



OPERATOR'S MANUAL

ECHO POWER SPRAYER SHR-200E

CAUTION

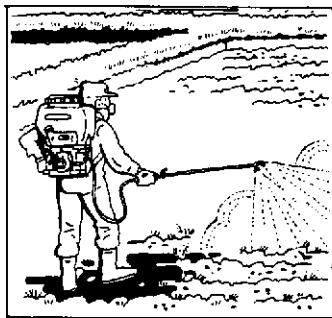
Read Rules for Safe Operation
and Instructions Carefully




898 561-1061 0

VARIETY OF NOZZLES FOR ECHO POWER SPRAYER SHR-200E

Convenient to use and reliable, the go anywhere SHR-200E power sprayer is highly versatile with a large variety of optional nozzles which adapts it to a wide range of applications. The use of this power sprayer at home, on the farm or in a commercial environment are limitless. Most importantly, what used to take hours takes only minutes with the SHR-200E, making it an unequalled value for the homeowner and professional alike.

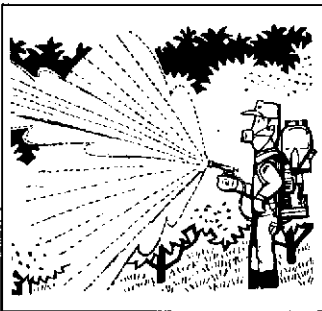


**2-head nozzle
(Standard line type)**

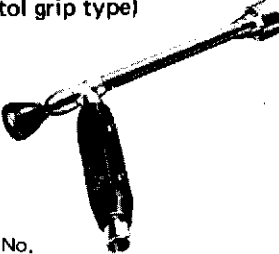


Part No.
224 203-1061 0

Standard

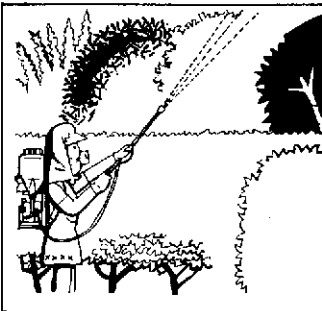


**Adjustable jet nozzle
(Pistol grip type)**




Part No.
224 000-1061 0

Optional




**Adjustable jet nozzle
(Long distance type)**

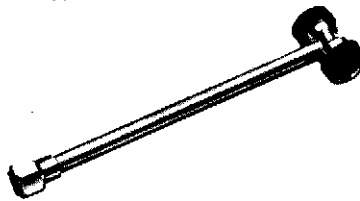


Part No.
224 100-1061 0

Optional

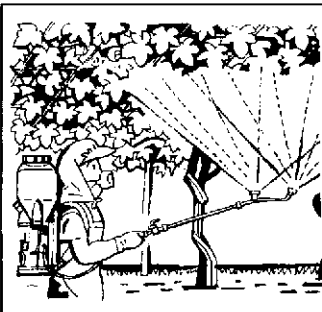


**2-head nozzle
(T-type)**




Part No.
224 201-1061 0

Optional

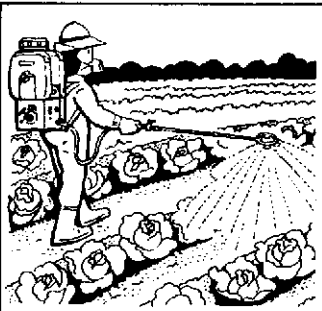


**2-head nozzle
(Line type)**

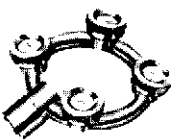


Part No.
224 202-1061 0

Optional

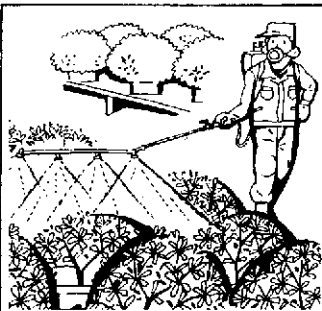


**4-head nozzle
(Ring type)**

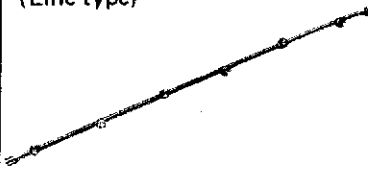


Part No.
224 101-1061 0

Optional



**7-head nozzle
(Line type)**



Part No.
224 104-1061 0

Optional

* Optional nozzles are available at extra cost

Nozzle specifications

• For some country, a optional nozzle is supplied as standard part.

Nozzle	Discharge volume	Spraying distance	Nozzle	Discharge volume
2-head nozzle (Standard line type)	2.4 l/min (10 kg/cm ²)	1.5m 5m	2-head nozzle (T-type)	2.4 l/min (10 kg/cm ²)
Adjustable jet nozzle (Pistol grip type)	Mist: 2.4 l/min Spray: 5 l/min (10 kg/cm ²)	3m 5m	2-head nozzle (Line type)	4.2 l/min (10 kg/cm ²)
Adjustable jet nozzle (Long distance type)	Mist: 2.4 l/min Spray: 5 l/min (10 kg/cm ²)	3m 5m	4-head nozzle (Ring type)	1.5 l/min (10 kg/cm ²)
			7-head nozzle (Line type)	2 l/min (10 kg/cm ²)

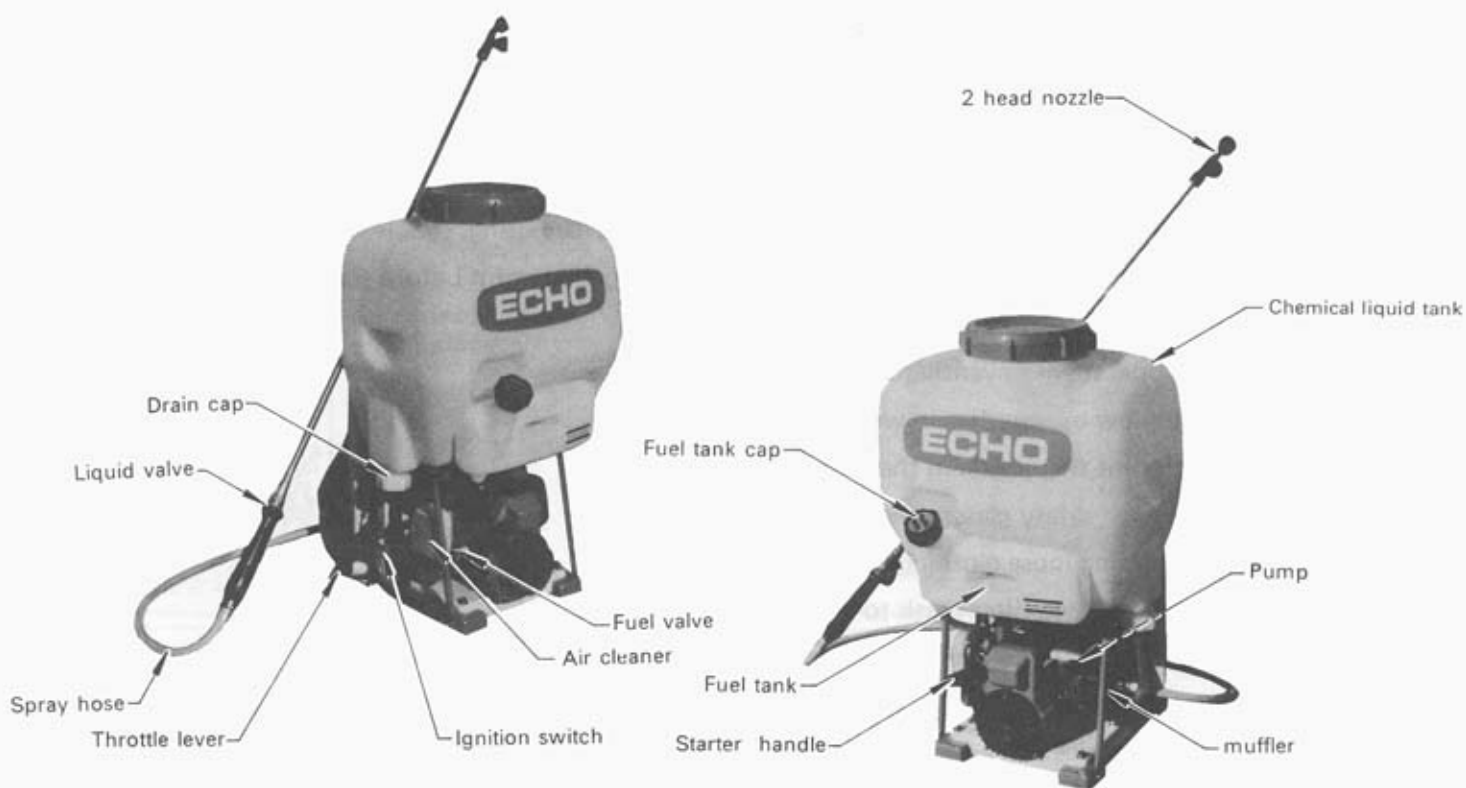
**IMPORTANT
RULES FOR SAFE OPERATION**

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 3 meters (10 feet) away from the fueling point before starting engine.
 - Always store gasoline in an approved container.
2. Do not operate in unventilated area.
3. Do not allow bystanders in work area.
4. Do not point the nozzle in the direction of people.
5. Always wear safety glasses and gloves.
6. Avoid wearing loose clothing or loose scarf.
7. Always use a face filter mask to avoid breathing chemicals.
8. Handle agricultural chemicals with care. It is poisonous.
 - Always remove chemicals from the tank when not in use.
 - Store chemicals in a safety container.

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NOMENCLATURE



TECHNICAL DATA

Dimension	L x W x H	mm (in.)	305 x 370 x 590 (12.0 x 14.6 x 23.2)
Weight		kg (lb)	7.5 (w/o Spraying hose and nozzle)
Chemical (liquid) tank capacity		liter (gal. US)	22.0 (5.81)
Engine	Type Displacement Rated speed Carburetor Ignition Spark plug Starter	cc (cu.in.) rpm	Air cooled, two stroke single cylinder 21.2 (1.3) 6,500 KEIHIN float type Flywheel magneto: CDI (Capacitor discharge ignition) system Champion CJ-8 or equivalent Recoil starter
Fuel	Mixing ratio Tank capacity	liter (fl.oz.US)	Regular gasoline 25 parts: 1 part two stroke engine oil 0.85 (28.7)
Pump	Type Discharge volume (Nozzle) Pressure	liter (fl.oz.US) kg/cm ²	Regenerative pump 0.8 ~ 7.0 (2.7 ~ 26.6) 10 ~ 14
Nozzle Spraying hose			2-head nozzle* 8.5 m/mφ (Inner diameter)

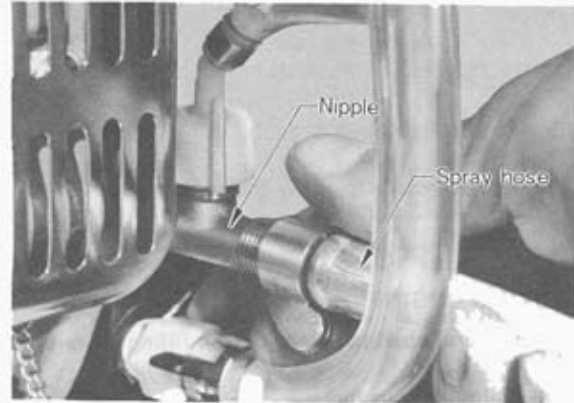
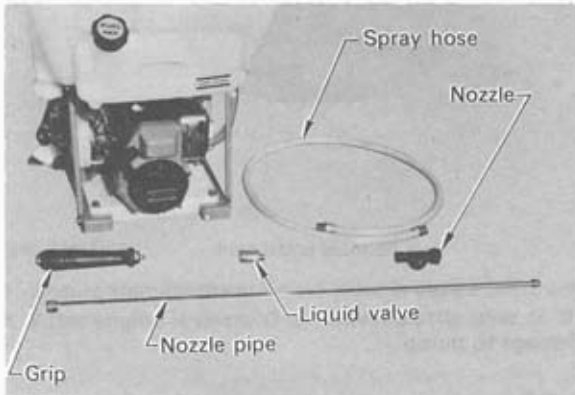
* Technical data may be changed without advance notice.

* Other nozzles are available as optional supply.

ASSEMBLING

SPRAY HOSE AND NOZZLE

- Install hose, grip, liquid valve, nozzle pipe and nozzle to the machine.



SHOULDER STRAPS

- Shoulder straps are adjustable to fit any operator.
- Adjust straps so that pads rest comfortably on the operator's shoulders.

OPERATION

CHECK FOR LOOSE NUTS AND SCREWS

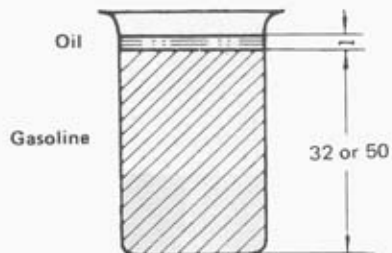
Check for loose nuts and screws on the handle, fan cover, etc. each time before using the chain saw.

FUEL AND LUBRICANT

- Fuel is a mixture of regular grade gasoline and ECHO brand motor oil (or an air cooled 2-stroke engine oil of a reputable brand name).

- Mixture ratio is:
Gasoline 32 parts: Oil 1 part. (3%)

- Fuel mixture at a ratio other than 32:1 may cause malfunction of the engine. Ensure mixture ratio is correct.



Fuel Mix Chart

32 : 1				50 : 1			
(US)		(METRIC)		(US)		(METRIC)	
GAS	OIL	GAS	OIL	GAS	OIL	GAS	OIL
Gal.	Fl.oz.	Liter	cc.	Gal.	Fl.oz.	Liter	cc.
1	4.0	4	125	1	2.6	4	80
2	8.0	8	250	2	5.1	8	160
5	20.0	20	625	5	12.8	20	400

- Pour 1/2 of the gasoline into a safe container, add the oil and mix thoroughly.
- Now add the remainder of gasoline and mix again.
- Disregard instruction on oil container.
- Do not use motor oil other than recommended above.
- Do not mix directly in engine fuel tank.
- Avoid spilling fuel or oil. Spilled fuel should always be wiped up.

(NOTE)

50:1 Ratio is applicable with special approved by ECHO.

CHEMICAL (Liquid) TANK

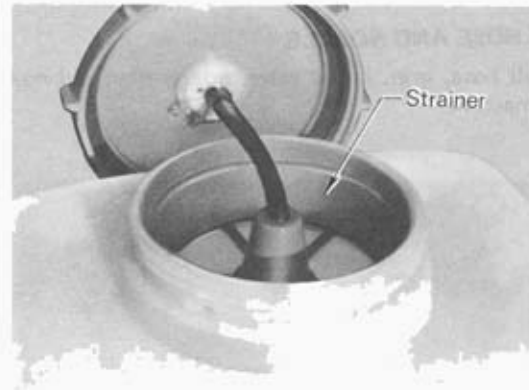
- Fill the tank with liquid chemical through the strainer. Do not fill without strainer. (Dust in the tank may cause clogging of the liquid line or pump.)

- The tank contains 22 liters (5.81 gal. US) of liquid.

(Note)

Each mark on the side of the tank indicates the 5, 10, 15 and 20 liter levels.

- Ensure that tank cap is on tightly to avoid chemical leak.
- It is not necessary to apply grease/oil to pump.



Chemical liquid tank

STARTING ENGINE

Never start and operate engine before filling chemical tank to avoid damage to pump.

- Fill fuel tank with fuel.
- Turn the ignition switch to START/RUN position (Upward)
- Turn choke lever to CLOSE (START) position.

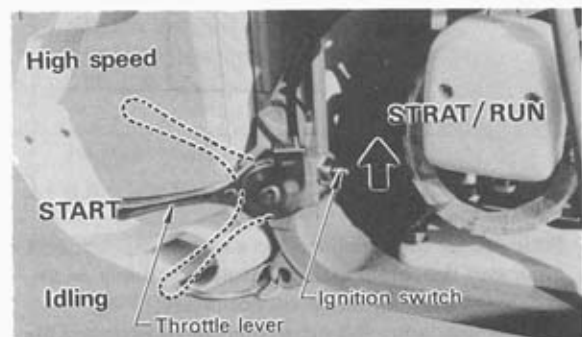
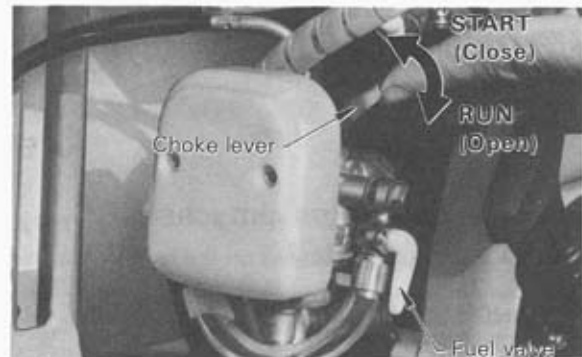
- Open fuel valve.
- Keep throttle lever at idle position (in the middle of scale).
- Pull starter handle until engine starts.

(Note)

– Recoil starter:

Use short pulls – Do not pull starter rope all the way out, and rewind it back gradually.

- Pull back choke lever (OPEN position) slowly after engine starts, and keep at idle speed for a while to warm it up.
- If temperature is high or engine is warm, keep choke lever half opened or totally opened.

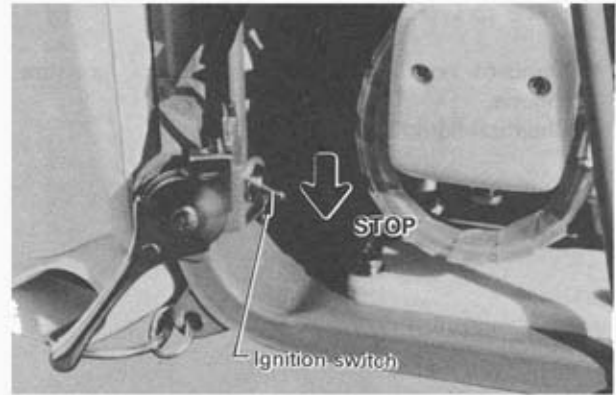


STOPPING ENGINE

- Turn throttle lever to the lowest position and the ignition switch to STOP position.

(CAUTION)

When misting liquid is over, stop the engine.
Do not keep engine running, when chemical tank has been emptied.



SPRAYING

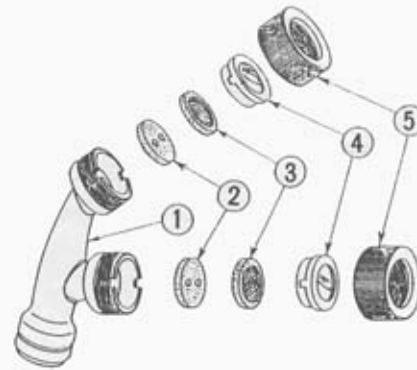
- Ensure that chemical liquid valve is closed before starting engine.
- After engine is warmed up, turn throttle lever to the high speed position (Upper position) and open liquid valve.

– FOR SAFE OPERATION –

1. Secure the chemical tank cap.
2. Check all connections to avoid chemical leak. (Nozzle, Nozzle pipe, hose etc.)
3. Avoid wearing loose clothing and always wear safety glasses and gloves.
4. Use a face filter mask to avoid breathing chemical.
5. Check wind direction before spraying
6. Do not point nozzle in the direction of people.
7. Stop the engine when refueling and/or replacing parts.
8. Close fuel valve and chemical liquid valve when not in use.

NOZZLE

- Adjustable nozzle (Standard type) is provided with this power sprayer.
- Standard nozzle discharge volume and pressure are as follows.
Chemical liquid Discharge: 2.4l/min
(10kg/cm²)



① Nozzle ② Guide ③ Strainer ④ Nozzle ⑤ Cap

(Note)

- You can use a nozzle other than standard nozzle which discharges liquid under 7.0 liters at nozzle pressure: 10 kg/cm² as required.
 - Long hose (approx. 100 meters) is available as required.
 - In this case, use standard nozzle indicated above or less discharge volume nozzle.
- As for variety of optional nozzles, please refer to reverse side of front cover.

MAINTENANCE AND CARE

– ALWAYS KEEP THE MACHINE CLEAN –

AIR FILTER

- Check before every use.
- Remove filter cover.
 - Remove both screws.
- Brush off dust lightly or wash in a non-inflammable solvent if necessary. Dry well before reinstalling.



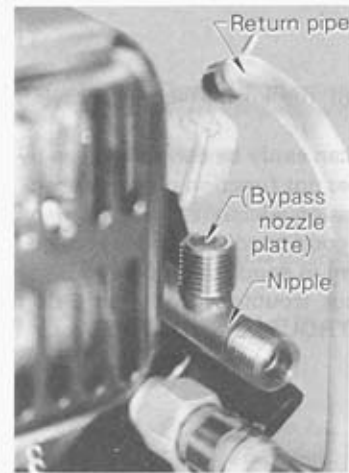
SPARK PLUG

- Clean or replace the plug if fouled with heavy or oily deposits. Replace the plug if the center electrode is worn or rounded at the end.
 - The standard spark gap is 0.6 ~ 0.7 mm (.024 ~ .028 in.).
 - Correct the spark gap if it is wider or narrower than the standard gap.
- Fastening torque = 145 ~ 155 kg-cm (125 ~ 135 in-lb).



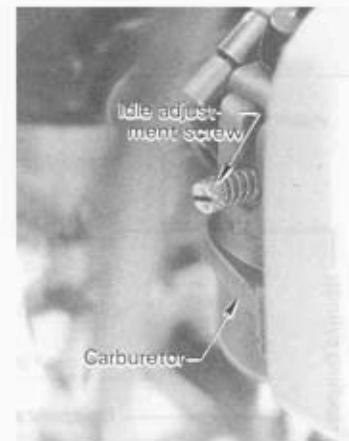
BYPASS NOZZLE PLATE

- Clean bypass nozzle plate, if liquid chemical is not well stirred-up in the tank.

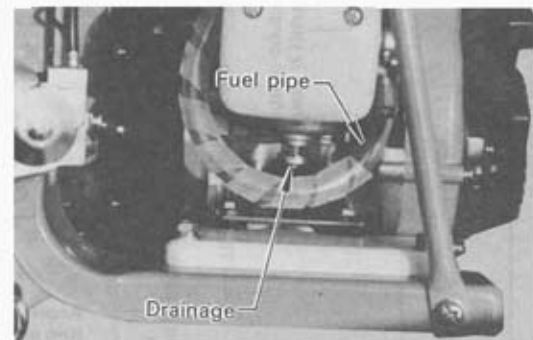


CARBURETOR

- Do not adjust the carburetor unless necessary.
- If idling adjustment is required, turn adjustment screw located at backpack side of carburetor.
 - When turning it counterclockwise, engine speed is reduced.

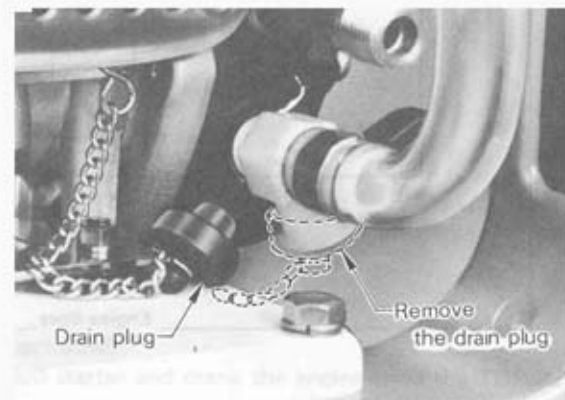


- When the machine is not to be used for a long time, drain fuel out from fuel tank and carburetor.
- To drain out fuel in the carburetor, Push Drainage of carburetor located at the bottom of float chamber as shown.



WHEN SPRAYING IS FINISHED

- Fill chemical tank with water and spray through nozzle for 2 ~ 3 minutes for cleaning.
- Drain water from the machine through misting nozzle and remove pump drain plug.
- Wipe off the liquid chemical on the machine after use.



TROUBLE SHOOTING

Poor performance of the engine and/or spraying 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

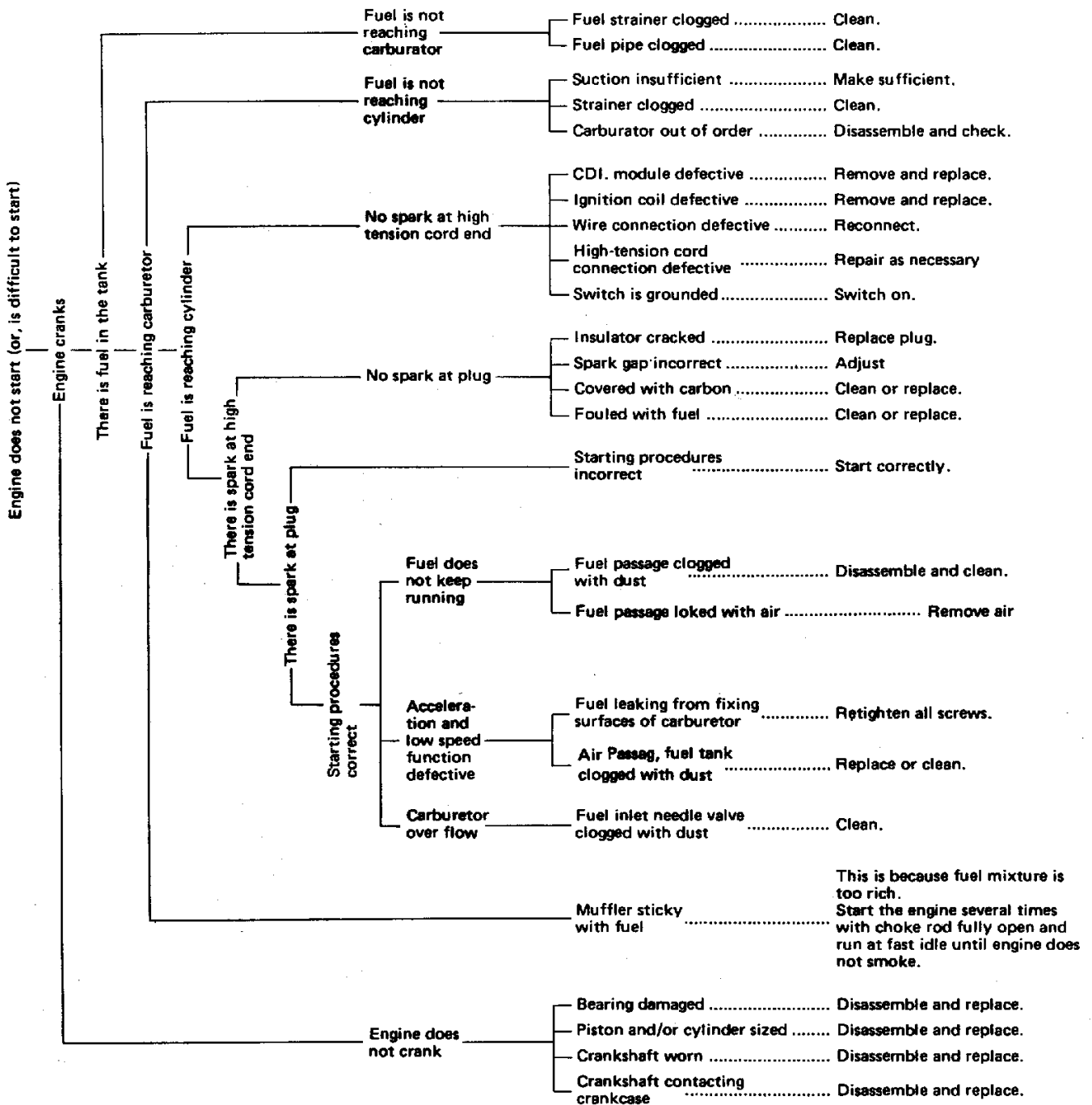
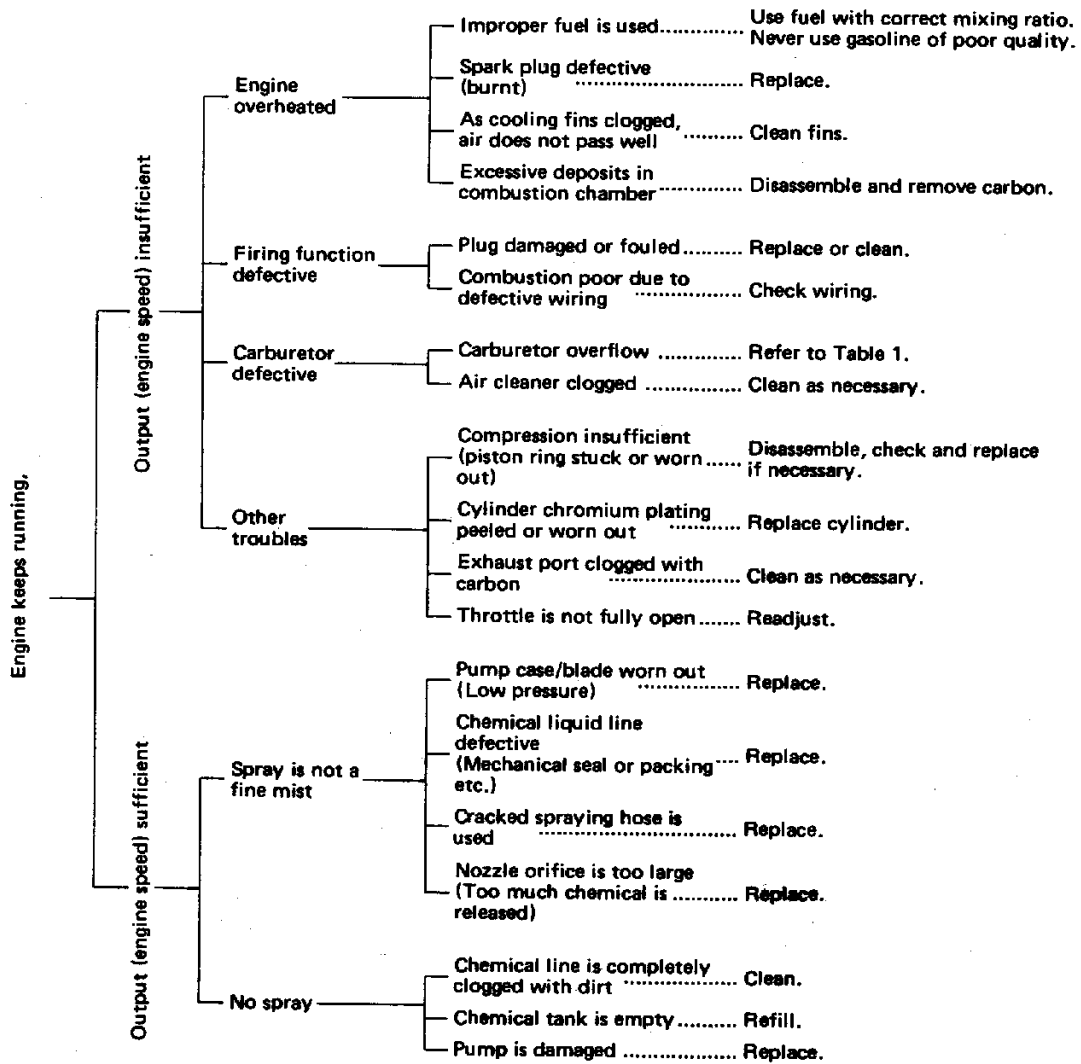


Table 2



STORAGE AFTER USE

- Drain remaining liquid out of the chemical tank.
- Inspect and adjust every part of the sprayer.
 - Completely clean every part, and repair, if necessary.
 - Apply thin coating of oil on metal parts to prevent rust.
 - Remove spraying hose and pipe.
- Drain fuel tank, pull starter slowly a few times to drain fuel from carburetor.
- Pour a small amount of clean motor oil into spark plug hole, pull starter and crank the engine until the TOP DEAD CENTER.
- Store in a dry area, free from dust.