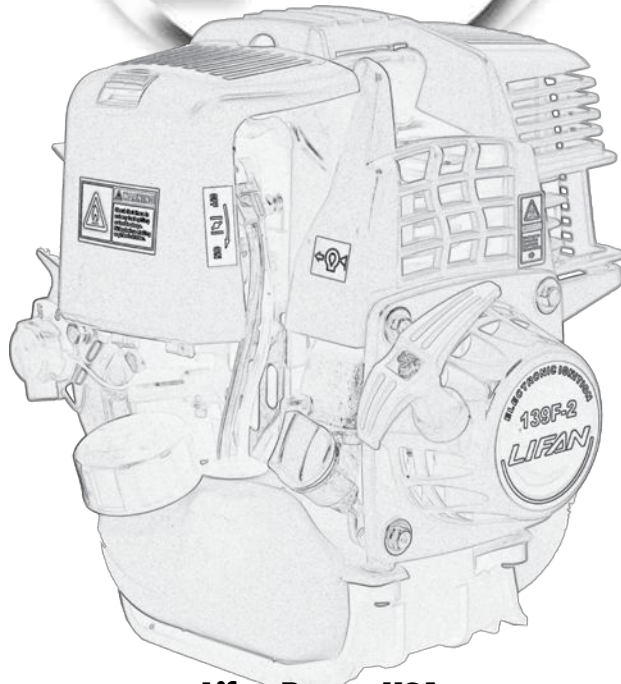


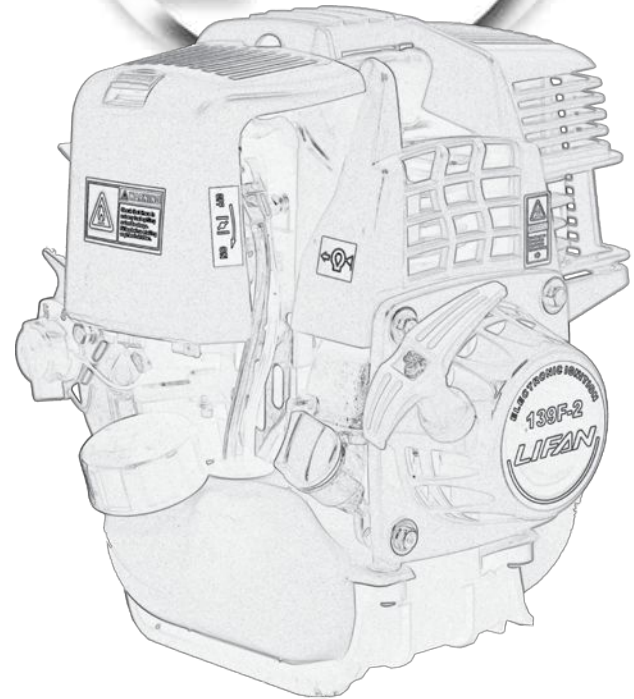
**LIFAN  
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866-471-7464**

**LIFAN  
POWER  
USA**



**LF-139F ENGINE  
OWNERS' MANUAL**

# PREFACE

Thank you for choosing a Lifan Power USA gasoline engine,

Based on the latest engine technology at home and abroad, our company has individually developed general gasoline engines with 4-stroke single cylinder, OHV and forced-air cooling.

Featuring advanced design, reliable performance, low noise, low vibration, the ability to work at any angle, it is an ideal engine for small water pumps, generators, brush cutters, scooters, garden machines, and more. It is widely applicable to portable or hand-held mechanical terminal products.

The manual gives information with respect to operation and maintenance of your new engine. Please read it carefully first before operating. To extend the service life, users should strictly follow the stipulations stated in the manual to carry out operation and maintenance.

All the materials and diagrams of this manual are in accordance in this manual may be a little different from the actual appearance. The material in this manual is copyrighted by Lifan Power USA, and it is forbidden for any group or individual to reprint or copy any it.

The manual is subject to change without notice.

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## IMPORTANT NOTICES

Please read the Manual carefully before operating the engine.  
Please pay special attention to statements preceded by the following words:



A warning is used to alert the user to fact that hazardous operation and maintenance procedures may result in injury to or death of personnel if not strictly observed.



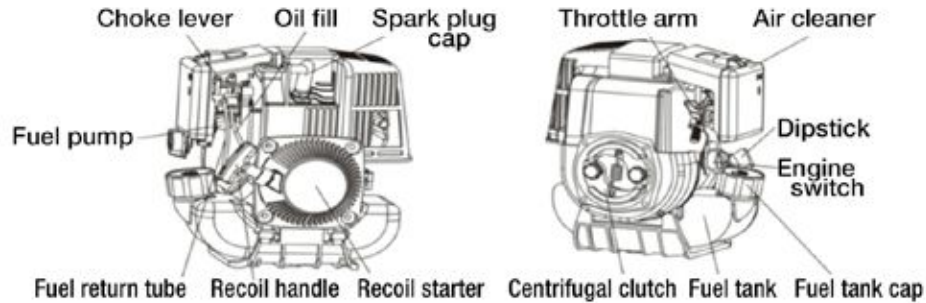
A caution is used to alert the user to fact that hazardous operation and maintenance procedures may result in injury to or death of personnel if not strictly observed.

**NOTE**  
Gives helpful information.

This manual should be considered as a permanent part of the unit and should remain with the unit when resold.

# SAFETY PRECAUTIONS

Structure outline for 139F general gasoline engine (Fig. 1).



Please read the manual carefully before operating the engine to avoid any accident.

1. Do not start the gasoline engine at full load. Start only after installing on an application or tool to avoid injury.
2. Know operation and emergency shutdown methods before using the engine.
3. Do not touch the spark plug and plug wire when the gasoline engine is running to avoid shock.
4. Always make a pre-operation inspection before you start the engine. You may prevent an accident or equipment damage.
5. Keep children and pets away from the area of operation due to a possibility of burns from hot engine components or injury from any equipment the engine may be used to operate.
6. Know how to stop the engine quickly, and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.
7. Do not place flammable objects such as gasoline, close to the engine while it is running.
8. Refuel in a well-ventilated area with the engine stopped.
9. Do not overfill the fuel tank. There should be no fuel in the filler neck.
10. After refueling, make sure that the filler cap is tightened securely.

11. If any fuel is spilled, clean it up completely and make sure the area is dry before starting the engine.
12. Do not smoke or allow flames or sparks in the area where gasoline is stored or where the fuel tank is refueled.
13. Never run the engine in an enclosed area. The exhaust contains poisonous carbon monoxide (CO) gas that can cause loss of consciousness and lead to death.
14. The exhaust muffler is very hot during running the engine even after the engine stops. Never touch it, or you may get burns. Transport or store the engine only after the engine has cooled completely.

## PRE-START PRECAUTIONS

1. Engine oil level check.

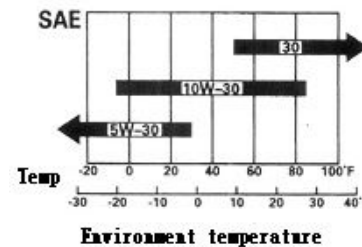


Fig.2

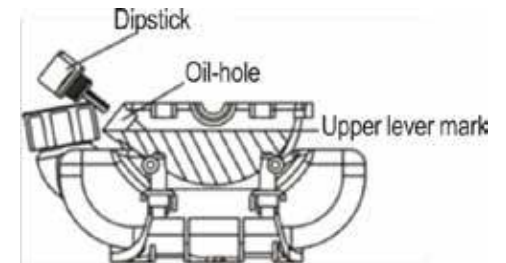


Fig.3

2. Check all the fasteners for connection, and check all the moving parts for reliable and normal connection

**NOTE:** Engine oil of the gasoline engine is a key factor affecting its performances and life.

Engine oil is a key factor in deciding the engine's performance. Do not apply engine oil with additives or 2-stroke gasoline oil, since they do not properly lubricate the engine, which will shorten its service life.

Engine oil recommended: SAE10W-30 (Fig.2)

As viscosity varies with regions and temperatures, so select the lubricant in a accordance with the attached chart.

Procedure for check should be taken as follows:

1. Ensure that the engine is stopped and on level ground.
2. Remove the dipstick and clean it.
3. Reinsert the dipstick into the oil filler without screwing it in, and check oil level. (Fig.3)
4. If the oil level is too low, add the recommended engine oil to the oil filler neck.
5. Reinstall the dipstick.



1. Check the engine with it stopped and on level ground.
2. Starting or running the engine with insufficient engine oil may damage the engine severely.
3. Incorrect type of engine oil or contaminated engine oil filled will shorten the service life of the gasoline engine.

#### Fuel and fuel tank

1. Fuel
  - a. Remove the fuel filler cap and check fuel level.
  - b. If the fuel level is too low, refuel the tank. Remember: do not overfill the fuel tank.

Always fuel the tank with unleaded gasoline or low-leaded gasoline. Using unleaded gasoline will decrease the possibility of producing carbon deposit and prolong the engine's service life.

Never use an oil/gasoline mixture or dirty gasoline. Avoid getting dirt, dust or water in the fuel tank.

2. Fuel tank  
Fuel tank capacity: 0.9 liters



1. Gasoline is extremely flammable and is explosive under certain conditions. Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where gasoline is stored or where the fuel tank is refueled.
2. Do not overfill the tank (there should be no fuel in the filler neck). After refueling, make sure the fuel tank cap is screwed back on securely.
3. Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry enough before starting the engine.
4. Avoid repeated or prolonged contact with skin or breathing of fuel vapor.
5. Keep out of reach of children.

#### Air cleaner

Check the filter element for dirt, and clean or replace it if necessary.



Never run the engine without an air cleaner, or damage to the engine will occur.

## STARTING THE ENGINE

1. Start the engine as follows:

1. Push the engine switch to “ON”.
2. Push the choke lever to the START position.

**NOTE:** If the engine is warm or the air temperature is high, closing the choke is unnecessary.

3. Press the primed pump of the carburetor until gasoline can be seen in the fuel return tube.
4. Pull slightly the starting rope handle up until you feel resistance, and then make a rapid pull.



After recoil starting the engine, release the handle slowly, conforming with its recoiling force.

2. Operation

1. After starting the gasoline engine, place the choke lever in the “RUN” position for 3-5 minutes at low speed.
2. After warming up the gasoline engine, regulate the throttle lever to reach the required working RPM or speed.

**NOTE:**

1. Do not increase the engine load immediately after starting, to avoid abnormal wear and damage to the engine.
2. Avoid idling at high speed and overrevving.

3. Stop

In an emergency, push the engine switch to “OFF” to stall the engine. For non-emergency stops, follow this sequence:

1. Decrease the speed of the gasoline engine to idle for 3 ~ 5 minutes at low speed.
2. Push the engine switch to “OFF”.

**NOTE:** Do not perform emergency shutdown when the engine is operating at high speed with a large load to avoid damaging the engine.

## MAINTENANCE

Periodic inspection and adjustment of the engine is essential if high level performance is to be maintained. Regular maintenance will also ensure a long service life. The required service intervals and the kind of maintenance to be performed are described on the table below.

Item		Frequency		Each time	Initial 1 month or 10 Hrs	Every 3 month or 25 Hrs	Initial 6 month or 50 Hrs	Every 1 years or 100 Hrs
		Each time	Initial 1 month or 10 Hrs					
Engine oil	Oil level check	√						
	Replace		√		√			
Air cleaner	Check	√						
	clean - Replace				√ (note 1)			
All bolts and nuts	Check (tighten in case of looseness)	√						
Radiating fin	Check - clean						√	
Spark plug	Check - adjust						√	
Valve clearance	Check - adjust							√ (note 2)
Idling	Check - adjust							√
Fuel Tank	clean							√
Fuel Filter	Check							√

**NOTES:**

1. The engine should be serviced more often than every 10 hours of run time if used in a dusty environment, and air cleaner cleaned after each use.
2. Service should be done by your dealer unless you are specially trained and equipped to perform service or repairs.

## 1. Replacement of engine oil

Changing oil when the engine is warm is helpful to drain the engine oil in the crankcase.

1. Unscrew the dipstick to discharge oil.
  2. Fill the specified engine oil to the upper lever mark.
  3. Assemble the dipstick and screw it back in.
- Engine oil capacity: 0.1 liters.



Drain the engine oil into an approved receptacle and discard in accordance with all Federal and State regulations. Never dump your used engine oil on the ground or into drains, only discard in an approved manner. Check with your local authorities to determine the regulations in your area.

**Warning! Avoid splashing of hot oil.  
It can burn you and cause severe injury.**

## 2. Service of Air Cleaner

Damaged or excessively air filter may cause dust to enter the engine and then cause excessive wear, so timely maintenance is necessary for the air filter.

1. Remove the air filter cover, and pay attention to preventing dust and debris from falling into its bottom cover.
2. Remove the foam air filter element.
3. Check, clean or replace the contaminated foam of the air filter.
4. Install the parts to their original positions.

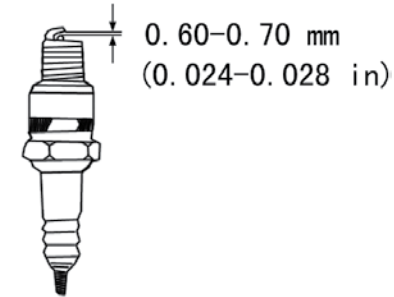


Never clean the air cleaner core with gasoline or low flash-point detergents; an explosion could result.

## 3. Spark Plug

Proper spark plug clearance ensures the engine's normal running under no deposit around the spark plug.

1. Remove the spark plug and clear any debris around it.
2. Remove the spark plug by means of a spark plug wrench.
3. Clean the spark plug with a steel brush. If the insulator is damaged, replace the spark plug instead.



4. Measure the spark plug clearance with a feeler gauge. The clearance should be 0.7~0.8mm (Fig. 4). If adjustment is necessary, bend the side electrode carefully.
5. Check if the spark plug gasket is in good condition, or replace with a new one. Screw the spark plug onto the bottom first by hand, and then tighten it up with a spark plug wrench.
  - If a new spark plug is used, twist 1/2 more turns after impacting the gasket.
  - If reinstalling the original plug, just twist 1/8~1/4 more turns.



The spark plug must be tightened securely.

Please use the recommended spark plug or its equivalents, because incorrect calorific value range of the spark plug may cause damage to the engine.

#### 4. Fuel filter inspection

- a. Always check the fuel filter/strainer located inside and under the fuel fill cap.
- b. Shake out any debris and clean with a non-flammable solution, or replace it.

## TRANSPORTATION & STORAGE



When moving the engine, securely fasten the fuel tank cap to prevent the fuel from spilling.

If the engine needs to be stored for a relatively long time, do the following:

1. Store in a location that is dry and has good ventilation.
2. Drain the fuel and engine oil completely.
  - a. Securely tighten the oil fill (dipstick) cap.
  - b. Press the prime pump of the carburetor until the fuel inside the carburetor flows back to the fuel tank completely, remove the fuel tank cap, drain the fuel inside the fuel tank, and tighten up the fuel tank cap.
  - d. Remove the oil level gauge and drain off the engine oil.
3. Remove the spark plug, fill about one spoon of clean engine oil into the cylinder block through the spark plug hole, gently pull the recoil starter for several times to distribute the oil, and then re-install the spark plug on the engine and tighten the plug.
4. Slowly pull the starting handle until you feel resistance to close the valve to prevent engine contamination.
5. Clear the cooling fins on the surface of the engine, and wrap the engine with a plastic bag to prevent contamination.

## TROUBLESHOOTING

Trouble	Cause	Troubleshooting Method
Difficult start of gasoline engine	Non-closed choke valve	Close the choke valve
	No fuel inside the fuel tank	Fill the fuel
	No fuel inside the carburetor	Press the prime pump of the carburetor for several times
Failure to operate at high speed after the gasoline engine is started	Too large clearance, carbon deposit, breakdown or electric leakage of the spark plug	Adjust the clearance of the spark plug, clean the carbon deposit or replace the spark plug
	Not fully opened choke valve	Fully open the choke valve
	Not fully opened accelerator	Open the accelerator fully
Insufficient power of gasoline engine	Too large or too small valve clearance	Adjust valve clearance
	Contaminated foam of air filter	Clean or replace foam of air filter
	Blocked exhaust port and muffler by carbon deposit	Remove the carbon deposit

NOTE: If you still cannot solve the problems as above mentioned, please contact your distributor.

# SPECIFICATIONS

## 1. Main Specifications

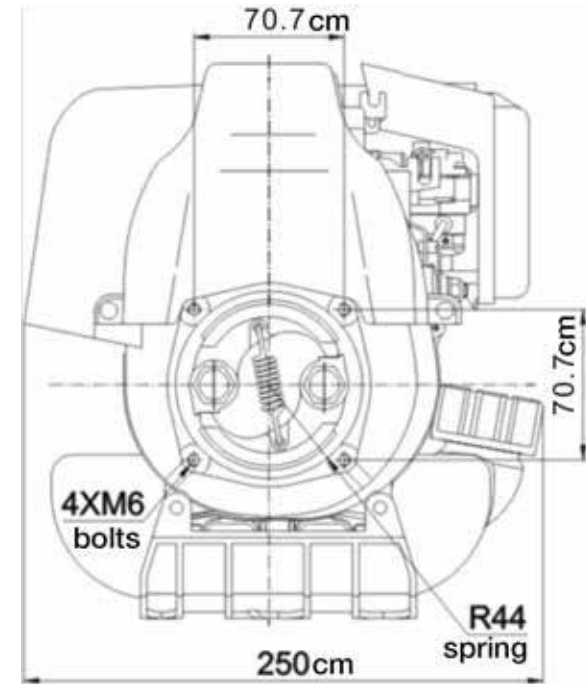
Item	Model	139F	139F-2
Engine type	4-stroke OHV single-cylinder gasoline engine with forced air-cooled		
Bore × Stroke(mm)		39×26	39×29
Displacement (cm <sup>3</sup> )		31	34.6
Compression Ratio	8.2:1		
Max. power output (kW/r/min)		0.5/6500	0.8/6500
Max. torque (N·m /r/min)		0.8/5000	1.2/6500
carburetion	Pumping diaphragm type		
Ignition system	TCI		
spark plug	A5RTC		
Start Model	Recoil and hand-operated		
Fuel tank capacity(L)	0.75		
Fuel consume. (g/kWh)		450(330g/psh)	485(330g/psh)
Oil capacity	3 ounces		
Net weight	8 lbs.		
Rotating speed of clutch	4000±150rpm		

## 2. Data Relating To Adjustment

Item	Data
Spark plug clearance	0.60~0.70mm
Carburetor idling	3100±100rpm
Valve gap(cold engine)	Intake:0.05~0.1mm Exhaust: 0.05~0.1mm

NOTE: Technical data vary with type of engine, therefore, they are subject to change without notice.

# ENGINE MOUNTING DIMENSIONS



All dimensions in centimeters

