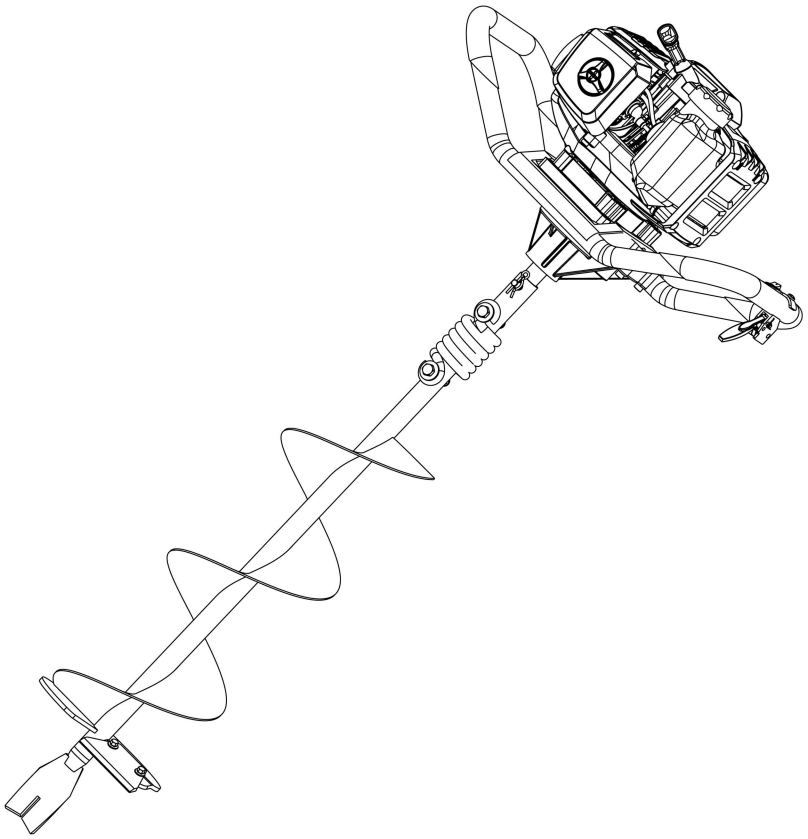
PRORUN®

GAS///

Operator's Manual

EARTH AUGER

MODEL: PEA281



Everything PRORUN

Before operating, read the instructions.

⚠ **IMPORTANT - READ CAREFULLY BEFORE USE**

⚠ **IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS**

WARNING: To reduce the risk of injury, the user must read and understand the Operator's Manual before using this product. Save these instructions for future reference.

Please let us know what you think.
To leave a review and see our full line of products, visit:

proruntech.com ★★★★★

1-844-905-0882, info@proruntech.com

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Safety

WARNING SYMBOLS AND DEFINITIONS	
⚠	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
⚠DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
⚠WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
⚠CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE CAUTION	Addresses practices not related to personal injury.

Symbol Definitions

Symbol	Property or Statement
⚠	WARNING! The gasoline earth auger can be dangerous if used incorrectly or carelessly, and can cause serious or fatal injury to the operator or others. It is extremely important that you read and understand the contents of this owner's manual.
	WARNING! Read the operator's manual(s) and follow all warnings and safety instructions. Failure to do so can result in serious injury to the operator and/or bystanders.
	Always wear a protective helmet. Always wear eye protection that complies with ANSI Z87.1. Always wear hearing protection when operating the machine.
	Wear sturdy, non-slip boots.

Symbol	Property or Statement
	Always wear approved protective gloves.
	Contact with electrical cables or wires can cause serious injury or death as a result of electrical shock.
	Striking something hard in the earth, such as a rock or gravel, may cause the drilling tool to slow down suddenly or stop. In such a situation, some or all of the rotational force (reactive force) is transferred to the powerhead and handle frame of the earth auger which can cause the auger powerhead and handles to rotate suddenly in a counterclockwise direction.
	Fuel mixture tank.
 	Close the choke. Open the choke.
H T	The screw under the "H" stamp is The High-speed mixture adjustment screw. The screw up the "T" stamp is the idle speed adjustment screw.
I O	Operate the engine switch Flipping the switch to the "O" position, immediately the engine stops.

IMPORTANT SAFETY INSTRUCTION

SAVE THESE INSTRUCTION

This manual contains important instructions that should be followed during setup, operation and maintenance of the earth auger.

Set up Precautions

1.Gasoline fuel and fumes are flammable, and potentially explosive. Use proper fuel storage and handling procedures. Do not store fuel or other flammable materials nearby.

2.Have multiple ABC class fire extinguishers nearby.

3.Operation of this equipment may create sparks that can start fires around dry vegetation.

A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements

4.Set up and use only on a flat, level, well-ventilated surface.

5.Wear ANSI-approved safety goggles, heavy-duty work gloves, and dust mask/respirator during use.

6.Use only lubricants and fuel recommended in the Specifications chart of this manual.

General Safety Instructions

⚠WARNING

To reduce the risk of fire, or injury:

1.It is important that you read, fully understand and observe the following safety precautions and warnings. Read the instruction manual and the safety precautions periodically. Careless or improper use may cause serious or fatal injury.
2.Because an earth auger is a high-torque, gasoline-powered tool, some special safety precautions must be observed to reduce the risk of personal injury.
3.Long-term exposure to noise can result in permanent hearing impairment. So always use approved hearing protection.
4.Under no circumstances may the design of the machine be modified without the permission of the manufacturer.
5.Always use genuine accessories. Non-authorized modifications and/or accessories can result in serious personal injury or the death of the operator or others.
6.This machine can cause serious injuries if used incorrectly or carelessly, and can cause serious or fatal injury to the operator or others. It is extremely important that you read and understand the contents of this operator's manual.
7.Become familiar with all controls and proper use of the machine, including the correct handling, preparation, maintenance, starting and stopping of the machine.
8.To reduce the risk of injury to your eyes never operate your power tool unless wearing goggles or properly

fitted protective glasses with adequate top and side protection complying with ANSI Z87 "+" (or your applicable national standard).
9.Striking a hard object in the earth with the turning drill and the resulting slowing or stopping of the auger creates reactive forces. The transfer of rotational (reactive) forces can cause the auger powerhead and handles to rotate suddenly in a counterclockwise direction and can result in loss of control or cause the handle frame to hit the operator or throw him to the ground, resulting in serious injury.
10.Do not lend or rent your power tool without the instruction manual. Be sure that anyone using it understands the information contained in this manual.
11.The use of this machine may be hazardous. If the drilling tool comes in contact with your body, it could cause impact or cut injuries.
Use your earth auger only for drilling holes in soil (with earth auger attachments) or ice (with ice auger attachments).
12.Do not use it for other purposes, since misuse may result in personal injury or property damage, including damage to the machine.
13.Minors should never be allowed to use this power tool. Bystanders, especially children, and animals should not be allowed in the area where it is in use.
14.To reduce the risk of injury to bystanders and damage to property, never let your power tool run unattended. When it is not in use (e.g. during a work break), shut it off and make sure that unauthorized persons do not use it.
15.You must be in good physical condition and mental health and not under the influence of any substance (drugs, alcohol, etc.) which might impair vision, dexterity or judgment. Do not operate this machine when you are fatigued.
16.Be alert – if you get tired, take a break. Tiredness may result in loss of control. Working with any power tool can be strenuous. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating this power tool.
17.Prolonged use of a power tool (or other machines) exposing the operator to vibrations may produce whitefinger disease (Raynaud's phenomenon) or carpal tunnel syndrome. These conditions reduce the hand's ability to feel and regulate temperature, produce numbness and burning sensations and may cause nerve and circulation damage and tissue necrosis. All factors which contribute to whitefinger disease are not known, but cold weather, smoking and diseases or physical conditions that affect blood vessels and blood transport, as well as high vibration levels and long periods of exposure to vibration are mentioned as factors in the development of whitefinger disease.
18. Turn the earth auger off when setting down or carrying it.
Carrying an earth auger with the engine running is dangerous. Accidental acceleration of the engine can cause the drilling tool to rotate.
19.During operation, the powerhead muffler and the parts around it reach

extremely high temperatures. Avoid setting down a hot unit onto dry, flammable material, or touching the hot muffler; you could receive serious burns.
Carry the unit by the handle frame with hot parts of the machine (e.g., gearbox) away from your body.
Remove the auger before transporting the power tool long distances.
When transporting in a vehicle, properly secure your power tool to prevent turnover, fuel spillage and damage.
When the power tool is not in use, shut it off and put it down so it cannot endanger others.
20.Always check your power tool for proper condition and operation before starting, particularly the throttle trigger, throttle trigger lockout, slide control, drilling tool and auger brake. The throttle trigger must move freely and always spring back to the idle position. Never attempt to modify the controls or safety devices.
Regular maintenance is important in this respect. Make sure the drilling tool is in good condition and properly connected.
21.Check fuel system for leaks, especially the visible parts, e.g., filler cap, hose connections, manual fuel pump (only for power tools equipped with a manual fuel pump). Do not start the engine if there are leaks or damage – risk of fire! Have the machine repaired by a servicing dealer before using it. Contact PRORUN Customer Service.
22.Never operate your power tool if it is damaged, improperly adjusted or maintained, or not completely or securely assembled.
23.Check that the spark plug boot is securely mounted on the spark plug – a loose boot may cause arcing that could ignite combustible fumes and cause a fire.
Keep the handles clean and dry at all times; it is particularly important to keep them free of moisture, pitch, oil, fuel mix, grease or resin in order for you to maintain a firm grip and properly control your power tool.

Service Precautions

1.Before service, maintenance, or cleaning:
a.Turn the engine switch to its “OFF” position.
b.Allow the engine to completely cool.
c.Then, remove the spark plug cap from the spark plug.
2.Keep all safety guards in place and in proper working order. Safety guards include muffler, air cleaner, mechanical guards, and heat shields, among other guards.
3.Do not alter or adjust any part of the equipment or its engine that is sealed by the manufacturer or distributor. Only a qualified service technician may adjust parts that may increase or decrease governed engine speed.
4.Wear ANSI-approved safety goggles, heavy-duty work gloves, and dust mask/respirator during service.
5.Maintain labels and nameplates on the equipment.
These carry important information.
If unreadable or missing, contact

dealer for a replacement.
6.Contact PRORUN Customer Service and have the equipment services by an approved repair person using only identical replacement parts. This will ensure that the safety of the equipment is maintained. Do not attempt any service or maintenance procedures not explained in this manual or any procedures that you are uncertain about your ability to perform safely or correctly.
7.Store equipment out of the reach of children.
8.Follow scheduled engine and equipment maintenance.

Refueling:

1.Do not refill the fuel tank while the engine is running or hot.
2.Do not smoke, or allow sparks, flames, or other sources of ignition around the equipment, especially when refuelling.
3.Do not fill fuel tank to the top. Leave a little room for the fuel to expand as needed, at least 1 inch from top of the neck.
TO PREVENT FUEL LEAKAGE AND FIRE HAZARD, do not fill fuel above the bottom of the threads.
4.Refuel in a well-ventilated area only.
5.Wipe up any spilled fuel and allow excess to evaporate before starting engine. To prevent FIRE, do not start the engine while the smell of fuel hangs in the air.

Set Up

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

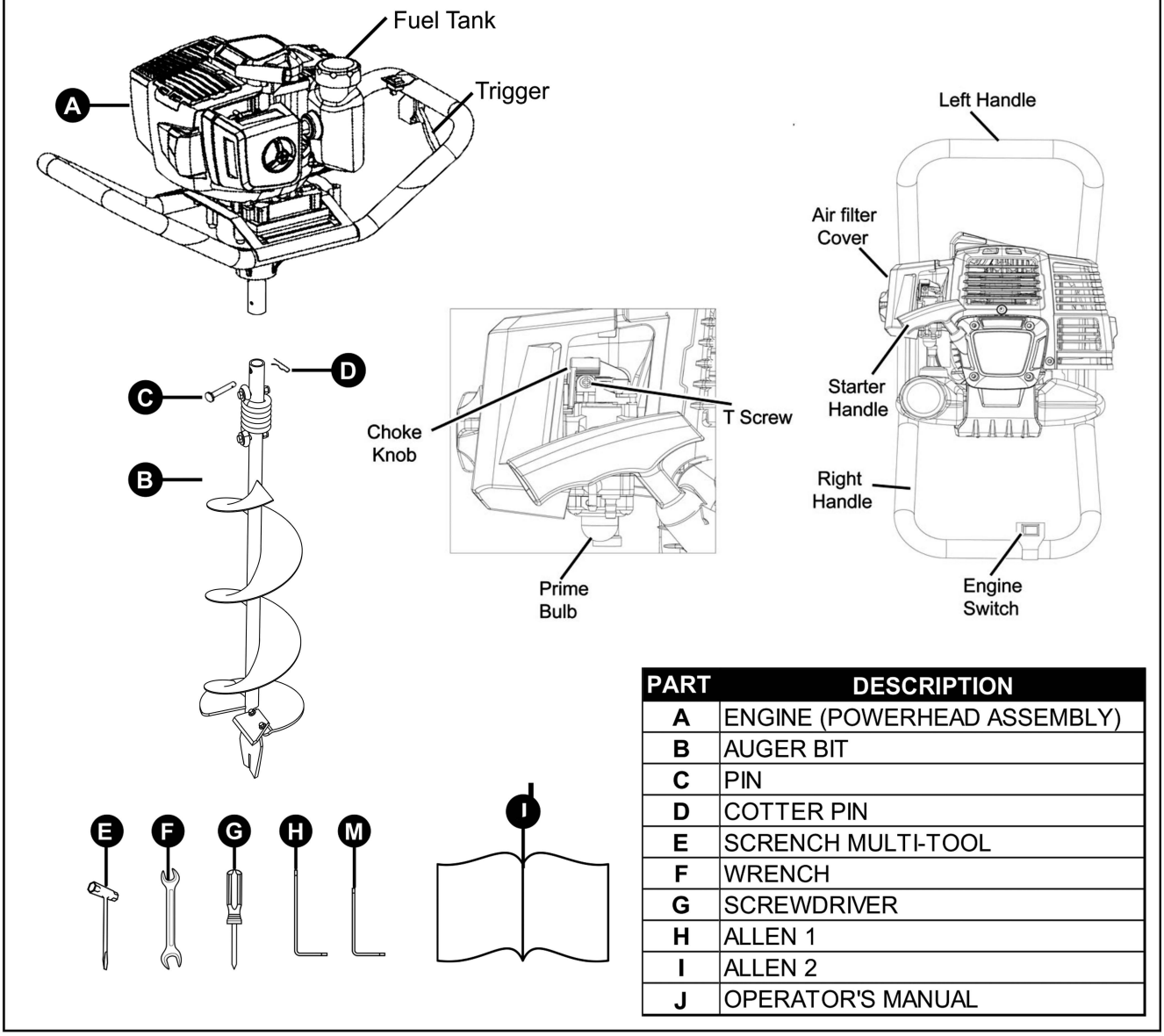
⚠WARNING

TO PREVENT SERIOUS INJURY:

Operate only with proper spark arrestor installed.

Operation of this equipment may create sparks that can start fires around dry vegetation.
A spark arrestor may be required.
The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

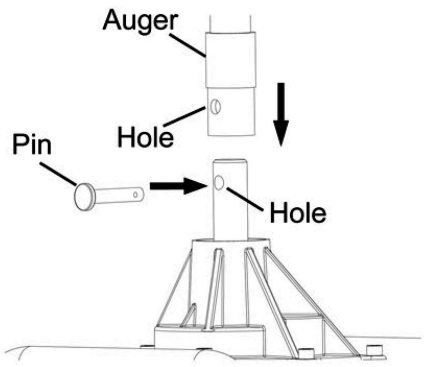
Components and Controls



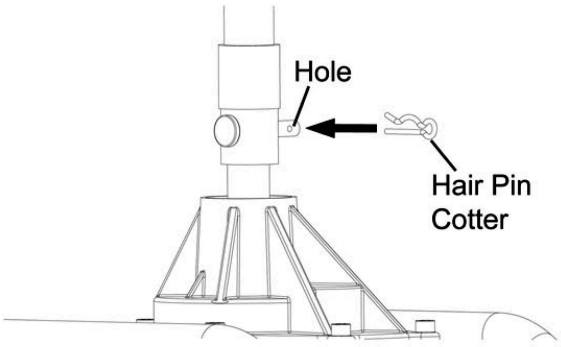
PART	DESCRIPTION
A	ENGINE (POWERHEAD ASSEMBLY)
B	AUGER BIT
C	PIN
D	COTTER PIN
E	SCRENCH MULTI-TOOL
F	WRENCH
G	SCREWDRIVER
H	ALLEN 1
I	ALLEN 2
J	OPERATOR'S MANUAL

Fitting the Auger

1.Switch off the engine.
2.Put down the auger – drilling spindle facing upwards.
3.Push the auger onto the drilling spindle until the holes align.
4.Insert the pin into the hole.



5.Insert the hair pin cotter into the hole of the pin.



Operation

Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Checking before Starting

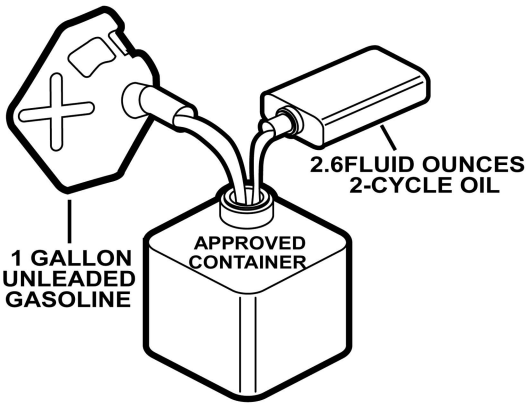
Inspect engine and equipment looking for damaged, loose, and missing parts before set up and starting. If any problems are found, do not use equipment until fixed properly.

Checking and Filling Fuel



WARNING! TO PREVENT SERIOUS INJURY FROM FIRE: Fill the fuel tank in a well-ventilated area away from ignition sources. If the engine is hot from use, shut the engine off and wait for it to cool before adding fuel. Do not smoke.

1.Clean the Fuel Tank Cap and the area around it.
2. Unscrew and remove the Fuel Tank Cap.
Note: Do not use gasoline containing more than 10% ethanol (E10). Do not use E85 ethanol. Add fuel stabilizer to the gasoline or the Warranty is VOID.
Note: Do not use gasoline that has been stored in a metal fuel container or a dirty fuel container. It can cause particles to enter the carburetor, affecting engine performance and/or causing damage.
IMPORTANT: Your Warranty is VOID if the Engine's Fuel Tank is not filled with the proper mixture (50:1) of unleaded gasoline and 2-cycle oil before each use.
2-Stroke oil must meet either JASO M345 FD or ISO-L-EGD requirements for air-cooled engines, synthetic.
Before each use, check the fuel level. Do not run the Engine with an improper unleaded gasoline/2-cycle oil mixture. Running the Engine with an improper mixture WILL permanently damage the Engine.



3.To obtain the proper gasoline and 2-cycle oil mixture, mix **2.6 fluid ounces of 2-cycle oil with 1 gallon of unleaded gasoline** into an approved container. Then gently agitate the container to thoroughly mix the gasoline/2-cycle oil.
4.If needed, fill the Fuel Tank to about 1 inch under the fill neck of the Fuel Tank with the pre-mixed unleaded gasoline/2-cycle oil mixture.
5.Then replace the Fuel Tank Cap.
6.Wipe up any spilled fuel and allow excess to evaporate before starting engine. To prevent FIRE, do not start the engine while the smell of fuel is present.

Starting the Engine

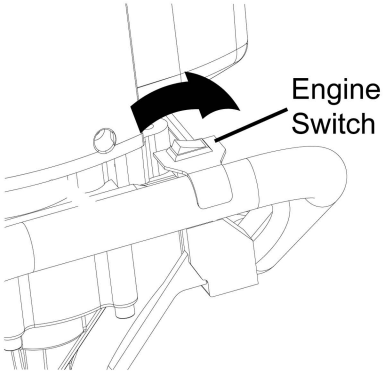
Before Starting the Engine

Before starting the engine:
a. Inspect the equipment and engine.
b. Fill the engine with the proper amount and type of unleaded gasoline and 2-cycle oil mixture.

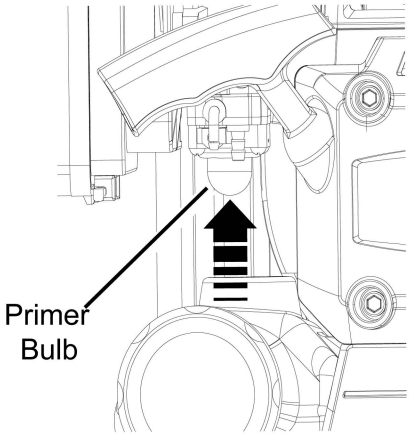
Manual Start

A “cold start” is when the engine is no longer hot to the touch, typically at least 30 minutes after it has last been run or first start of the day.

1.Set the engine switch lever at the position “I”.

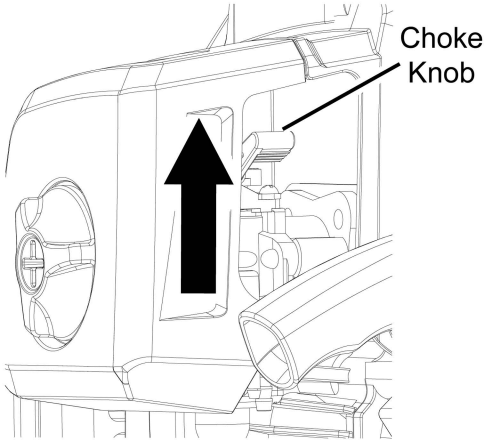


2.Press Primer Bulb 10 times to prime the carburetor.



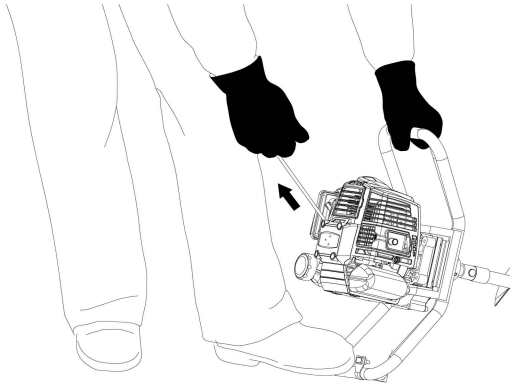
3.Move Choke Knob to the position.

Note: The symbols below are indicated on the tool near the Choke Knob.

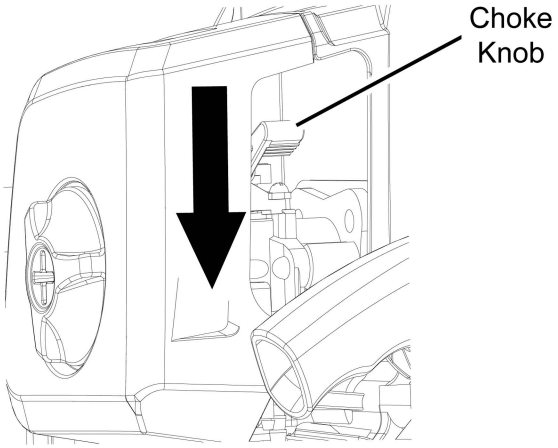


4.Use one hand to securely hold the unit against the ground.

5.Grip the Starter Handle of the Engine firmly and pull it rapidly until the engine attempts to start and stalls.



6.Move the Choke Knob to the position.



7.Pull the Starter Handle rapidly until the engine starts.

Note: Do not let the Starter Handle snap back against the engine.

Hold it as it recoils so it doesn't hit the engine.

8.Allow Engine to warm up at idle for 60 seconds before using so that the Engine can stabilize.

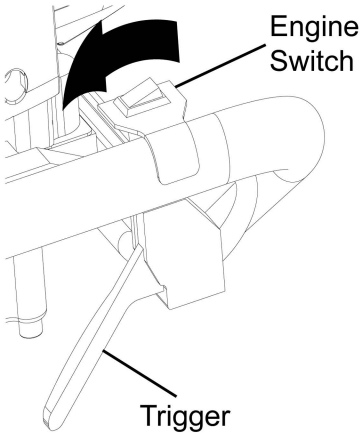
9.Adjust the Throttle as needed.

Hot Start

To initiate a Hot Start, follow each step of the Cold Start procedure Except Step 3 and Step 5.

Stopping the Engine

1.To stop the engine in an emergency, set the engine switch at "O" position to shut the engine off immediately.



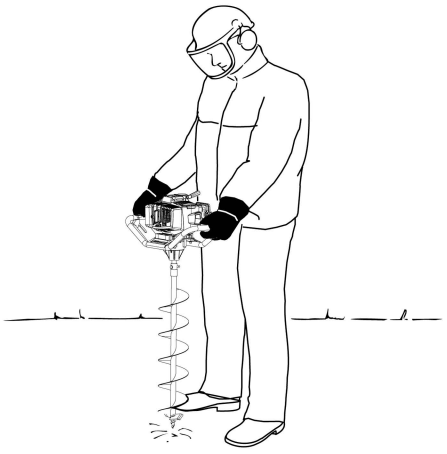
2.Under normal conditions, use the following procedure:

a. Release the Trigger.
b. Let Engine idle for 1 – 2 minutes.
c. Press the Stop Engine Switch.

NOTICE
See Long-Term Storage on page 15 for complete storage instructions.

General Operating Instructions

1.Always hold the unit firmly with both hands on the handles while you are working. Wrap your fingers and thumbs around the handles.
Keep your hands in this position to have your earth auger under control at all times.



2.A factory-new machine should not be run at high revs (full throttle off load) for the first three tank fillings. This avoids unnecessary high loads during the break-in period. As all moving parts have to bed in during the break-in period, the frictional resistances in the engine are greater during this period. The engine develops its maximum power after about 5 to 15 tank fillings.
3.After a long period of full throttle operation, allow the engine to run for a short while at idle speed so that engine heat can be dissipated by the flow of cooling air. This protects engine mounted components (ignition, carburetor) from thermal overload.
4.Wait for the engine to cool down. Drain the fuel tank. Store the machine in a dry location. Check the tightness of all accessible screws and nuts (not adjusting screws) at regular intervals and retighten if necessary.

⚠WARNING

WARNING TO PREVENT SERIOUS INJURY FROM ACCIDENTAL STARTING:
Turn the Power Switch of the equipment to its "OFF" position, wait for the engine to cool, and disconnect the spark plug cap before performing any inspection, maintenance, or cleaning procedures.
TO PREVENT SERIOUS INJURY FROM EQUIPMENT FAILURE:
Do not use damaged equipment. If abnormal noise, vibration, or excess smoking occurs, maintenance procedures, including any not detailed in this manual, will need to be performed by a qualified technician for safety. If you have any doubts about your ability to safely service the equipment or engine, contact PRORUN Customer Service and have an approved technician service the equipment instead.

Cleaning, Maintenance, and Lubrication

Note: This maintenance schedule is intended solely as a general guide. If performance decreases or if equipment operates unusually, check systems immediately. The maintenance needs of each piece of equipment will differ depending on factors such as duty cycle, temperature, air quality, fuel quality, and other factors. If you have doubts about your ability to safely service this tool, contact contact PRORUN Customer Service and have an approved technician service the equipment instead.

Note: The following procedures are in addition to the regular checks and maintenance explained as part of the regular operation of the engine and equipment.

Procedure	Before Each Use	Monthly or every 10 hr. of use	Every 3 mo. or 20 hr. of use	Every 6 mo. or 50 hr. of use	Yearly or every 100 hr. of use	Every 2 Years
Brush off outside of engine	✓					
Check engine fuel/oil mixture level	✓					
Change fuel filter					✓	✓
Clean air filter			✓*	✓	✓	✓
Check and clean spark plug				✓	✓	✓
Check/adjust idle speed	✓					
1. Clean fuel tank and carburetor 2. Clean carbon build-up from combustion chamber					✓**	✓**
Replace fuel line if necessary						✓**

* Service more frequently when used in dusty areas.
** Contact PRORUN Customer Service. These items should be services by an authorized service technician.

Checking and Filling Fuel



⚠WARNING! TO PREVENT SERIOUS INJURY FROM FIRE: Fill the fuel tank in a well-ventilated area away from ignition sources. If the engine is hot from use, shut the engine off and wait for it to cool before adding fuel. Do not smoke.

1.Clean the Fuel Tank Cap and the area around it.

2.Unscrew and remove the Fuel Tank Cap.

Note: Do not use gasoline containing more than 10% ethanol (E10). Do not use E85 ethanol. Add fuel stabilizer to the gasoline or the Warranty is VOID.

Note: Do not use gasoline that has been stored in a metal fuel container or a dirty fuel container. It can cause particles to enter the carburetor, affecting engine performance and/or causing damage.

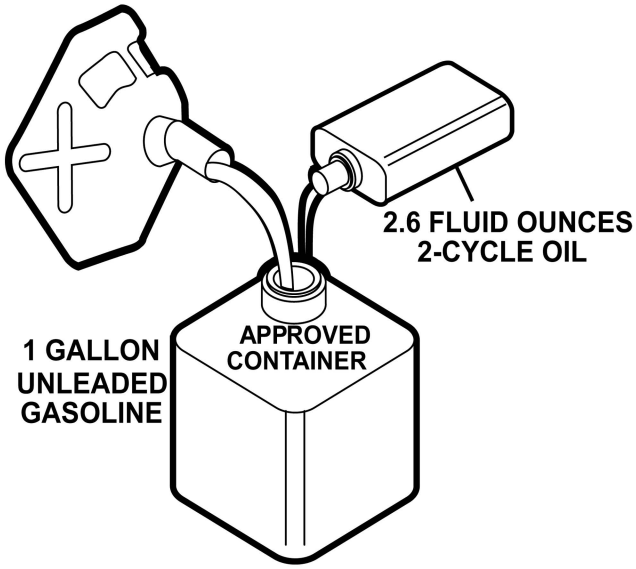
IMPORTANT: Your Warranty is VOID if the Engine's Fuel Tank is not filled with the proper mixture (50:1) of unleaded gasoline and 2-cycle oil before each use.
2-Stroke oil must meet either JASO M345 FD or ISO-L-EGD requirements for air-cooled engines, synthetic.
Before each use, check the fuel level. Do not run the Engine with an improper unleaded gasoline/2-cycle oil mixture. Running the Engine with an improper mixture WILL permanently damage the Engine.

3.To obtain the proper gasoline and 2-cycle oil mixture, mix **2.6 fluid ounces of 2-cycle oil with 1 gallon of unleaded gasoline** into an approved container. Then gently agitate the container to thoroughly mix the gasoline/2-cycle oil.

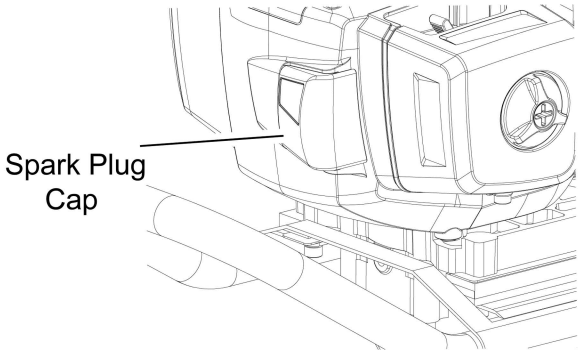
4.If needed, fill the Fuel Tank with the pre-mixed unleaded gasoline/2-cycle oil mixture. Do not fill fuel above the bottom of the Fuel Tank fill neck.

5.Then replace the Fuel Tank Cap.

6.Wipe up any spilled fuel and allow excess to evaporate before starting engine. To prevent FIRE, do not start the engine while the smell of fuel hangs in the air.



Spark plug Maintenance



1.Disconnect Spark Plug Cap from end of plug. Clean out debris from around Spark Plug.

2.Using a spark plug wrench, remove the Spark Plug.

3.Inspect the Spark Plug: If the electrode is oily, clean it using a clean, dry rag.
If the electrode has deposits on it, polish it using emery paper. If the white insulator is cracked or chipped, the spark plug needs to be replaced.

Recommended Spark Plugs	
Bosch®	L8RTF
Champion®	RCJ7Y
TORCH®	L7RTC
NGK®	BPMR7A

NOTICE: Using an incorrect spark plug may damage the engine.
4.When installing a new spark plug, adjust the plug's gap to the specification on the Specifications chart. Do not pry against the

electrode, the spark plug can be damaged.
5. Install the new spark plug or the cleaned spark plug into the engine.

• **Gasket-style**:
Finger-tighten until the gasket contacts the cylinder head, then tighten about 1/2-2/3 turn more.

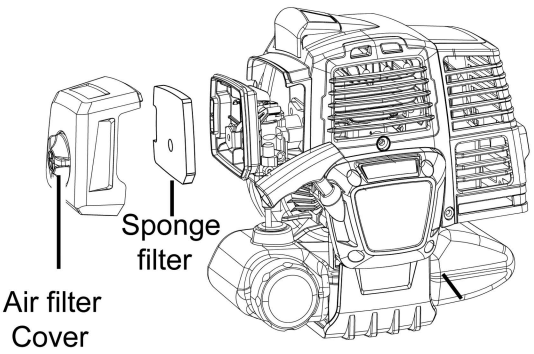
• **Non-gasket-style**:
Finger-tighten until the plug contacts the cylinder head, then tighten about 1/16 turn more.

NOTICE: Tighten the Spark Plug properly.
If loose, the Spark Plug will cause the engine to overheat.
If overtightened, the threads in the engine block will be damaged.

6.Apply dielectric spark plug boot protector (not included) to the end of the spark plug and reattach the cap securely.

Air Filter Maintenance

1.Lossen the lock knob， Remove the Air Filter Cover and sponge filter and check for dirt. Clean or replace as described below.



2.To prevent injury from dust and debris, wear ANSI-approved safety goggles, NIOSH-approved dust mask/respirator, and heavy-duty work gloves. Remove dust on the Filter surface by tapping a corner of the Filter against a hard surface. In a well-ventilated area away from bystanders, use pressurized air to blow dust out of the Filter from the inside.
3.Install the new or cleaned filter. Reinstall and secure the Air Filter Cover before use.

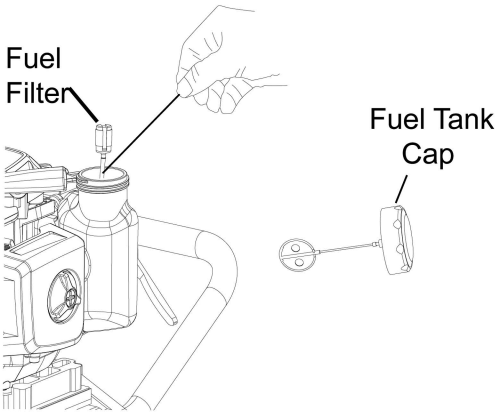
Fuel Filter Maintenance

1.Clean the Fuel Tank Cap and the area around it.

2.Remove the Fuel Tank Cap from the Fuel Tank.

3.Use a suction pump (not included) to pump any fuel in the Tank into a proper gasoline container.

4.Use a piece of wire with a hook on one end to carefully extract the Fuel Filter from the Tank.



5.Remove used filter from fuel line. Attach a new filter to the fuel line and reinsert into the Fuel Tank.

6.Replace Fuel Tank Cap and tighten securely.

Long-Term Storage

When the equipment is to remain idle for longer than 20 days, prepare the Engine for storage as follows:

1. **CLEANING:**
Wait for Engine to cool, then clean Engine with dry cloth. **NOTICE: Do not clean using water.** The water will gradually enter the Engine and cause rust damage. Apply a thin coat of rust preventive oil to all metal parts.

2. **FUEL:**
To protect the fuel system during storage, follow this procedure:

a.Carefully drain any remaining fuel in the fuel tank into an appropriate storage container.

b.Press the Primer Bulb 10 times.

c.Drain any residual fuel into storage container.

d.Start the earth auger.

e.Allow engine to run at idle until earth auger stalls from lack of fuel.

f.Replace Fuel Cap and tighten.



⚠WARNING! TO PREVENT SERIOUS INJURY FROM FIRE: Drain the Fuel Tank in a well-ventilated area away from ignition sources. If the Engine is hot from use, shut the Engine off and wait for it to cool before draining fuel. Do not smoke.

3.**LUBRICATION:**
a.Clean out area around spark plug. Remove spark plug and pour 1/2 tablespoon of 2-stroke engine oil into cylinder through spark plug hole.

b.Replace spark plug, but leave spark plug cap disconnected.

c.Pull Starter Handle to distribute oil in cylinder. Stop after one or two revolutions when you feel the piston start the compression stroke (when you start to feel resistance).

4.**STORAGE AREA:**
Cover and store in a dry, level, well-ventilated area out of reach of children. Storage area should also be away from ignition sources, such as water heaters, clothes dryers, and furnaces.

5.**AFTER STORAGE:**
Before starting the Engine during or after storage, keep in mind that untreated gasoline will deteriorate quickly. Change to fresh fuel if untreated gasoline has been sitting for a month, if treated gasoline has been sitting beyond the fuel stabilizer's recommended time period, or if the Engine does not start.

Troubleshooting

Problem	Possible Causes	Probable Solutions
Engine will not start	FUEL RELATED: 1.No fuel in tank.	FUEL RELATED: 1.Fill fuel tank with fresh 87+ octane stabilizer-treated unleaded gasoline/oil mixture only. **Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.).**
	2.Choke not in START position, cold engine.	2.Move Choke to START position.
	3. Gasoline with more than 10% ethanol used. (E15, E20, E85, etc.)	3.Clean out ethanol-rich gasoline from fuel system. Replace components damaged by ethanol. Use fresh 87+ octane stabilizer-treated unleaded gasoline/oil mixture only. **Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.).**
	4.Low quality or deteriorated, old gasoline/oil mixture.	4.Use fresh 87+ octane stabilizer-treated unleaded gasoline/oil mixture. **Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.).**
	5.Carburetor not primed.	5.Press the Primer Bulb several times to prime.
	6.Dirty fuel passageways.	6.Clean out passageways using fuel additive. Heavy deposits may require further cleaning.
	7.Carburetor is flooded.	7.Turn Choke Knob to RUN position. Pull Starter Handle 10-20 times to clear out Carburetor, then attempt to start with normal process.
	8.Clogged Fuel Filter.	8.Clean or replace Fuel Filter.
	IGNITION (SPARK) RELATED: 1.Spark plug cap not connected securely.	IGNITION (SPARK) RELATED: 1.Connect spark plug cap properly.
	2.Spark plug electrode wet or dirty.	2.Clean spark plug.
	3.Incorrect spark plug gap.	3.Correct spark plug gap.
	4.Spark plug cap broken.	4.Replace spark plug cap.
	5.Incorrect spark timing or faulty ignition system.	5.Have qualified technician diagnose/repair ignition system.Contact PRORUN Customer Service.
	COMPRESSION RELATED: 1.Cylinder not lubricated. Problem after long storage periods.	COMPRESSION RELATED: 1.Pour 1/2 tablespoon of oil into spark plug hole. Crank engine a few times and try to start again.
	2.Loose or broken spark plug. (Hissing noise will occur. when trying to start.)	2.Tighten spark plug. If that does not work, replace spark plug.

Follow all safety precautions whenever diagnosing or servicing the equipment or engine.

Problem	Possible Causes	Probable Solutions
Engine misfires	1.Spark plug cap loose. 2.Incorrect spark plug gap or damaged spark plug. 3.Defective spark plug cap. 4.Old or low quality gasoline/oil mixture. 5.Incorrect compression.	1.Check cap and wire connections. 2.Re-gap or replace spark plug. 3.Replace spark plug cap. 4.Use only fresh 87+ octane stabilizer-treated unleaded gasoline/oil mixture. **Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.).** 5.Diagnose and repair compression. (Use Engine will not start: COMPRESSION RELATED section.)
Engine stops suddenly	1.Fuel tank empty or full of impure or low quality gasoline/oil mixture. 2.Defective breather valve creating vacuum, preventing proper fuel flow. 3.Faulty magneto. 4.Disconnected or improperly connected spark plug cap.	1. Fill fuel tank with fresh 87+ octane stabilizer-treated unleaded gasoline/oil mixture. **Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.).** 2.Test/replace breather valve. 3.Have qualified technician service magneto. Contact PRORUN Customer Service. 4.Secure spark plug cap.
Engine stops when under heavy load	1.Dirty air filter 2.Engine running cold.	1.Clean element. 2.Allow engine to warm up prior to operating equipment.
Engine knocks	1.Old or low quality gasoline/oil mixture. 2.Engine overloaded. 3.Incorrect spark timing, deposit buildup, worn engine, or other mechanical problems.	1.Fill fuel tank with fresh 87+ octane stabilizer-treated unleaded gasoline/oil mixture. **Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.).** 2.Do not exceed equipment's load rating. 3.Have qualified technician diagnose and service engine. Contact PRORUN Customer Service.

Follow all safety precautions whenever diagnosing or servicing the equipment or engine.

Specifications.

Displacement		51.7cc
Engine Type		Single Cylinder 2-stroke
Power Output		2HP/1.5kW
Cooling System		Forced air cooled
Fuel	Type	87+ octane stabilizer-treated unleaded gasoline containing no more than 10% ethanol (E10) with 2-Stroke oil (see below)
	Capacity	31.7 fl. oz.
Oil	Type	2-Stroke oil must meet either JASO M345 FD or ISO-L-EGD requirements for air-cooled engines, synthetic
	Ratio	50:1 gasoline-to-oil ratio 2.6 oz oil per gallon of gasoline
Bore x Stroke		44mm x 34mm
Compression Ratio		6.8:1
Spark Plug	Type	Champion® RCJ7Y / Bosch® L8RTF NGK® BPMR7A / TORCH® L7RTC
	Gap	0.02"
Speed	Idle	3100±400 RPM
	Maximum	10500 RPM
Clutch engagement speed		4500 RPM
Maximum auger speed		350 RPM
Run Time @ full throttle		45 min.

Parts List and Diagram

Part List

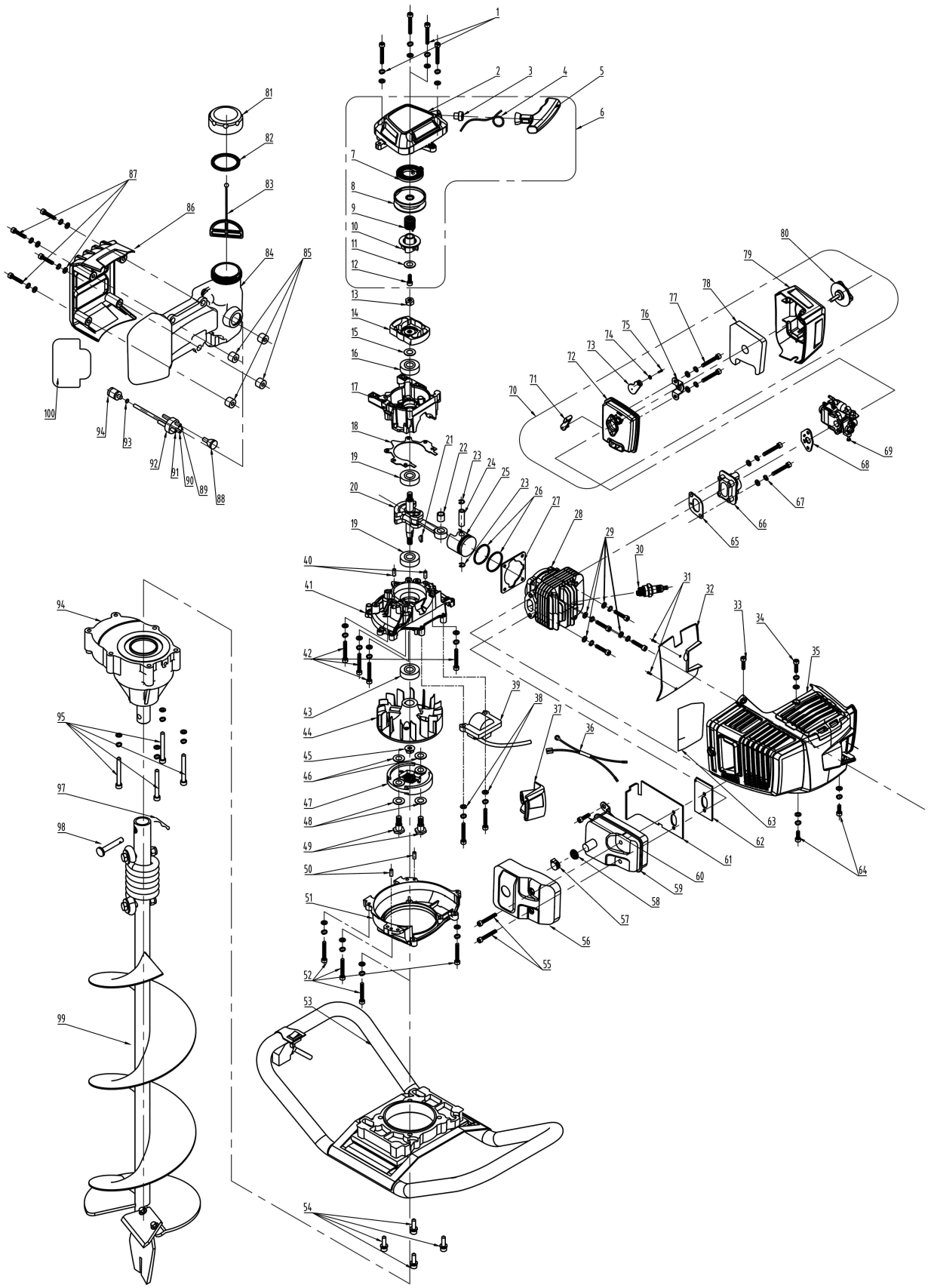
NO.	Description	Qty	NO.	Description	Qty
1	screw M5x25	4	41	crank case LH side	1
2	start grip	1	42	screw M5x30	4
3	eyelet	1	43	OIL-SEAL 15x30x7	1
4	start housing	1	44	magneto rotor	1
5	start assembly	1	45	flange nut M8	1
6	start rope	1	46	plate washer 8x16x1.5	2
7	coil spring	1	47	clutch assemble	1
8	start pulley	1	48	washer 10	2
9	spring. Start	1	49	bolt \ clutch	2
10	ratchet wheel	1	50	pin φ5×10	2
11	ST screw 4.8x19	1	51	fan cover	1
12	plate washer 5x16x1	1	52	screw M5x25	4
13	nut M8	1	53	handle assembly	1
14	start reel	1	54	screwM6x18	4
15	flat washer 8	1	55	screw M6x55 . Muffler	2
16	OIL-SEAL 12x22x7	1	56	muffler cover	1
17	crank case RH side	1	57	fixing sleeve 16	1
18	Crank case gasket	1	58	spark catcher	1
19	ball bearing 6202	2	59	muffler	1
20	crank shaft ass'y	1	60	screw M5x12 . Muffler	1
21	key 3x5x13	1	61	muffler heating insulating gasket	1
22	bearing φ10x13x16	1	62	muffler gasket	1
23	Piston ring circlip	2	63	anti-scald sticker	1
24	piston pin	1	64	screw M5x16	2
25	piston	1	65	gasket	1
26	piston ring	2	66	admitting pipe	1
27	Cylinder gasket \	1	67	screw M5x25	2
28	cylinder	1	68	gasket . carburetor	1
29	screw M5x20 \ Cylinder	4	69	carburetor	1
30	Spark Plug	1	70	air box assembly	1
31	ST screw 4x8	2	71	damper handle	1
32	air guide hood	1	72	air box base	1
33	ST screw 4.8x16	1	73	damper	1
34	screw 5x16	1	74	flat washer 4	1
35	top housing	1	75	ST screw 2.9x6.5	1
36	wire	1	76	oil baffle	1
37	Spark Plug cover	1	77	screw M5x50	1
38	ignition	1	78	spone	1
39	screw M5x25/ Ignition	2	79	air box cover	1
40	pin φ5×10	2	80	air filter knob	1

Parts List and Diagram

Part List

NO.	Description	Qty	NO.	Description	Qty
81	fuel tank cover	1	91	return tube	1
82	gasket rubber	1	92	fuel tube retainer	1
83	anti-falling plate	1	93	snap ring	1
84	insulating pad	4	94	filter fuel	1
85	fuel tank assemble	1	95	gear box assembly	1
86	fuel tank housing	1	96	screw M6x55	4
87	screw M5x30	4	97	lock pin	1
88	balancer	1	98	pin shaft	1
89	air tube	1	99	8-inch auger bit	1
90	fuel tube	1	100	fuel tank heat shield	1

Assembly Diagram



Emissions Control System Warranty

Zhejiang Zhongjian Technology Co., Ltd., AND FEDERAL EMISSION CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS

The U.S. Environmental Protection Agency (EPA) and Zhejiang Zhongjian Technology Co., Ltd (hereinafter called Zhongjian), are pleased to explain the Emissions Control System Warranty on your new 2022 small off-road engine.. In the U.S., new small off-road engine must be designed, built and equipped at the time of sale to meet the U.S. EPA regulations for small off-road engines. The small off-road engine must be free from defects in materials and workmanship which cause it to fail to conform with U.S. EPA standards for the first two years of engine use from the date of sale to the ultimate purchaser. Zhongjian, must warrant the emission control system on your small off-road engine for the period of time listed above provided there has been no abuse, neglect, or improper maintenance of your small off-road engine.

Your emission control system may include parts such as the carburetor or fuel injection system, the ignition system, catalytic converters, fuel tanks, valves, filters, clamps, connectors, fuel lines, fuel caps, canisters, vapor hoses, and other associated components. Also included may be hoses, belts and connectors, and other emission-related assemblies.

MANUFACTURER'S WARRANTY COVERAGE

This 1995 and later small off-road emissions control system is warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by Zhongjian.

OWNER'S WARRANTY RESPONSIBILITIES

(a) As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your operator's manual. Zhongjian, recommends that you retain all receipts covering maintenance on your small off-road engine, but Zhongjian, cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

(b) As the small off-road engine owner, you should be aware, however, that Zhongjian, may deny you warranty coverage if small off-road engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

(c) You are responsible for presenting your small off-road engine to a service center as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact a Zhongjian, Customer Representative at [Phone Number] or [website determined by brand].

DEFECT WARRANTY COVERAGE REQUIREMENTS:

(a) The warranty period begins on the date the engine or equipment is delivered to an ultimate purchaser.

(b) General Emissions Warranty Coverage. Zhongjian, warrants to the ultimate purchaser and each subsequent purchaser that your small off-road engine is designed, built, and equipped at the time of sale to conform with all applicable regulations adopted by the United States Environmental Protection Agency; and that it is free from defects in materials and workmanship which cause the engine to fail to conform with applicable regulations for a period of two years from the date the small off-road engine is purchased by the initial purchaser. Any replacement part or service that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of Zhongjian.

(c) The warranty on emissions-related parts will be interpreted as follows: Any warranted part that is not scheduled for replacement as required in the Maintenance Schedule is warranted for two

years. If any such part (including any part that is scheduled only for regular inspection) fails during the period of warranty coverage, it will be repaired or replaced at any [BRAND] ® Authorized Service Center at no charge. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period. A statement to the effect of “repair or replace as necessary” would not reduce the period of warranty coverage. Any warranted part that is scheduled for replacement as required maintenance in the Maintenance Schedule is warranted for the period of time prior to the first scheduled replacement point for that part. Any such part repaired or replaced under warranty is warranted for the remainder of the period prior to the first scheduled replacement point, and will be repaired or replaced at any [BRAND]® Authorized Service Center for no charge until that replacement point is reached.

Zhongjian shall remedy warranty defects at any authorized [BRAND] ® Authorized Service Center, including any distribution center that may be franchised to service the subject engines. Any diagnostic work done at a [BRAND] ® Authorized Service Center shall be free of charge to the owner if such work determines that a warranted part is defective. Any manufacturer-approved or equivalent replacement part may be used for any warranty maintenance or repairs on emission-related parts, and must be provided free of charge to the owner if the part is still under warranty. Zhongjian, is liable for damages to other engine components caused by the failure of a warranted part still under warranty.

The use of any non-exempted add-on or modified parts will be grounds for disallowing a warranty claim. Zhongjian, will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

The Emission Parts List specifically defines the emission-related warranted parts.

EMISSIONS PARTS LIST (IF EQUIPED)

Exhaust Emissions

Fuel Metering System	Carburetor and internal parts (and/or pressure regulator or fuel injection system)
	Air/fuel ratio feedback and control system
	Cold start enrichment system
Air Induction System	Controlled hot air intake system
	Intake manifold
	Air filter
Ignition System	Spark Plugs
	Magneto or electronic ignition system
	Spark advance/retard system
Exhaust Gas Recirculation (EGR) System	EGR valve body, and carburetor spacer if applicable
	EGR rate feedback and control system
Air injection System	Air pump or pulse valve
	Valves affecting distribution of flow
	Distribution manifold
Catalyst or Thermal Reactor System	Catalytic converter
	Thermal reactor
	Exhaust manifold
Particulate Controls	Traps, filters, precipitators, and any other device used to capture particulate emissions
Miscellaneous items Used in Above Systems	Vacuum, temperature, and time sensitive valves and sw itche
	Electronic controls
	Hoses, belts, connectors, and assemblies

Evaporative Emissions

(1)	Fuel Tank	(10)	Vacuum Control Diaphragms**
(2)	Fuel Cap	(11)	Control Cables**
(3)	Fuel Line	(12)	Control Linkages**
(4)	Fuel Line Fittings	(13)	Purge Valves
(5)	Clamps**	(14)	Vapor Hoses
(6)	Pressure Relief Valves**	(15)	Liquid/Vapor Separator
(7)	Control Valves**	(16)	Carbon Canister
(8)	Control Solenoids**	(17)	Canister Mounting Brackets
(9)	Electronic Controls**	(18)	Carburetor Purge Port Connector

**Note: As they relate to the evaporative emission control system.

Zhongjian, will furnish with each new engine written instructions for its maintenance and use by the owner.

PRORUN regularly improves our products, and you may find slight differences between your machine and descriptions contained within this operator's manual. Modifications can be made to the machine without notice and without the obligation to update the manual, providing that the essential safety and functional characteristics remain unaltered. Contact PRORUN Customer Service with any questions and for current specifications.

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