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Lifan LF168F2BQ

Lifan LF168F-2BQ 6.5 HP Gas Engine User Manual

Model: LF168F-2BQ | Brand: Lifan

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1. PRODUCT OVERVIEW

The Lifan LF168F-2BQ is a 6.5 HP, 196cc, 4-stroke OHV industrial-grade gas engine designed for dependable performance across various applications. This engine features a recoil start and a universal mounting pattern, making it suitable for pressure washers, air compressors, trenchers, concrete mixers, concrete saws, mortar mixers, go-karts, and more. It is built with robust components like cast iron sleeves, automotive-grade rods, pistons, rings, crankshafts, and camshafts to meet and exceed industrial quality standards.



Figure 1: Lifan LF168F-2BQ 6.5 HP Gas Engine. This image shows the engine from a side view, highlighting the recoil starter, air filter housing, and fuel cap. The engine is black with yellow accents on the fuel cap and recoil handle.

2. SAFETY INFORMATION

Always prioritize safety when operating or maintaining the engine. Failure to follow safety instructions can result in serious injury or property damage.

- **Read the Manual:** Thoroughly read and understand this entire manual before operating the engine.
- **Ventilation:** Operate the engine in a well-ventilated area. Engine exhaust contains carbon monoxide, a colorless, odorless, poisonous gas.
- **Fuel Safety:**
 - Store fuel in an approved container in a well-ventilated area.
 - Do not refuel while the engine is running or hot.
 - Avoid spilling fuel. If spilled, wipe it up immediately and allow fumes to dissipate before starting the engine.
 - Do not smoke or allow open flames near the engine or fuel.
- **Hot Surfaces:** The engine and muffler become very hot during operation and remain hot for a period after shutdown. Avoid contact to prevent burns.
- **Moving Parts:** Keep hands, feet, and clothing away from moving parts such as the flywheel, recoil starter, and any attached equipment.
- **Electrical Safety:** Ensure all electrical connections are secure and free from damage. Do not operate the engine in wet conditions.
- **Children and Pets:** Keep children and pets away from the engine, especially during operation.

- **Personal Protective Equipment (PPE):** Wear appropriate PPE, including safety glasses, gloves, and hearing protection, when operating or servicing the engine.

3. SETUP AND PRE-OPERATION

Before starting the engine, perform the following checks and procedures:

1. **Mounting:** Securely mount the engine to a stable, level surface using the universal mounting plate. Ensure all bolts are tightened to the manufacturer's specifications.
2. **Add Engine Oil:**
 - The engine is shipped without oil. Fill the crankcase with the recommended type and amount of engine oil (refer to specifications for oil type and capacity).
 - Place the engine on a level surface.
 - Remove the oil filler cap/dipstick.
 - Slowly add oil until it reaches the upper limit mark on the dipstick or the edge of the filler hole.
 - Replace the oil filler cap/dipstick securely.
3. **Add Fuel:**
 - Use fresh, unleaded gasoline with an octane rating of 87 or higher.
 - Ensure the engine is off and cool before refueling.
 - Open the fuel tank cap and slowly add fuel, being careful not to overfill. Leave space for fuel expansion.
 - Securely replace the fuel tank cap.
4. **Air Filter Check:** Ensure the air filter is clean and properly installed. Refer to the maintenance section for cleaning instructions.
5. **Spark Plug:** Check that the spark plug wire is securely connected to the spark plug.

4. OPERATING INSTRUCTIONS

4.1 Starting the Engine (Recoil Start)

1. **Fuel Valve:** Turn the fuel valve to the "ON" position.
2. **Choke Lever:** If the engine is cold, move the choke lever to the "CLOSED" or "CHOKE" position. If the engine is warm, the choke may not be necessary.
3. **Throttle Lever:** Move the throttle lever slightly to the "FAST" position (about 1/3 of the way).
4. **Engine Switch:** Ensure the engine switch is in the "ON" position.
5. **Recoil Starter:** Grasp the recoil starter handle firmly. Pull the handle slowly until you feel resistance, then pull it quickly and smoothly with a full arm stroke. Do not let the handle snap back; guide it gently. Repeat until the engine starts.
6. **Choke Adjustment:** Once the engine starts, gradually move the choke lever to the "OPEN" or "RUN" position as the engine warms up.

4.2 Stopping the Engine

1. **Throttle Lever:** Move the throttle lever to the "SLOW" or "IDLE" position.
2. **Engine Switch:** Turn the engine switch to the "OFF" position.
3. **Fuel Valve:** Turn the fuel valve to the "OFF" position to prevent fuel from flowing to the carburetor during storage.

5. MAINTENANCE

Regular maintenance is crucial for the longevity and optimal performance of your engine. Always ensure the engine is off and cool before performing any maintenance.

5.1 Maintenance Schedule

Item	Every Use	Every 25 Hrs / Monthly	Every 50 Hrs / 3 Months	Every 100 Hrs / 6 Months	Every 300 Hrs / Annually
Check Engine Oil Level	✓				
Clean Air Filter		✓ (more often in dusty conditions)			
Change Engine Oil			✓		
Check Spark Plug			✓		
Clean Fuel Filter				✓	
Inspect Fuel Lines				✓	
Clean Combustion Chamber					✓

5.2 Air Cleaner Maintenance

The air cleaner is crucial for preventing dirt and debris from entering the engine. Regular cleaning ensures optimal performance and engine life.

- Clean the air cleaner core once every 50 hours of operation. In unusually dusty conditions, clean every 10 hours.
- Clean the foam filter element with household detergents.
- Clean the paper filter element by gently knocking it against a solid surface or by blowing out dust with high-pressure air flow.
- **Do not clean the air filter with a brush.**

5.3 Engine Oil Change

Change the engine oil after the first 20 hours of operation, then every 50 hours or 3 months thereafter.

1. Run the engine for a few minutes to warm the oil, then shut it off.
2. Place a suitable container under the oil drain plug.
3. Remove the oil filler cap/dipstick and the oil drain plug. Allow the oil to drain completely.
4. Reinstall the oil drain plug and tighten it securely.
5. Refill the crankcase with the recommended amount and type of new engine oil (refer to specifications).
6. Replace the oil filler cap/dipstick.

5.4 Spark Plug Inspection

Inspect the spark plug every 50 hours or 3 months.

- Remove the spark plug cap and then remove the spark plug using a spark plug wrench.
- Check for carbon deposits, discoloration, and electrode wear. Clean or replace as necessary.

- Ensure the spark plug gap is set correctly (refer to specifications).
- Reinstall the spark plug and tighten it to the specified torque. Reconnect the spark plug cap.

6. TROUBLESHOOTING

This section provides solutions to common operational issues. For problems not listed here, contact customer support.

Problem	Possible Cause	Solution
Engine will not start	No fuel or low fuel level Engine switch OFF Fuel valve OFF Choke not set correctly Low engine oil (low oil shutdown activated) Dirty spark plug Clogged fuel filter	Add fresh fuel Turn engine switch to ON Turn fuel valve to ON Adjust choke lever Check oil level and add oil if necessary Clean or replace spark plug Clean or replace fuel filter
Engine runs rough or stalls	Stale or contaminated fuel Dirty air filter Improper spark plug gap Carburetor issues	Drain old fuel and refill with fresh fuel Clean or replace air filter Adjust spark plug gap or replace plug Contact service professional for carburetor inspection
Loss of power	Dirty air filter Incorrect engine oil level Spark plug issues	Clean or replace air filter Check and adjust oil level Inspect and service spark plug

7. SPECIFICATIONS

- **Model:** LF168F-2BQ
- **Engine Type:** 196cc, 4-Stroke, OHV, Single Cylinder
- **Horsepower:** 6.5 HP
- **Start System:** Recoil Start
- **Shaft Type:** 0.75" Keyway Shaft
- **Fuel Type:** Unleaded Gasoline (87+ Octane)
- **Oil Type:** SAE 10W-30 (or as recommended by manufacturer for specific temperatures)
- **Oil Capacity:** Approximately 0.6 Liters (check dipstick for exact level)
- **Product Dimensions:** 16 x 15 x 16 inches
- **Item Weight:** 35 pounds
- **Mounting Pattern:** Universal
- **EPA Certified:** Yes

8. WARRANTY AND SUPPORT

For warranty information, technical support, or to order replacement parts, please contact Lifan Power USA customer service. Keep your purchase receipt and engine model/serial number readily available when contacting

support.

Refer to the official Lifan Power USA website or your purchase documentation for the most current warranty terms and contact details.

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