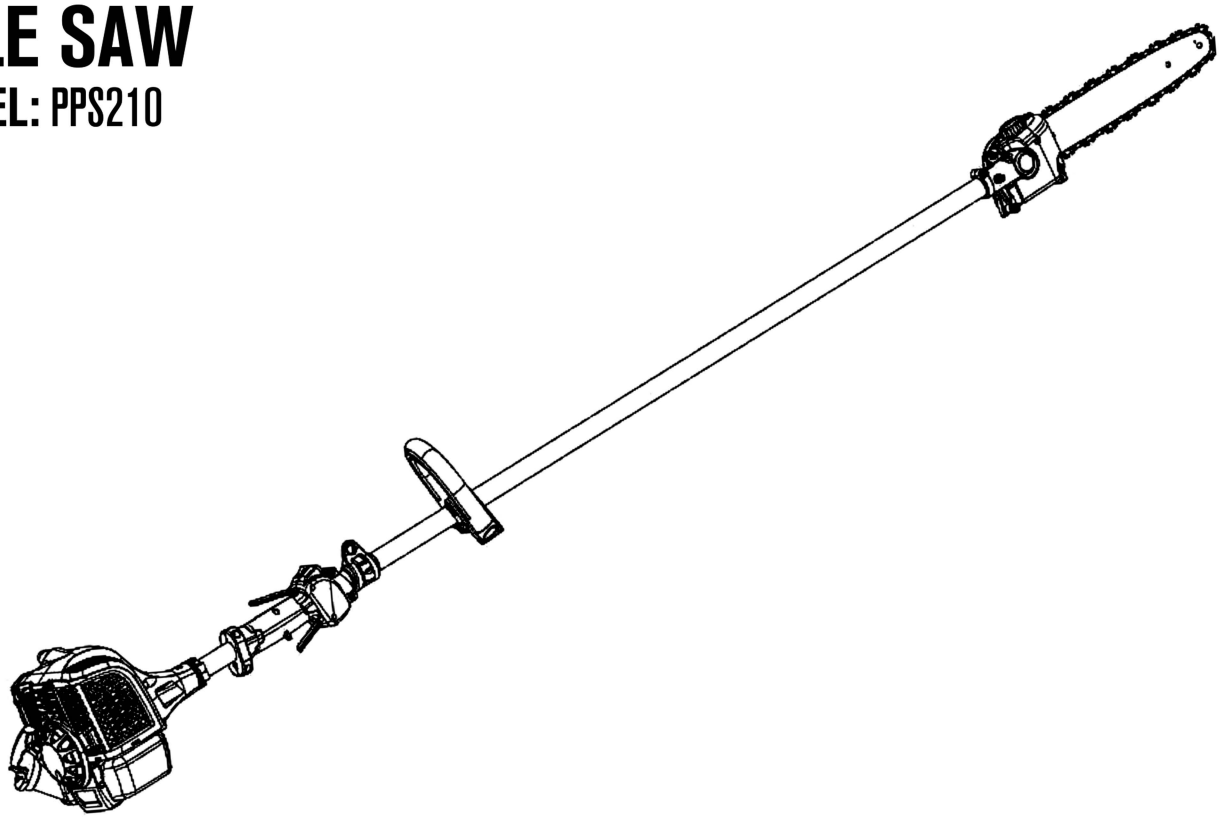
PRORUN®

GAS///

Operator's Manual

POLE SAW

MODEL: PPS210



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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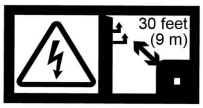
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Safety

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 pole saw 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.
	Keep the machine 30 feet (9 m) from electrical power lines.
	The port to refill the chain oil
	Adjust the oil flow. If you turn the screw by screwdriver counter-clockwise, the chain oil flow more, and if you turn it clockwise, less.
	Fuel mixture tank.
 	Close the choke. Open the choke.
H L T	The screw under the "H" stamp is The High-speed mixture adjustment screw. The screw under the "L" stamp is The Low-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 pole saw.

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.Please read the operator's manual carefully. Become familiar with the owner's manual before attempting to operate the equipment.
2.The machine is only designed for delimbing (removal of branches from trees or parts of trees), pruning (removal of live or dead branches, or of multiple leaders of shoots, from standing trees). Any other unintended uses may result in serious damage of the machine and even the injury of the operator.
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.Beware of overhead power lines. Avoid the electrical shock hazards.
9.Avoid operating while bystanders, animals, especially children, are nearby. The machine operator must ensure that no people or animals come closer than 15 meters while working. Otherwise, serious injury of bystanders may result in.
10.Beware of the risk of being struck by falling branches or branches that, having hit the ground, rebound.

11.Keep firm footing and balance during operation, use the harness provided.
12.Do not operate the pole saw with a damaged or excessively worn cutting device.
Always ensure that all handles and guards are fitted when using the machine. Never attempt to use an incomplete machine or one fitted with an unauthorized modification.
13.Always use two hands to operate this machine.
14.While operating this machine, always ensure that the operating position is safe and secure, especially when using steps or a ladder.
15.Always be aware of your surroundings and stay alert for possible hazards of which you may not be aware due to the noise of the machine.
16.Stop the engine before
-cleaning or when clearing a blockage;
-checking, carrying out maintenance or working on the machine;
-adjusting the working position of the cutting device;
-leaving the machine unattended.
17.Always ensure a correct working posture, operator need for sufficient rest periods and changing working positions.
18.Never use a machine with faulty safety equipment. The machine's safety equipment must be checked and maintained as described in this section. If your machine fails any of these checks contact your service agent to get it repaired.
19.Never use the machine if you are tired, if you are ill, if you have drunk alcohol, or if you are taking medication that could affect your vision, your judgement or your coordination.
20.Wear personal protective equipment. See instructions under the heading "Personal protective equipment".
21.Never use a machine that has been modified in any way from its original specification.
22.Never use a machine that is faulty. Carry out the checks, maintenance and service instructions described in this manual. Some maintenance and service measures must be carried out by trained and qualified specialists. See instructions under the heading "Routine maintenance".
23.If the cutting attachment strikes any foreign object or the machine starts making any unusual noise or vibration, shut off the power source and allow the machine to stop. Disconnect the spark plug wire from the spark plug and take the following steps:
-Inspect for damage;
-Check for, and tighten, any loose parts;
-Have any damaged parts replaced or repaired with parts.
24.All covers, guards and handles must be fitted before starting. Ensure that the spark plug cap and ignition lead are undamaged to avoid the risk of electric shock.
25.Never allow children or people unfamiliar with these instructions to use the machine. Local laws can restrict the minimum age of the operator.
26.Secure the machine during transport to prevent loss of fuel, damage or injury;
Cleaning and maintenance before

storage, including the use of guards on cutting attachments with metal blades;
27.Use of a transport cover for metal blades during transport and storage;
Alert! national regulations (Occupational Safety and Health, environment) may be present, which can restrict the use of the machine;
Daily inspect the machine before use and after dropping or other impacts to identify any significant defects;
During a working day, you shall take frequent and adequate breaks to prevent damage from vibration and damage to the ears.

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. Contact PRORUN Customer Service, only an approved 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 PRORUN Customer Service for a replacement.
6.Have the equipment serviced by a PRORUN 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.

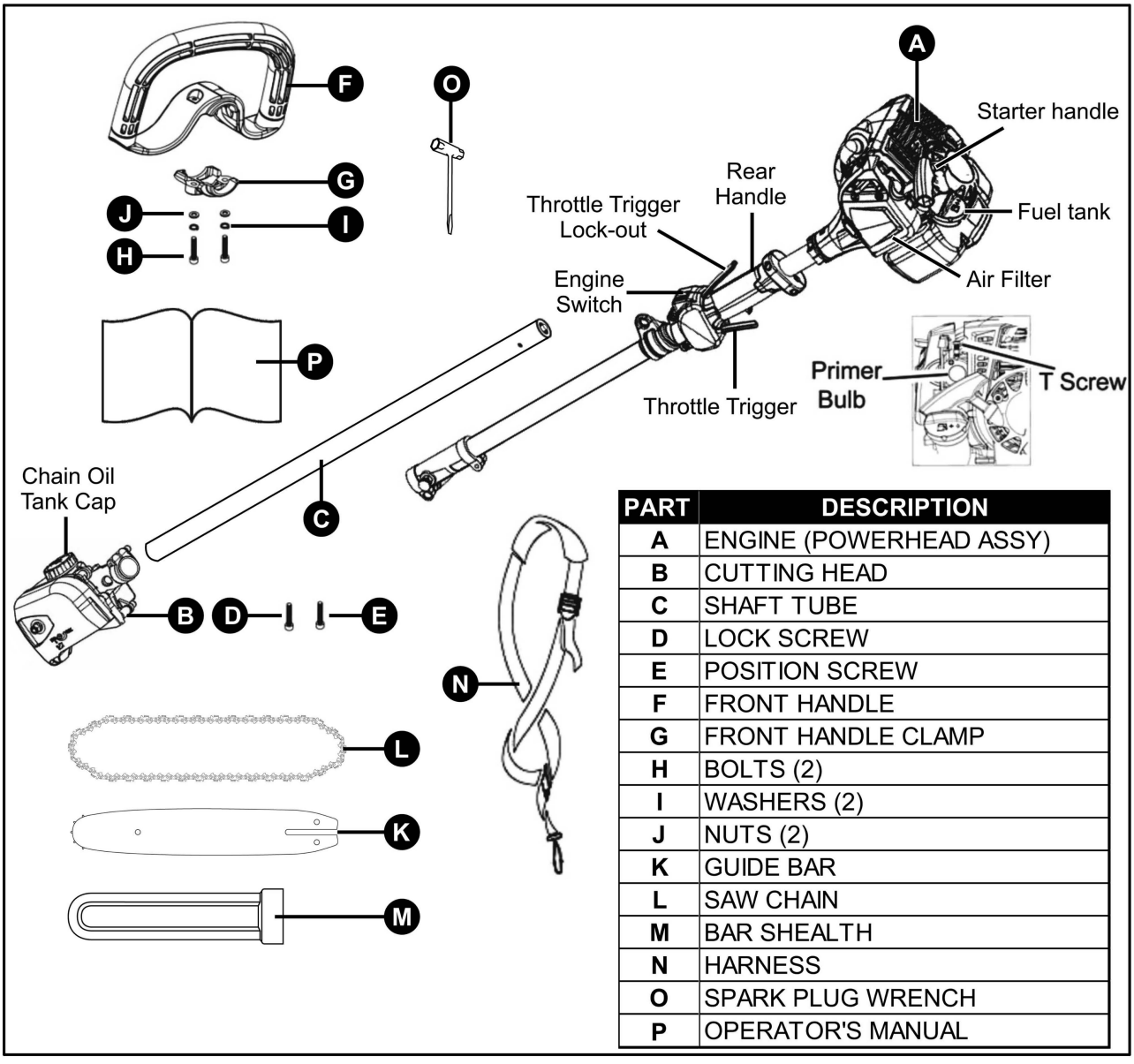
⚠WARNING

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.

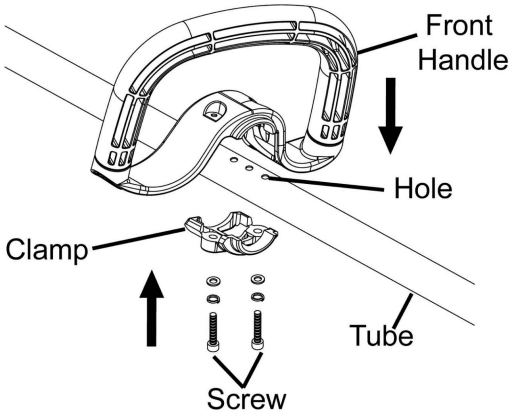
Components and Controls



PART	DESCRIPTION
A	ENGINE (POWERHEAD ASSY)
B	CUTTING HEAD
C	SHAFT TUBE
D	LOCK SCREW
E	POSITION SCREW
F	FRONT HANDLE
G	FRONT HANDLE CLAMP
H	BOLTS (2)
I	WASHERS (2)
J	NUTS (2)
K	GUIDE BAR
L	SAW CHAIN
M	BAR SHEALTH
N	HARNESS
O	SPARK PLUG WRENCH
P	OPERATOR'S MANUAL

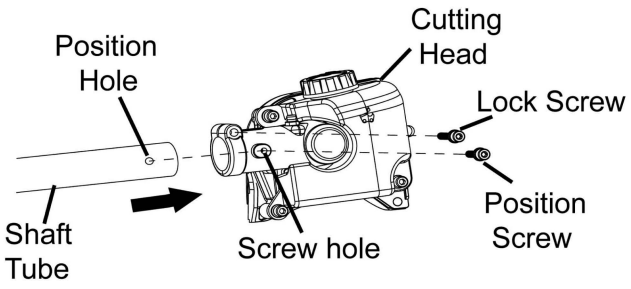
Installing the Handle

Align the pin on front handle with the one of three holes on the tube. Put the front handle on the tube between the connector and the rear handle.
The clamp is installed on the tube. And fix the front handle and clamp with two screws.



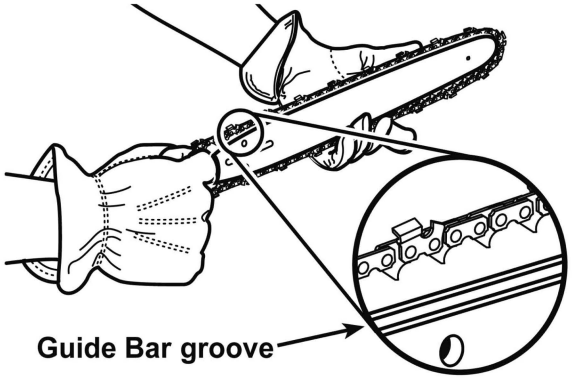
Installing the Cutting Head

Fit the cutting head on the shaft tube so that the screw hole on the cutting head is aligned with the position hole on the shaft tube as shown. Then, tighten the lock screw and the position screw securely.
Make sure that the drive shaft inside the shaft engages with the cut-out in the cutting head.



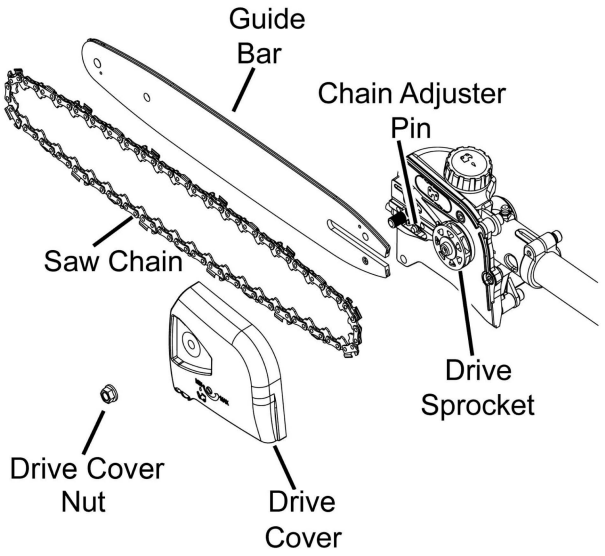
Fitting guide bar and saw chain

1.Loosen and remove the Drive Cover Nuts, then remove the Drive Cover from the Cutting Head.
2.Place the Saw Chain over the Guide Bar. The cutters of the Saw Chain must face away from the engine along the top edge of the Guide Bar. Fit the Drive Links into the groove around the Guide Bar.



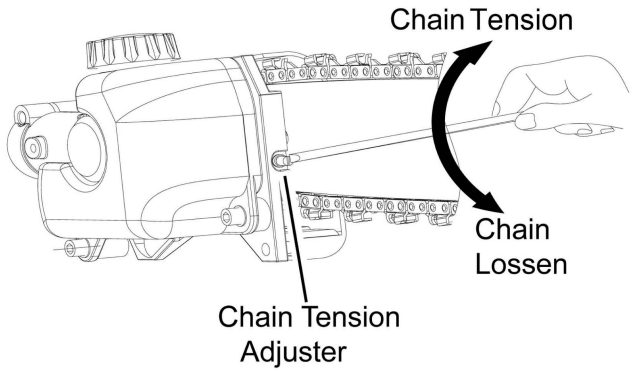
3.Fit the guide bar over the bar bolt. Place the guide bar in its rearmost position. Gear the saw chain with the drive sprocket.
Make sure that the edges of the cutting links are facing forward on the top edge of the guide bar.

Locate the chain adjuster pin in the hole in the guide bar. Check that the drive links of the saw chain fit correctly on the drive sprocket and that the saw chain is in the groove in the guide bar. Fit the chain cover and tighten the nut finger-tight.

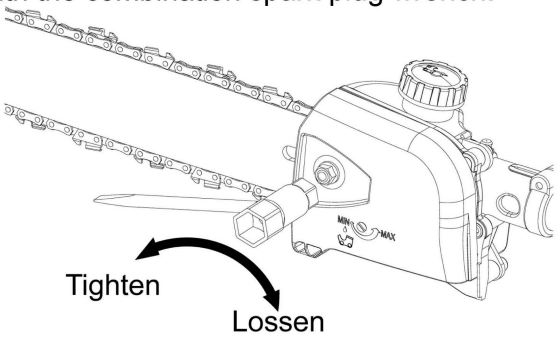


Fitting guide bar and saw chain

1.Tension the saw chain by turning the Chain Tension Adjuster clockwise using the combination spanner. The saw chain should be tensioned until it does not sag from the underside of the bar.



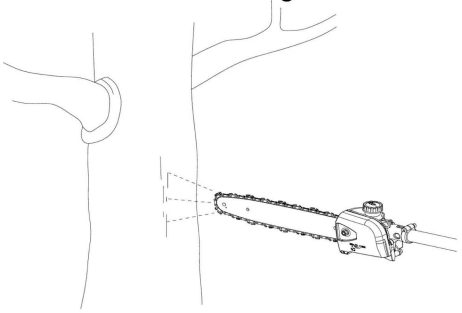
2.The saw chain is correctly tensioned when it does not sag from the underside of the guide bar, but can still be turned easily by hand. Hold up the guide bar tip and tighten the nut with the combination spark plug wrench.



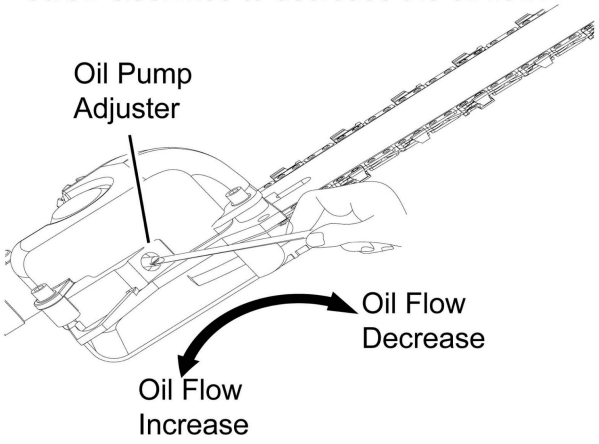
If necessary, readjust with the nut loose. When fitting a new chain, the chain tension has to be checked frequently until the chain is run-in. Check the chain tension regularly. A correctly tensioned chain ensures good cutting performance and long life.

Checking and Adjusting chain lubrication

1.Aim the tip of the bar at a light coloured surface about 8 inches (20 cm) away. After 1 minute running at 3/4 throttle you should see a distinct line of oil on the light surface.

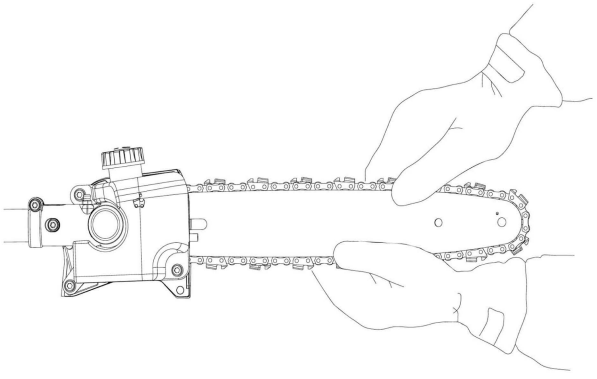


2.When cutting dry or hard species of wood it may be necessary to increase lubrication. Turn the Oil Pump Adjuster anticlockwise to increase the oil flow. Remember that this will increase oil consumption. Turn the adjuster screw clockwise to decrease the oil flow.



Checking Saw Chain Tension

1.Before using, check the Saw Chain tension.
2.While wearing heavy-duty gloves, use your hand to carefully grab the Saw Chain in the middle of the Chain Guide Bar.
3.Pull the Saw Chain away from the Guide Bar.
4.The Saw Chain should snap back against the Guide Bar. The Chain should fit snugly in the groove of the Chain Guide Bar, yet you should still be able to slide the chain along the Chain Guide Bar by hand.
5.There should be no sagging between the Guide Bar and Saw Chain on the underside of the Guide Bar.

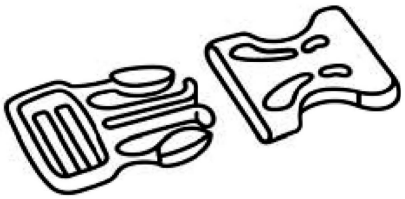


Adjusting the harness

⚠ **WARNING!** When using the machine it must always be hooked securely to the harness. Otherwise you will be unable to control the pole saw safely and this can result in injury to yourself or others. Never use a harness with a defective quick release.
Single shoulder harness
Put on the harness.
Hook the machine onto the harness support hook.
Adjust the length of the harness so that the support hook is roughly level with your right hip.



Use the quick-release buckle to release the machine quickly from the operator in the event of emergency.



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

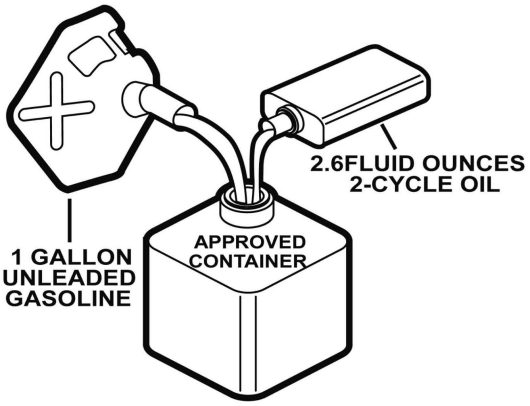
Inspect engine and equipment looking for damaged, loose, and missing parts before set up and starting. If any problems are found, do not use equipment until fixed properly.

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 hangs in the air.

Starting the Engine

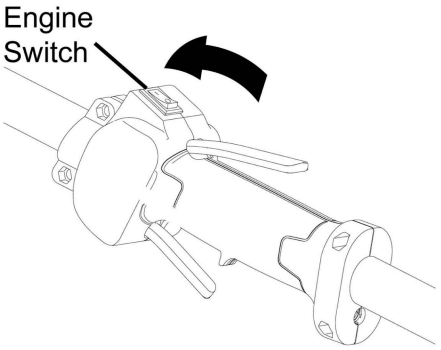
Before Starting the Engine

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.
c. Fill the oil tank with the proper amount and type of bar and chain oil.

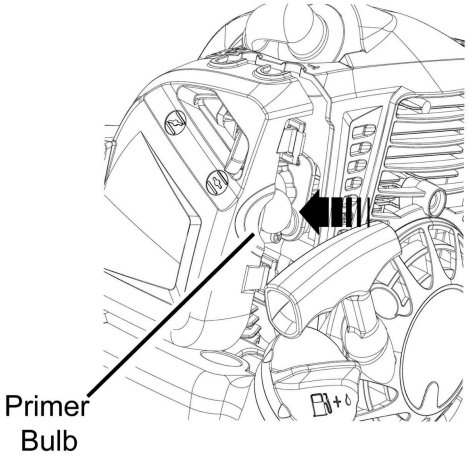
Manual Start

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.

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

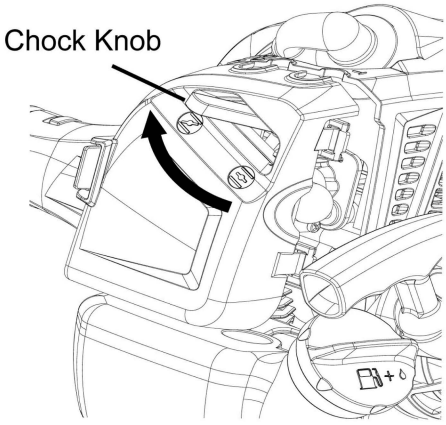


2.Press Primer Bulb 10 times to prime the carburetor.



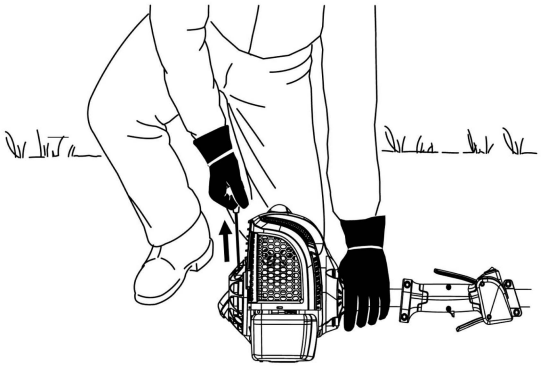
3.Move Choke Knob to the position.

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



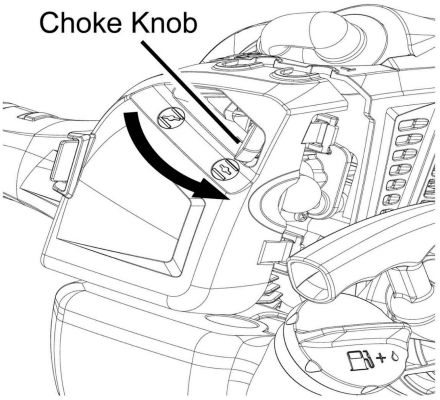
4.Use one hand to securely hold the unit against the ground.

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. This will partially engage the Throttle to assist with starting.

The saw chain begin rotating immediately when the engine is starting.



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 the Engine to run at partial throttle for 15 seconds.

9.Quickly press and then release Throttle to disengage Throttle Assist mode and allow the Engine to return to idle.

Note: Press the throttle too fast could stall engine.

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

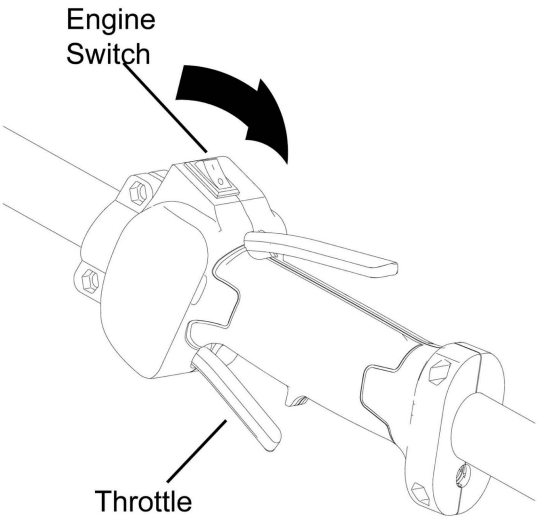
11.Adjust the Throttle as needed.

Hot Start

To initiate a Hot Start, follow each step of the Cold Start procedure EXCEPT 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.



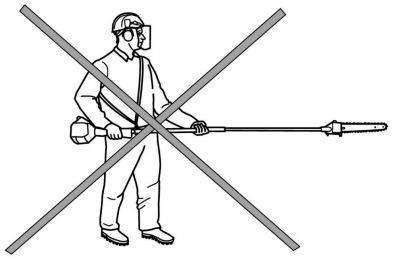
2.Under normal conditions, use the following procedure:

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

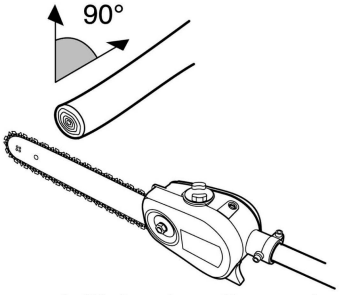
NOTICE
See Long-Term Storage on page 18 for complete storage instructions.

General Operating Instructions

1.Hold the machine as close to your body as possible to get the best balance.
Make sure that the tip does not touch the ground.
2.Do not rush the work, but work steadily until all the branches have been cut back cleanly. Always slow the engine to idle speed after each working operation. Long periods at full throttle without any load on the engine can lead to serious engine damage.
Always work at full throttle.
3.Let the engine drop back to idle speed between each cut. Long periods at full throttle can cause serious damage to the centrifugal clutch.
NOTICE: Never stand directly underneath a branch that is being cut. This could lead to serious or even fatal personal injury.
Observe great care when working close to overhead power lines. Falling branches can result in short-circuiting.
Observe the applicable safety regulations for work in the vicinity of overhead power lines.
4.Do not work with the shaft held straight out in front of you (like a fishing rod) as this increases the apparent eight of the cutting attachment.

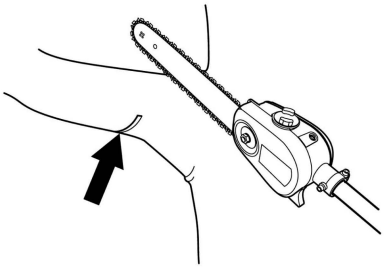


5.Whenever possible position yourself so that you can make the cut at right angles to the branch.

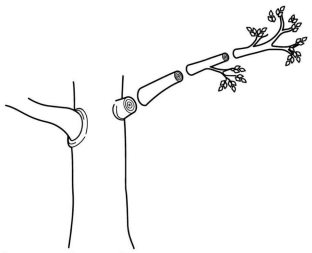


6.Make an initial cut on the underside of the branch before cutting through the branch. This will prevent tearing of the bark, which could lead to slow healing and cause permanent damage to the tree. The cut should not be deeper than 1/3 of the branch thickness to prevent jamming. Keep the chain running while

you withdraw the
cutting attachment from the branch to prevent it jamming.



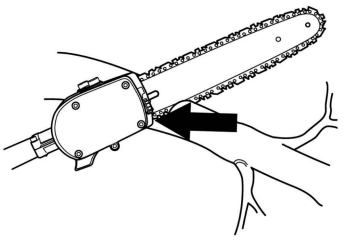
7.Cut large branches in sections so that you have better control over where they fall.



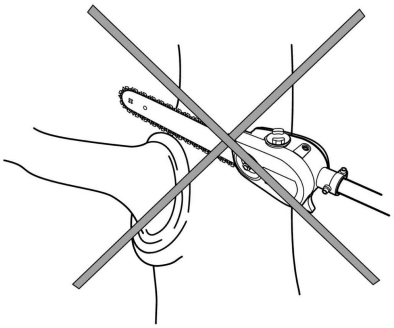
8.Use the harness to support the weight of the machine and
make it easier to handle.
Make sure you have a firm footing and that you can work
without being hampered by branches, stones and trees.



9.Use the stop at the base of the cutting head to provide
support during cutting. This will help prevent the cutting
attachment from ”jumping” on the branch.



10.Never cut through the swelling at the root of the branch as
this will slow down healing and increase the risk of fungal attack!



⚠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, have a qualified 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.

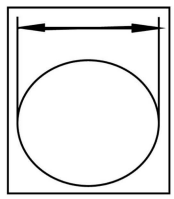
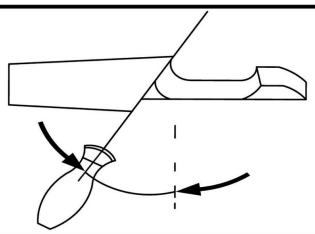
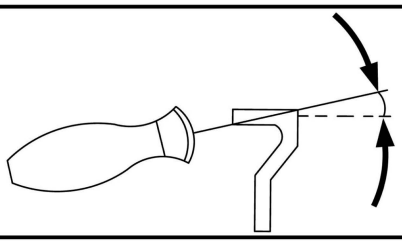
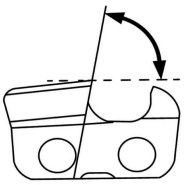
** Contact PRORUN Customer Service. These items should be services by an authorized service technician.

Sharpening/Replacing the Saw Chain

<u>CAUTION!</u> Wear heavy-duty work gloves when handling the Saw Chain.

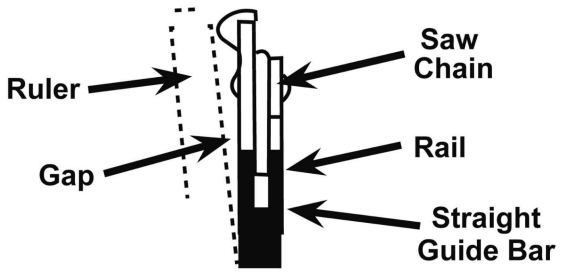
1.For smooth and safe operation, always keep the Saw Chain cutters sharp.
2.Have the cutters sharpened by a PRORUN approved technician when you notice any of the following symptoms:
a. The sawdust becomes powder-like.
b. You can't make the cut without extra force.
c. The pole pruner does not cut straight.
d. Vibration increases.
3.A Saw Chain that is damaged or too worn to be restored to a usable condition by sharpening will need to be replaced. Refer to Guide Bar / Saw Chain Installation/Replacement on page 8.

<u>WARNING!</u> TO PREVENT SERIOUS INJURY: Replace the Saw Chain only with an identical Saw Chain.

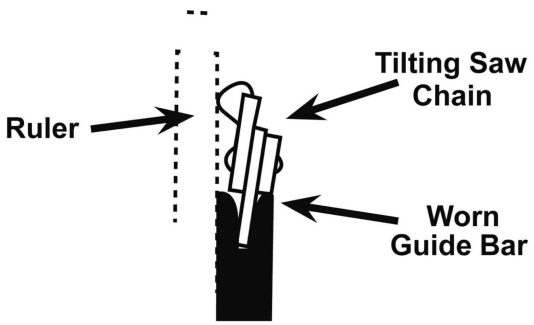
File diameter	Top plate angle	Down angle	Side angle
			
5/32 inch	30°	0°	80°

Chain Guide Bar Care

1.Remove the Chain Guide Bar periodically to clean and lubricate.
2.Deburr rails of Guide Bar as needed. Use a flat file to make side edges square.
3.Remove sawdust and sap from the Bar Groove using a Guide Bar cleaning tool (sold separately), then lubricate the nose sprocket at the ports with grease.
4.Reverse the Guide Bar when replacing the Saw Chain to prevent uneven wear.
5.The rails of the Guide Bar groove should always be parallel to each other. Place a ruler along the surface of the Guide Bar and Saw Chain. If there is a gap, the bar is normal.



If the ruler is flush with the Guide Bar and Saw Chain, or the Chain tilts to one side, then the Bar is worn and needs to be replaced.1



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.

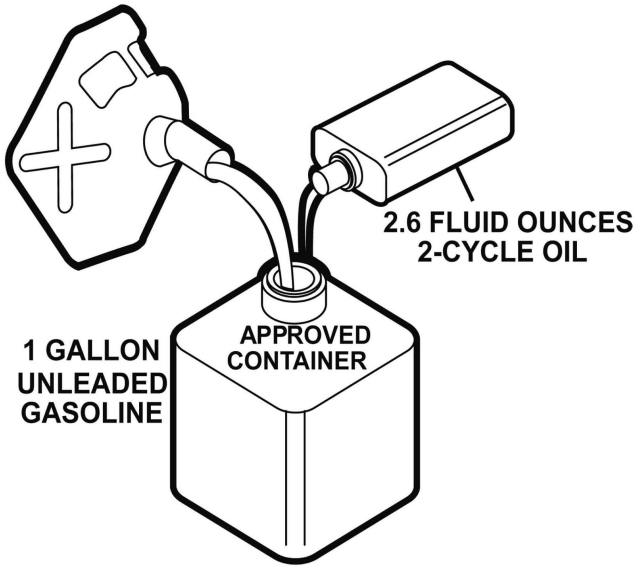
IMPORTANT: Your Warranty is VOID if the Engine's Fuel Tank is not filled with the proper mixture (50:1) of unleaded gasoline and 2-cycle oil before each use.
2-Stroke oil must meet either JASO M345 FD or ISO-L-EGD requirements for air-cooled engines, synthetic.
Before each use, check the fuel level.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

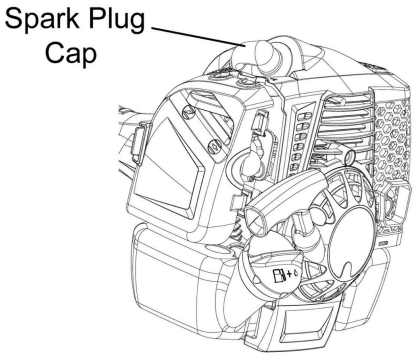
4.If needed, fill the Fuel Tank with the pre-mixed unleaded gasoline/2-cycle oil mixture. Do not fill fuel above the bottom of the Fuel Tank fill neck.

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

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.

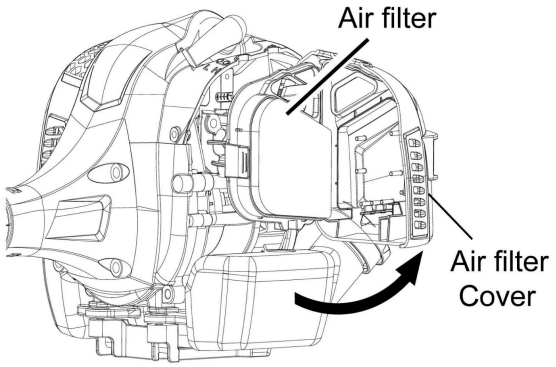
• **Non-gasket-style**:
Finger-tighten until the plug contacts the cylinder head, then tighten about 1/16 turn more.

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.Remove the Air Filter Cover and the Air 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.

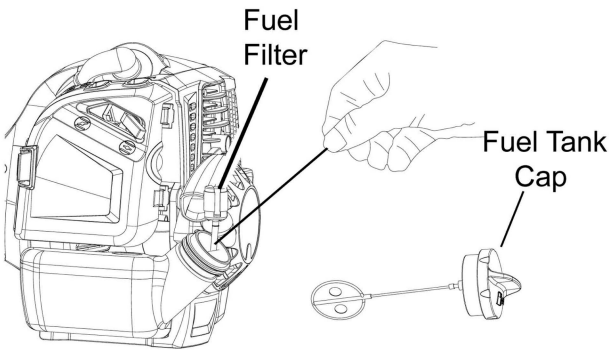
Fuel Filter Maintenance

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 pole saw.

e.Allow engine to run at idle until Pole Pruner 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.Contact PRORUN Customer Service and have an approved technician diagnose/repair ignition system.
	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	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. Contact PRORUN Customer Service and have an approved technician service magneto. 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. Contact PRORUN Customer Service and have an approved technician service engine.
Engine runs, but Chain does not rotate.	1.Chain tension too tight. 2.Guide Bar and/or Chain damaged. 3.Chain drive sprocket worn.	1.Adjust Saw Chain tension. 2.Inspect Guide Bar and Chain for damage. Replace Guide Bar and Chain if necessary. 3. Contact PRORUN Customer Service and have an approved technician service tool.

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

Problem	Possible Causes	Probable Solutions
Engine runs, Chain rotates but does not cut or cuts poorly.	1.Saw Chain not tensioned properly. 2.Saw Chain dull. 3.Saw Chain installed backwards.	1.Tension Saw Chain properly. 2.Sharpen Saw Chain or replace. 3.Reverse direction of Saw Chain.
Chain comes off Guide Bar.	1.Chain tension too loose. 2.Guide Bar and Chain not installed correctly.	1.Adjust Saw Chain tension. 2.Review and correct Guide Bar and Chain installation.
Guide Bar and Chain running hot	1.Chain tension too tight. 2.Oil Tank empty.	1.Adjust Saw Chain tension. 2.Check/refill Oil Tank.

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

Specifications.

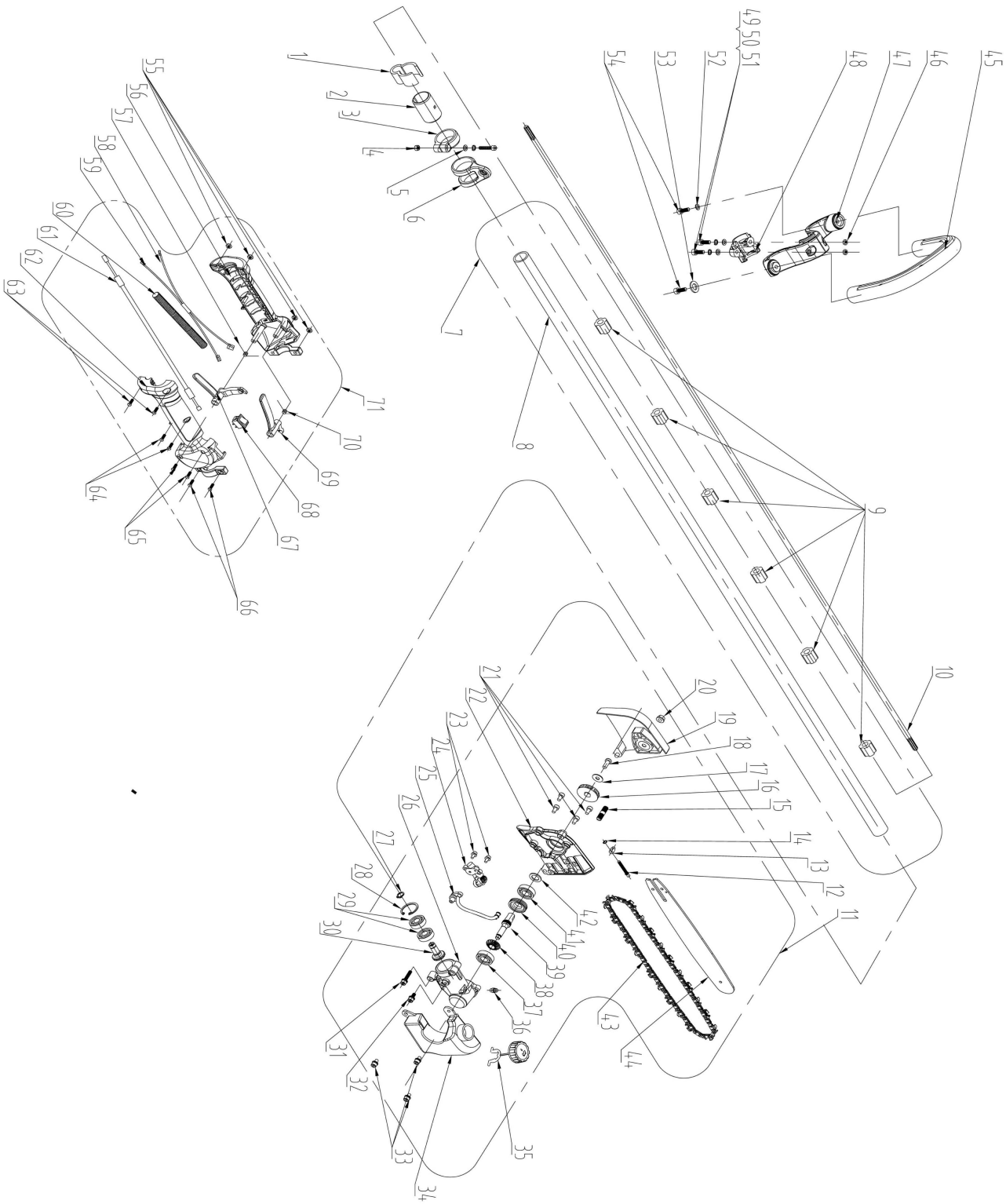
Displacement			25.4cc	
Engine Type			Single Cylinder 2-stroke	
Power Output			1.0 HP / 0.75 kW	
Cooling System			Forced air cooled	
Fuel		Type	87+ octane stabilizer-treated unleaded gasoline containing no more than 10% ethanol (E10) with 2-Stroke oil (see below)	
		Capacity	20.3 fl. oz.	
Oil		Type	2-Stroke 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			34mm x 28mm	
Compression Ratio			6.9:1	
Spark Plug		Type	Champion® RCJ7Y / Bosch® L8RTF NGK® BPMR7A / TORCH® L7RTC	
		Gap	0.02 inch	
Speed		Idle	3100±400 RPM	
		Maximum	9600 RPM	
Cutting Head	Saw Chain	Length	10 inches	12 inches
		Pitch	0.375 inch	
		Gauge	0.050 inch	
		Model	Oregon 91P040X	Oregon 91P045X
	Guide Bar	Length	10 inches	12 inches
		Model	Oregon100SDEA318	Oregon120SDEA318
	Lubrication	Type	Bar and chain oil	
		Capacity	4.6 fl. oz.	
Sound Level at 50 feet			80 dB	
Run Time @ full throttle			1 hr.(The oil is only used for 20 minutes)	

Part List - Trimmer

NO	Description	Qty
1	wire hold	1
2	sleeve 26	1
3	clamp	1
4	nut M5	1
5	screw M5x22	1
6	harness clamp assembly	1
7	straight shaft assembly	1
8	AL tubing	1
9	rubber	6
10	driver shaft	1
11	cutting attachment	1
12	Tension screw	1
13	E ring 5	1
14	Tension block	1
15	Double end studs M6×30	1
16	Sprocket 3/8"	1
17	Plate washer 6	1
18	Screw M6×14	1
19	Sprocket cover	1
20	Nut M6	1
21	Screw M5×12	4
22	Gear box cover	1
23	Screw M4×10	2
24	Oil pump	1
25	Oil tube	1
26	Gear box	1
27	Circlips for shaft 10	1
28	Circlips for hole 26	1
29	Bearing 6000-2z	2
30	Transmission gear	1
31	screw M5x25	1
32	screw M5x12	1
33	Screw M5×12	3
34	Oil tank	1
35	Oil cap	1
36	Oil nozzle	1
37	Bearing 627	1
38	Transmission gear	1
39	Output shaft	1

NO	Description	Qty
40	Oil pump worm gear	1
41	Bearing 6001	1
42	Bearing spacer	1
43	Saw chain	1
44	Guide bar	1
45	front handle	1
46	nut M5	2
47	handle base	1
48	clamp	1
49	screw M5x28	2
50	lock washer 5	2
51	plate washerΦ5*12*1.5	2
52	plate washer Φ5*11*2	1
53	plate washerΦ5*12*1.5	1
54	ST screw 4.8x19	2
55	nut M5	4
56	plastic handle \ LH	1
57	spring \ trigger	1
58	wire cable A	1
59	wire cable B	1
60	wire tube	1
61	throttl cable assembly	1
62	plastic handle \ RH	1
63	screw M5x14	2
64	ST screw 3.5x9.5	2
65	ST screw ST4.2x10	2
66	screw M5x14	2
67	trigger	1
68	switch	1
69	lock trigger	1
70	spring \ trigger	1
71	rear handle	1

Assembly Diagram - Trimmer

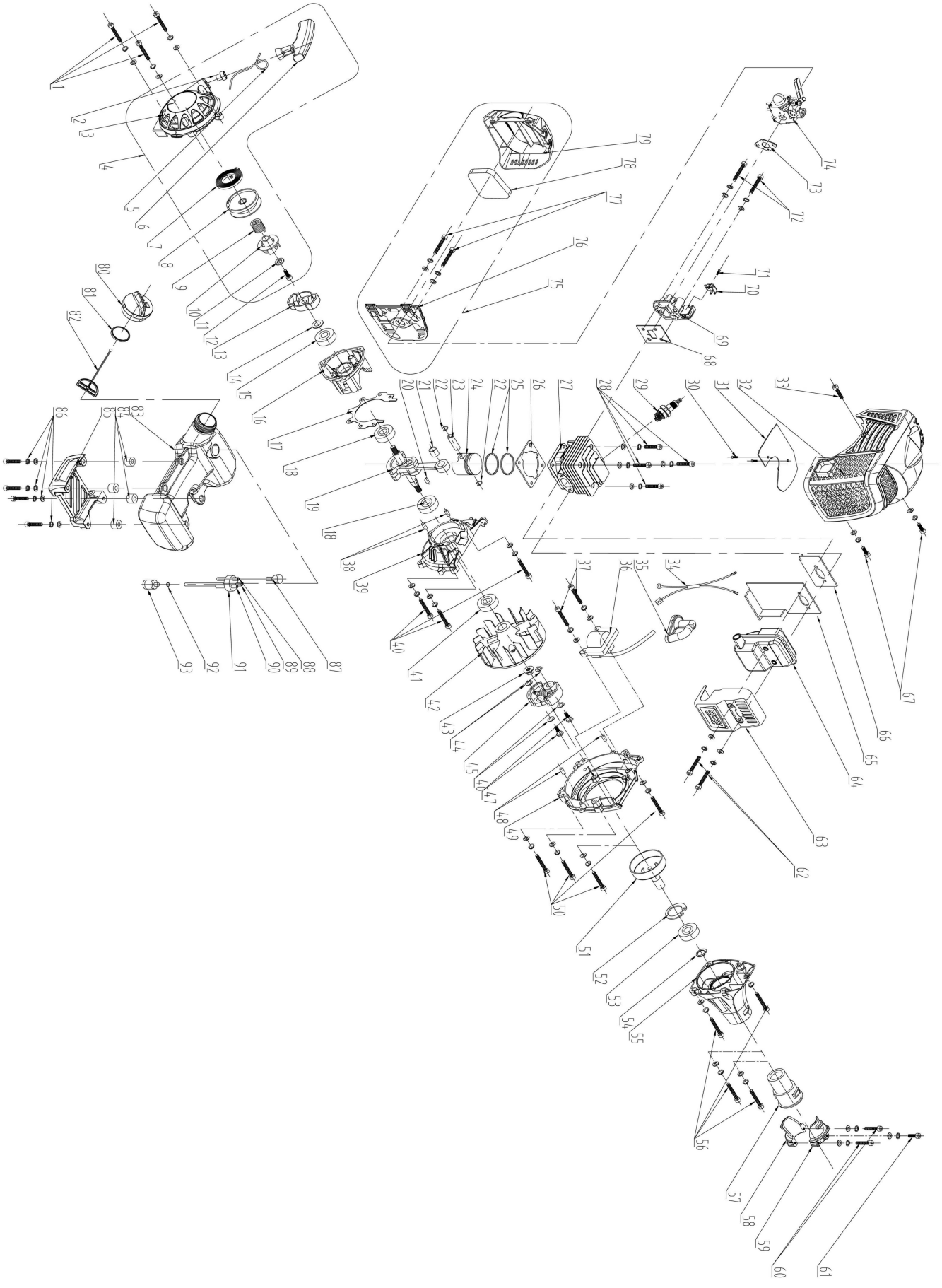


Part List - Engine

NO.	Description	Qty
1	screw M5x12	3
2	eyelet	1
3	start cover	1
4	starter assembly	1
5	start rope	1
6	start grip	1
7	coil spring	1
8	start pulley	1
9	spring. Start	1
10	ratchet wheel	1
11	plate washer	1
12	ST screw 4.8x16	1
13	start reel	1
14	washer 8	1
15	OIL-SEAL 12x22x7	1
16	crank case RH side	1
17	gasket \ crank case	1
18	bearing 6001	2
19	crank shaft assembly	1
20	key 3x3.5x10	1
21	bearing 6001 8×11×11	1
22	circlip \ Piston pin	2
23	piston pin	1
24	piston	1
25	piston ring	2
26	gasket \ cylinder	1
27	cylinder	1
28	screw M5x20	4
29	Spark Plug	1
30	ST screw 4.2x10	2
31	air deflector	1
32	top housing	1
33	ST screw 4.8x16	1
34	wire	1
35	Spark Plug cover	1
36	ignition	1
37	screw M5x20	2
38	pin φ5x10	2
39	crank case LH side	1
40	screw M5x25	3
41	OIL-SEAL 12x22x7	1
42	magneto rotor	1
43	flange nut M8x1	1
44	flat washer	2
45	clutch assembly	1
46	elastic washer M8	2
47	bolt \ clutch	2

NO.	Description	Qty
48	pin φ4x10	2
49	fan cover	1
50	screw M5x20	4
51	passive disk	1
52	circlip 35	1
53	bearing 6202	1
54	circlip 15	1
55	clutch drum housing	1
56	screw M6x20	4
57	rubber	1
58	clamp RH	1
59	clamp LH	1
60	screw M5x25	2
61	screw M5x12	1
62	screw M5x52	2
63	muffler heat shield	1
64	muffler	1
65	gasket \ muffler	1
66	gasket \ muffler	1
67	screw M4x12	2
68	gasket	1
69	admitting pipe	1
70	stamping	1
71	screw M4x6	1
72	screw M5x20	2
73	gasket \ carburetor	1
74	carburetor	1
75	air box assembly	1
76	air box base	1
77	screw M5x45	2
78	spone	1
79	air box cover	1
80	fuel tank cover	1
81	gasket rubber	1
82	anti falling board	1
83	fuel tank	1
84	rubber bump	4
85	fuel tank housing	1
86	screw M5x25	4
87	balancer	1
88	air tube	1
89	fuel tube	1
90	return tube	1
91	retainer . fuel tube	1
92	snap ring	1
93	filter fuel	1

Assembly Diagram - Engine



Emissions Control System Warranty

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

The U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and Zhejiang Zhongjian Technology Co., Ltd (hereinafter called Zhongjian), are pleased to explain the Emissions Control System Warranty on your new 2020/2021 small off-road engine. In California, new equipment that uses small off-road engines must be designed, built, and equipped to meet the state's stringent anti-smog standards. In other states, 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 California Air Resources Board or 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.

Add-on or modified parts that are not exempted by the California Air Resource Board may not be used. 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. Zhongjian, will provide any documents that describe its warranty procedures or policies within five days upon request by the California Air Resources Board.

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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