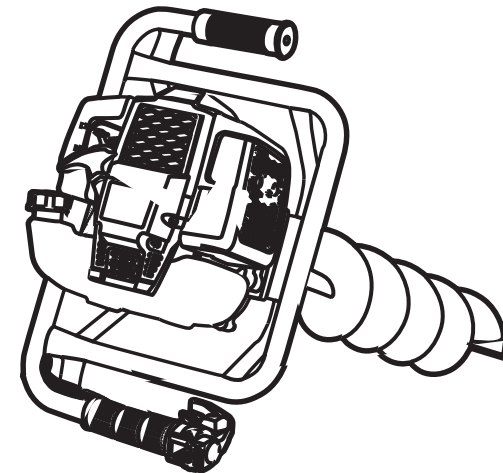


***salem
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EARTH AUGER

INSTRUCTION MANUAL



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Caution	Before using our earth auger ,please read this manual carefully to understand the proper use of your unit.Keep this manual handy.
WARNING	Read and follow all safety precautions in the instruction manual.Failure to follow instructions could result in serious personal injury

PROBLEM	POSSIBLE CAUSE	REMEDY/ACTION
Engine is hard to start	1.stale fuel	1.drain old fuel and replace with fresh, use gas stabilizer at end of season
	2.spark plug wire loose	2.make sure spark wire is securely attached to spark plug
	3.dirty carburetor	3.clean carburetor, use gas stabilizer, new gas can
	4.throttle control not held wide open	4.prime unit 3times, then hold throttle wide open when pulling recoil handle
Engine misses or lacks power	1.clogged gas tank	1.remove and clean
	2. clogged air filter	2.clean or replace
	3.carburetor out of adjustment or bad	3call factory.
	4. spark plug wet, faulty or improperly gapped	4. clean, replace or gap spark plug
Engine runs, then quit	1.carburetor out of adjustment	1.open manual venting gas cap screw all the way open (counterclockwise)
	2.plugged fuel filter	2.clean or replace
	3.gas cap not venting	3call factory.
Engine revs too high	1. carburetor out of adjustment	1.call factory
Auger turns at idle	1.idle speed too high	1.adjust the speed lower
Auger turns, but has no power	2.broken clutch spring	2.replace spring
	1. choke on	1.turn off choke after engine is running
	2. carburetor out of adjustment	2. call factory.
	3.broken transmission	3. call factory.
	4.worn clutch shoes	4.replace clutch shoes and spring
	5.worn engine lower seat	5. call factory.
Auger jumps	1.blade damaged	1.replace with new blade
Auger cuts slowly	1.dull blade	1.buy new blade, or have blade sharpened at factory
	2.damaged fish tail point	2.replace fishtail point

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SAFETY

OWNER'S RESPONSIBILITY

Accurate assembly and safe and effective use of the auger is the owner's responsibility.

- Read and follow all safety instructions
- Carefully follow all assembly instructions
- Maintain the auger according to directions and schedule in this earthquake operator's manual.
- Ensure that anyone who uses the auger is familiar with all controls and safety precautions.

SPECIAL MESSAGES

Your manual contains special messages to bring attention to potential safety concerns, machine damage as well as helpful operating and servicing information, Please read all the information carefully to avoid injury and machine damage.

NOTE: General information is given throughout the manual that may help the operator in the operation of service of the machine.

IMPORTANT SAFETY PRECAUTIONS

Please read this section carefully. Operate the auger according to the safety instructions and recommendations outlined here and inserted throughout the the text Anyone who uses this auger must read the instructions and be familiar with the controls.



This symbol points out important safety instructions which if not followed could endanger your personal safety. Read and follow all instructions in this manual before attempting to operate this equipment.

- . Do not carry the auger powerhead between holes with the engine running.
 - the auger should not rotate when the engine is idling. If it does rotate when engine is idling ,contact dealer for instructions.
 - Always hands, feet , hair and loose clothing away from and moving parts on the engine and auger
 - Do not allow children to operate this power auger. Do not allow adults to operate the auger without proper instruction.
 - Do not operate any power equipment under the influence of alcohol or drugs.
 - Keep all screws, nuts and bolts tight.
 - Engine should be turned off and cool , spark plug wire must be removed from spark plug before any repairs are attempted.
 - Temperature of muffler and nearby areas may exceed 150F(65C).Avoid these areas.
- Never run engine indoors or in an enclosed area. Engine exhaust contains carbon monoxide, an odorless and delay gas.

SERVICE, TROUBLE SHOOTING AND REPAIR

SERVICE INFORMATION

We build quality and durability into the design of our product, but no amount of careful design by us, and careful maintenance by you, can guarantee a repair free life for your auger. Most repair will be minor, and easily fixed by following the suggestion in the trouble shooting guide in this section.

The guide will help you pinpoint the causes of common problems and identify remedies.

For more complicated repairs, you may want to rely on your retailer, an authorized mechanic or contact your retailer for a list of authorized mechanic in your area. A parts catalog is include in this section.

We will Always be glad to answer any questions you have, or help you find suitable assistance. To order parts or inquire about warranty, call or write us at the address found below, under the section ordering repair parts.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	REMEDY/ACTION
Engine will not start	1. Power switch off	1.flip switch to ON position
	2.spark plug wire disconnected	2.connect spark plugwire to spark plug
	3.Out of fuel	3.refuel
	4.spark plug wet, faulty or improperly gapped	4.clean,replace or gap spark plug
	5.throttle control not held wide open	5.hold throttle control wide open when pulling recoil handle
	6.fuel line hose not positioned in bottom of gas tank	6. push fuel line down into fuel in gas tank
Engine run rough	1.dirty air filter	1.clean or replace air filter
Floods during operation	2.choke partially engaged	2.turn off choke
	3.carburetor out of adjustment	3.call factory

3. if an enclosed vehicle must be used, remove gas into an approved red fuel container. **DO NOT** siphon by mouth.
4. run engine to use up the fuel in the carburetor and fuel tank. Always run engine in a well ventilated area.
5. wipe away any spilled fuel from engine and earth auger, allow to dry.

LONG TERM STORAGE

If your earth auger will not be used for more than one month, prepare it for long term storage.

Step for long term storage

1. Add fuel stabilizer according to manufacturer's instruction.
2. run engine for 10-15 minutes to ensure that the stabilizer reaches the carburetor.
3. remove the remainder of the fuel from the gas tank into an approved container.
4. remove auger from power head and apply a thin layer of grease to the output shaft (8913)
5. store auger and power head (engine) in a vertical position.
6. remove all debris from auger and power head (engine).

● CAUTION

AVOID INJURY! TO AVOID INJURY OR DEATH, NEVER SIPHON FUEL BY MOUTH.

AVOID INJURY! NEVER STORE AUGER WITH FUEL IN THE GAS TANK INSIDE AN ENCLOSED AREA OR BUILDING.

TO PREVENT ACCIDENT STARTING

AVOID INJURY! ENGINE MUST BE TURNED OFF AND COOL, AND SPARK PLUG WIRE MUST BE REMOVED FROM SPARK PLUG BEFORE CHECKING AND ADJUSTING ENGINE OR EQUIPMENT

AVOID INJURY! AN ADULT MUST ALWAYS DO MAINTENANCE AND REPAIR ON ENGINE AND AUGER.

AVOID INJURY! ENGINE MUST BE SHUT-OFF, COOL, AND SPARK PLUG WIRE REMOVED BEFORE ANY REPAIR OR MAINTENANCE CAN BE DONE.

- If the earth auger will not turn in a hole, turn engine off and allow to cool before attempting to remove it manually.

● CAUTION

CAUTION INDICATES YOU CAN OR YOUR EQUIPMENT CAN BE HURT IF THE SAFETY INSTRUCTION THAT FOLLOW THIS SIGNAL WORD ARE NOT OBEYED.

● IMPORTANT

INDICATES HELPFUL INFORMATION FOR PROPER ASSEMBLY, OPERATION, OR MAINTENANCE OF YOUR EQUIPMENT.

● WARNING

ENGINE EXHAUST FROM THIS PRODUCT CONTAINS CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

ENGINE SAFE TYPE CAUTION

Warning carbon monoxide poisoning

All engines contain carbon monoxide in their exhaust, carbon monoxide is clearly, colorless, tasteless, odorless gas which may be present even if you do not smell or see any engine exhaust levels of carbon monoxide, if inhaled, can cause headaches, drowsiness, nausea, dizziness, confusion and eventually death. If you experience any of these symptoms, seek fresh air and medical attention immediately.

Preventing Carbon Monoxide Poisoning

- Never run engine indoors
- Never try to ventilate engine exhaust indoors. Carbon monoxide can reach dangerous levels very quickly.
- Never run engine outdoors in a poorly ventilated area where the exhaust fumes may be trapped and not easily taken away.
- Never run engine in an enclosed or partially enclosed area. (Example include: building that are enclosed on one or more sides, under tents, car ports or basements.)
- Always run the engine with the exhaust and muffler pointed in the direction away from the operator.
- Never point the exhaust muffler towards anyone. People should always be many feet away from the operation of the engine and its attachment.

Gasoline Fires or Handling Fuel Safely

Fuel and fuel vapors are highly flammable. Never use fuel where a spark or flame may be present. Never use fuel where a potential source of ignition could occur. (Example include: hot water or space heaters, clothes dryer, electric motors, etc.,)

Keep flames and sparks away from engine and fuel, to prevent fires. Fuel fires spread very quickly and are highly explosive.

Prevention of Gasoline Fires

- never fill your fuel tank with fuel indoors.
- Always fill fuel tank outside in a well ventilated area.
- Never remove the fuel cap or add fuel with the engine running. Stop engine and allow to cool before filling.
- Never drain fuel from engine in an enclosed area.
- Always wipe up excess (spilled) fuel from engine before starting. Clean up spilled fuel immediately.
- Allow spilled fuel to dry, after wiping and starting.
- Allow fuel fumes/vapors to escape from the area before starting engine.
- Test the fuel cap for proper installation before starting and using engine.
- Always run the engine with the fuel cap properly installed in the engine and gas cap vent screw unscrewed.
- Replace fuel cap that allows gas to spill or leak.
- Never smoke while refilling engine fuel tank.

● CAUTION

TO PREVENT ACCIDENT STARTING

AVOID INJURY! ENGINE MUST BE TURNED OFF AND COOL, AND SPARK PLUG WIRE MUST BE REMOVED FROM SPARK PLUG BEFORE CHECKING AND ADJUSTING ENGINE OR EQUIPMENT.

AVOID INJURY! TEMPERATURE OF MUFFLER AND NEARBY AREA MAY EXCEED 150F(65°C) AVOID THESE AREAS.

AVOID INJURY! CHECK AUGER OFTEN FOR LOOSE NUTS AND BOLTS. KEEP THESE ITEMS TIGHTED.

AVOID INJURY! NEVER STORE ENGINE WITH FUEL IN THE FUEL TANK INSIDE A BUILDING, POTENTIAL SPARKS MAY BE PRESENT FOR IGNITION OF FUEL AND FUEL

AVOID INJURY! AN ADULT MUST ALWAYS DO MAINTENANCE AND REPAIR ON ENGINE AND AUGER.

AVOID INJURY! ENGINE MUST BE SHUT-OFF, COOL, AND SPARK PLUG WIRE REMOVED BEFORE ANY REPAIR OR MAINTENANCE CAN BE DONE.

Spark Plug

1. check spark plug every 50 operating hour.
2. disconnect the spark plug cap, and clean any debris from around the spark plug area.
3. remove spark plug and replace if any of the following occur, pitted electrodes, burned electrodes, cracked porcelain around electrodes.
4. after analysis, seat spark plug and tighten with spark plug wrench.
 - reinstall original spark plug, tighten additional 1/2 turn
 - installing new spark plug, adjust spark plug gap to 0.30" and tighten additional 1/8-1/4 turn.

NOTE: loose spark plug may overheat and damage engine. Over tightened spark plug may damage threads in the cylinder head.

Carburetor

Never tamper with factory setting of the carburetor.

TRANSPORTING YOUR EARTH AUGER

1. Never transport inside and enclosed space or vehicle, fuel or fuel vapor may ignite causing serious injury or death.
2. if fuel is present in the fuel tank, transport in an open vehicle in an upright position.

MAINTENANCE AND STORAGE

AUGER MAINTENANCE

1.The gear case has 4oz of grease installed at the factory, it is recommended that once a year the gear case be greased and the grease level checked. Add grease only if level of grease is below top of the gear.

DO NOT OVER FILL

2.Keep all screws nuts and bolts tight.

3.For cold weather operation store the unit in a cool environment, transferring the unit from a warm to a cold place can cause the build up of harmful condensation.

4.If blade performance decreases, turn unit off and disconnect spark plug wire.

Carefully inspect cutting edge of blade for any signs of wear, if blades show any of these signs, they need to be sharpened or replaced.

ENGINE MAINTENANCE

Cooling fins

Cooling fins, air inlets and linkage must be free from any debris before each use.

Air Filter

Never run engine without air cleaner properly installed. Added wear and engine failure may occur if air cleaner is not installed. Service air cleaner every 3 months or 20 hours of operation. Clean filter daily in extremely dusty conditions.

Steps for Cleaning Air Filter

1.wash in warm water with mild soap until dirt debris are removed. Press filter when washing, do not twist.

2.rinse in warm water until soap and dirt are removed.

3.dry filter by wrapping in a clean cloth and pressing filter until it is dry.

4.apply oil to the entire filter.

5.remove excess oil.

6.attach the filter and cleaner cover to the engine.

Prevent fire and explosion caused by static electric discharge. Use only non-metal, potable fuel container approved by the underwriter's laboratory(U.L) or the American society testing&materials(ASTM).

- Do not store engine with fuel tank indoors. Fuel and fuel vapors are highly explosive.

- When storing, screw down gas cap vent screw tightly.

- Never pour fuel from engine fuel tank.

- Never siphon fuel by mouth to drain fuel tank.

- Always have an adult fill the fuel tank.

- Never allow an adult or anyone under the influence of the drugs or alcohol to fill engine.

- Never allow children to fill the engine.

BURNS AND FIRES

The muffler, muffler guard and other parts of the engine become extremely hot during the operation of the engine. These parts remain extremely hot after the engine has stopped.

Prevention of burns and fires

Never remove the muffler guard from the engine.

Never touch the muffler guard because it is extremely hot and will cause severe burns.

Never touch parts of the engine that become hot after operation.

Always keep materials and debris away from muffler guard and other hot parts of the engine to avoid fire.

CAUTION

HOT GASES ARE A NORMAL BY PRODUCT OF A FUNCTIONAL CATALYTIC CONVERTER FOLLOW ALL SAFETY INSTRUCTIONS TO PREVENT BURNS AND FIRES.

OPERATION

STEPS FOR WORKING ON ENGINE OR AUGER

1. Turn off engine switch.
 2. Disconnect the spark plug wire from the spark plug.
 3. Securely place the disconnected spark plug wire away from the spark plug and any metal parts.
 4. Replace or repair the part on engine or auger.
 5. Check all parts that were repaired or removed during repair, that they are secure and fit correctly.
- NOTE: All repair parts must from factory, never replace parts that are not specifically designed for the engine or auger.
6. Replace the park plug.

PREPARING ENGINE FOR STARTING

GAS AND OIL

Quality

To operate the engine, re recommend using "VIPER" brand 3 cycle oil to ensure that the engine operate correctly throughout the life of the engine. Use unleaded regular gas only.

Mixture

Run earth auger with a 25:1 ratio

GAS	OIL	RATIO
1 gallon	2.5 ounces	25:1
2 gallons	5 ounces	25:1
5 gallons	3 ounces	25:1

MIXING FUEL AND FILLING GAS TANK

Mixing Fuel

1. Fuel must be mixed in a container outside in a well ventilated area.
2. Fill certified fuel container 1/4 full of recommended fuel.
3. Add recommended amount of 2 cycle oil.
4. Screw container cap on straight and tight.
5. Shake the container to mixed fuel and oil.
6. Unscrew gas cap slowly to vent, add the remainder of fuel requirements.
7. Wipe away any spilled fuel or oil and allow to evaporate before moving or transporting

HOT ENGINE START:

1. Open gas cap vent screw all the way (counterclockwise)
2. Continue with step 5 of cold engine starting.
3. If engine does not fire, refer to step 2 of warm engine starting.

DO NOT attempt to start engine in the following ways:

- DO NOT use starting fluid DO NOT spray flammable liquids or vapors into air cleaner, carburetor or spark plug chamber.
- DO NOT remove spark plug and pull on starter rope. Flammable fuel can spray out & ignite from a spark from spark plug.

SPECIFICATION

Model	PD520M
Engine Model	IE44F-5
Engine Type	Forced Air-cooled 2-stroke
Displacement	52 cc
Max output	2.0kw
Fuel	Gasoline and Oil Mixture(25:1)
Fuel tank capacity	1.2L
Ignition System	C.D.I
Starting System	Recoil
Gear Ratio	34:1
Max Engine speed (r/min)	6500
Clutch Engine speed (r/min)	3700
Idle Engine speed (r/min)	2800-3200
Auger speed(r/min)	110-280

9.To stop engine, push rocker switch to OFF position.

WARM ENGINE START:

- 1.Open gas cap vent screw all the way (counterclockwise).
- 2.Move choke lever to CHOKe or ON position.

NOTE:CHOKE position is defined by moving the choke lever as far to the ON position as possible.

- 3.Continue with Step 5 Cold Engine Starting.

● **CAUTION**

AVOID INJURY! ALWAYS HANDLE FUEL IN A WELL VENTILATED AREA, OUTDOORS, AWAY FROM FLAMES OR SPARKS.

AVOID INJURY! DO NOT START ENGINE IF FUEL IS SPILLED. WIPE OFF EXCESS FUEL AND ALLOW TO DRY. REMOVE ENGINE FROM AREA TO AVOID SPARKS.

AVOID INJURY! IF AUGER IS MOUNTED TO ENGINE, ALL SAFETY GUARDS MUST BE SECURELY ON TO AVOID SERIOUS INJURY.

AVOID INJURY! STARTER ROPE CAN CAUSE AN UNANTICIPATED JERK TOWARDS ENGINE. PLEASE FOLLOW INSTRUCTIONS TO AVOID INJURY.

AVOID INJURY! NEVER LEAVE ENGINE RUNNING WHILE UNATTENDED. TURN OFF AFTER EVERY USE.

AVOID INJURY! NEVER CARRY POWERHEAD AND AUGER BETWEEN HOLES WHILE ENGINE IS RUNNING.

● **WARNING**

AVOID INJURY! MAKE SURE THE UNIT IS IN A STABLE POSITION BEFORE PULLING THE STARTER HANDLE.

AVOID INJURY!WHEN THE UNIT STARTS TO FIRE OR RUN, RELEASE THE THROTTLE CONTROL MOMENTARILY WITH YOUR RIGHT HAND AND RETURN YOUR LEFT HAND TO THE HANDLEBAR POSITION TO MAINTAIN CONTROL AND STABILITY OF THE UNIT WITH BOTH HANDS.

● **CAUTION**

DO NOT ALTER/MODIFY ENGINE OR AUGER

AVOID INJURY! NEVER ALTER OR MODIFY THE ENGINE FROM THE FACTORY.

SERIOUS INJURY OR DEATH MAY OCCUR IF ENGINE IS MODIFIED OR ALTERED

AVOID INJURY! WHEN WORKING ON OR REPLACING PARTS FOR THE ENGINE OR AUGER YOU MUST ALWAYS DISCONNECT SPARK PLUG WIRE FROM THE SPARK PLUG AND KEEP IT AWAY FROM THE SPARK PLUG.

AVOID INJURY!ALWAYS WEAR HEARING PROTECTION WHILE OPERATING ENGINE

AVOID INJURY! PLEASE DO NOT START YOUR EARTH AUGER UNTIL YOU HAVE READ THE PREVIOUS SKETCH OF THIS MANUAL IF YOU HAVE READ THESE,

FOLLOWTHE STEPS BEFORE OR START YOUR EARTH AUGER

AVOID INJURY! NEVER STROKE ENGINE WITH GAS IN THE TANK INDOORS. FUEL AND FUEL VAPORS ARE HIGHLY FLAMMABLE

AVOID INJURY! NEVER MIX FUEL AND OIL DIRECTLY IN THE ENGINE GAS TANK

USE ONLY NON-METAL PORTABLE FUEL CONTAINERS APPROVED BY THE UNDERWRITER'S LABORATORY(U.L) OR THE AMERICAN SOCIETY FOR TESTING &MATERIALS(ASTM)

AVOID INJURY! ADULTS MUSTALWAYS HANDLE AND FILL THE ENGINE WITH THE FUEL

AVOID INJURY! ALWAYS HANDLE FUEL IN A WELL VENTILATED AREA, OUTDOORS, AWAY FROM FLAMES OR SPARKS

● **IMPORTANT**

THIS ENGINE USED A GAS/OIL MIXTURE DO NOT RUN ON STRAIGHT GAS ONLY, ENGINE DAMAGE WILL RESULT.

Filling Gas Tank

- 1.Shut-off engine and allow engine to completely cold before refilling the gas tank
- 2.Move to a well ventilated area, outdoors, away from flames and sparks.
- 3.Clean debris from area around the gas cap.
- 4.Loosen gas cap slowly. Place the cap on a clean dry surface.
- 5.Carefully add fuel without spilling.
- 6.Do not fill gas tank completely full, allow space for fuel to expand.
- 7.Immediately replace gas cap and tighten. Wipe off spilled fuel and allow to dry before starting engine.

NORMAL OPERATION

- 1.the clutch will transfer maximum power after about two hours of normal operation. During this break-in period, clutch slippage may occur. The clutch should be kept free of oil or other moisture for efficient operation.
- 2.Drill holes without placing excessive body weight on the unit. The auger operates most efficiently with a shaving action caused by the weight of the unit itself.
- 3.Never run engine indoors. Exhaust fumes are deadly.
- 4.Do not use an earth auger in the ice.
- 5.To attach auger to power head, align hole at the top of auger shaft with the output shaft hole. Insert 3/8-16*1-1/2" bolt and secure bolt with provided 3/8" bi-way lock nut using a wrench.

NOTE: the ends of the bolt should be flush with the auger collar. Bolt head and thread end should never go beyond each collar

USING THE SCREW TYPE, MANUAL VENTING GAS CAP

- 1.Your power earth auger is equipped with a screw type, manual venting gas cap.
- 2.Before starting the engine, turn the screw in the top of the gas cap all the way open(counterclockwise)to its venting position. To ensure that gas will not spoil during use, check that the gas cap is screwed on tightly and gas cap screw is in the venting position.
- 3.After using the power earth auger and before putting away or transporting it in a vehicle, screw the gas cap screw(clockwise)tightly. This will prevent gas from leaking during storage. The gas cap will not leak gas during storage if the gas cap is tight and the screw at top is tight.

NOTE: when staring unit in an upright position for pro-longed periods of time in warm weather, vent gas cap to prevent gas from leaking from carburetor.

● CAUTION

AVOID INJURY! ALWAYS HANDLE FUEL IN A WELL VENTILATED AREA, OUTDOORS, AWAY FROM FLAMES OF SPARKS.

AVOID INJURY! DO NOT START ENGINE IF FUEL IS SPILLED. WIPE OFF EXCESS FUEL AND ALLOW TO DRY. REMOVE ENGINE FROM AREA TO AVOID SPARKS.

STARTING AND TOPPING ENGINE

- Move engine to a well ventilated area, outdoors, to prevent carbon monoxide poisoning.
- Move to an area away from flames or sparks, to avoid ignition of vapors if prevent.
- Remove all debris from air deaner holes and gas cap to ensure proper air flow.

COLD ENGINE START:Starting engine for first time or after engine has cooled off or after running out of fuel.

1.Open gas cap vent screw all the way (counterclockwise).

2.Move choke lever to RUN or OFF position.

NOTE:Choke must be in the RUN or OFF position when pushing or using the primer bulb.

3.Prime unit primer hose is filled with gas.

NOTE:When using the primer bulb, allow the bulb to return completely to it's original position between pushes.

4.Move choke lever to CHOKE or ON position.

NOTE:CHOKE position is defined by moving the choke lever as far to the ON position as possible.

5.Push rocker switch to the ON position.

6.Squeeze throttle control wide open with right hand.Grasp starter handle with left hand and pull out slowly, until it pulls slightly harder.Without letting starter handle retract,pull rope with a rapid full arm stroke.Let it return to it's original position very slowly until unit fres or runs.Repeat this step every time the starter rope is pulled.

NOTE:If engine fails to start after 5-6 pulls, push primer 1 time and pull starter rope again.

7.After engine starts running, move choke lever to HALF CHOKE position until unit runs smoothly.

NOTE:HALF CHOKE is defined when the choke lever is between CHOKE and RUN or ON and OFF.

8.Move choke lever to RUN or OFF position and move throttle to desired speed.

NOTE:Run at full throttle when possible. Do not let unit idle for extended periods of time.