

INSTRUCTION MANUAL



GASOLINE HOLE DIGGER

CE

To the user

Thank you for purchasing the LINEA HD auger. This manual has been compiled to give you a complete understanding of how to assemble, operate and store the equipment. Be sure to read this manual thoroughly before using your auger.

LINEA HD develops and perfects products on a continuous basis.

For this reason, you may find that some of the latest improvements to the actual product may be missing from this manual.

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A. Safety rules and precautions

**To ensure the safety of you and others,
READ the following precautions before using the equipment.**

Dress

1. Wear a long-sleeved shirt and long pants closed at the cuff.
2. Do not wear a neck-tie or other loosely dangling garments. Such articles may become entangled in the drill when working.
3. Wear protective goggles to protect eyes from flying objects.
4. Wear a work cap when working on flat ground and a helmet when working on slopes.
5. Wear work shoes equipped with no-slip tread.
6. Wear ear plugs or other adequate device to protect the ear drum from noise.

Environmental precautions

1. Do not work for long periods of time in summer and winter. Take breaks frequently.
2. Do not use the auger in the rain. The possibility of you slipping is increased when the ground is wet.
3. Do not use the auger indoors or in poorly ventilated places. EXHAUST IS POISONOUS.

Strictly NO FIRE

This equipment runs on gasoline.

1. Do not smoke or introduce live flames in the vicinity of the auger.
2. Do not remove the gas cap or refuel while the engine is running or hot.
3. Wipe the auger body dry of any spilled gasoline after refueling.
4. Ensure at least 3 m distance from fuel sources when starting the equipment up.
5. Keep flammables away from the muffler and the exhaust path.
6. Store fuel in approved containers only and keep in a cool place.

Checks before start-up

1. Check all bolts and nuts are securely tight. Tighten where necessary.
2. Check the cutting blades are well filed and void of chipping, cracking or bending
NEVER use a drill when damaged.
3. Use only shun yuan approved parts for repairs and maintenance.

Cautions during usage

1. Do not allow other persons within 5m of the worksite. It is DANGEROUS for pets and children to be near the equipment when operating.
2. Use caution when drilling through rock taden ground. This equipment may rotate in reverse.
3. It is DANGEROUS to use the auger in an awkward or uncomfortable position. Lay sturdy planks before starting, and word only when a safe posture is ensured.
4. Be sure to stop the engine before allowing persons to approach within 5m of the equipment. Make sure anyone approaching the auger approaches it from the front.
5. Always stop the engine and take the necessary cautions when suspending work or moving to another location.
6. Do not allow children or anyone who is unskilled in equipment usage, to operate the equipment.
7. Never touch then drill white the engine is running. Be sure the enging is off and the drill has stopped rotating before handting it.
8. Beware of the drill when rotating. Keep feet hands and other body parts, and clothes away from the drill.
9. Make sure the drill is completely still when placing it on the ground.
10. Tdle the engine when the drill is excessively loaded or when roiation has stopped.
11. When deep drilling, do not attempt to complete work in 1 stretch. Extract soil in 2 or 3 steps.

Precautions after usage

1. Before servicing the auger or making repairs. ALWAYS stop the engine, remove the plug cap from the spark plug, and allow the engine to cool down.
2. Before storing the auger, drain all remaining fuel and wipe the equipment clean of dirt and weeds. NEVER store the auger neat live flames.

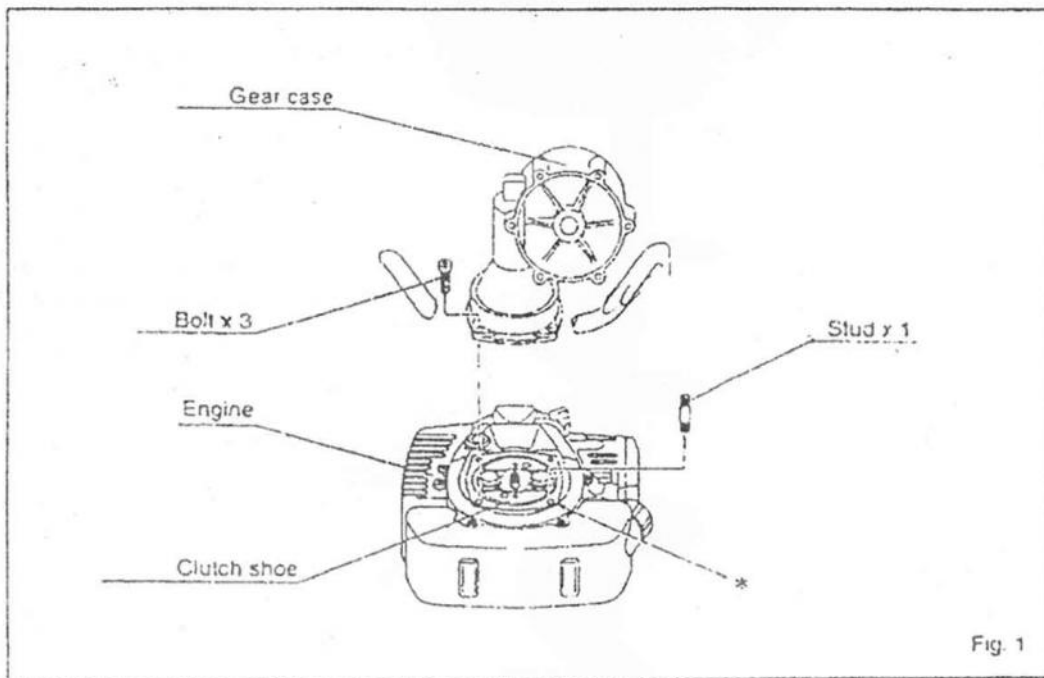


Engine Type:	air-cooled,2-stroke
Displacement:	52cc
Oil/gasoline mixing ratio:	1:25
Ignition:	CDI
Power:	1.7kw
Fuel Tank Capacity:	1.25L
Driller Diameter:	100mm/150mm/200mm
G.W/N.W:	14.4/12.4KG

C. Assembly

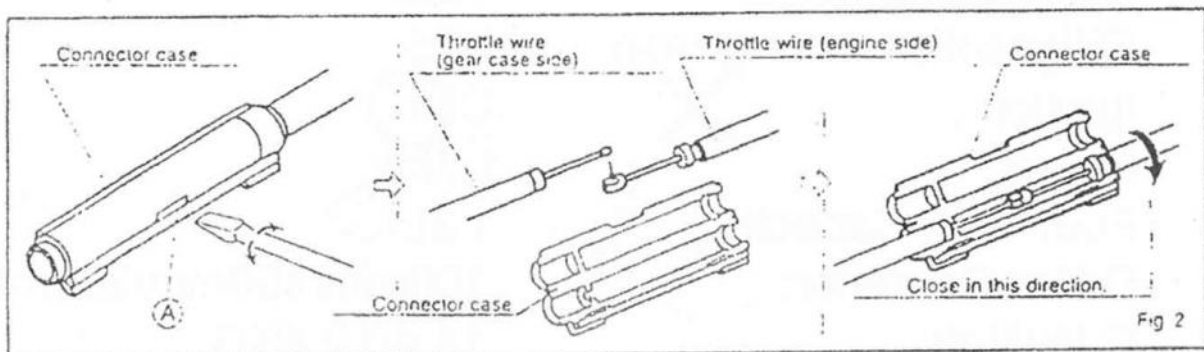
1. Gear case-to-engines(Fig.1)

- (1) Lay the engine on the ground with the clutch shoe facing upwards. Screw the stud into the *marked hole(1 spot only).
- (2) Set the gear case on the engine and loosely tighten the stud and nut.
- (3) Screw the other 3 bolts into the remaining 3 holes, then tighten all 4 bolts securely and evenly.



2. Throttle wire engine-to-gear case connection(Fig.2)

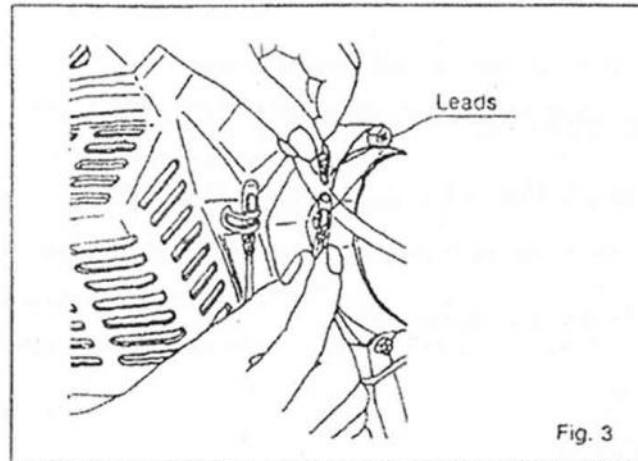
- (1) Work open the connector case using a slotted screwdriver at point A, and remove the case.
- (2) Connect the throttle wire end on the engine side to its counterpart on the gear case side.
- (3) Reattach the connector case.
- (4) Close the case securely.



3. Wiring leads(Fig.3)

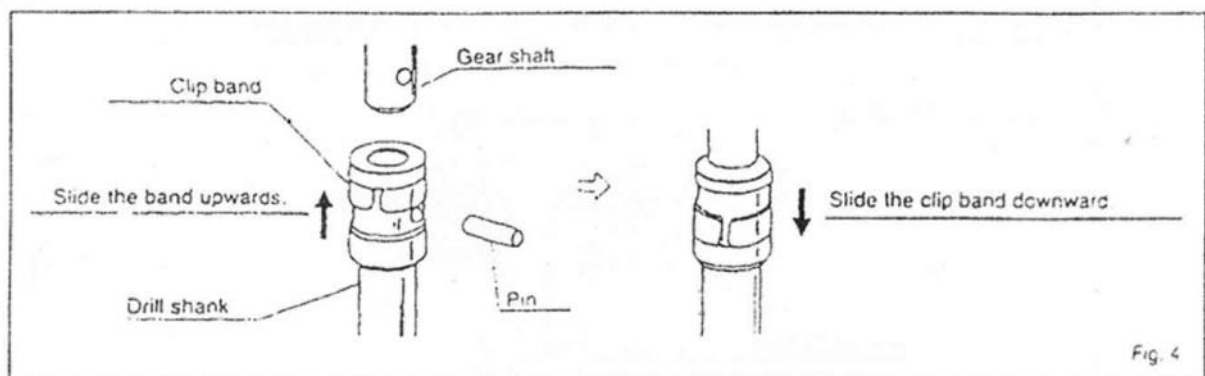
Connect the leads(x2)between the engine and gear case.

Make sure colors match and connections are securely tight.



4. Drill-to-gera case(Fig.4)

- (1) Slide the clip band upward and pull the pin out from its hole.
- (2) Align the pin holes on the gear shaft and drill shank, and insert the drill over the shaft.
- (3) Reinsert the pin through the pin holes and lower the band until covering the hole.



D. Before usage

1. Checks

- (1) Check parts are not loose nor missing.

This goes ESPECIALLY for the spark plug.

- (2) Check the air intake and outlet for clogging.

This auger uses an air-cooled engine. If the air passage is blocked, the engine may overheat.

- (3) Check the air cleaner is not dirty. A dirty air cleaner will cause the auger to consume more fuel during work.

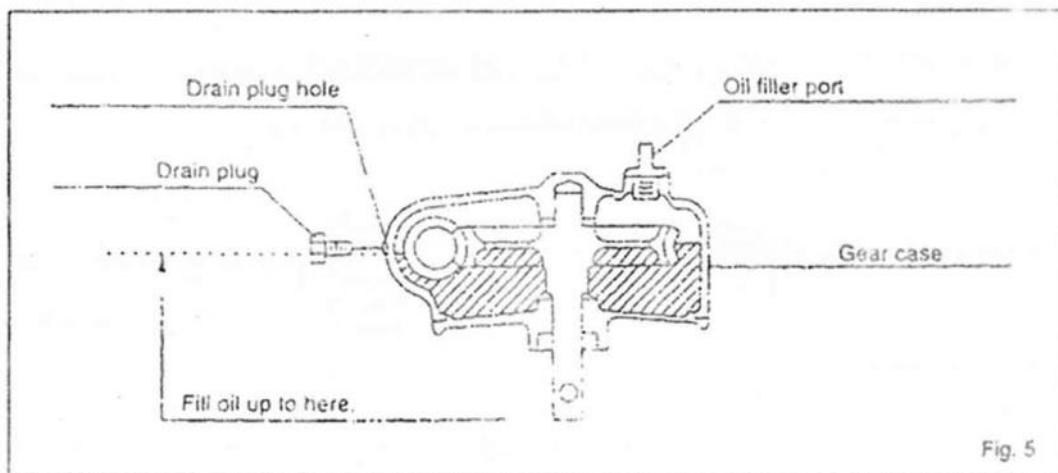
- (4) Check the spark plug is not dead.

2. Adding oil(Fig.5)

- (1) Change the oil once after the first 50 working hours and every 100 working hours thereafter. Change oil while the gear case is still warm.

- (2) Add 250 cc of oil. (SAE 80-90 gear oil)

- (3) Do not add oil past the drain plug hole. To determine oil level, stand the auger on the drill. Oil level should be at the bottom of the drain plug hole.



D. Motor

1. Preparations before starting the motor

- (1) Fill the tank with fuel. Use the mixture of gasoline composed of normal gasoline of automobile and our exclusive oil for two stroke motor.

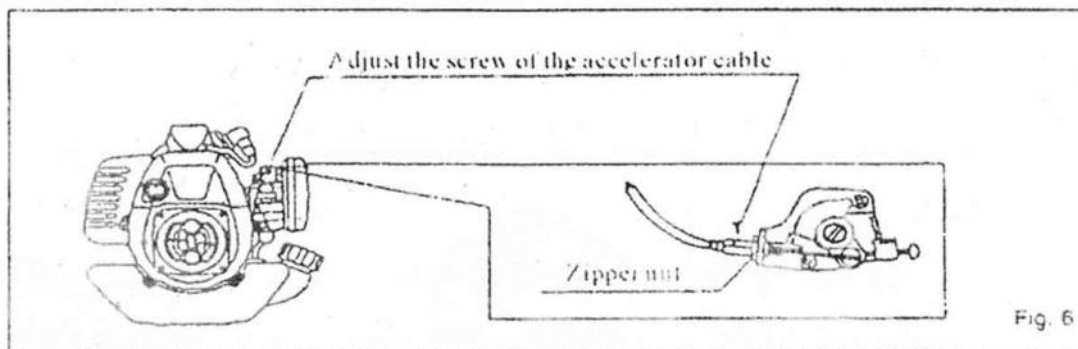
Gasoline, Mixture: exclusive oil for two stroke motor 25:1

Precaution:

- If you use the fuel with inadequate mixture of proportion it will result in insufficient power or incorrect functions of motor.
- Dry all the remained gasoline. It can stain your clothes or cause a fire

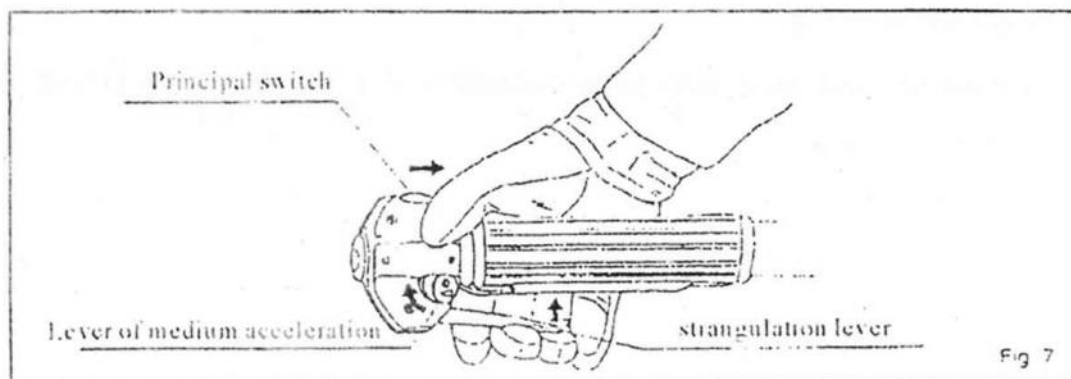
- (2) Cable regulator of accelerator(Fig.6)

Adjust the loosening band of cable of the accelerator until it is between 1.0 and 2.0mm. An excessive band will make the motor fail.

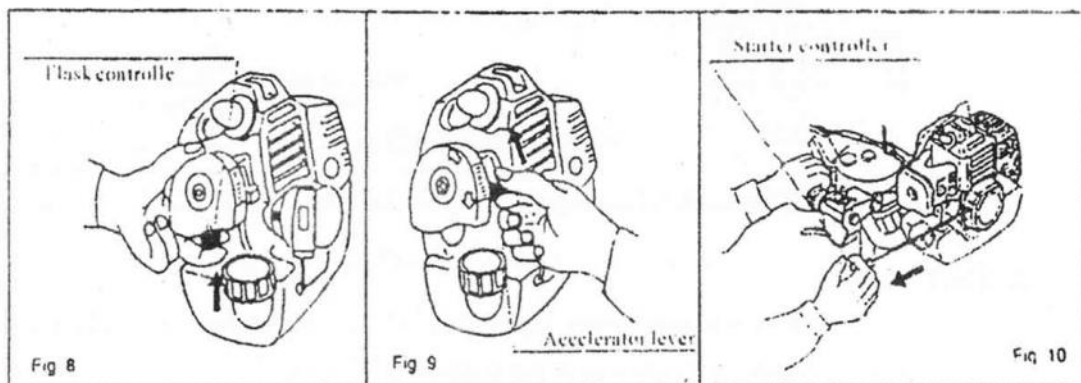


2. Start

- (1) Loosen the principal switch from the position STOP. The motor will not be pulled out while the principal switch is in the position STOP(Fig. 7)
- (2) Press the strangulation lever and move the lever of medium acceleration in the direction of the arrow(Fig.7)
- (3) Loosen the strangulation lever; this will lock the lever of medium acceleration in position. Now you can start the motor(Fig.7)



- (4) Beat the turn on? Button several times with the finger until the superior part is touched, in the form that you pump the fuel and a smooth start is ensured. (More than ten times) (Fig. 8)
- (5) Move the air lever until the completely closed position (marked side). When the fuel is ready and the motor is heated move the air lever until the completely opened position (marked side) (Fig. 9)
- (6) Grasp the starter controller and strongly pull it. (Fig. 10)
- (7) Once it is started watch the status or the condition of the motor and slowly move the accelerator lever until the completely opened position (marked side). When you hear the explosion sound while the motor does not go ahead move the accelerator lever until the completely opened position and strongly pull the starter controller again.
- (8) Once the motor has started slightly press the strangulation lever and loosen it.
The motor will work in minimum running.

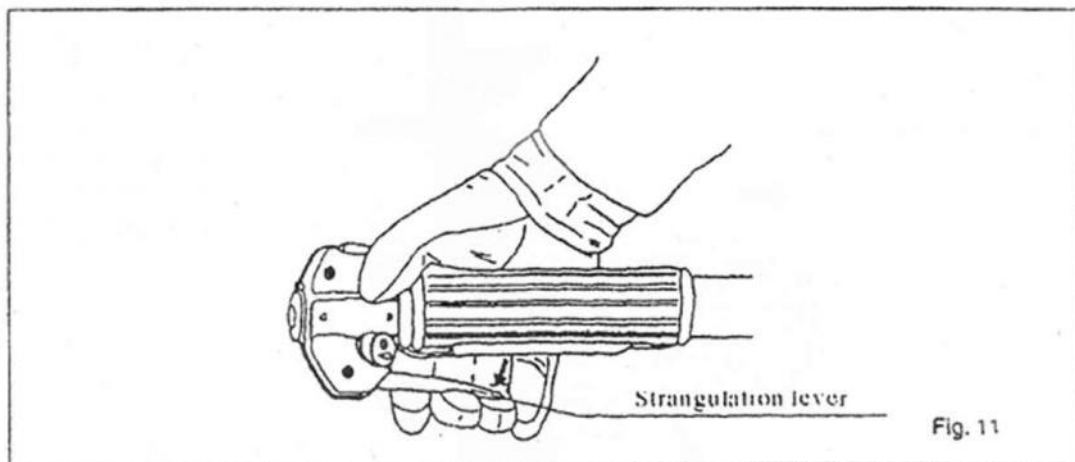


The motor is composed in the manner that the fuel goes back to the tank when it is in flask pump functions. Although the pump is constrained for a moment there will not be excessive fuel pumping

The pump must work sufficiently because if it is insufficiently working it will cause problems in the starter.

3. Functions(Fig.11)

- (1) Once the motor is running move the accelerator lever until the position of low speed and make the motor heated for about one minute. While the motor is being heated you will have a smooth acceleration.
- (2) Execute the task placing the accelerator lever in the required number of revolution per minute.



Precaution

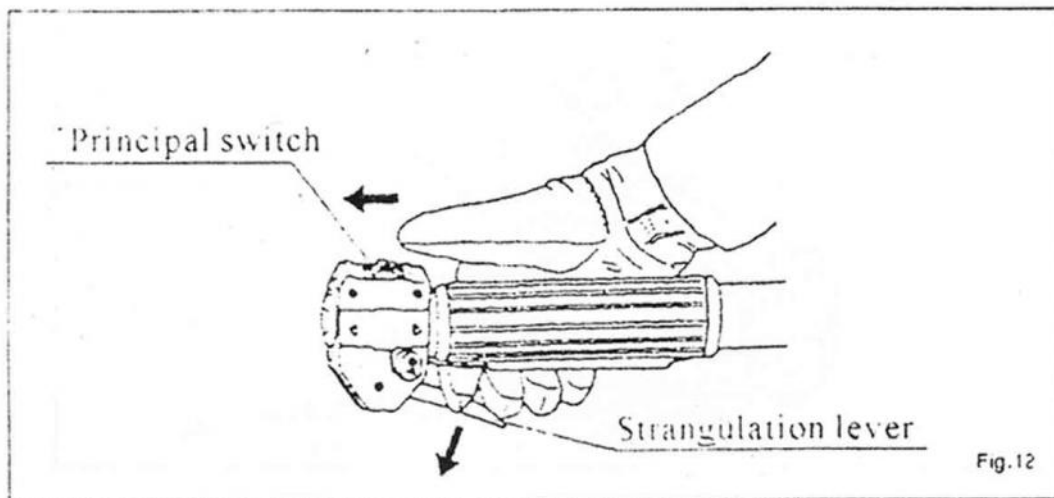
- If not all the parts of the motor have been well lubricated right after it begins to run avoid increasing the number of revolution per minute of the motor.
- When the accelerator is completely opened the number of revolution per minute of the motor is considerably elevated. This will not only exert a negative influence on the duration of motor but also makes it soaked. Do not enforce the motor (an excessively elevated number of revolutions per minute without load) and when you mount also avoid an unnecessarily elevated number of revolutions per minute.

4. Detention(Fig.12)

- (1) Loosen the strangulation lever and allow the motor to work in minimum running.
- (2) Adjust the principal switch to the position STOP. Fill the fuel tank before you use it up. It will be started more easily nex time.

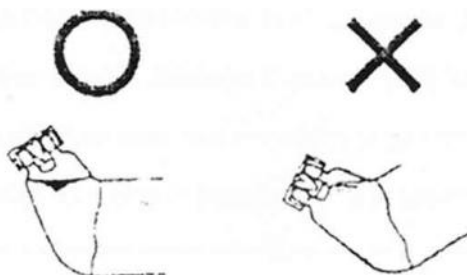
[Note]

When the next operation is not programmed clear up the fuel tank and start the running motor again to use up all the fuel of the carburetor.



Precaution

- As is shown in the illustration in the summer when you stop the motor to have a rest make sure that the interior packing of plug of the tank is not submerged in fuel. If the air hole is submerged in the fuel the fuel can be lost or filtered due to the larger internal pressure in the tank.
- During the working process and right after you park the motor do not touch the units of motor especially the muffler.



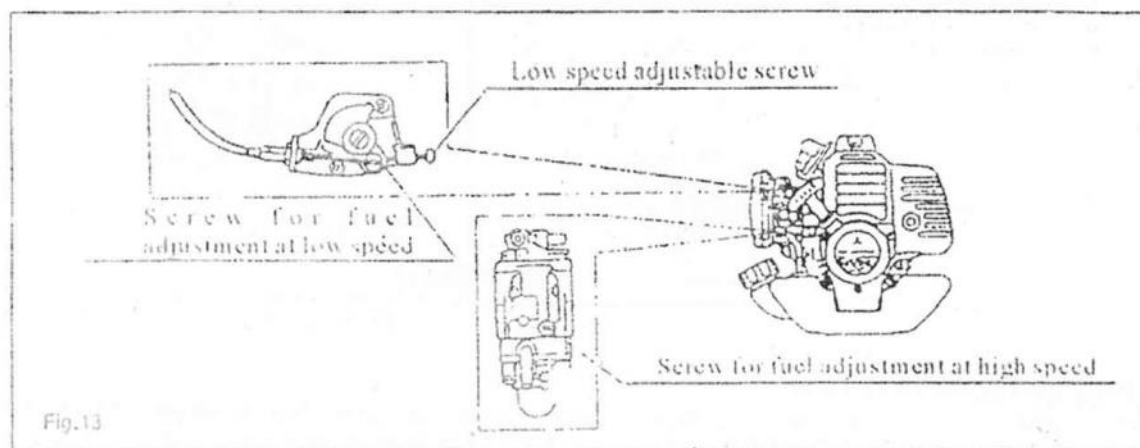
5. Adjust the carburetor (Fig.13)

- (1) The screw for adjusting fuel at low speed is standard. In order to have a revolution after the total closing revolve in the clock wise direction.
 - Revolve in the clock wise direction: the mixture of air and fuel is reduced
 - Revolve in the anticlockwise direction: the mixture of air and fuel is added
- (2) With the screw of adjustment at low speed adjust the low revolutions per minute
 - Turn to the right: increase the number of revolutions per minute
 - Turn to the left: decrease the number of revolutions per minute
- (3) In case that the motor is equipped with a screw of fuel adjustment at high speed:
 - Turn to the right: mixture of fuel-air becomes less
 - Turn to the left: mixture of fuel-air becomes richer or more intense

[Note]

Generally it is not necessary to adjust the carburetor because when the motor is out of factory is already in the best position.

If the mixture of fuel is adjusted to an extraordinarily poor level you can soak the motor or increase the minimum number of revolutions per minute which can cause body injuries when the machine is working.



6. Daily maintenance

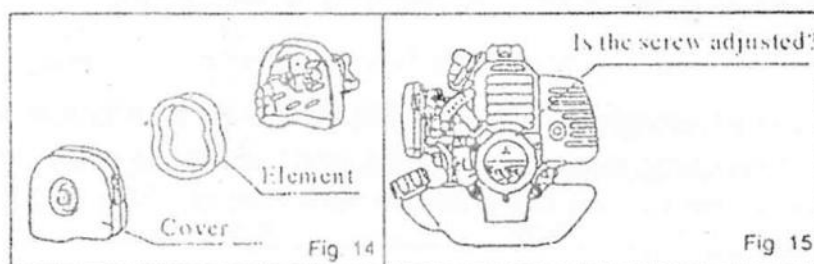
Clean the air filter

After cleaning the elements of air filter with gasoline use motor oil to soak it manually dry it well. (Fig.14)

Check the screw adjuster level

Periodically check the screws to assure that they are duly adjusted, and if they are loosened press them again. (Fig.15)

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7. Maintenance for every 50 working hours

Clean and adjust the spark plug

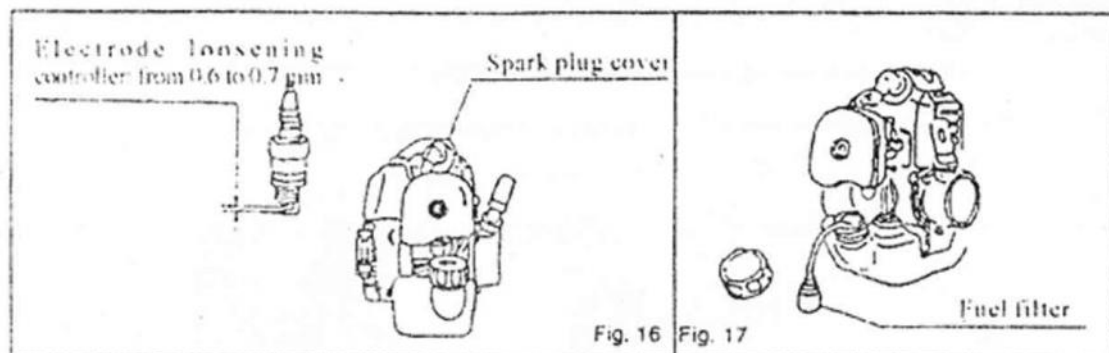
Eliminate the rest or sediment of electrode carbon and insulator. Adjust the distance between the electrodes from 0.6 to 0.7mm (about the thickness of three postal cards). When you locate the spark plug firmly press the plug of it. (Fig. 16)

Clean the fuel filter

With a steel cable or rope extract the filter from the hole of filled fuel and well clean it with gasoline. If it is very dirty change the fuel filter with a new one and also clean the fuel tank. (Fig. 17)

Eliminate the rest or deposit of carbon

Eliminate the rest or deposit of carbon from the entry and exit hole of the muffler, cylinder and piston. For this task you have to know the motor maintenance technology and dispose the necessary tools. Please contact the agents or service center soon.



8. Long term conservation

When you want to use the motor during more than one month keep and conserve it according to the following procedures in order that there are no trouble or deficient functions in the starting.

- (1) Clear up the fuel tank. Later run the motor and go on making it work until it is stopped because of the lack of fuel.
- (2) Clean the internal part of the fuel tank and the fuel filter with clean gasoline.
- (3) Extract the spark plug, infuse little amount of clean motor oil through the hole of the spark plug. After pull the starter for two or three times go back to locate the spark plug and stop the motor in the position of compression.
- (4) Clean the external parts of the motor with a cloth soaked in oil and leave the motor in a dry place away from fire heat.

Suggestions

If the motor is kept for long time with fuel in the interior the stain of fuel will block the fuel tube of the carburetor or the fuel filter, which will cause a less function of the motor. Always clear up the fuel when you want to keep it for a long time.

F. Maintenance, revision and conservation

(1) Before and after you use the motor revise it body and make maintenance operations when necessary. When you keep the motor in good conditions you can ensure a more efficient and safe operation.

(2) Check if there are loosened and lost parts. Press the loosened parts before you use the motor.

(3) When you keep the motor:

Completely clear up the fuel tank and restart the motor to burn the fuel left in the carburetor and in the fuel tube.

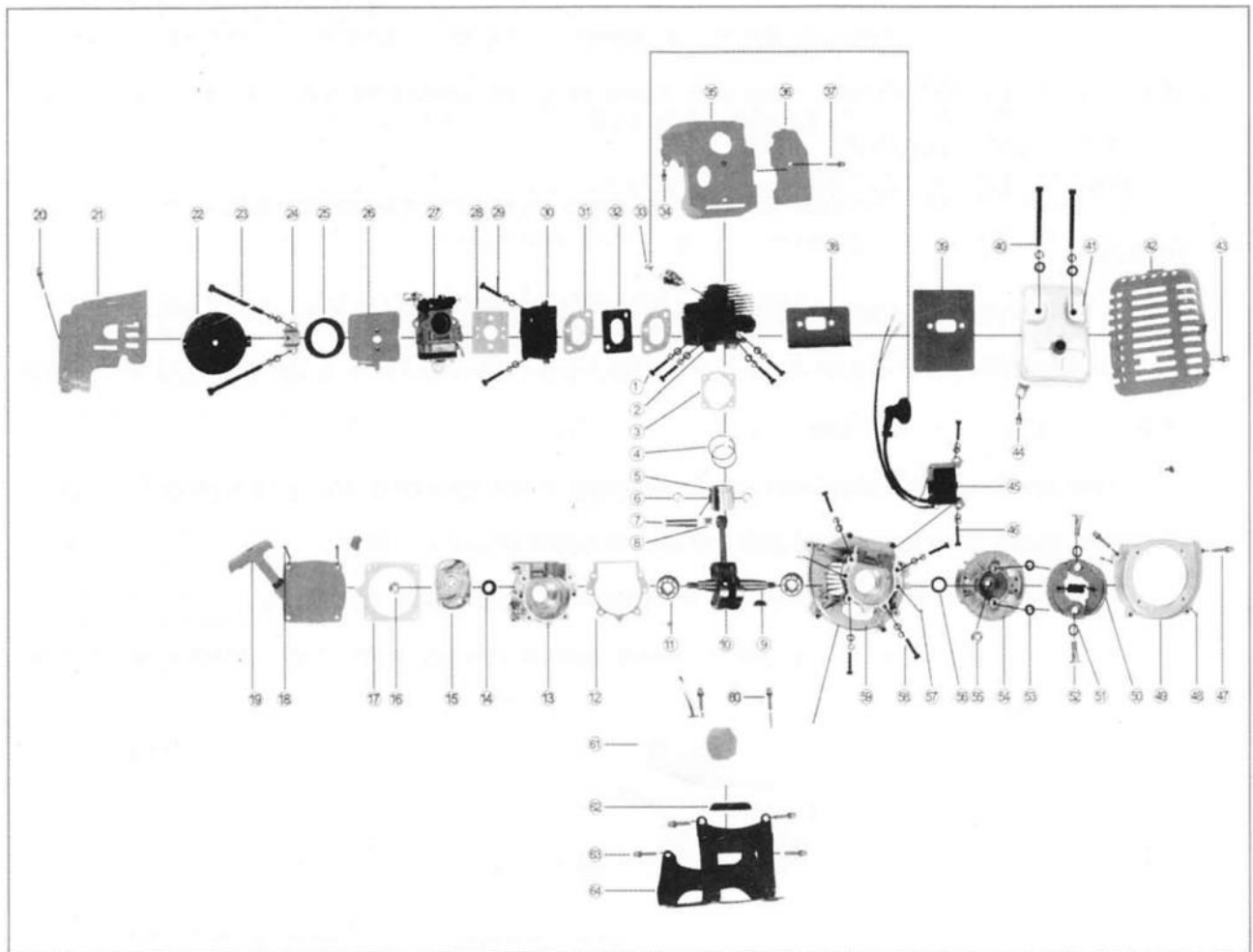
- Remove the spark plug and use an oil cape in the interior of the spark plug hole. Later install the spark plug again and pull the starter cable until it is tensed.

- Review the air filter. Dismantle it for cleaning. Before you install dry it.

- Keep the motor in a dry place. Make sure it is kept from dust. Always repair the damaged parts.

Suggestion

If the motor is kept for a prolonged time without clearing up the fuel tank the sediment of fuel will obstruct the pass of fuel in the carburetor and in the fuel filter. It will cause malfunction of the motor. In that sense, always make sure that you completely clear up the fuel before you keep the motor.



No. Description

1	screw	19	start assy	54	fly wheel
2	cylinder	21	outside cover	61	fuel tank
3	gasket	22	inside cover		
4	piston ring	25	filter net		
5	piston	27	carburetor		
6	ring	28	gasket		
7	piston pin	30	admitting pipe		
8	needle bearing	33	spark plug		
10	crankshaft	35	cylinder clothing		
11	6202 bearing	36	cylinder cover		
12	gasket	38	gasket		
13,59	crank case	41	muffler		
14,56	oil seal	42	muffler cover		
15	start reel	45	ignition		
17	gasket	50	clutch		