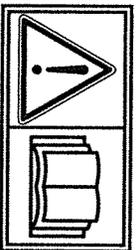


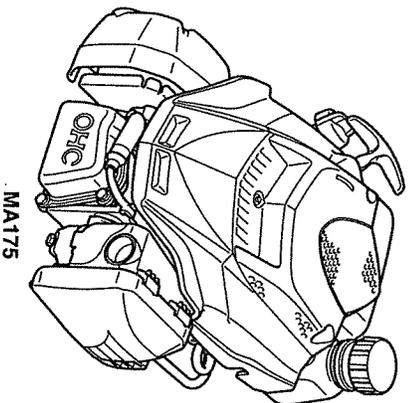


# MA175/MA190

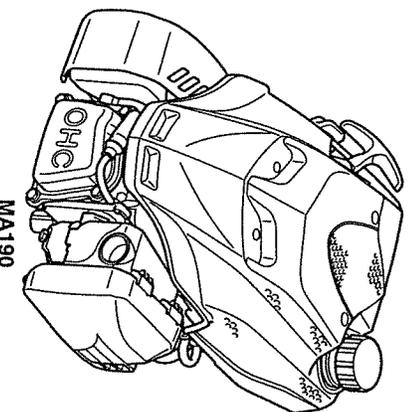
LIT-19626-02-64



INSTRUCTIONS FOR USE (USA only) **US**



MA175



MA190

7JD-F8199-10



PRINTED IN CHINA  
2018 • 02 x 1

# OHC Gasoline Engines

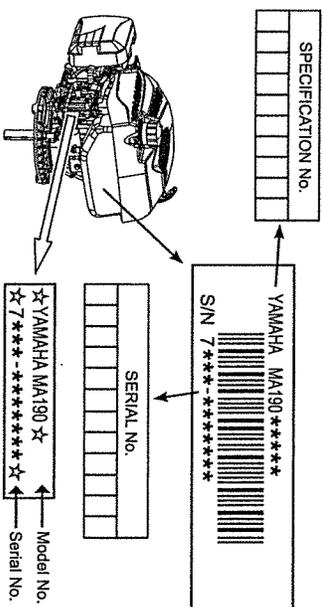
## FOREWORD

Thank you very much for purchasing a **YAMAHA ENGINE**.  
 Your **YAMAHA ENGINE** can supply the power to operate various sorts of machines and equipment.  
 Please take a moment to familiarize yourself with the proper operation and maintenance procedures in order to maximize the safe and efficient use of this product.  
 Keep this owner's manual at hand, so that you can refer to it at any time.  
 Due to constant efforts to improve our products, certain procedures and specifications are subject to change without notice.  
 When ordering spare parts, always give us the **MODEL, PRODUCTION NUMBER and SERIAL NUMBER** of your engine.  
 Please fill in the following blanks after checking the production number on your engine.  
 (Location of label is different depending on the engine specification.)

**US**

**NOTICE**  
 The engine which is complied with the emission regulation of USA, Europe, and China has the emission control label placed on the engine according to each country's regulation.  
 Exporting any engine to these countries/regions which does not have the emission control label is a violation and subject to penalty.

**⚠ WARNING:** This product can expose you to chemicals including engine exhaust, which is known to the State of California to cause cancer, and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm.  
 For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).



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# 1. SAFETY PRECAUTIONS

Please make sure you review each precaution carefully. Pay special attention to statement preceded by the following words:

- ▲ WARNING** "WARNING" indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.
- ▲ CAUTION** "CAUTION" indicates a possibility of personal injury or equipment damage if instructions are not followed.

## ▲ WARNING : EXHAUST PRECAUTIONS

- Never inhale exhaust gasses. They contain carbon monoxide, a colorless, odorless and extremely dangerous gas which can cause unconsciousness or death.
- Never operate the engine indoors or in a poorly ventilated area, such as a garage or carport, etc.
- Exercise extreme care when operating the engine near people or animals.
- Keep the exhaust pipe free of foreign objects.

## ▲ WARNING : REFUELING PRECAUTIONS

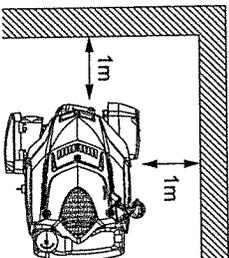
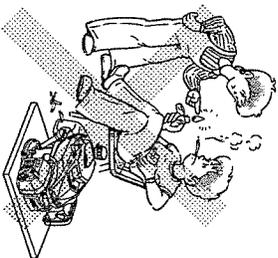
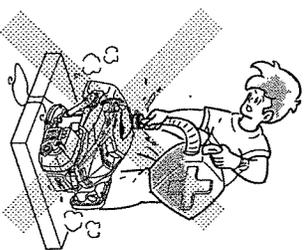
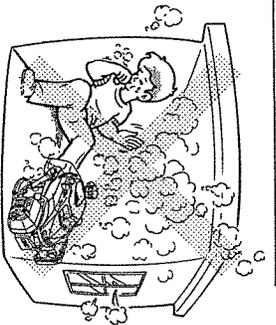
- Gasoline is extremely flammable and its vapors can explode if ignited.
- Do not refuel indoors or in a poorly ventilated area.
- Be sure to stop the engine prior to refueling.
- Do not remove fuel tank cap nor fill fuel tank while engine is hot or running. Allow engine to cool at least 2 minutes before refueling.
- Do not overfill the fuel tank.
- If fuel is spilt, wipe it away carefully and wait until the fuel has dried before starting the engine.
- After refueling, make sure that the fuel cap is secured to prevent spillage.

## ▲ WARNING : FIRE PREVENTION

- Do not operate the engine while smoking or near an open flame.
- Do not use around dry brush, twigs, cloth rags, or other flammable materials.
- Keep cooling air intake (recoil starter area) and muffler side of the engine at least 1 meter (3 feet) away from buildings, obstructions and other burnable objects.
- Keep the engine away from flammables and other hazardous materials (trash, rags, lubricants, explosives).

## ▲ WARNING : OTHER SAFETY PRECAUTIONS

- Place the protective covers over the rotating parts. If rotating parts such as the drive shaft, pulley, belt, etc. are left exposed, they are potentially hazardous. To prevent injury, equip them with protective covers or shrouds.
- Be careful of hot parts. The muffler and other engine parts become very hot while the engine is running or just after it has stopped. Operate the engine in a safe area and keep children away from the running engine.
- Do not touch the spark plug and ignition cable when starting and operating the engine.
- Never make adjustments on the machinery while it is connected to the engine, without first removing the ignition cable from the spark plug. Turning the crankshaft by hand during adjusting or cleaning might start the engine, and cause serious injury to the operator.



- Operate the engine on a stable, level surface. If the engine is tilted, fuel spillage may result.

**NOTE :** Operating the engine at a steep incline may cause seizure due to improper lubrication even with a maximum oil level.

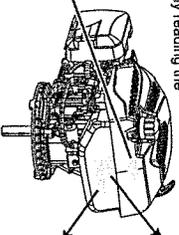
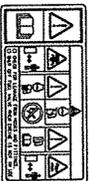
- Do not transport the engine with fuel in tank or with fuel strainer valve open.
- Do not move the engine while in operation when it has been removed from the equipment.
- Keep the unit dry (do not operate it in rainy conditions).

## ▲ CAUTION : PRE-OPERATION CHECKS

- Carefully check fuel hoses and joints for looseness and fuel leakage. Leaked fuel creates a potentially dangerous situation.
- Check bolts and nuts for looseness. A loose bolt or nut may cause serious engine trouble.
- Check the engine oil and refill if necessary.
- Check the fuel level and refill if necessary. Take care not to overfill the tank.
- Keep cylinder fins and recoil starter free of dirt, grass and other debris.
- Wear snug fitting working clothes when operating the engine. Loose aprons, towels, belt, etc., may be caught in the engine or drive train, causing a dangerous situation.

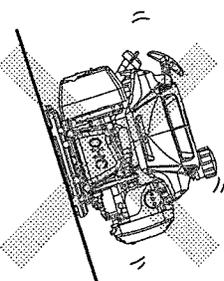
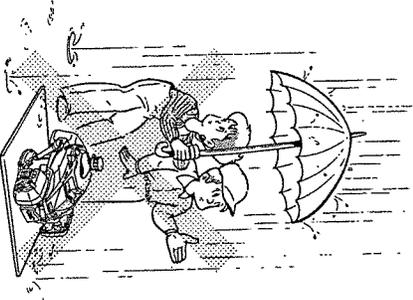
## ▲ CAUTION : PRECAUTIONS ON THE HANDLING OF THE WARNING LABEL

- Warning labels are affixed to our engines with regard to particularly serious dangers.
- When using the engines, please use them safely after carefully reading the instruction manual and understanding the dangers.



**WARNING**  
Cancer and Reproductive Harm  
-www.PCSWarnings.ca.gov-

**CAUTION**  
OPERATION  
THIS IS A DANGER ZONE  
KEEP AWAY FROM THE  
SPARK PLUG  
DO NOT TOUCH THE  
SPARK PLUG  
WHILE THE ENGINE IS  
RUNNING  
OR JUST AFTER IT HAS  
STOPPED  
OPERATE THE ENGINE  
IN A SAFE AREA  
AND KEEP CHILDREN  
AWAY FROM THE  
RUNNING ENGINE



## Warning Label Exclusively for the United States and Canada

<p><b>▲ WARNING</b></p> <p>Read Instructions Carefully. Do not operate the engine in a poorly ventilated area, such as a garage or carport, etc. Exhaust fumes contain carbon monoxide, a colorless, odorless and extremely dangerous gas which can cause unconsciousness or death.</p>	<p><b>▲ WARNING</b></p> <p>Gasoline is extremely flammable and its vapors can explode if ignited. Do not refuel indoors or in a poorly ventilated area. Be sure to stop the engine prior to refueling. Do not remove fuel tank cap nor fill fuel tank while engine is hot or running. Allow engine to cool at least 2 minutes before refueling. Do not overfill the fuel tank.</p>	<p><b>▲ WARNING</b></p> <p>Do not operate the engine while smoking or near an open flame. Do not use around dry brush, twigs, cloth rags, or other flammable materials. Keep cooling air intake (recoil starter area) and muffler side of the engine at least 1 meter (3 feet) away from buildings, obstructions and other burnable objects. Keep the engine away from flammables and other hazardous materials (trash, rags, lubricants, explosives).</p>	<p><b>▲ AVERTISSEMENT</b></p> <p>Ne jamais inhaler les gaz d'échappement. Ils contiennent du monoxyde de carbone, un gaz incolore, inodore et extrêmement dangereux qui peut provoquer l'inconscience ou la mort.</p>	<p><b>▲ AVERTISSEMENT</b></p> <p>Le gazolier est extrêmement inflammable et ses vapeurs peuvent exploser si elles sont allumées. Ne jamais remplir le réservoir à l'intérieur ou dans une zone mal ventilée. Arrêter toujours le moteur avant de remplir. Ne jamais retirer le bouchon du réservoir lorsque le moteur est chaud ou en marche. Laisser le moteur refroidir au moins 2 minutes avant de remplir. Ne jamais verser de carburant sur un moteur qui tourne.</p>	<p><b>▲ ADVERTENCIA</b></p> <p>Nunca inhale los gases de escape. Contienen monóxido de carbono, un gas incoloro, inodoro y extremadamente peligroso que puede causar inconsciencia o la muerte.</p>
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For use in the United States or Canada, please affix the label suited to the region from among the enclosed warning labels.

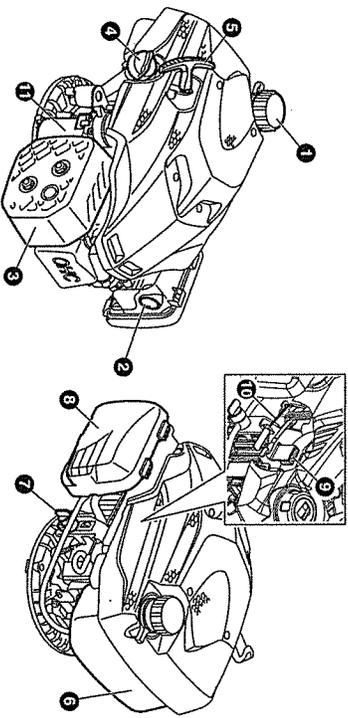
	Read manual.		Shut off fuel valve when the engine is not in use.
	Stay clear of the hot surface.		Check for leakage from hose and fittings.
	Exhaust gas is poisonous. Do not operate in an unventilated room or enclosed area.		Fire, open flame and smoking prohibited.
	Stop the engine before refueling.		HOT, avoid touching the hot area.
	Hot surface can burn you. Stay away if engine has been running.		Hot surface can burn you. Stay away if engine has been running.

USA and CANADA only

	Read INSTRUCTIONS FOR USE before use.		The engine emits toxic gas can kill you in minutes. Do not run in an enclosed area.		Hot surface can burn you. Stay away if engine has been running.
	Gasoline is extremely flammable and its vapors can explode.		Stop the engine before refueling.		Check for leakage from hoses and fittings.
	Shut off fuel valve when the engine is not in use.		Add oil		Fuel system failure / malfunction

	On (Run)		Engine start (Electric start)		Fuel (gasoline)		Primer
	Off (Stop)		Engine stop		Fuel system failure / malfunction		Push primer
	Engine oil		Add oil		Three times		

2. COMPONENTS



- 1 FUEL TANK CAP
- 2 PRIMER BULB
- 3 MUFFLER
- 4 OIL GAUGE
- 5 STARTER HANDLE
- 6 FUEL TANK
- 7 FUEL VALVE
- 8 AIR CLEANER
- 9 BRAKE
- 10 BRAKE WIRE
- 11 ELECTRIC STARTER MOTOR (ELECTRIC STARTER MODELS)

3. PRE-OPERATION CHECKS

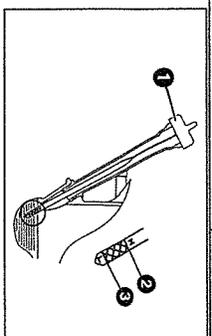
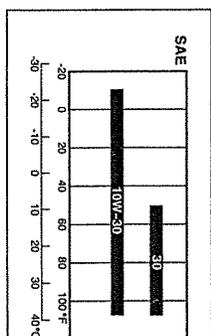
**NOTE**  
Engine shipped from our factory is without oil. Before starting engine, fill with oil. Do not over-fill.

1. CHECK ENGINE OIL

- Before checking or refilling engine oil, be sure the engine is located on stable, level surface and stopped.
- Do not screw the oil gauge into the oil filler neck to check oil level. If the oil level is low, refill to the upper level with the following recommended oil.
- Use 4-stroke automotive detergent oil of API service class SE or higher grade.
- Select the viscosity based on the air temperature at the time of operation as shown in the table.

Oil capacity (Upper level) :	L (oz)
MA175 .....	0.5 (17)
MA190 .....	0.6 (20)

- 1 Oil Gauge
- 2 Upper Level
- 3 Lower Level



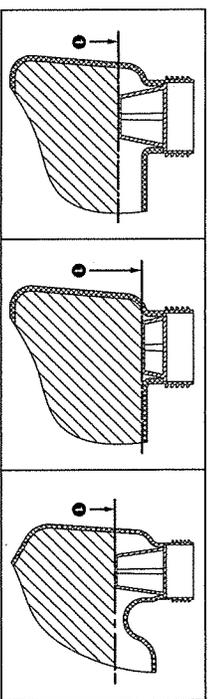
2. CHECK FUEL

**WARNING**

- Do not refuel while smoking, near an open flame or other such potential fire hazards. Otherwise fire accident may occur.
- Remove the static electricity from your body before refilling the gasoline. Sparking from electrostatic discharge may cause the ignition to the vaporized fuel (gasoline) resulting burns.
- Static electricity can be discharged from the body by touching by hand the metal parts of the unit and the fuel dispensing pump.
- Stop the engine and open the cap.
- Use unleaded automotive gasoline only.
- Unleaded regular/premium or reformulated gasoline containing no more than 10% Ethanol (E10), or 15% MTBE may also be used.
- Never use gasoline containing ethanol exceeding 10%, or MTBE exceeding 15% because engine or fuel system damage could result.
- Never use stale or contaminated gasoline.
- Use of these non-recommended fuels may result in reduced performance and/or denial of warranty.

Fuel tank capacity : L (U.S. gal)

MA175/MA190..... 0.85 (0.22), 0.95 (0.25), 1.2 (0.32)

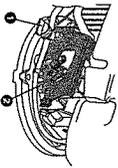
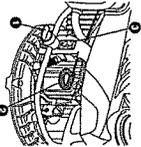
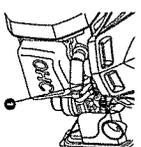
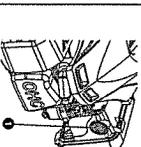


- 1 Maximum Fuel Level
- Close the fuel valve before filling the fuel tank.
- Gasoline is extremely flammable and is explosive under certain conditions.
- Refuel in a well ventilated area with the engine stopped.
- Do not overfill the fuel tank (fuel volume should not exceed the bottom of the fuel level gauge). After filling, make sure the tank cap is secure.
- Wipe off any spilled fuel before starting the engine.

## 4. OPERATING

The engine's choking system varies based on the engine type.

Refer to the diagrams below to determine your engine type before you read 4. OPERATING section and other sections in the manual.

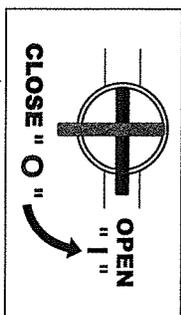
ENGINE TYPE	1	2	3	4
CHOKING SYSTEM	Cable choke control	Manual choke	Auto choke	Primer
				
	① Fuel valve ② Throttle control lever	① Fuel valve ② Choke lever ③ Engine stop switch	① Choke rod	① Primer bulb

JS

### TYPE 1: Cable choke control

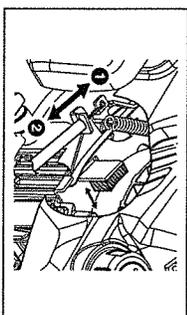
#### 1. CHOKING

(1) Open the fuel valve. (position "1")



(2) Disengage the brake. (mower only)

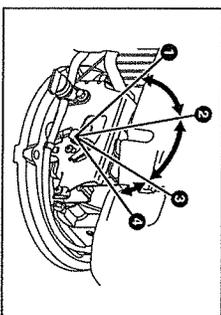
- ① Disengage (Brake : OFF)
- ② Engage (Brake : ON)



(3) Turn the throttle control lever to the CHOKE position ④ (cold engine)

- ① STOP
- ② LOW
- ③ HIGH
- ④ CHOKE

■ When the engine is warm or when restarting the engine immediately after stopping it, start in HIGH position ③.

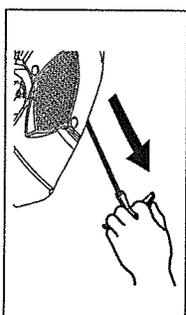


#### 2. STARTING

Pull the starter handle slowly until resistance is felt. This is the "compression" point.

Return the handle to its original position and pull swiftly.

Do not pull the rope out all the way. After starting the engine, allow the starter handle to return to its original position while still holding the handle.



#### FOR ELECTRIC STARTER MODELS.

Insert the key into the key slot and set it at the "1" (ON) position. Turn it to the right (START position) to start the engine.

■ Do not operate the electric starter continuously for more than 5 seconds, even if the engine does not start.

■ If the engine failed to start, set the key to the "1" (ON) position and wait for about 10 seconds before retrying.

■ Never turn the key switch to the START position while engine is running.

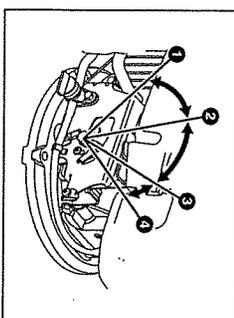
US

#### 3. THROTTLE SETTING

(1) After the engine starts, move the throttle control lever to the HIGH position ③.

(2) Turn the throttle control lever for the required engine speed.  
(Between ②~④)

- ① STOP
- ② LOW
- ③ HIGH
- ④ CHOKE

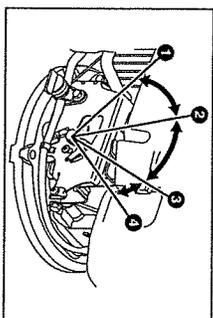


#### 4. STOPPING

##### FOR MOWER

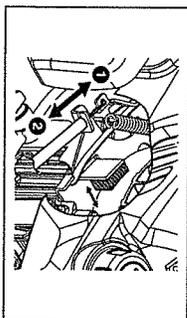
(1) Turn the throttle control lever to the LOW position ② and lessen the engine speed.

- ① STOP
- ② LOW
- ③ HIGH
- ④ CHOKE



(2) Release the brake wire. (Brake : ON)

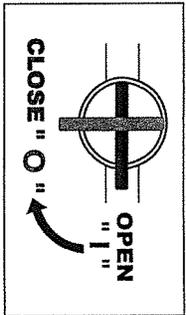
- ① Disengage (Brake : OFF)
- ② Engage (Brake : ON)



(3) Close the fuel valve. (position "O")

**※STOPPING ENGINE WITH THE FUEL VALVE**

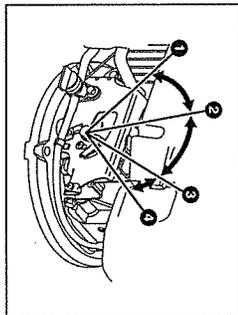
Close the fuel valve and wait for a while until the engine stops. Avoid to let the fuel remain in the carburetor over long periods, or the passages of the carburetor may become clogged with impurities, and malfunctions may result.



**FOR OTHER APPLICATIONS**

(1) Turn the throttle control lever to the STOP position ① and lessen the engine speed.

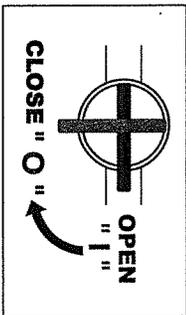
- ① STOP
- ② LOW
- ③ HIGH
- ④ CHOKE



(2) Close the fuel valve. (position "O")

**FOR ELECTRIC STARTER MODELS.**

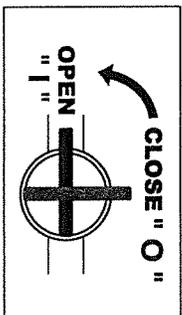
Set the key switch to the OFF position. (for details, refer to the equipped operating manual)



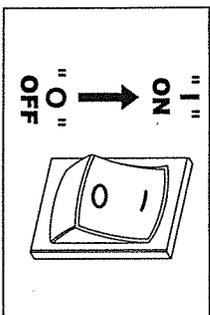
**TYPE 2: Manual choke**

**1. CHOKING**

(1) Open the fuel valve. (position "I")

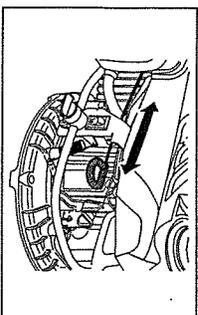


(2) Turn the engine stop switch "I" (ON).



(3) Close the choke lever. (cold engine)

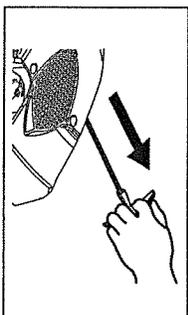
■ If the engine is warm or the ambient temperature is high, open the choke lever half-way, or keep it fully open.



**2. STARTING**

Pull the starter handle slowly until resistance is felt. This is the "compression" point.

Return the handle to its original position and pull swiftly. Do not pull the rope out all the way. After starting the engine, allow the starter handle to return to its original position while still holding the handle.



**FOR ELECTRIC STARTER MODELS.**

Insert the key into the key slot and set it at the "I" (ON) position. Turn it to the right (START position) to start the engine.

■ Do not operate the electric starter continuously for more than 5 seconds, even if the engine does not start.

■ If the engine failed to start, set the key to the "I" (ON) position and wait for about 10 seconds before retrying.

■ Never turn the key switch to the START position while engine is running.

**3. THROTTLE SETTING**

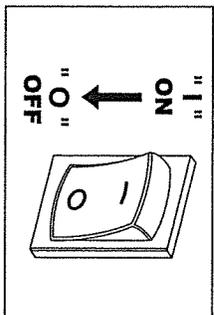
Let the engine warm up without using the machine (no load) for a couple of minutes.

The engine speed is adjusted at the factory to operate a specified speed.

Do not attempt to alter the speed as it may cause damage to the engine.

**4. STOPPING**

(1) Turn the engine stop switch to OFF (position "O") to stop the engine.



(2) Close the fuel valve. (position "O")

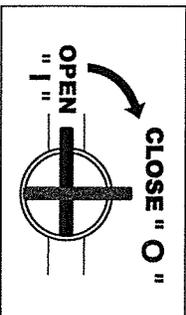
**FOR ELECTRIC STARTER MODELS.**

Set the key switch to the OFF position. (for details, refer to the equipped operating manual)

**※STOPPING ENGINE WITH THE FUEL VALVE**

Close the fuel valve and wait for a while until the engine stops.

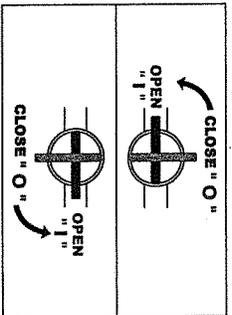
Avoid to let the fuel remain in the carburetor over long periods, or the passages of the carburetor may become clogged with impurities, and malfunctions may result.



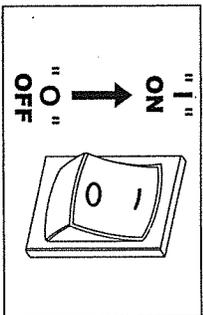
## TYPE 3: Auto choke

### 1. CHOKING

- (1) Open the fuel valve. (position "1")

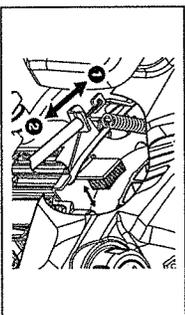


- (2) Turn the engine stop switch ON. (position "1") (if equipped)



- (3) Disengage the brake. (mower only)

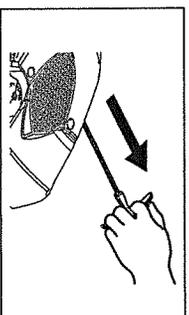
- 1 Disengage (Brake : OFF)
- 2 Engage (Brake : ON)



### 2. STARTING

Pull the starter handle slowly until resistance is felt. This is the "compression" point.

Return the handle to its original position and pull swiftly. Do not pull the rope out all the way. After starting the engine, allow the starter handle to return to its original position while still holding the handle.



### FOR ELECTRIC STARTER MODELS.

Insert the key into the key slot and set it at the "1" (ON) position. Turn it to the right (START position) to start the engine.

- Do not operate the electric starter continuously for more than 5 seconds, even if the engine does not start.
- If the engine failed to start, set the key to the "1" (ON) position and wait for about 10 seconds before retrying.
- Never turn the key switch to the START position while engine is running.

### 3. THROTTLE SETTING

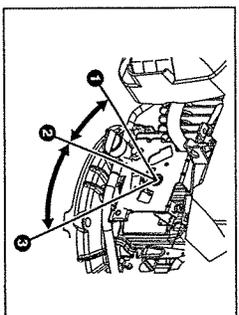
#### FOR VARIABLE ENGINE SPEED MODEL

- (1) after the engine starts, move the throttle control lever to the HIGH position.
  - 1 STOP
  - 2 LOW
  - 3 HIGH
- (2) turn the throttle control lever for the required engine speed. (Between 2-3)

#### FOR FIXED ENGINE SPEED MODEL

Let the engine warm up without using the machine (no load) for a couple of minutes.

The engine speed is adjusted at the factory to operate a specified speed. Do not attempt to alter the speed as it may cause damage to the engine.



### 4. STOPPING

#### FOR MOWER

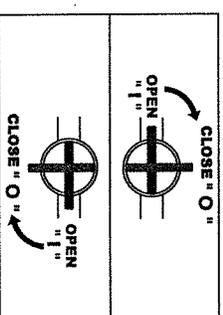
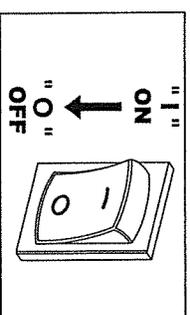
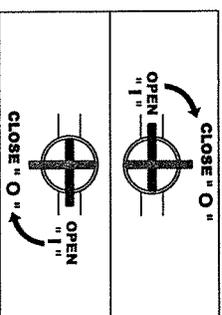
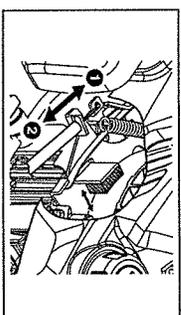
- (1) Release the brake wire. (Brake : ON)
  - 1 Disengage (Brake : OFF)
  - 2 Engage (Brake : ON)
- (2) Close the fuel valve. (position "O")

#### ※STOPPING ENGINE WITH THE FUEL VALVE

Close the fuel valve and wait for a while until the engine stops. Avoid to let the fuel remain in the carburetor over long periods, or the passages of the carburetor may become clogged with impurities, and malfunctions may result.

#### FOR WASHER

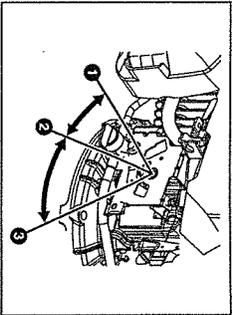
- (1) Turn the engine stop switch to OFF (position "O") to stop the engine.



**FOR OTHER APPLICATIONS**

(1) Turn the throttle control lever to the STOP position ① (if equipped) (for details, refer to the equipped operating manual)

- ① STOP
- ② LOW
- ③ HIGH



(2) Close the fuel valve. (position "O")

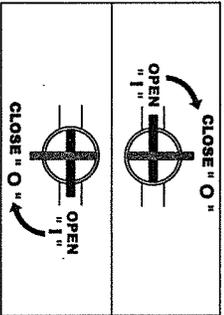
**FOR ELECTRIC STARTER MODELS.**

Set the key switch to the OFF position. (for details, refer to the equipped operating manual)

※ STOPPING ENGINE WITH THE FUEL VALVE

Close the fuel valve and wait for a while until the engine stops.

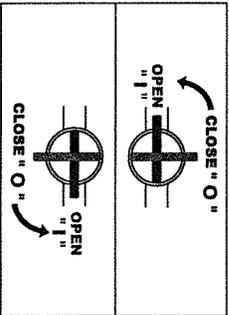
Avoid to let the fuel remain in the carburetor over long periods, or the passages of the carburetor may become clogged with impurities, and malfunctions may result.



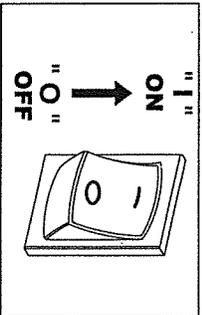
**TYPE 4: Primer bulb**

**1. CHOKING**

(1) Open the fuel valve. (position "I")

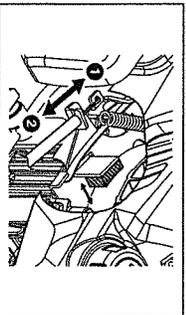


(2) Turn the engine stop switch ON. (position "I") (if equipped)



(3) Disengage the brake. (mower only)

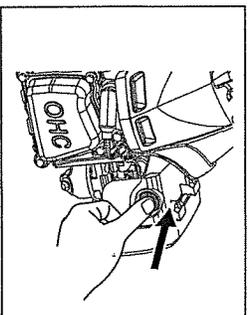
- ① Disengage (Brake : OFF)
- ② Engage (Brake : ON)



(4) Push primer bulb three times.

**▲ CAUTION**

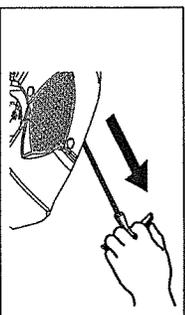
If the engine is already warm, do not push the primer bulb.



**2. STARTING**

Pull the starter handle slowly until resistance is felt. This is the "compression" point.

Return the handle to its original position and pull swiftly. Do not pull the rope out all the way. After starting the engine, allow the starter handle to return to its original position while still holding the handle.



**FOR ELECTRIC STARTER MODELS.**

Insert the key into the key slot and set it at the "I" (ON) position. Turn it to the right (START position) to start the engine.

- Do not operate the electric starter continuously for more than 5 seconds, even if the engine does not start.
- If the engine failed to start, set the key to the "I" (ON) position and wait for about 10 seconds before retrying.
- Never turn the key switch to the START position while engine is running.

**3. THROTTLE SETTING**

**FOR VARIABLE ENGINE SPEED MODEL**

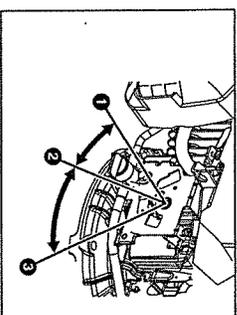
- (1) After the engine starts, move the throttle control lever to the HIGH position ③.
- (2) Turn the throttle control lever for the required engine speed. (Between ②~③)

- ① STOP
- ② LOW
- ③ HIGH

**FOR FIXED ENGINE SPEED MODEL**

Let the engine warm up without using the machine (no load) for a couple of minutes.

The engine speed is adjusted at the factory to operate a specified speed. Do not attempt to alter the speed as it may cause damage to the engine.

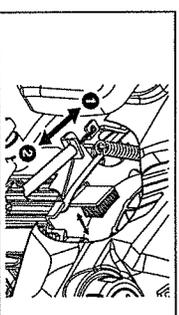


**4. STOPPING**

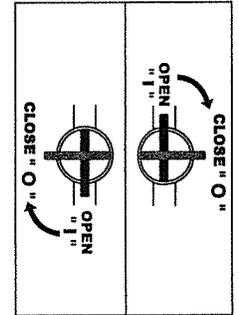
**FOR MOWER**

(1) Release the brake wire. (Brake : ON)

- ① Disengage (Brake : OFF)
- ② Engage (Brake : ON)

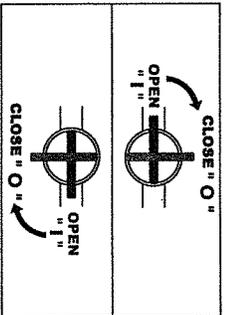
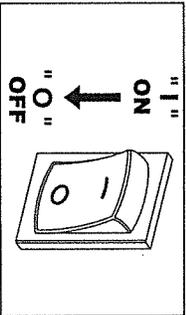


(2) Close the fuel valve. (position "O")



**FOR WASHER**

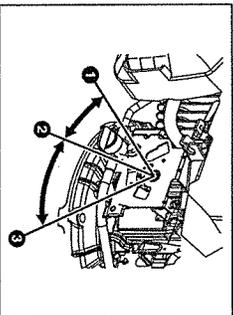
(1) Turn the engine stop switch to OFF (position "O") to stop the engine.



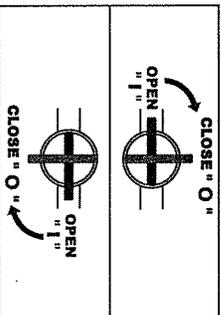
**FOR OTHER APPLICATIONS**

(1) Turn the throttle control lever to the STOP position ①. (if equipped) (for details, refer to the equipped operating manual)

- ① STOP
- ② LOW
- ③ HIGH



(2) Close the fuel valve. (position "O")



**FOR ELECTRIC STARTER MODELS.**

Set the key switch to the OFF position. (for details, refer to the equipped operating manual)

**※STOPPING ENGINE WITH THE FUEL VALVE**

Close the fuel valve and wait for a while until the engine stops. Avoid to let the fuel remain in the carburetor over long periods, or the passages of the carburetor may become clogged with impurities, and malfunctions may result.

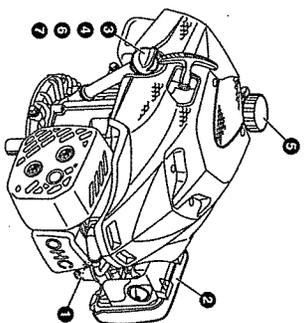
**5. MAINTENANCE**

MAINTENANCE, REPLACEMENT, OR REPAIR OF THE EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY NONROAD ENGINE REPAIR ESTABLISHMENT OR INDIVIDUAL.

**1. DAILY INSPECTION**

Before running the engine, check the following service items:

- ① Loose or broken bolts and nuts
- ② Clean air cleaner element
- ③ Enough clean engine oil
- ④ Leakage of gasoline and engine oil
- ⑤ Enough gasoline
- ⑥ Safe surroundings
- ⑦ Excessive vibration, noise



**2. PERIODIC INSPECTION**

Periodic maintenance is vital to the safe and efficient operation of your engine. Check the table below for periodic maintenance intervals.

IT IS ALSO NECESSARY FOR THE USER OF THIS ENGINE TO CONDUCT THE MAINTENANCE AND ADJUSTMENTS ON THE EMISSION-RELATED PARTS LISTED BELOW TO KEEP THE EMISSION CONTROL SYSTEM EFFECTIVE.

The emission control system consists of the following parts :

- (1) Carburetor and internal parts
- (2) Cold start enrichment system, if applicable
- (3) Intake manifold, if applicable
- (4) Air cleaner elements
- (5) Spark plug
- (6) Magneto or electronic ignition system
- (7) Spark advance/retard system, if applicable
- (8) Exhaust manifold, if applicable
- (9) Hoses, belts, connectors, and assemblies

The maintenance schedule indicated in the following table is based on the normal engine operation.

Should the engine be operated in extremely dusty condition or in heavier loading condition, the maintenance intervals must be shortened depending on the contamination of oil, clogging of filter elements, wear of parts, and so on.

**3. INSPECTING THE SPARK PLUG**

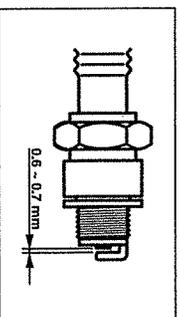
(1) Clean off carbon deposits on the spark plug electrode using a plug cleaner or wire brush.

(2) Check electrode gap.

The gap should be 0.6 mm to 0.7 mm (0.02 inch-0.03 inch.). Adjust the gap, if necessary, by carefully bending the side electrode.

Recommended Spark Plug

E7RTC (TORCH)



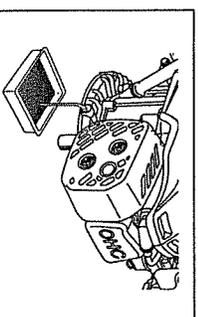
**4. ENGINE OIL CHANGE**

Initial oil change : After 20 hours of operation  
Thereafter : Every 50 hours of operation

**▲ CAUTION**

To prevent injury, pay attention to the hot oil.

(1) When changing oil, stop the engine and loosen the drain plug. Drain the used oil while the engine is warm.  
Warm oil drains quickly and completely. (For MA190 and Option MA175)



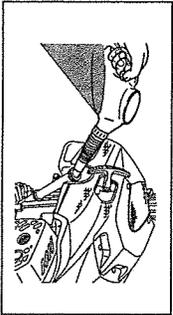
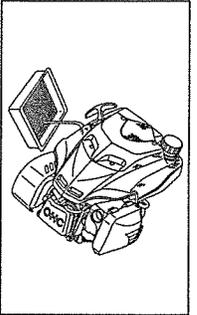
(2) When changing oil, stop the engine and remove the oil gauge. Drain the used oil by inclining the engine. (For MA175)

(3) Re-install the drain plug before refilling oil.

Oil capacity (Upper level) :	L (oz)
MA175 .....	0.5 (17)
MA190 .....	0.6 (20)

(4) Refer to page 5 for the recommended oil.

■ Always use the best grade and clean oil. Contaminated oil, poor quality oil and shortage of oil cause damage to engine or shorten the engine life.



**Periodic Maintenance Schedule table**

Maintenance Items	Every 8 hours (Daily)	Every 50 hours (Season)	Every 100 hours (Annually)
Clean engine and check bolts and nuts	● (Daily)		
Check for leakage from hoses and fitting	● (Daily)		
Check and refill engine oil	● (Refill daily up to upper level)		
Change engine oil (*Note 1)	● (Initial 20 hours)		
Clean spark plug		●	
Clean air cleaner		●	
Clean spark arrester (Optional part)			●
Replace air cleaner element			●
Clean and adjust spark plug and electrodes			●
Replace spark plug			●
Check and adjust valve clearance (*Note 2)			●
Remove carbon from cylinder head (*Note 2)			●
Clean and adjust carburetor (*Note 2)			●
Check fuel lines			●
Replace fuel lines			● (Every 2 years)

\*Note 1: Initial oil change should be performed after first twenty (20) hours of operation. Thereafter change oil every fifty (50) hours. Before changing oil, check for a suitable way to dispose of old oil. Do not pour it down into sewage drains, onto garden soil or into open streams. Your local zoning or environmental regulations will give you more detailed instructions on proper disposal.

\*Note 2: As to the procedures for these items, please refer to the SERVICE MANUAL or consult your nearest service dealer.

**5. CLEANING AIR CLEANER**

A dirty air cleaner element will cause starting difficulty, power loss, engine malfunctions, and shorten engine life extremely. Always keep the air cleaner element clean.

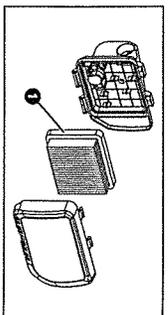
**▲ WARNING** Flame Prohibited

**▲ CAUTION**

Never run the engine without an air cleaner, severe wear of the engine may occur.

**A. Paper Element Type**  
Clean the element by blowing on it with compressed air from the inside or tapping on it gently to remove dirt.  
Change the paper element when doing this fails to remove the dirt.

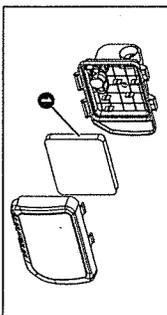
① Paper Element



**B. Urethane Foam Element Type**

Remove the element and wash it in a solution of mild detergent and warm water. Then rinse the element thoroughly in clean water. Allow the element to dry thoroughly. Apply a tablespoon (6cc) of motor oil to the clean and dry foam element and squeeze the element several times to distribute the oil evenly throughout the foam. Then squeeze the foam element in a paper towel to absorb any excess oil.

① Urethane Foam Element

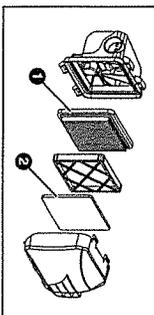


**C. Dual Element Type**

■ For urethane foam, remove it from the paper element and wash it thoroughly with detergent. Then dry it before installing.  
■ For the paper element, clean by blowing on it with compressed air from the inside or tapping on it gently to remove dirt. Change the paper element when doing this fails to remove the dirt.

① Paper Element

② Urethane Foam Element



**NOTE :**

Clean and replace air cleaner elements more often when operating in dusty environments. Replace the element in case that dirt or dust can not be removed and/or that the element is deformed or deteriorated.

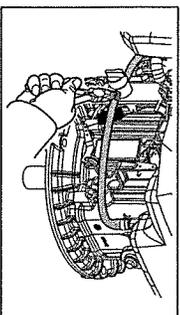
**6. BLADE INSPECTION (MOWER ONLY)**

In case of blade inspection, drain fuel and oil before maintenance. If these process do not skip, it may cause trouble.

**7. FUEL HOSE REPLACEMENT**

**▲ WARNING**

■ Take extreme caution when replacing fuel hose ; gasoline is extremely flammable.  
■ Remove the static electricity from your body before refilling the gasoline.  
■ Sparking from electrostatic discharge may cause the ignition to the vaporized fuel (gasoline) resulting burns.  
■ Static electricity can be discharged from the body by touching by hand the metal parts of the unit.



Replace the fuel hose every 2 years. If fuel leaks from fuel hose, replace the fuel hose immediately.

**8. CHECKING BOLTS, NUTS AND SCREWS**

- Retighten hose bolts and nuts.
- Check for fuel and oil leaks.
- Replace damaged parts with new ones.

**9. HIGH ALTITUDE ENGINE OPERATION**

- Please have an authorized YAMAHA dealer modify this engine if it is to be run continuously 3000 - 6000 feet (900 - 1800 meters), and 6000 - 8000 feet (1800 - 2400 meters). Failure to do so, may result in poor engine performance, spark plug fouling, hard starting, and increased emissions.
- Carburetor modification by an authorized YAMAHA dealer will improve performance and allow that this engine meets EPA (Environmental Protection Agency) and California ARB (Air Resources Board) emission standards throughout its useful life.
- An engine converted for high altitudes can not be run at 3000 feet (900 meters) or lower. In doing so, the engine will overheat and cause serious engine damage.
- Please have an authorized YAMAHA dealer restore high altitude modified engines to the original factory specification before operating below 3000 feet (900 meters).

## 6. PREPARATIONS FOR STORAGE

### 1. DISCHARGE FUEL

#### ▲ WARNING

- Use extreme caution when handling fuel. Gasoline is extremely flammable.
- Remove the static electricity from your body before refilling the gasoline.
- Sparking from electrostatic discharge may cause the ignition to the vaporized fuel (gasoline) resulting in burns.
- Static electricity can be discharged from the body by touching by hand the metal parts of the unit.
- Always store/carry the fuel (gasoline) with metallic portable tank to prevent fire.

If you do not use the engine more than 1 month, discharge fuel to prevent gum in the fuel system and carburetor parts.

- Open the fuel shut-off valve (if equipped)
- Remove the drain screw of the carburetor float chamber and discharge fuel into a suitable container (do not use glass or styrofoam).

### 2. ENGINE OIL

- Change the engine oil with fresh oil. See Periodic Maintenance Schedule table.
- Remove the spark plug, pour about 1 tsp. (5cc) of engine oil into the cylinder. Slowly pull the starter handle of the recoil starter 2 or 3 times, and replace the spark plug.

### 3. CLEAN AND STORE

- Slowly pull the recoil starter handle until resistance is felt and leave it in that position to keep moisture out of the combustion chamber.
- Clean the engine thoroughly with a cloth, and store the engine indoors in a well ventilated, low humidity area.

## 7. SPARK ARRESTER (OPTIONAL)

In a dry or wooded area, it is recommendable to use the engine with a spark arrester. Some areas require the use of a spark arrester. Please check your local laws and regulations before operating your engine.

The spark arrester must be cleaned regularly to keep it functioning as designed. A clogged spark arrester:

- Prevents the flow of exhaust gas
- Reduces engine output
- Increases fuel consumption
- Makes starting difficult

#### ▲ CAUTION

If the engine has been running, the muffler and the spark arrester will be very hot. Allow the muffler to cool before cleaning the spark arrester.

### How to remove the spark arrester

1. Remove the flange bolts from the muffler cover and remove the muffler cover.
2. Remove the special screw from the spark arrester and remove the spark arrester from the muffler.

- 1 Spark arrester screen
- 2 Screw
- 3 Muffler cover

### Clean the spark arrester screen

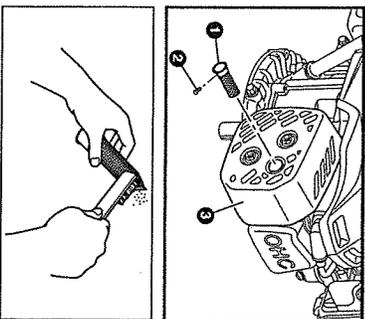
Use a brush to remove carbon deposits from the spark arrester screen.

Be careful to avoid damaging the screen.

The spark arrester must be free of breaks and holes.

Replace the spark arrester if it is damaged.

Install the spark arrester and muffler cover in the reverse order of disassembly.



## 8. EASY TROUBLESHOOTING

### WHEN ENGINE WILL NOT START :

Perform the following checks before you take the engine to a YAMAHA dealer. If you still have trouble after completing the checks, take the engine to your nearest YAMAHA dealer.

#### 1. Is there a strong spark across the electrode ?

##### (1) - Brake Type

Please confirm that brake do not operate.

##### - Stop switch Type

Is the stop switch at the position " I " (ON)?

##### (2) Remove and inspect the spark plug.

If the electrode is fouled, clean or replace it with new one.

##### (3) Remove the spark plug and connect it to the plug cap.

Pull the starter handle while grounding spark plug against engine body.

Try with a new spark plug if the spark is weak or there is no spark.

The ignition system is faulty if there is no spark with a new spark plug.

#### ▲ WARNING

■ Wipe out spilled fuel carefully before testing.

■ Place spark plug as far away from spark plug hole as possible.

■ Do not hold spark plug by hand while pulling recoil starter.

#### 2. Is there enough compression?

Pull the starter handle slowly and check if resistance is felt. If little force is required to pull the starter handle, check if the spark plug is tightened firmly.

If the spark plug is loose, tighten it.

#### 3. Is the spark plug wet with gasoline?

(1) Is the fuel valve opened?

(2) - Primer Type

Push primer bulb three times and pull the starter handle five or six times.

Remove the plug and check if its electrode is wet. If the electrode is wet, fuel is well supplied to your engine.

- Choke Type

Choke (close choke lever) and pull the starter handle five or six times.

Remove the plug and check if its electrode is wet.

If the electrode is wet, fuel is well supplied to your engine.

(3) When the electrode is dry, check where the fuel stops. (Check the fuel intake of the carburetor.)

(4) In case the engine does not start with well supplied fuel, try using fresh fuel.

## 9. SPECIFICATIONS

MODEL	MA175	MA190
Type	Air-cooled, 4-cycle single cylinder, overhead camshaft, gasoline engine	
Displacement	174 (10.6)	190 (11.6)
Direction of Rotation	Counterclockwise as viewed from the P.T.O.	
Lubricant	Automotive detergent oil (API/SE or higher grade, SAE 10W-30 etc.)	
Oil Capacity	0.5 (17)	0.6 (20)
Fuel	Automotive Gasoline (Unleaded)	
Fuel Tank Capacity	0.85, 0.95, 1.2 (0.22, 0.25, 0.32)	
Spark Plug	TORCH E7RTC	
Starting System	Recoil starter / Electric starter	
Dry Weight	13.0(28.7)*1	13.5(29.8)*1
Dimensions (L x W x H)	397 x 350 x 268 (15.6 x 13.8 x 10.6)	423 x 350 x 288 (16.7 x 13.8 x 11.3)
Emissions Durability Period hours	125	

\* Specifications are subject to change without notice  
 \*1 Dry Weight varies based on the engine Specifications.

(US) [appendix]

### Instructions for treatment as waste

When disposing this product, make sure that the fuel and oil should be drained from the engine, and submit to local regulations.