YARDMAX

Gasoline Engine

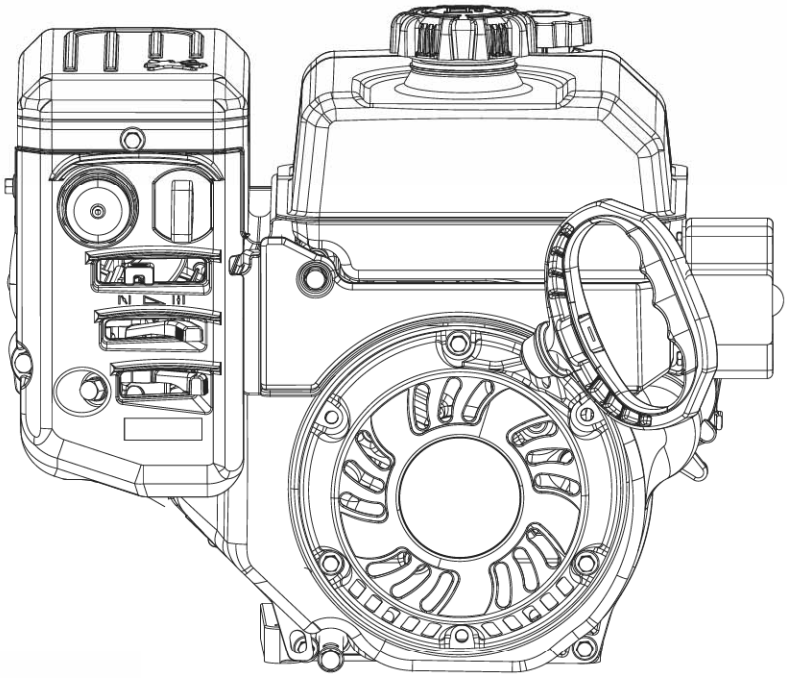
Operator's Manual

MODEL NUMBER
R212S
R252S

SERIAL NUMBER

PURCHASE DATE

Both model number and serial number may be found on the main label. You should record both of them in a safe place for future use.



FOR YOUR SAFETY

READ AND UNDERSTAND THE ENTIRE MANUAL BEFORE OPERATING MACHINE

Your new YARDMAX® engine offers quality construction, and is easy and safe to operate. With proper use and care, it is designed to give you many years of dependable service.

Prepare to experience the durability to take on any job with the ease, portability, and convenience of your new engine!

Discover the YARDMAX Advantage

At YARDMAX, we understand that land ownership definitely has its privileges, but it also comes with a great deal of responsibility. When duty calls and you need to respond, will you have what it takes to tame the great outdoors?

When looking for outdoor power equipment (OPE) to get the job done right, at the right price, YARDMAX delivers the perfect combination of performance and practicality. YARDMAX has a solution that's right for you.

MAX Performance, MAX Value, MAX Support — that's YARDMAX

- √ Backed by decades of proven manufacturing expertise
- √ Enhanced design features come standard
- √ Engineered for the best user experience
- √ Quality metal parts are used instead of plastic
- √ A robust warranty supports all products
- √ Budget-friendly prices make it practical

YARDMAX®

Up for the job? YARDMAX is.

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DISCLAIMER

Keep this owner's manual handy, so you can refer to it at any time.

This owner's manual is considered a permanent part of the engine and should remain with the engine if resold.

The information and specifications included in this publication were in effect at the time of approval for printing.

READ THIS OWNER'S MANUAL CAREFULLY. Pay special attention to these symbols and any instructions that follow:

Warning!
Indicates serious injury or death will result if instructions are not followed.

Danger!
Indicates a strong possibility that serious injury or death could result if instructions are not followed.

Caution!
Indicates a possibility that minor injury or an result if instructions are not followed.

Notice:
Indicates that equipment or property damage can result if instructions are not followed.

If a problem should arise, or if you have any questions about your engine, consult your engine dealer.

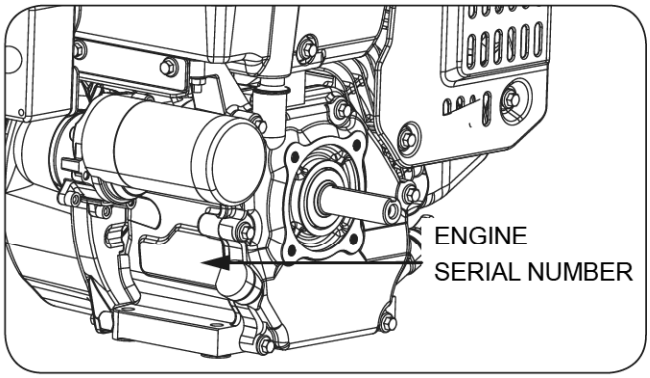
Carefully read through this entire operator's manual before using your new engine. Pay attention to all cautions and warnings.

ENVIRONMENTAL

Recycle unwanted materials instead of disposing of them as waste. All tools, hoses, and packaging should be taken to the local recycling center and disposed of in an environmentally safe way.

ENGINE SERIAL NUMBER

Record the engine serial number on the front cover of this manual. You will need this serial number when ordering parts, and when making technical or warranty inquires.

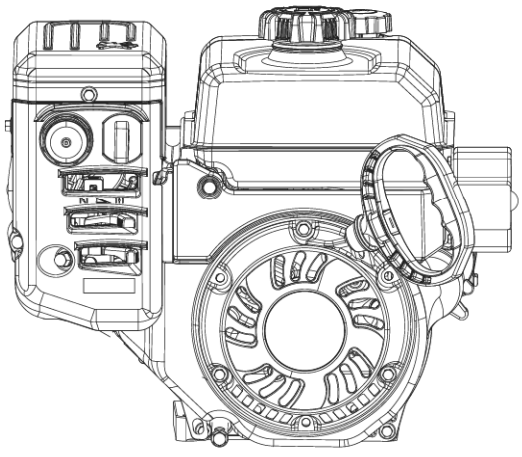


DISCLAIMER

YARDMAX reserves the right to discontinue, change, and improve its products at any time without notice or obligation to the purchaser. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your unit.

SUPPORT

Have questions about your YARDMAX equipment? Call us at 847-327-0566 or 844-YARDMAX, email us at support@yardmax.com, or contact us via your favorite social media site.



SPECIFICATIONS

Model	R212S
L×W×H(mm)	440×350×355
Dry weight(kg)	18.5
Engine type	4-stroke, ,OHV, single cylinder
Bore×stroke(mm)	70×55
Displacement(ml)	212
Compression ratio	9.2:1
Max. output power	4.1kw/3600r/min
Max. torque	12N·m/2500r/min
Cooling system	Forced air
Ignition system	Transistor magneto ignition (TCI)
Spark plug	F6RTC
Lubricating system	Flash
PTO Shaft Rotation	Counterclockwise

Model	R252S
L×W×H(mm)	440×350×355
Dry weight(kg)	19
Engine type	4-stroke, ,OHV, single cylinder
Bore×stroke(mm)	74.5×58
Displacement(ml)	252
Compression ratio	8.5:1
Max. output power	5.2kw/3600r/min
Max. torque	15N·m/2500r/min
Cooling system	Forced air
Ignition system	Transistor magneto ignition (TCI)
Spark plug	F6RTC
Lubricating system	Flash
PTO Shaft Rotation	Counterclockwise

DATA ADJUSTMENT:

Items	Technical Data
Spark Plug Clearance	0.7- 0.8mm
Valve Clearance (Cold Engine)	Intake: 0.10-0.15mm Exhaust: 0.15-0.20mm

TORQUE OF IMPORTANT BOLTS

Items	Specifications	Torque valve (N·m)
Connection-Rod Bolt	M6×1 (Special)	10
Cylinder Head Bolt	M10×1.25	18
Flywheel Nut	M14×1.5 (Special)	77
Lock Nut Of Rocker Arm Shaft	M14×1.25	22
Rocker Arm Stud	M8×1.25 (Special)	24
Crankcase Bolt	M8×1.25	24

SAFETY

IMPORTANT SAFETY INFORMATION

- This engine only supplies power to winter products. Please read these messages carefully before operation.
- Most accidents with engines can be prevented if you follow all instructions in this manual and on the engine. Some of the most common hazards are discussed below, along with the best way to protect yourself and others.
- This manual should be considered a permanent part of the engine and should remain with the engine if it is resold!

OWNER RESPONSIBILITIES

- The engines are designed to give safe and dependable service if operated according to instructions. Read and understand this owner's manual before operating the engine. Failure to do so could result in personal injury or equipment damage.
- Know how to stop the engine quickly, and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.
- Do not allow children to operate the engine. Keep children and pets far away from the area of operation.
- Strictly set the engine according to the regulated power on the owner's manual. Do not overload, overrun the engine or run it with low load and at low speed in a long time.

REFUEL WITH CARE

- Use regulated brand of gas. The fuel should be fully deposited and filtrated before use. Keep clean the fuel filler, change the oil periodically.
- Gasoline is extremely flammable, and gasoline vapor can explode. Refuel outdoors, in a well-ventilated area, with the engine stopped. Never smoke near gasoline, and keep other flames and sparks away. Always store gasoline in an approved container. If any fuel is spilled, make sure the area is dry before starting the engine.
- Refuel the fuel tank not too full so as to avoid fuel's spilling out. If there is spilled fuel around, be sure to clean it thoroughly before starting.

HOT EXHAUST

- The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. Let the engine cool before storing it indoors.
- To prevent fire hazards and to provide adequate ventilation for stationary equipment applications, keep the engine at least 3 feet (1 meter) away from building walls and other equipment during operation. Do not place flammable objects close to the engine.

CARBON MONOXIDE HAZARD

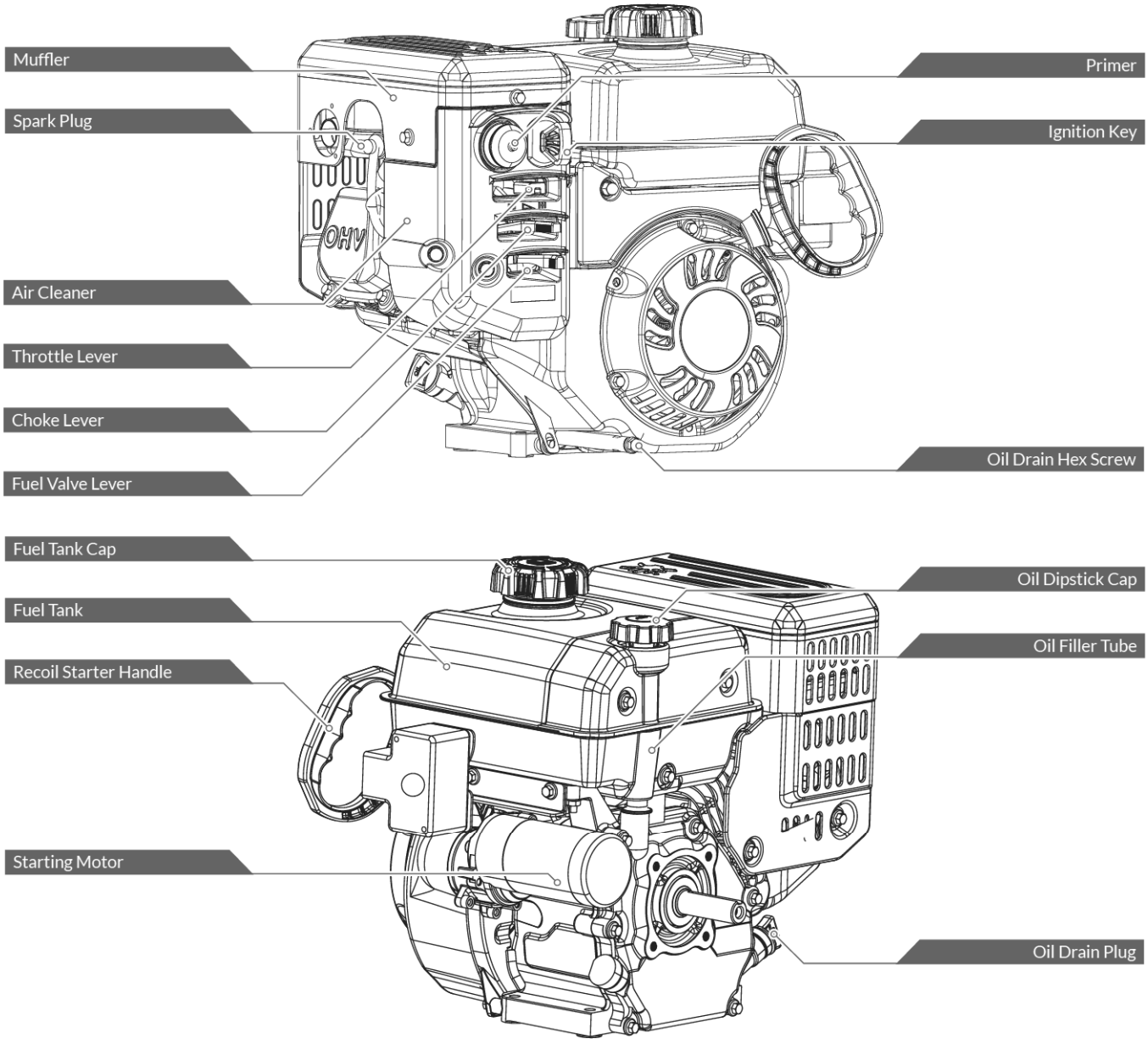
Exhaust gas contains poisonous carbon monoxide. Avoid inhalation of exhaust gas. Never run the engine in a closed garage or confined area.

OTHER EQUIPMENT

- Review the instructions provided with the equipment powered by this engine for any additional safety precautions that should be observed in conjunction with engine startup, shutdown, operation, or protective apparel that may be needed to operate the equipment.
- Periodically check the installation, connection and the degree of tightness of the fixed bolt. Tighten it if necessary.
- The gasoline engine is air-cooled, so clean the radiator, wind cover and fan in time in order to make the engine cool normally.
- The operator should be familiar with the working principle and structure of the gasoline engine, knowing how to make an emergent stop and the operation of all controlling parts. Any one without training is forbidden to operate the engine. Keep periodical maintenance. Solve problems in time. Do not run the engine in spite of malfunction.
- Do not run the engine in airtight or ill-ventilated places.

KNOW YOUR ENGINE

FEATURES AND CONTROLS



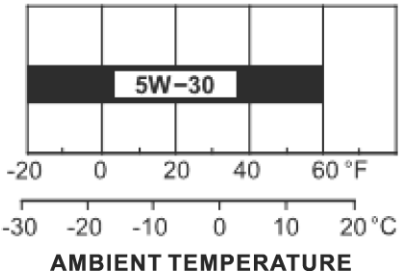
PRE-OPERATE INSPECTION

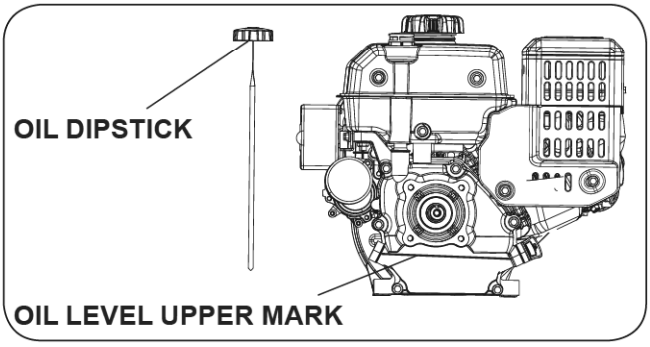
ENGINE OIL

Engine is shipped without engine oil. Properly fill with engine oil before use to prevent engine damage.

Engine Oil

Use 4-stroke engine oil. Please use SAE 5W-30 oil.





OIL LEVEL CHECK

Check method:

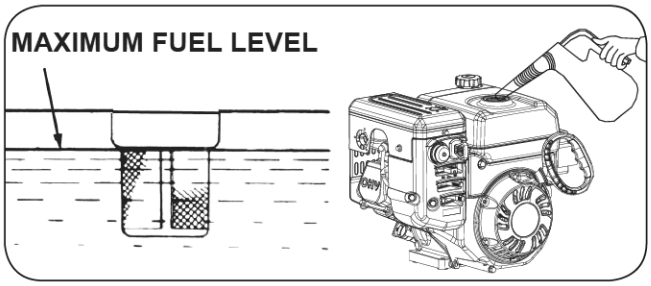
1. Remove the dipstick and clean it.
2. Reinsert the dipstick into the oil filling hole without screwing it, and check oil level.
3. If the oil level is too low, add the recommended engine oil up to the oil filling neck.
4. Reinstall the dipstick
5. Lubrication oil capacity: **0.5L (16.9 FL.OZ)**

Run with insufficient engine oil may damage the engine severely.

FUEL RECOMMENDATION

1. Remove the fuel tank cap and check fuel level.
2. If the level is too low, refuel the tank. Remember adding fuel not over the fuel filler shoulder.
3. Fuel tank capacity: **2.6L (0.7 gal)**

- *Gasoline is extremely flammable and is explosive under certain conditions.*
- *Refueling in a well-ventilation area with the engine stopped. Do not smoke and allow flames or sparks in the area where gasoline is stored or where the fuel tank is refueled.*
- *Do not overfill the fuel tank (there should be no fuel in the filling neck). After refueling, make sure the fuel tank cap is set back securely.*
- *Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.*
- *Avoid repeated or prolonged contact with skin or breathing of fuel vapor. Keep out of reach of children.*



- *Fuel may damage the oil paint and plastic. Be careful not to spill fuel when refueling. Any damage due to oil spilling is not within valid warranty.*
- *"Light knocking" or "spark exploding" sound can be heard when the engine overloading. It is normal, do not be worry about that.*
- *If " knocking" or "spark exploding" sound occur at a steady speed under normal load, change brand of gasoline; if such phenomena still happen, consult your dealer for help, otherwise the engine may be damaged.*
- *When the engine is running, continuously "Knocking" or "spark exploding" sound occurring will damage engine.*
- *"Knocking" or "spark exploding" sound from misusing will not be within the valid warranty.*

STARTING THE ENGINE

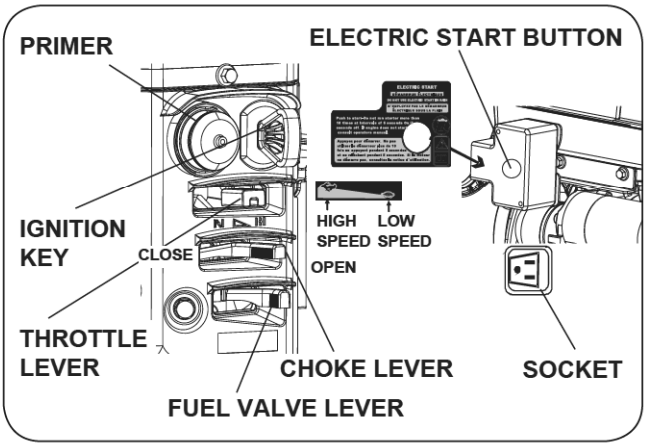
ELECTRIC STARTING

1. AC power supply is used for this gasoline engine and varied with area (120V/60Hz). Before using, please make sure it. Plug one end of the power cord into the AC power supply receptacle while plugging other end into gasoline engine receptacle.

2. Turn the choke lever to CLOSE position, make sure fuel valve lever is on, open the throttle lever to maximum state and insert the ignition key in and press the primer bulb several times by thumb (for pressing times, see notes), then press the electric start button down until the engine start.

- *Times of the pressing primer bulb shall vary with the area and environment, for engine displacement less than 210ml (including 210ml), press 3 times about (3-5 times) recommended.*
- *For ensuring each effective pressing, don't press next until the primer bulb is completely returned in home position.*

Don't press the electric start but ton for over 3s each time, if not, the motor can be damaged.



RECOIL STARTER

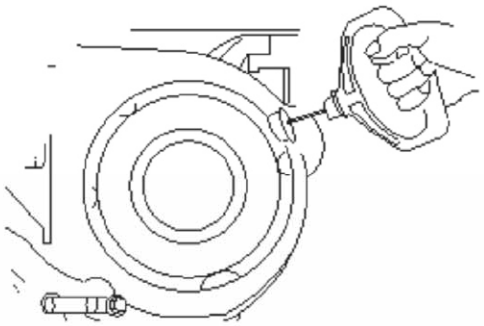
1. Turn the choker lever to the "CLOSE" position, make sure fuel valve lever is on, move the throttle lever to low speed position a little, insert ignition key, and pressing primer bulb times by thumb (for detail of pressing times, see notes).

- *Times of the pressing primer bulb shall vary with the area and environment, for engine displacement less than 210ml (including 210ml), press 3 times about (3-5 times) recommended.*
- *For ensuring each effective pressing, don't press next until the primer bulb is completely returned in home position.*
- *Don't close the choke if the engine is still in warm state.*

2. Starting engine.

   Pull recoil starter handle lightly until resistance is felt, then briskly pull.

Don't allow the starter handle to snap back against the engine. Return it gently to prevent damage to the starter.



RUNNING THE ENGINE

1. Gradually turn the choker lever to the "OPEN" position after engine preheating.

2. Turn the throttle lever to proper position to arrive required speed.

HIGH ALTITUDE KIT REPLACEMENT FOR EPAIII ENGINES

3000-6000ft. / 6000-8000ft. of elevation

At high altitude, the standard carburetor air-fuel mixture will be too rich. Performance will decrease and fuel consumption will increase. A very rich mixture will also foul the spark plug and cause hard starting. Operation at an altitude that differs from that at which this engine was certified, for extended periods of time, may increase emissions.

The fuel system on this engine/equipment may be influenced by operation at higher altitudes. Proper operation can be ensured by installing an altitude kit when required. See the table below to determine when an altitude kit is required. Operating this engine/equipment without the proper altitude kit installed may increase the engine's emissions and decrease fuel economy and performance. Kits may be obtained from any dealer, and should be installed by a qualified individual.

Equipment*	Fuel	Altitude Range**	Kit Part Number
Equipment with engines above 80cc	Gasoline	0 - 3000ft	Not Required
		3000 - 6000 ft	Altitude kit 1#
		6000 - 8000 ft	Altitude kit 2#

*Engine, Generator Set, Pressure Washer, Walk-Behind Lawnmower, Compressor, Pump, Tiller etc.
**Elevation above sea level.

- This high altitude iet is to be used at elevations above 3000 feet .
- At elevations above 8000 feet, the e engine/equipment may experience decreased performance, even with the high altitude kit.
- If a carburetor is replaced, the proper high altitude kit jet will need to be installed into the replacement carburetor.

WARNING! To prevent serious injury from fire: Follow the kit procedures 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 proceeding.

NOTICE: The warranty may be void if necessary adjustments are not made for high altitude use.

STOPPING THE ENGINE

Pull ignition key out under urgency condition.

Please stop the engine as following in normal condition.

1. Turn the throttle lever to the low speed position.
2. Pull ignition key out.

Sudden stopping at high speed under heavy load is forbidden, otherwise damage will result.

EXHAUST CONTROL SYSTEM

With the engine running, carbon monoxide, oxide of nitrogen and hydrocarbon will produce, and in certain conditions, oxide of nitrogen and hydrocarbon will react chemically each other to make smoke while carbon monoxide is toxic, so exhaust control of them is very important.

To keep the exhaust of your engine with in the standard exhaust emission, pay attention to the following:

MAINTENANCE

Maintain the engine periodically in accordance with the maintenance schedule in the manual. The maintenance schedule is made out on the base of normal use in normal conditions, if using under heavy load, dusty or wet circumstances or in high temperature, service of the engine should be done more often.

PROBLEMS AFFECTING EXHAUST EMISSIONS

1. Difficult starting or difficult stopping.
2. Unstable idling speed.
3. Give off black smoke or consume fuel too much.
4. Poor ignition sparks or fire back.
5. Too early ignition.

Once you find any of above problems, contact our authorized dealer of your market for help.

MAINTENANCE

MAINTENANCE SCHEDULE

The engine must be properly maintained to ensure its operation be safe, economy and trouble-free, as well as eco-friendly.

In order to keep your gasoline engine in good working condition, it must be periodically serviced. The following maintenance schedule and routine inspection procedures must be carefully followed

ITEM / Frequency		Each time	First 1 month or first 20 hrs of operation	Thereafter, every 3 months or every 50hrs of operation	Every year or every 100 hrs of operation
Engine oil	Check-Refill	√			
	Replace		√	√	
Deposit Cup (if equipped)	Clean				√
Spark Plug	Check-Adjust				√*
Spark Arrester	Clean			√	
Idling (if equipped)**	Check-Adjust				√
Valve Clearance**	Check-Adjust				√
Fuel Tank & Fuel Filter**	Clean				√
Fuel Line	Check	Every 2 years(change if necessary)			
Cylinder Head, Piston	Clean up carbon**	Every 150 hours*			

*These items should be replaced if replacement needed.
**These items should be maintained and repaired by our authorized dealer, unless the owner has appropriate tools and is proficient with mechanical maintenance.

- *If the gasoline engine frequently work under high temperature or heavy load, change the oil every 25 hours.*
- *If the engine frequently work under dusty or other severe circumstances, clean the air filter element every 10 hours; If necessary, change the air filter element every 25 hours.*
- *The maintenance period and the exect time (hour), the one which comes first should govern.*
- *If you have missed the scheduled time to maintain your engine, do it as soon as possible.*

Stop the engine before servicing. Put the engine on a level surface and remove the spark plug cap to prevent the engine from starting. Never run your engine in a poorly ventilated room or other enclosed area, be sure to keep good ventilation in working area. The exhaust from the engine may contain poisonous CO, inhalation can cause shock, unconsciousness and even death.

MAINTENANCE METHOD

1. Replacement of engine oil

Drain the engine oil rapidly and completely out when the engine is warm.

- Remove the oil filler cap and oil drain hex screw to drain engine oil thoroughly. Reinstall oil drain hex screw and screw in securely.
- Fill the specified engine oil up to the upper level mark.
- Reinstall the oil filler cap.

Do not dump oil containers or discarded engine oil into rubbish boxes or onto the ground. For the sake of environmental protection, we suggest you take in discarded engine oil with a closed container and bring to local recycling station.

2. Maintenance of deposited cup

Disassemble deposited cup and O-ring and clean them in the unflammably or high fire point solvent. Reinstall them after dryness completely. Check if leakage.

- *Never run the engine without an air cleaner, because air with dirt and dust entering the engine can speed up the engine wear.*
- *Check if leakage after deposited cup reinstalled. Make sure the environment is dry before starting engine.*

- Remove the air cleaner cover off and take the element out.
- Paper element: Wash the element with home detergents and warm water (or non-flammable or high flash-point cleansing solvents) and dry up.

- Foam element: Soak in clean engine oil until saturated. Squeeze out excess oil, otherwise, the engine will smoke in starting stage.

- Clean the air cleaner cover and inner surface with wet cloth, be careful not to allow the dust entering into the carburetor.
- Reinstall the element and put the air cleaner cover on.

3. Spark plug

In order to ensure the engine normal running, gap of the spark plug must be correct and no deposit around the spark plug.

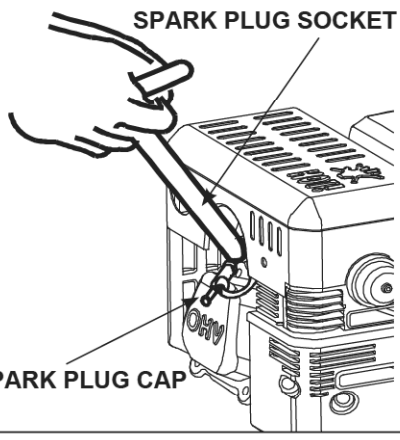
- Remove the spark plug cap.
- Clear away dirt around the spark plug base.
- Dismantle the spark plug with a spark plug wrench.
- Visually check the spark plug. Clean with a steel brush. If the insulator is damaged, replace the spark plug instead.
- Measure the spark plug clearance with a feeler. The clearance should be 0.7~0.8mm. If adjustment is necessary, bend the side electrode carefully.
- Check if the spark plug gasket is in good conditions. In order to screw thread misplace, screw in by hand..
- Screw on the spark plug to the bottom first by hand a then screw in by a spark plug wrench and compress the gasket.

- For new spark plug, please replace it with same spark plug model as can as possible, and screw the 1/2 turns after pressing the washer.

- If reinstalling the used spark plug, just more twist 1/8-1/4 turns.

Don't touch the muffler in running and just engine stopping stage to avoid burn.

The spark plug must be tightened securely, or it may become very hot to damage the engine.



TRANSPORT AND STORAGE

Transport with the fuel valve turned off. Transport or store the engine when it is cool so as to avoid getting burns or fire.

Do not incline the engine so as to avoid fuel's spill. Spilled fuel or fuel vapor may ignite to cause fire.

If long-tern suspension, the gasoline engine must be kept stored state.

1. Make sure the storage area is dry and free of dust.
2. *Drain gasoline out of the fuel tank.*

Fuel is extremely flammable and explosive under certain conditions. Keep smoke, fire and spark away from operating site.

3. Drain the oil out of the gasoline engine.
4. Remove the spark plug. Fill about a spoon of fresh engine oil onto the cylinder. Crank the engine up to distribute engine oil evenly. Reinstall the spark plug.
5. Cover the engine to protect dust entering.

TROUBLESHOOTING

When start engine is difficult, please check oil brand number and whether five effective fuel adding have or not. If still be unable to start, please operate as following method:

1. START ENGINE DIFFICULTLY (By using recoil starter):

TROUBLE			CAUSE		REMEDY
Normal cylinder compression	Normal spark plug spark	Something wrong with the fuel system.	Fuel supply is not smooth or no fuel supply.	There is no fuel in fuel tank and fuel valve is closed.	Fill fuel, open fuel valve.
				Air vent in the fuel filler cap is clogged	Dredge air vent.
				Fuel valve is clogged	Dismantle needle valve and repair, clean, blow to get through.
				Float is damaged or sticking.	Repair float
			Fuel supply is normal.	Fuel is too filthy or deteriorated	Replace
				There is water in fuel.	Replace
				Too much fuel in engine	Drain extra fuel, dry up spark plug electrodes.
				Wrong fuel brand	Select proper fuel brand corresponding with the requirements.
	Normal fuel supply system.	Normal high – tension line spark.	Spark plug is in bad conditions	Too much carbon deposit and dirt around electrodes.	Clear away.
				Electrodes are burn damaged seriously or insulators damaged.	Replace spark plug.
				Improper electrodes gap.	Adjust to proper value.
		High-tension line no spark	Normal spark plug	High –tension line is damaged.	Replace
				Ignition coil is damaged.	Replace
				Magneto loses magnetism.	Replace
				Abnormal gap between ignition coil and flywheel.	Adjust to 0.4±0.2mm

TROUBLE			CAUSE	REMEDY
Abnormal cylinder compression.	Normal fuel supply system.	Normal spark plug.	Piston ring is worn to or even over its wear limit	Replace
			Piston ring is broken.	Replace
			Piston ring is sticking.	Clear up carbon fouling.
			Spark plug is not installed tighten or without a gasket.	Tighten with a gasket in.
			Air leakage between cylinder block and cylinder head.	Check cylinder gasket, and the flatness of the surface by which cylinder block contacting with cylinder head
				Tighten cylinder head bolts in stipulated order to stipulated torque.
			Air leakage in the valves	Check valve. Clearance and tightness, repair if necessary.

If still can't starting, have the engine to our authorized dealer for repairing.

- *When testing the spark plug, never hold the high- voltage wire of the spark plug with wet hand.*
- *Make sure there is no spilled fuel outside the engine and that the spark plug isn't dipped with fuel.*
- *To prevent fire, keep sparks far away from the spark plug mounting hole.*

START ENGINE DIFFICULTLY (By using starting motor):

ITMES	CAUSE	Correction
Starting motor runs normal	The same as recoil starter	The same as recoil starter

2. GASOLING ENGINE POWER OUTPUT INSUFFICIENCY

TROUBLE	CAUSE		REMEDY
When increasing throttle, speed increase slow or even decrease	Ignition system	Ignition time is wrong	Adjust
	and stop running	Air in fuel line or fuel line clogged	Exhaust air or dredge fuel line
		Main oil flow hole is not adjusted properly	Readjust
		In carburetor, needle valve hole and main oil flow hole clogged.	Clean and blow to get through
		Fuel valve is clogged up.	Replace
		Too much carbon deposit in combusting chamber.	Replace
		Too much car bon fouling in muffler and exhaust pipe.	Drain extra fuel, dry up spark plug electrodes.
		Air cleaner is clogged up.	Select proper fuel brand corresponding with the requirements.
		Intake pipe is leaking	Clear away.
	Poor compression	Piston or cylinder or piston ring is worn	Replace the worn
		Air leakage from the surface by which cylinder block contacting with cylinder head.	Replace cylinder gasket
		Too big or too small valve clearance.	Readjust
		Valve tightness is poor.	Repair

3. GASOLINE ENGINE RUNNING UNSMOOTHLY:

TROUBLE	CAUSE	REMEDY
Knocking sound	Piston, cylinder or piston ring is worn excessively.	Replace the worn
	Piston pin and piston pin hole are worn excessively.	Replace piston or piston pin
	Tie rod small head is worn excessively.	Replace tie rod
	Roller bearing for crankshaft main shaft is worn.	Replace roller bearing
Abnormal combustion	Engine is too hot	Shoot trouble
	Too much carbon deposit in combustion chamber	Clear away
	Improper gasoline brand or low gasoline quality	Replace with qualified gasoline
Spark lacking	There is water in float chamber	Clean
	improper spark plug electrodes clearance	Adjust
	Ignition time is wrong	Adjust
	Something wrong with induced coil, and so on	Check and replace damaged parts

4. STOP SUDDENLY WHEN RUNNING:

TROUBLE	CAUSE		REMEDY
Stop suddenly when running.	Fuel supply system	Fuel is finished	Refill fuel
		Carburetor is clogged	Check fuel line and dredge
		Float is leaking	Repair
		Needle valve is sticked.	Dismantle float chamber and eliminate it
	Ignition system	Spark plug is punctured, or shortcircuited by carbon deposit	Replace spark plug
		Side electrode of spark plug is dropped out	Replace spark plug
		High-tension wire is dropped out	Weld on
		Ignition coil is punctured or short-circuited	Replace ignition coil
		Parking wire is located on engine body	Find out meeting and insulate
	The other	Cylinder is seriously scored and valve dropped out	Repair or replace damaged parts

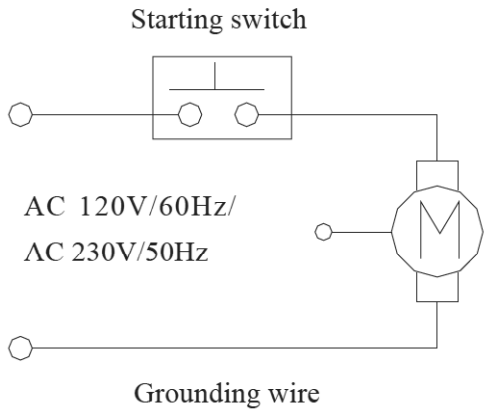
5. GASOLINE ENGINE IS OVERHEAT

TROUBLE	CAUSE	REMEDY
Gasoline Engine Is Overheat	Ignition time is wrong	Adjust
	Oil insufficient	Refill engine oil enough
	Exhaust pipe blocked up	Clean exhaust pipe
	Shroud leaking	Repair damaged part
	Cooling fins blocked by foreign matter	Clear cooling fins
	Cooling fan loosen and misfunction	Reinstall well
	Connection rod deformation to make piston and cylinder bushing side wear	Replace connection rod
	Cylinder or piston or piston ring is worn to make hunting between cylinder and crankcase	Replace the worn parts
	Improper adjustment of engine governor to produce speed high.	Readjust engine governor
	Crankshaft main bearing burnt out	Replace main bearing

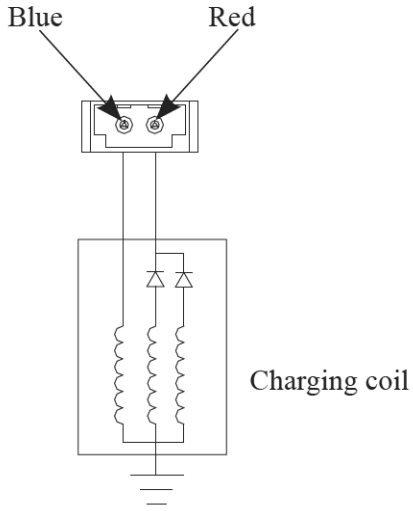
6. THERE EXISTS ABNORMAL NOISE WHEN ENGINE RUNNING

TROUBLE	CAUSE	REMEDY
Beating sound	Piston, piston ring or cylinder is worn	Replace the worn part
	Connection rod or piston pin and piston pin hole are worn	Replace the worn part
	Crankshaft main neck is worn	Replace bearing
	Piston ring is broken	Replace piston ring
Metal beating sound when abnormal combustion occurs	Too much carbon deposit in combusting chamber	Clear away carbon deposit
	Improper fuel brand	Replace fuel
	improper spark plug electrodes clearance	Adjust
	Engine fuel is rich	Replace
	Engine is overheat	Find a cause and eliminate it
The other	Improper valve clearance	Readjust valve clearance properly
	Fly wheel is not connected with crankshaft tightly	Connect tightly

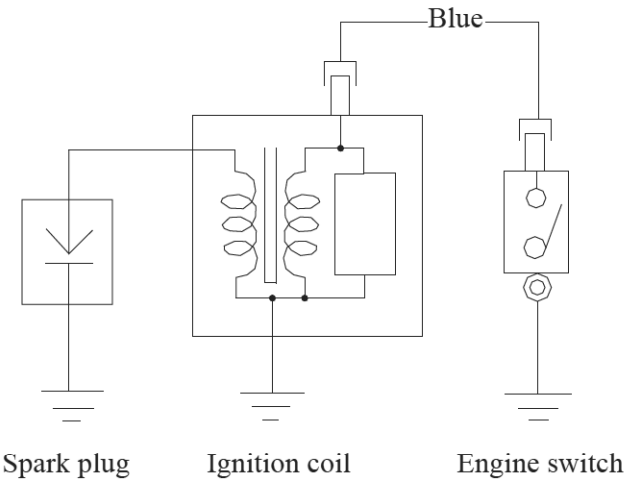
ELECTRIC DIAGRAM



(Starting System Circuit Diagram)



(Charging Diagram)



(Ignition System Circuit Diagram)

EPA EVAPORATIVE EMISSIONS CONTROL WARRANTY STATEMENT

This evaporative emission control system is warranted for two years. If any emission-related part on your small off-road engine/equipment is defective, the part will be repaired or replaced by Yardmax Power Products (Yardmax).

DEFECTS WARRANTY REQUIREMENTS

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

(b) General Emissions Warranty Coverage. Yardmax warrants to the ultimate purchaser and each subsequent owner that the engine/equipment is:

(1) Designed, built, and equipped so as to conform with all applicable regulations adopted by the Environmental Protection Agency

(2) Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.

(c) Warranty Parts for Evaporative Emission include fuel tank, fuel cap, fuel line and fittings, carbon canister, vapor hoses. They may also include, if applicable, liquid/vapor separator, clamps, pressure relief valves, etc.

If you have any questions regarding your warranty rights and responsibilities, you should contact Yardmax Power Products at 847-327-0566 or 844-YARDMAX or support@yardmax.com.

CALIFORNIA AND FEDERAL EXHAUST EMISSIONS CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board, the United States Environmental Protection Agency and Yardmax Power Products (Yardmax), are pleased to explain the emission control system warranty on your 2023/2024 small off-road engine. In the United States and California, new small off-road engine must be designed, built and equipped to meet the State's stringent anti smog standards. Yardmax must warrant the emission control system on your small off-road engine for the periods of time listed below 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 and catalytic converter. Also included may be hoses, valves, connectors and other emission-related assemblies.

Where a warrantable condition exists, Yardmax will repair your small off-road engine at no cost to you including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE

This emissions control system is warranted for 2 years. If any emission-related part on your small off-road engine is defective, the part will be repaired or replaced by Yardmax.

OWNER'S WARRANTY RESPONSIBILITIES

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

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

You are responsible for presenting your small off-road engine to a Yardmax distribution 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 Yardmax Power Products at 847-327-0566 or 844-YARDMAX or support@yardmax.com.

DEFECTS WARRANTY REQUIREMENTS

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

(b) General Emissions Warranty Coverage. Yardmax warrants to the ultimate purchaser and each subsequent owner that the engine is:

(1) Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board; and

(2) Free from defects in materials and workmanship that causes the failure of a warranted part for a period of 2 years.

(c) The warranty on emissions-related parts will be interpreted as follows:

(1) Any warranted part that is not scheduled for replacement as required maintenance in the written instructions required by subsection (d) must be warranted for the warranty period defined in Subsection (b)(2). If any such part fails during the period of warranty coverage, it must be repaired or replaced by Yardmax according to Subsection (4) below. Any such part repaired or replaced under the warranty must be warranted for the remaining warranty period.

(2) Any warranted part that is scheduled only for regular inspection in the written instructions required by subsection (d) must be warranted for the warranty period defined in Subsection (b)(2). A statement in such written instructions to the effect of "repair or replace as necessary" will not reduce the period of warranty coverage. Any such part repaired or replaced under warranty must be warranted for the remaining warranty period.

(3) Any warranted part that is scheduled for replacement as required maintenance in the written instructions required by subsection (d) must be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part must be repaired or replaced by Yardmax according to Subsection (4) below. Any such part repaired or replaced under warranty must be warranted for the remainder of the period prior to the first scheduled replacement point for the part.

(4) Repair or replacement of any warranted part under the

warranty must be performed at no charge to the owner at a warranty station.

(5) Notwithstanding the provisions of Subsection (4) above, warranty services or repairs must be provided at all Yardmax distribution centers that are franchised to service the subject engin.

(6) The owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.

(7) Yardmax is liable for damages to other engine components proximately caused by a failure under warranty of any warranted part.

(8) Throughout the emissions control system's warranty period set out in subsection (b)(2), YARDMAX must maintain a supply of warranted parts sufficient to meet the expected demand for such parts and must obtain additional parts if that supply is exhausted.

(9) Manufacturer-approved replacement parts that do not increase the exhaust or evaporative emissions of the engine or emissions control system must be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of YARDMAX.

(10) Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts will be grounds for disallowing a warranty claim. YARDMAX will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

(11) YARDMAX issuing the warranty shall provide any documents that describe that warranty procedures or policies within

(d) Emission Warranty Parts List (for all displacement)

(1) **Fuel Metering System**

(i) Carburetor and internal parts (and/or pressure regulator or fuel injection system).

(ii) Air/fuel ratio feedback and control system.

(iii) Cold start enrichment system.

(2) **Air Induction System**

(i) Controlled hot air intake system.

(ii) Intake manifold.

(iii) Air filter.

(3) **Ignition System**

(i) Spark Plugs.

(ii) Magneto or electronic ignition system.

(iii) Spark advance/retard system.

(4) **Exhaust Gas Recirculation (EGR) System**

(i) EGR valve body, and carburetor spacer if applicable.

(ii) EGR rate feedback and control system.

(5) **Air Injection System**

(i) Air pump or pulse valve.

(ii) Valves affecting distribution of flow.

(iii) Distribution manifold.

(6) **Catalyst or Thermal Reactor System**

(i) Catalytic converter.

(ii) Thermal reactor.

(iii) Exhaust manifold.

(7) **Particulate Controls**

(i) Traps, filters, precipitators, and any other device used to capture particulate emissions.

(8) **Miscellaneous Items Used in Above Systems**

(i) Electronic controls.

(ii) Vacuum, temperature, and time sensitive valves and switches.

(iii) Hoses, belts, connectors, and assemblies.

(e) Emission Warranty Parts List for Evap

(1) Fuel Tank

(2) Fuel Cap

(3) Fuel Lines (for liquid fuel and fuel vapors)

(4) Fuel Line Fittings

(5) Clamps*

(6) Pressure Relief Valves*

(7) Control Valves*

(8) Control Solenoids*

(9) Electronic Controls*

(10) Vacuum Control Diaphragms*

(11) Control Cables*

(12) Control Linkages*

(13) Purge Valves*

(14) Gaskets*

(15) Liquid/Vapor Separator

(16) Carbon Canister

(17) Canister Mounting Brackets

(18) Carburetor Purge Port Connector

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

YARDMAX will furnish with each new small off-road engine/ equipment written instructions for the maintenance and use of the engine/equipment by the owner.

Yardmax will furnish with each new engine written instructions for the maintenance and use of the engine by the owner.

Tame the Great Outdoors®

YARDMAX®

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