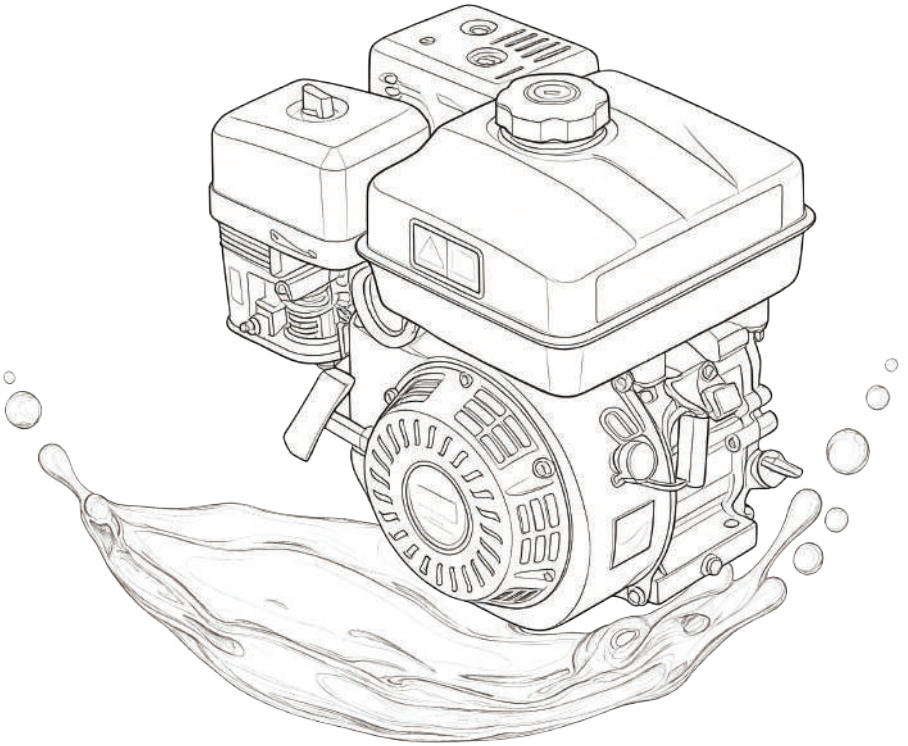
KAWISE

GP GASOLINE ENGINE

OPERATION MANUAL

Reliable power,
wide compatibility,
economical and durable.



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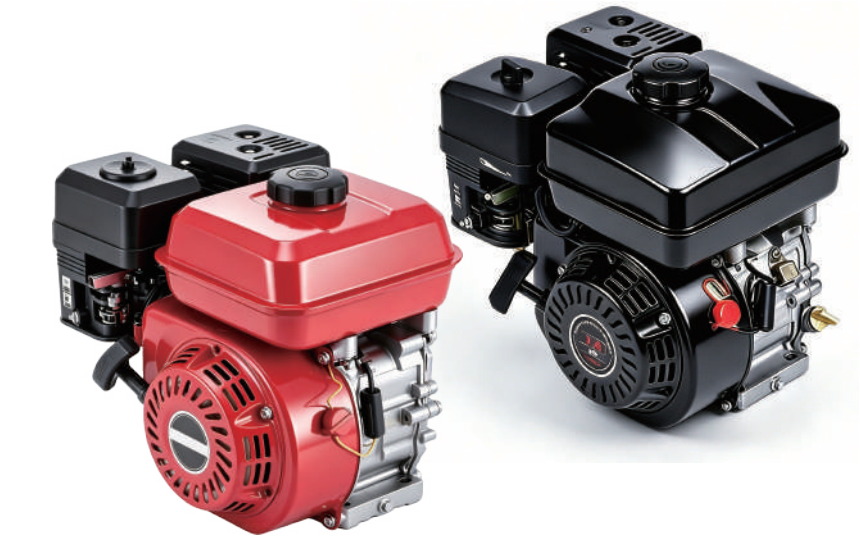
Thank you for choosing our product! Please read this manual carefully before use to ensure long-term stable operation of the engine.This series features single-cylinder, 4-stroke, contactless transistor ignition, side-valve, forced air-cooled gasoline engines, with compact structure, reliable performance, easy maintenance and economical use. They are ideal power matches for agricultural water pumps, threshers, generator sets and various agricultural/construction machinery.As our products are continuously improved, there may be slight discrepancies between the manual and the actual product. Thank you for your understanding.



I.Overview

Our general-purpose gasoline engine is a single-cylinder, side-valve, 4-stroke air-cooled unit, widely compatible and well-received by users.Proper use and regular maintenance are essential for reliable operation and long service life. Please read this manual carefully to master operation and maintenance methods for optimal performance.

SAFETY WARNINGS

Failure to follow these precautions will void the warranty of the gasoline engine, and may cause equipment damage or personal injury/death.

- It is strictly forbidden to operate under overload or over-speed, and do not stop the engine abruptly under high speed and heavy load, so as to avoid damage to parts.
- Use gasoline and engine oil of the specified grade. Fully filter the oil before use, keep the fueling tools clean, and replace the engine oil regularly.
- Regularly check and tighten all fastening bolts of the gasoline engine.
- Clean the air filter regularly and replace it when necessary.
- This is an air-cooled gasoline engine. Clean dirt on cooling fins and fans for normal heat dissipation.
- Operators shall be familiar with the unit, perform daily maintenance and prohibit faulty operation.
- Do not touch high-temperature parts such as muffler to avoid scalds.
- Engine exhaust contains CO and CH compounds even within emission standards. Indoor use is strictly prohibited. If unavoidable, vent exhaust outdoors with the outlet at least 1 meter away from doors and windows, and keep well ventilated indoors.
- No flammable, explosive or other hazardous materials shall be stored around the engine. The working environment must be well-ventilated. The engine shall be kept at least 10 meters away from any fire source and located on the windward side of the fire source.
- Stop the engine before refueling and lubricating. Smoking is strictly prohibited during operation. Avoid oil overflow; clean up any spilled oil before starting the engine.
- Only trained professionals are allowed to operate; untrained personnel are prohibited.

II. Technical Specifications

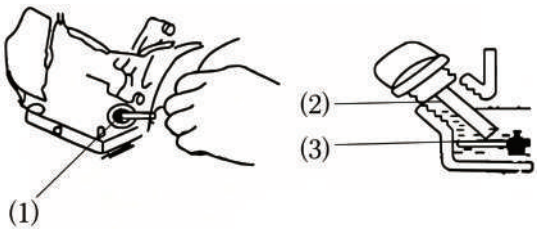
Model	152F	154F	160F	168FA 168FAD	168FB 168FBD	170F 170FD	173F 173FD	177F 177FD	182F 182FD	188F 188FD	190F 190FD	192F 192FD	194 FB (E)
Engine Type	Side-mounted valve			Forced air-cooled, 4-stroke, OHV 25° inclined, single-cylinder									
Bore × Stroke (mm·mm)	52x46	54x46	60x42	68x45	68x54	70x54	73x58	77x58	82x64	88x64	90x66	92x66	94x69
Displacement (mL)	98	106	118	163	196	208	242	270	337	389	420	465	500
Compression Ratio	5.6:1	5.6:1	8.5:1	8.5:1	8.5:1	8.5:1	8.2:1	8.2:1	8:1	8:1	8.3:1	9.1:1	8.7:1
Max. Power @ Rated Speed (kW/(r/min))	1.2 / / 3600	1.5 / / 3600	3 / / 3600	3.6 / / 3600	4.0 / / 3600	4.5 / / 3600	5.0 / / 3600	5.6 / / 3600	6.2 / / 3600	6.8 / / 3600	7.5 / / 3600	9.5 / / 3600	10 / / 3600
Max. Torque @ Rated Speed (N·m/(r/min))	3.0 / / 3000	3.1 / / 2500	8.8 / / 2500	7.4 / / 2500	9.7 / / 2500	10.0 / / 2500	11.9 / / 2500	12.5 / / 2500	20.1 / / 2500	22.0 / / 2500	22.0 / / 2600	26.0 / / 2500	26.0 / / 2500
Ignition System Starting Method	Transistor Ignition, Recoil Start / Electric Start												

III. Pre-operation Preparation

1. Check Engine Oil Level

Make sure the engine is stopped. Remove the oil dipstick and check whether the oil level is within the standard range.If the oil level is too low, add proper engine oil through the filler port to the specified height.

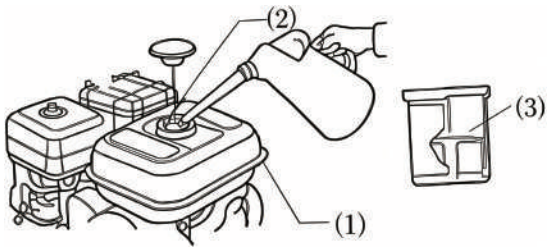
Note: The engine oil used is SAE 10W-30 (at room temperature).



1. Dipstick Screw Hole
2. Max Oil Level
3. Min Oil Level

2. Check Fuel Level

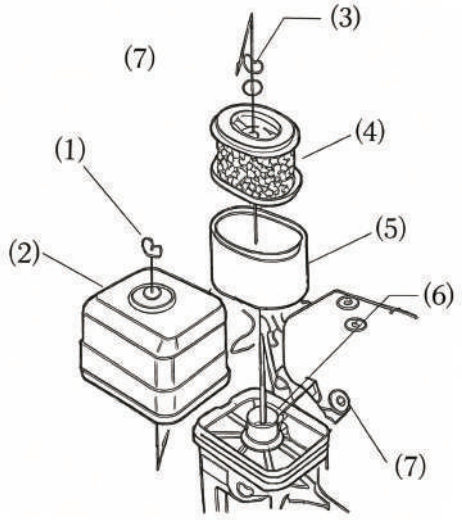
Open the fuel tank cap and check the fuel. Add 92# gasoline as required, up to the red baffle inside the filter. Never mix gasoline with engine oil or use impure fuel.



1. Fuel Tank
2. Filler Inlet
3. Red Fuel Level Reference Line

3. Check the Air Filter

The air filter is of dry type with paper and foam filter elements. Remove the air filter cover for inspection and check if the element is clean. Clean the element if contaminated by dirt, wash it by gentle rubbing, wring it out repeatedly, and reinstall it after fully drained.



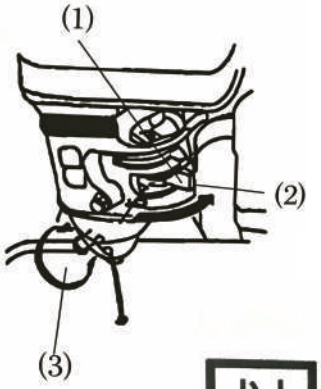
1. Wing Nut
2. Filter Cover
3. Wing Nut
4. Paper Filter Element
5. Foam Filter Element
6. Sealing Gasket
7. Filter Base

IV. Engine Starting and Stopping

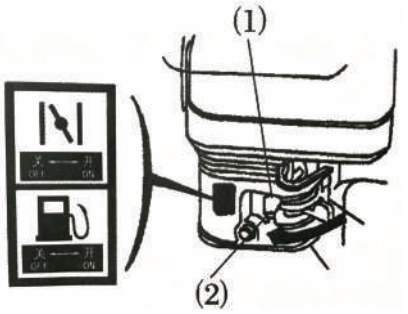
1. Engine Starting

Turn on the fuel switch, loosen the drain screw at the bottom of the carburetor until fuel flows out, then tighten the screw to prevent oil leakage. Close the choke and adjust the throttle to the proper position. Pull the starter handle gently first, then pull firmly when resistance appears to start the engine.

After starting the engine, run it at idle for 1–3 minutes to check smooth operation and abnormal noise. Fully open the choke and adjust the throttle to the required speed. The starting operation is completed.



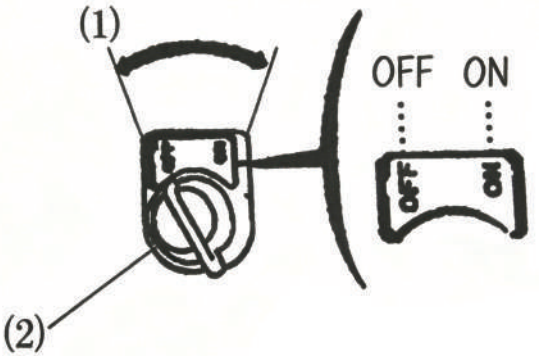
1. Throttle switch
2. Throttle switch open position
3. Oil drain screw



1. Choke
2. Choke set to closed position

2. Engine Stopping

Adjust the throttle to a proper position to keep the engine running at the minimum stable speed. Close the choke and turn the stop switch to the off position, then the engine will shut down.The starter assembly of general gasoline engines is equipped with a stop switch; simply turn the switch to the OFF position to stop the engine.



1. Lever of the fuel cock.
2. Fuel cock in closed position.

V. Regular Maintenance Items

1. Daily Maintenance

- Inspect the air filter element and remove debris to keep it clean.
- Check all fastener bolts and ensure no looseness.
- Verify that the lubricant level is within the specified range.

2. Maintenance Every 25 Working Hours

The air filter element must be cleaned after every 25 working hours, following the cleaning method specified in Item 3 of Chapter 3.

3. Maintenance Every 50 Working Hours

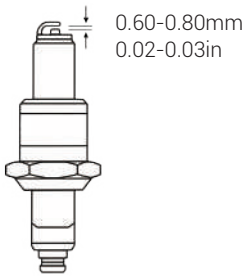
After every 50 working hours, remove carbon deposits from the spark plug, check and adjust the electrode gap to 0.6–0.7mm, and clean dirt between cooling fins.Replace the lubricating oil: loosen the oil drain bolt, tilt the engine slightly to drain the old oil completely. Add clean oil for flushing, tighten the drain bolt after the residual oil flows out, then fill fresh engine oil from the oil filler port up to the specified level.

Note: The applicable engine oil grade: SAE 15W/40.

Oil filling capacity :

- 152F / 154F : 0.45 L per time
- 160F / 168F / 168FD / 170F / 170FD : 0.6 L per time
- 173F / 173FD / 177F / 177FD / 182F / 182FD / 188F / 188FD / 190F / 190FD / 192F / 192FD : 1.1 L per time

(1) Remove the spark plug



(2) Adjust the electrode gap

4. Maintenance Every 100 Working Hours

After every 100 working hours, clean the fuel tank and fuel filter screen. Open the fuel tank cap and take out the filter screen, then clean it gently with a soft brush. Remove the fuel tank, clean the interior to remove attached dirt and moisture. After reinstalling the tank, place the filter screen properly at the filler inlet, then fill with new fuel up to the red reference line. (See Item 2 of Chapter 3)

5. Biennial Maintenance

Check the fuel hose for aging, hardening and cracks. Replace the hose if damaged. Fasten the connectors after replacement and check for fuel leakage.

Maintenance Schedule							
Item / Maintenance Cycle		Each Use	Every 4 Hours of Operation	Every Month or 20 Hours	Every Quarter or 50 Hours	Every 6 Months or 100 Hours	Every Year or 300 Hours
Gasoline Engine Lubricating Oil	Check oil level	△	△				
	Replace			△		△	
Air Filter	Inspect	△					
	Clean				△①		
Sediment Cup	Clean				△①	△	
Spark Plug	Inspect-clean						
	Replace						△
Valve Clearance	Inspect-clean						△②
Combustion Chamber	Inspect - clean						△②
Fuel and Fuel Filter	Clean						△②
Fuel Line	Clean	Every two years (replace if necessary) ②					

- When operating in dusty conditions, perform maintenance more frequently.
- Unless you have the proper tools and mechanical expertise, these maintenance items must be performed by a qualified service technician.

VI. Troubleshooting

Troubleshooting for Hard Starting of Gasoline Engines: Symptoms, Causes and Remedies

Phenomenon				Cause	Remedy
Normal cylinder compression	Normal spark at spark plug	Fuel system abnormal	Poor or no fuel flow	No fuel in the tank, fuel cock not open	Refuel, open the fuel cock
				Tank cap vent blocked	Clear the blockage
				Fuel cock clogged	Clean and clear
				Main jet improperly adjusted or clogged	Readjust, clean and blow through
				Needle valve not closing properly or starting orifice clogged	Remove, repair, clean and blow through the needle valve
				Float stuck or damaged	Repair the float
			Fuel flow normal	Fuel too dirty or deteriorated	Replace the fuel
				Water in the fuel	Replace the fuel
				Excessive fuel in the cylinder	Drain excess fuel, dry the spark plug electrodes
				Incorrect fuel grade	Refuel with the specified grade
	Normal fuel supply system	No spark from high-tension wire	Faulty spark plug	Electrode fouled, carbon deposits	Remove dirt and carbon deposits
				Insulator damaged, electrodes severely burned	Replace the spark plug
				Incorrect electrode gap	Adjust the electrode gap
			Spark plug normal	High-tension wire damaged	Replace the high-tension wire
				Ignition coil damaged	Replace the ignition coil
				Insufficient magnetic field strength	Re-magnetize or replace

Phenomenon				Cause	Remedy
Poor cylinder compression	Normal fuel supply system	Normal ignition system		Piston rings worn beyond limit	Replace the complete set of new rings
				Piston rings broken	Replace the complete set of new rings
				Piston stuck by carbon deposits	Remove carbon deposits
				Spark plug gasket not installed or plug not tightened	Install the gasket and tighten the spark plug
				Air leakage at cylinder block and head mating surface	Check the flatness of the cylinder block and head mating surfaces, and tighten the bolts to the specified torque and sequence
				Valve leakage	Check valve clearance and valve sealing performance, repair if necessary

Troubleshooting for Insufficient Power of Gasoline Engines: Symptoms, Causes and Remedies

Phenomenon	Cause	Cause	Remedy
Engine speed increases slowly when accelerating; speed drops or stalls in severe cases	Ignition system	Incorrect ignition timing	Readjust the ignition advance angle
	Fuel supply system	Air in fuel line or fuel line clogged	Bleed air and clear the fuel line
		Main jet improperly adjusted	Readjust the main jet
		Needle valve hole and main jet in carburetor clogged	Clean and blow through
		Fuel cock clogged	Clean and replace damaged parts
		Carbon deposits in fuel chamber	Remove carbon deposits
	Poor compression	Carbon deposits in muffler and exhaust pipe	Remove carbon deposits
		Air filter clogged	Clean the filter screen
		Air leakage in intake system	Repair or replace
		Worn piston, cylinder and piston rings	Replace worn parts
		Air leakage at cylinder block and head mating surface	Replace the cylinder gasket
		Valve clearance too large (or too small)	Readjust
		Poor valve sealing	Repair

Troubleshooting for Unstable Operation of Gasoline Engines: Symptoms, Causes and Remedies

Phenomenon	Cause	Remedy
Engine has knocking noise	Excessive wear of piston, cylinder and piston rings	Replace worn parts
	Excessive wear of piston pin and pin hole	Replace piston or piston pin
	Excessive wear of connecting rod small end	Replace connecting rod
	Severe wear of crankshaft main journal	Repair crankshaft and replace connecting rod
Knocking/Detonation	Gasoline engine overheating	Identify and eliminate the cause
	Carbon deposits in combustion chamber	Remove carbon deposits
	Unqualified gasoline	Replace with qualified gasoline
Engine misfires	Incorrect ignition timing	Replace ignition coil
	Incorrect spark plug electrode gap or quality issue	Adjust electrode gap or replace spark plug
	Water in float chamber	Clean float chamber

Troubleshooting for Sudden Stalling of Gasoline Engines During Operation: Symptoms, Causes and Remedies

Phenomenon	Cause	Cause	Remedy
Sudden stalling during operation	Fuel system	Carburetor clogged	Refuel
		Out of fuel	Check and clear the fuel line
		Float leaking	Repair the float
		Needle valve stuck	Disassemble the float chamber and troubleshoot
	Ignition system	Spark plug breakdown, carbon short circuit	Replace the spark plug
		Spark plug electrode detached	Replace the spark plug and remove debris
		High-tension wire detached	Re-weld
		Ignition coil short-circuited	Replace the ignition coil
	Others	Severe cylinder scoring, valve detachment	Repair and replace damaged parts

Gasoline Engine Overheating: Symptoms, Causes and Remedies

Phenomenon	Cause	Remedy
Gasoline engine overheating	Incorrect ignition timing	Replace the ignition coil
	Insufficient engine oil	Refill with sufficient engine oil
	Exhaust pipe clogged	Clean the exhaust pipe
	Air leakage in the wind deflector	Repair the damaged area
	Blockage between cooling fins	Clean the cooling fins
	Cooling fan loose and not rotating	Reinstall properly
	Connecting rod deformation causing eccentric wear of piston and cylinder liner	Replace the connecting rod
	Worn cylinder, piston and piston rings causing blow-by between cylinder and crankshaft	Replace worn parts
	Improperly adjusted governor causing over-speed operation	Replace or adjust the governor
	Crankshaft bearing burned out	Replace or repair

Abnormal Noise in Gasoline Engine Cover: Symptoms, Causes and Remedies

Phenomenon	Cause	Remedy
Knocking noise	Worn piston and piston rings	Replace worn parts
	Worn connecting rod, piston pin and pin hole	Replace worn parts
	Worn crankshaft bearing	Replace or repair
	Broken piston ring	Replace piston ring
Metal knocking noise during detonation	Excessive carbon deposits in combustion chamber	Remove carbon deposits
	Spark plug electrode gap too small	Check carburetor and related components
	Engine over-rich with fuel	Replace fuel
	Incorrect fuel grade	Replace fuel
	Engine overheating	Identify and eliminate the cause
Others	Improperly adjusted valve clearance	Readjust valve clearance
	Loose connection between flywheel and crankshaft	Reinstall properly

VII. Maintenance Before Long-term Shutdown

If the engine will be out of service for a long time, perform maintenance before storage: Remove the fuel tank and drain all fuel, clean dirt and water inside the tank to keep the inner cavity clean. Turn on the fuel cock, loosen the drain plug at the bottom to drain residual fuel from the carburetor, then refit the plug.Loosen the drain bolt at the bottom of the crankcase, drain all engine oil, then tighten the bolt. Wipe off oil stains and dust on the outer surface with clean cotton yarn, and clear dirt between cooling fins. Store the engine in a clean and well-ventilated place after cleaning.

Gasoline Engine Series Packing List

- Engine 1 unit
- Spark plug socket wrench 1 set
- User Manual 1 copy

Recommended Flagship Equipment

Flat Die Feed Pellet Mill

Ring Die Feed Pellet Mill

Extruder

Hammer Mill

Forage Chopper

Stainless Steel Mixer

WhatsApp

For Any Other Questions, Please Contact Us

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