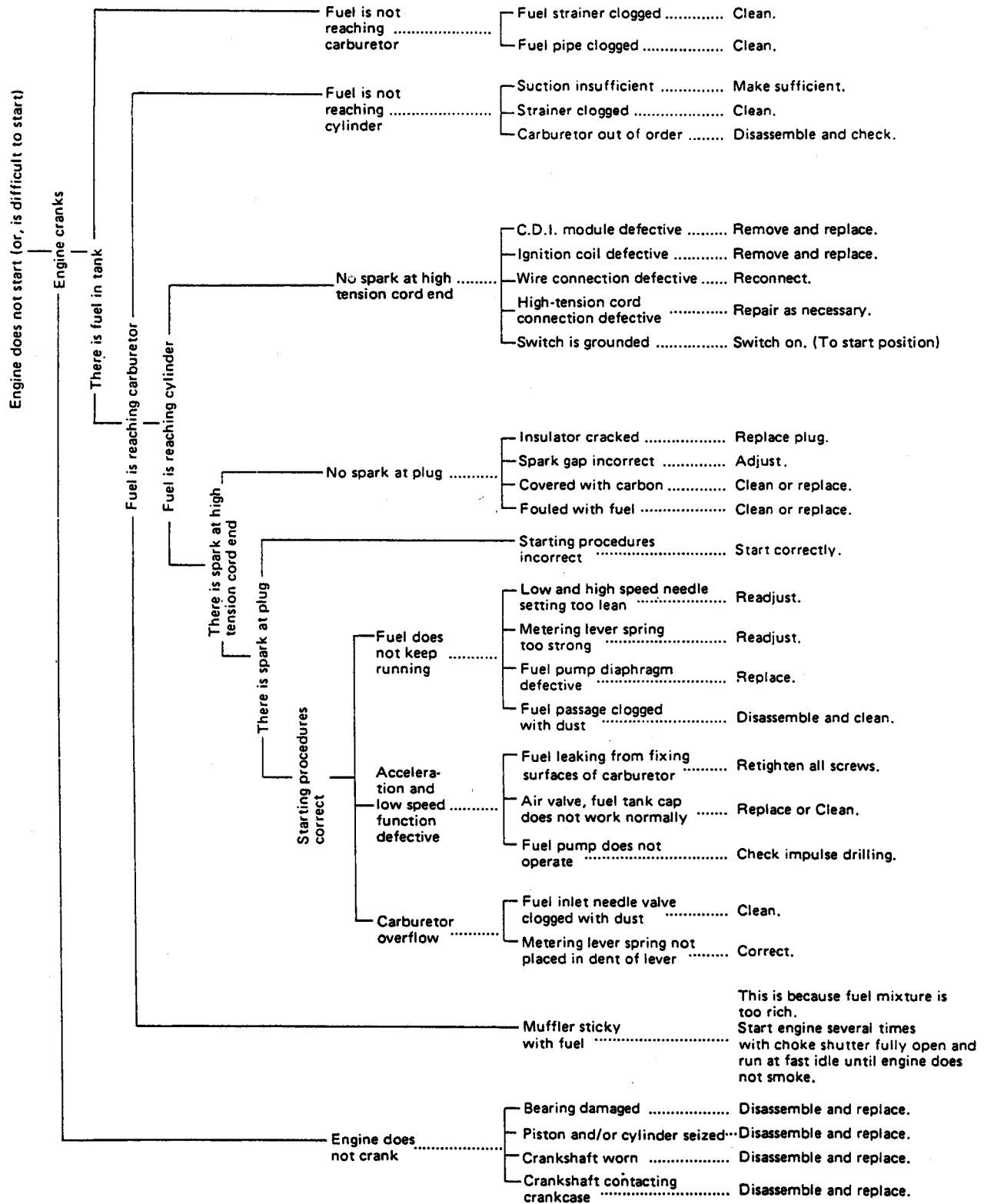
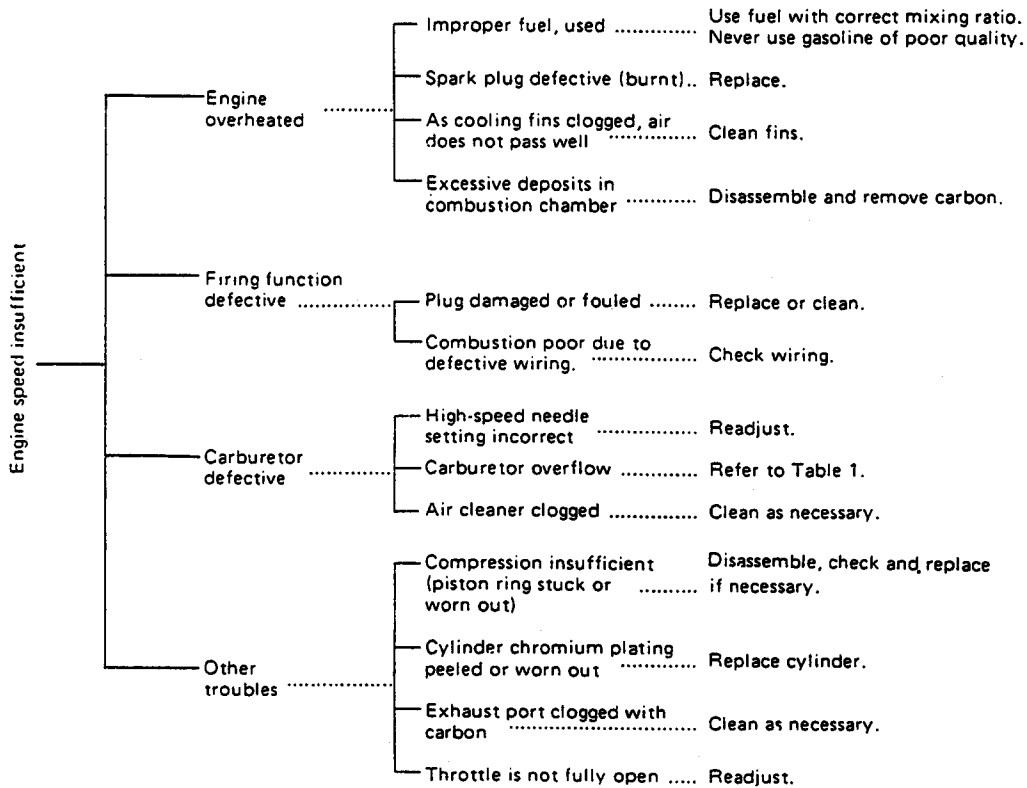


Table 2



### STORAGE AFTER USE

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

MEMO

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