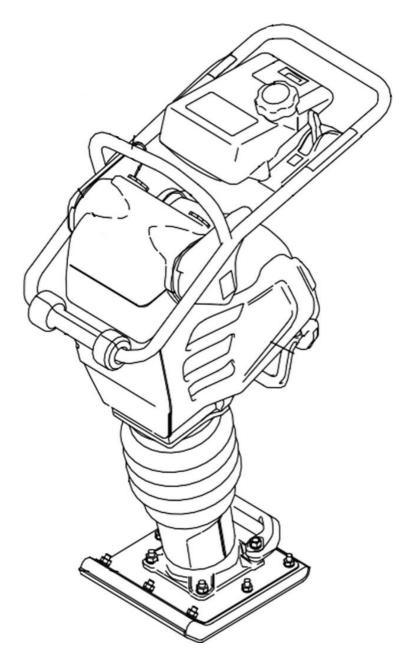
# **Operator's Safety and Service**



## **RAM70H Rammer**

07272021

It is the OWNER'S RESPONSABILITY to communicate information on the SAFE USE and OPERATION of this machine to the operators.

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### **1. SERIAL NUMBER LOCATION**

(Write model number)

### (Write serial number)

The unit year of manufacturing can be determined by its serial number. So, keep this information handy at all times, use your unit serial number when ordering parts.

This Unit warranty is stated in this Operational and Safety manual on page 16. Failure to return warranty registration card renders the warranty null and void.

An engine owner's manual is also attached to every unit. Engine parts must be order from any authorized HONDA dealer, or other if different than HONDA. Refer to the engine owner's manual lo learn about specifications and part identification.

### **ALWAYS HAVE READY:**

- 1. Dealer Account number
- 2. Shipping address and method of shipping if different than billing address.
- 4. Item part number(s), description, and quantities.

### **2. OPERATING INSTRUCTIONS**

This Operation manual contains only standard parts. Variations of these parts as well as other special accessories are not included. Contact your local distributor for assistance in identifying parts not included in this manual.

### **ASSEMBLY INSTRUCTIONS**

- 1. Remove the machine and all components from its shipping crate. You will see:
  - Preassembled Rammer w/ wheel kit (if applies)

Note: All installation hardware must be inserted into its respective location on the unit, reference parts breakdown for more details if needed.



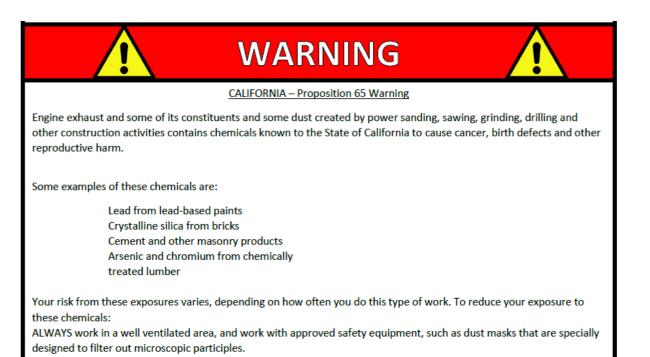
# Warning: failure to use proper lifting equipment could cause equipment to fall and cause serious injury.

2. <u>If Rammer is shipped regular</u>, using appropriated equipment, bring the unit to the ground from its shipping pallet. Rammers can be lifted by hand by 2 or more people.

### PRE-START-UP INSPECTION

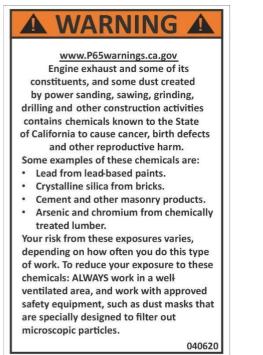
- 1. The following Pre-start-up inspection must be performed before the start of each work session or after every four hours of use, whichever is first. If any fault is discovered, the rammer must not be used until the fault is rectified.
- 2. Thoroughly inspect the rammer for signs of damage. Check components are present and secure. Pay special attention to the belt drive safety guard fitted between the engine and the vibrator unit.
- 3. Check the engine oil level and top up as necessary.
- 4. Check the engine fuel level and top up as necessary.

### **3.SAFETY PRECAUTIONS**



READ AND STUDY THE FOLLOWING SAFETY INFORMATION BEFORE ATTEMPTING TO OPERATE THIS EQUIPMENT. IN ADDITION, ENSURE THAT EVERY INDIVIDUAL WHO OPERATES OR WORKS WITH THIS EQUIPMENT IS FAMILIAR WITH THESE SAFETY PRECAUTIONS.

IT IS THE OPERATOR'S RESPONSIBILITY TO OPERATE OUR MACHINES ONLY WHEN WEARING THE PROPER PROTECTION RECOMMENDED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. HARM OR DEATH BY INHALING PARTICLES OR OTHER PHYSICAL INJURY MAY OCCUR IF THIS MACHINE IS OPERATED WITHOUT USING THE PROPER SAFETY GEAR, OR FOLLOWING THE APPROPRIATE PROCEDURES IN THIS MANUAL.





#### WARNING - LETHAL EXHAUST GAS!

An internal combustion engine discharges carbon monoxide, which is a poisonous and odorless invisible gas. Death or serious illness may result if inhaled. Operate only in an area with goodventilation.

#### NEVER IN A CONFINED AREA!

#### WARNING - DANGEROUS FUELS!

Use extreme caution when storing, handling and using fuels - they are highly volatile and explosive in the vapor state. Do not add fuel while engine is running. Stop and cool the engine before adding fuel.

#### DO NOT SMOKE WHEN REFUELING!

#### **SAFETY GUARDS**

It is the owner's responsibility to ensure **ALL GUARDS AND SHIELDS** are in place and in working order.

#### **IGNITION SYSTEMS**





Breakerless magneto and batteries ignition systems **CAN CAUSE SEVERE ELECTRICAL SHOCKS**, avoid contact with these components or their wiring.

#### SAFE DRESS

DO NOT WEAR loose clothing, rings, wristwatches, etc., near machinery.

#### NOISE PROTECTION

Wear O.S.H.A. specified hearing protection devices.

FOOT PROTECTION Wear O.S.H.A. specified steel tip safety shoes.

#### HEAD PROTECTION

Wear O.S.H.A. specified safety helmets.

#### EYE PROTECTION

Wear O.S.H.A. specified eyes shields, safety glasses, and sweat bands.

#### DUST PROTECTION

Wear O.S.H.A. specified dust mask or respirator.

#### OPERATOR

Keep children and bystanders off and away from the equipment.



For details on safety rules and regulations in the United States, contact your local Occupational Safety and Health Administration (O.S.H.A.) office. Equipment operated in other countries must be operated and serviced in accordance and compliance with any and all safety requirements of such country. The publication of these safety precautions is done for your information does not by the publication of these precautions, imply or in any way represent that these are the sum of all dangers present near equipment. If you are operating this unit it is your responsibility to ensure that such operation is in full accordance with all applicable safety requirements and codes. All requirements of the United States Federal Occupational Safety and Health Administration Act must be met when operated in areas that are under the jurisdiction of that United States Department.

### **4. SAFETY NOTICE & DECALS**

The **"SAFETY ALERT SYMBOL"** is used to call attention to items or operations that may be dangerous to those operating or working with this equipment. These symbols can be found throughout the manual and on the unit itself. Please read these warnings and cautions carefully.

# READ SAFETY DECALS CAREFULLY

Carefully read and follow all safety decals. Keep them in good conditions. If they become aged, replace as required. If repainting, **REPLACE ALL** decals. Decals are available from your authorized Distributors. Decals are not shown to scale.



### 5.BEFORE OPERATING

- 1. Thoroughly inspect the rammer for signs of damage. Check components are present and secure. Pay special attention to any sign of oil leak.
- 2. Check the engine oil & sight glass level and refill if necessary.
- 3. Check the engine fuel level and refill if necessary.
- 4. Check for fuel and oil leaks before operating.

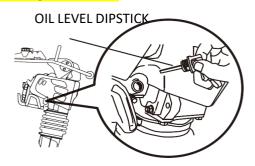
Oil Fill Sight glass Oil drain plug

**REMEMBER!** It is the owner's responsibility to communicate information on the safe use and proper operation of this unit to the operators.

- Before operating, review SAFETY PRECAUTIONS on this manual.
- Familiarize yourself with the operation of the unit and confirm that all controls function properly BEFORE starting engine.
- Locate the killing switch and assure you know how to STOP the unit.
- Make sure hands, feet, and clothing are at a safe distance from any moveable parts prior to starting.

- Shrouds and grids are provided to protect the operator or structures in close proximity to rotating hot engine parts. It is the **RESPONSABILITY OF THE OPERATOR** to see that they are properly secured.
- OIL LEVEL Check the engine & crankcase oil level. **OIL Type is SAE 10W-30, or later**, for general use for engine & crankcase and spring cylinder at the rear of the tamper foot. The bath contains approximately 0.8 qt. (0.75 liter).

All units come without oil on ENGINE. Running an engine without lubrication may damage this unit.



SUGGESTED OIL TYPE			
Season	Temperature	Oil Type	
Summer	25°C or Higher	SAE 10W-30	
Spring/Fall	25°C~10°C	SAE 10W-30/20	
Winter	0°C or Lower	SAE 10W-10	

- AIR CLEANER Check to ensure elements are in good condition and properly installed.
- Review every decal with the OPERATOR.
- FUEL SUPPLY Engines require an automotive grade of clean, fresh, unleaded or regular gasoline. <u>All units come WITHOUT gasoline or engine oil.</u>
- FUEL FILTER Check to ensure element is in good condition... Replace if it is clogged or damaged.
- POSITION The only operating position for this equipment is at the rear of the unit. If the operator must leave this position the engine must be shut down.
- •
- SPECTATORS Keep all personnel/spectators away from unit while using.

### **6. OPERATION INSTRUCTIONS**

IMPORTANT Engine warranty is void if the engine is run without oil.

Prior to starting engine, make sure all guards are in place and secured.

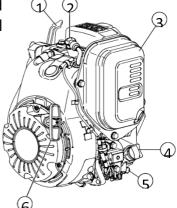
#### Check Gas engine

The engine (Figure 2) must be checked for proper lubrication and filled with fuel prior to operation. Refer to the engine manufacturer's manual for detailed operation and service information.

1. Choke Lever—Normally used in starting the engine in cold weather conditions. In cold weather, turn the choke lever to the fully closed position.

In warm weather, set the choke lever halfway or completely open.

Spark Plug — Provides spark to the ignition system.
Set spark plug gap to 0.024- 0.028 inch (0.6- 0.7mm).
Clean spark plugs once a week.



- 3. Muffler Used to reduce noise and emissions.
- 4. Dipstick/Oil Filler Cap Remove this cap to determine if the engine oil is low. Add oil through this filler port.
- 5. Oil Drain Plug—Remove this plug to remove oil from the engine's crankcase.
- 6. Recoil Starter (pull rope) Manual-starting method. Pull the starter grip until resistance is felt, then pull briskly and smoothly.
- 7. Fill the fuel tank with unleaded gasoline. At the same time, check the engine oil and replenish it often.

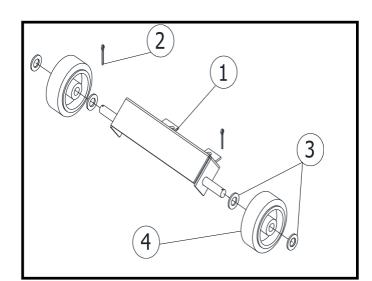
### **OPERATING**

- 1. To start the rammer tamping action, move the throttle lever quickly from IDLE to the START position. DO NOT move the throttle lever slowly as this may cause damage to the clutch or spring.
- 2. This tamping rammer is designed to run at 3,100 to 3,400 RPM. At optimum rpm the foot hits at the rate between 640-680 impacts per minute. Increasing throttle speed past factory set rpm does not increase impacts and may damage unit. Is also designed to advance while tamping. For faster advance, pull back slightly.
- 3. To stop the tamping action, move throttle lever quickly from START to IDLE position by moving the throttle lever from the START to IDLE position and run the engine for three minutes at lows peed. After the engine cools, move the throttle lever to the STOP position. The engine will stop and the fuel cock is automatically closed. If the engine does not stop due to a problem with the switch or the like, move the machine to a safe location and hold the throttle lever in the stop position. Let the machine run on idle and the

#### **RAM70H Wheel Kit**

1. Below is a list of components that comes with all MVP60/MVP95 wheel kits

machine will stop after a few minutes.



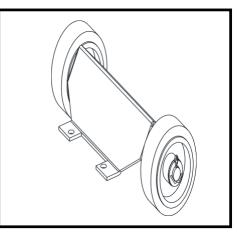




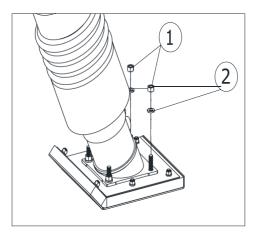


- 1. (1) Wheel Assy RAM70H
- 2. (2) Pin Cotter 1/8 x 2"
- 3. (4) Plain Washer 3/4
- 4. (2) 5x2" Wheels

2. As in the image below this is how the wheel kit should be bolted on-to the rammer

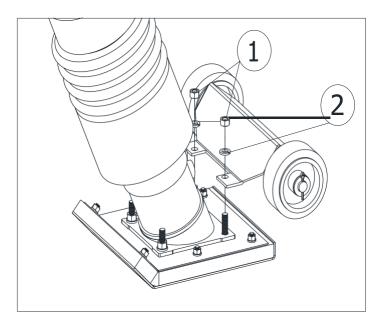


3. To install the wheel kit, you first need to unbolt the 2 x M12 #1 and the 2 x M12 plain washer #2 shoe hardware that come preinstalled on all rammers to be used as lifting bail.

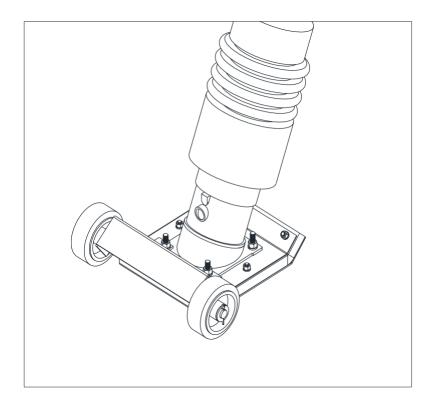




4. Then proceed to place the Wheel kit on-to the shoe bolts of the rammer and faster the hardware as shown on image below.



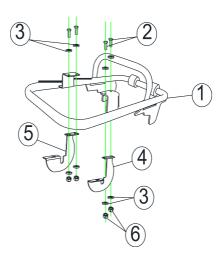
5. You can now transport and store your rammer with the Wheel kit installed.





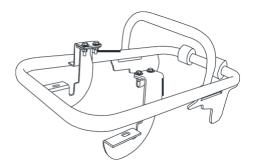
#### **NEW RAMMER GAS TANK INSTALLATION (2021)**

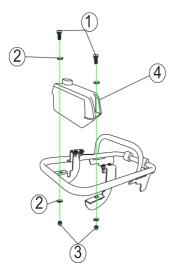
- 1. First install the brackets that come with the new fuel tank kit to the rammer handle as shown in the image below.
- 3. Once Brackets are installed you can proceed to install the fuel tank.



- 1. Handle.
- 2. Hex bolt. 5/16" x 1" NC
- 3. Washer 5/16"
- 4. Right Bracket
- 5. Left Bracket
- 6. Lock washer 5/16" NC

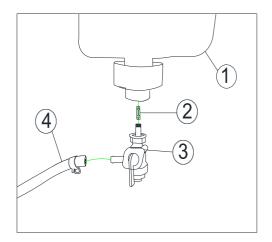
2. Once installed, it should look as pictured below.





- 1. Bolt 5/16" x 1" NC
- 2. Plain washer 5/16"
- 3. Safety washer 5/16" NC
- 4. Fuel Tank Assey

4. Once mounted proceed to connect the fuel hose to the fitting as below:



- 1. Gas tank
- 2. Gas filter
- 3. Valve/fitting.
- 4. hose.

### **7.ADDING FLUIDS & TRANSPORTATION**

### **STOP THE ENGINE BEFORE:**

- 1. Adding fuel/Oil.
- 2. Leaving equipment unattended for any amount of time.
- 3. Making any repairs or adjustments to the unit.
- 4. Transportation.

### IF LIFTING/LOWERING EQUIPMENT ALWAYS:

- 1. Stop the engine.
- 2. Remove wheel kits (If applies)
- 3. Secure any other hardware on the unit.
- 4. Make sure you use appropriated lifting equipment rated to lift the unit. Have in mind the equipment weight.
- 5. Do not position yourself where you could possibly be pinched / caught between unit and some other obstacle.

### TRANSPORTATION

- 1. Move Unit on the jobsite by hand pushing unit using the optional wheel kit (Trolley). Wheel kit is used for short distance transportation.
- 2. If not using a wheel kit, use lifting point when lifting machine. Make sure lifting device has enough capacity to hold machine weight.
- 3. Do not push rammer in ground or damage can occur.
- 4. Do not fuel while mounted on truck bed

### STORING

- 1. Drain fuel tank.
- 2. Clean shaft and bearings. Coat parts with grease.
- 3. Lube all bearings
- 4. Inspect the rubber anti vibration mounts for wear or deterioration
- 5. Empty water system to avoid corrosion, inspect the water hose and its connections to ensure that they do not leak.
- 6. Clean all moving parts with WD-40 lubricant.
- 7. Clean the underside of the rammer regularly to prevent a buildup of material.
- 8. Cover unit for weather protection.

### **8.SERVICE INSTRUCTIONS**

- 1. Never service or lubricate the unit engine while running.
- 2. After servicing the unit, restore and fasten all guards, shields, and covers to their original positions.
- 3. Never drain oil into the ground, into open streams, or down sewage drains.
- 4. To make sure your equipment is always in good working condition before using, carry out the maintenance inspection in accordance with the Maintenance Schedule.

### AIR FILTER - SPARK PLUG &

1. The air filter element should be cleaned because a clogged air cleaner can cause poor engine starting, lack of power and shorten engine life substantially. Remove the air cleaner cover. Loosen and remove the 2 screws that hold the cover to the air cleaner assembly. If the primary element (Figure 13) is dirty, wash it with gasoline or kerosene. Then dip it in engine oil (SAE10W-30) and wring the element so that 25 to 30 cc of engine oil remains on the element.

2. Inspect in-line fuel filter and replace if necessary.

3. Remove & clean the spark plug, then adjust the spark gap to 0.024~0.028 inch (0.6~0.7 mm).

4. Remove the oil drain plug on foot housing and drain the oil. Refill with approximately 0.8 qt. (0.75 liter) of 10W-30 SE, SF or higher-grade motor oil. Oil should be midway insight glass. Break-in oil should be changed after first 50 hours.

FUFI FIITFR

### 9. MAINTENANCE SCHEDULE

THESE INSPECTION INTERVALS ARE FOR OPERATION UNDER NORMAL CONDITIONS. ADJUST YOUR INSPECTION INTERVALS BASED ON THE NUMBER HOURS THIS MACHINE HAS BEEN IN USE AND ITS PARTICULAR WORKING CONDITIONS.

- Check all hardware after the first 5 hours of use. Check for loose screws including tightness.
- 2. Check oil daily. Look after leakage of fuel or oil.

- 3. Change oil after 5 (five) hours of use and every 25 hours after first change. Refer to engine manual for oil grades.
- 4. Remove soil and clean the bottom of shoe.
- 5. For wheel kit, Grease wheels (4) weekly. Use high quality gun grease, Kendall "SHP High temp" or equal.
- 6. Clean air filter and foam pre-cleaner daily. More often if dry cutting. Always use foam element pre-cleaner over paper cartridge. Never run engine with clogged or missing air filter.
- 7. FUEL PIPING AND CONNECTIONS SHOULD BE REPLACED EVERY 2 YEARS.
- 8. Follow the maintenance schedule:

	Maintenance	Each use	Every 20 hours	Every 50 hours	Every 100 hours	Yearly
Engine	Refer to engine operator/owner manual	Х				Х
Air Cleaner	Refer to engine operator/owner manual			Х		Х
Spark Plug	Clean spark plug, and adjust the spark gap to 0.024~0.028 inch (0.6~0.7 mm).		Х			
Engine Oil	Oil change & Leakage		Х			
Hardware	Check and tighten check torque diag.		Х	Х		Х
in-line fuel filter	Inspect in-line fuel filter and replace if necessary.			Х		
Crank oil	Remove the oil drain plug on foot housing and drain the oil. Refill with approx. 0.8 qt. (0.75 liter) of 10W-30 SE, SF or higher-grade motor oil.			Х		
Wheels	Grease wheels and check wear	Х				Х
Damage	Broken parts or Damage				Х	
Fuel Tank	Clean the inside of the fuel tank with solvent and clean fuel strainer replace strainer if necessary.				Х	

### **10. REPLACEMENT**

Parts

<u>Engine Components</u> Pistons

<u>Rubber Stoppers</u>

<u>Hardware</u>

#### **Tolerance or Replacement Cycle**

- Refer to your engine manufacturer's Owner's Manual
- Replace if machine is losing its power BPM.
- Grease/lubricated Centrifugal clutch yearly.
- Inspect the rubber anti vibration mounts for wear or deterioration.
- Re-torque all bolts after the first eight hours of operation and check hardware every 25 hours. Replace any worn or damaged hardware as needed. Replacement hardware should be grade 5 and zinc.

Replace if they become aged, damaged or cannot be easily read.

### **11. EQUIPMENT SPECS**

MODEL	RAM-70H
Impact Force lbf (Kgf)	3372 lbf (15)
Exciter Speed (Blows Per Min)	640-680 VPM
Fuel Capacity. (Lt)	2.9 qt (2.8 lt.)
Shoe Size in (cm)	11" x 13" (28)(33)
Engine Power	GX120 Honda
	(2 Strokes)
Overall Length in (cm)	31" (78)
Overall Width in (cm)	17" (43)
Overall Height in (cm)	40" (101)
Operating Weight lbs. (Kg)	154 lbs. (70)

**Features and Benefits** 

- Versatile size rammer for mid to large scale repair job
- 'Open-Engine' design allows quick access for maintenance
- Greater compaction due to higher stroke and weight
- Central lifting point for transportation
- Two-stage air filtration system
- Improve vibration-reduction handle and quick access throttle control
- Reinforced centrifugal clutch for better durability
- Transportation wheels kit are available.

### **12. TROUBLESHOOTING**

Troubleshooting (Rammer)			
Symptom	Possible Problem	Solution	
	Operating speed of throttle lever is incorrectly set?	Set throttle lever to correct position.	
Engine runs but rammer jumps	Oil in excess?	Drain excess oil. Bring to correct level.	
erratically or not at all.	Clutch slips?	Replace or adjust clutch.	
	Spring Failure?	Replace spiral spring.	
	Speed of engine improper?	Adjust engine speed to correct operating RPM setting.	
	Soil over-compacted?	Shut down machine and test soil.	

Troubleshooting (Engine)		
Symptom	Possible Problem	Solution

	Combo lever in incorrect position?	Make sure combo lever is in start position.	
	Spark plug bridging?	Check gap, insulation or replace spark plug.	
	Carbon deposit on spark plug?	Clean or replace spark plug.	
	Short circuit due to deficient spark plug insulation?	Check spark plug insulation, replace if worn.	
	Improper spark plug gap?	Set to proper gap.	
Difficult to start, fuel is available, but no spark at spark plug.	Fuel reaching carburetor?	Check fuel line.	
	Water in fuel tank?	Flush or replace fuel tank.	
	Fuel filter clogged?	Replace fuel filter.	
	Stuck carburetor?	Check float mechanism.	
	Spark plug is red?	Check transistor ignition unit.	
	Spark plug is bluish white?	If insufficient compression, repair or replace engine. If injected air leaking, correct leak. If carburetor jets clogged, clean carburetor.	
	No spark present at tip of spark plug?	Check transistor ignition unit is broken, and replace defective unit. Check if voltage cord cracked or broken and replace. Check if spark plug if fouled and replace.	
	No oil?	Add oil as required.	
	ON/OFF switch is shorted?	Check switch wiring, replace switch.	
	Ignition coil defective?	Replace ignition coil.	
Difficult to start, fuel is available, and spark is present at the spark plug.	Improper spark gap, points dirty?	Set correct spark gap and clean points.	
	Condenser insulation worn or short circuiting?	Replace condenser.	
	Spark plug wire broken or short circuiting?	Replace defective spark plug wiring.	
	Wrong fuel type?	Flush fuel system, replace with correct type of fuel.	
Difficult to start, fuel is available, spark is present and	Water or dust in fuel system?	Flush fuel system.	
compression is normal.	Air cleaner dirty?	Clean or replace air cleaner.	
	Choke open?	Close choke.	
	Suction/exhaust valve stuck or protruded?	Reseat valves.	
Difficult to start, fuel is available,	Piston ring and/or cylinder worn?	Replace piston rings and/or piston.	
spark is present and compression is low.	Cylinder head and/or spark plug not tightened properly?	Torque cylinder head bolts and spark plug.	
	Head gasket and/or spark plug gasket damaged?	Replace head and spark plug gaskets.	
	No fuel in fuel tank?	Fill with correct type of fuel.	
	Fuel cock does not open properly?	Apply lubricant to loosen fuel cock lever, replace if necessary.	
No fuel present at carburetor.	Fuel filter/lines clogged?	Replace fuel filter.	
	Fuel tank cap breather hole clogged?	Clean or replace fuel tank cap.	
	Air in fuel line?	Bleed fuel line.	

	Troubleshooting (Engine) - continued	
Symptom	Possible Problem	Solution
	Air cleaner dirty?	Clean or replace air cleaner.
Weak in power, compression is proper and does not misfire.	Improper level in carburetor?	Check float adjustment, rebuild carburetor.
	Defective spark plug?	Clean or replace spark plug.
	Improper spark plug?	Set to proper gap.
Weak in power, compression is proper but misfires.	Water in fuel system?	Flush fuel system and replace with correct type of fuel.
	Dirty spark plug?	Clean or replace spark plug.
	Ignition coil defective?	Replace ignition coil.
	Spark plug heat value incorrect?	Replace with correct type of spark plug.
Engine averbagte	Wrong type of fuel?	Replace with correct type of fuel.
Engine overheats.	Cooling fins dirty?	Clean cooling fins.
	Intake air restricted?	Clear intake of dirt and debris. Replace air cleaner elements as necessary.
	Oil level too low or too high?	Adjust oil to proper level.
	Governor adjusted incorrectly?	Adjust governor.
Rotational speed fluctuates.	Governor spring defective?	Replace governor spring.
	Fuel flow restricted?	Check entire fuel system for leaks or clogs.
Recoil starter malfunctions. (if applicable)	Recoil mechanism clogged with dust and dirt?	Clean recoil assembly with soap and water.
	Spiral spring loose?	Replace spiral spring.
	Loose, damaged wiring?	Ensure tight, clean connections on battery and starter.
Starter malfunctions.	Battery insufficiently charged?	Recharge or replace battery.
		Replace starter.
	Over-accumulation of exhaust products?	Check and clean valves. Check muffler and replace if necessary.
Burns too much fuel.	Wrong spark plug?	Replace spark plug with manufacturer's suggested type.
Exhaust color is continuously "white".	Lubricating oil is wrong viscosity?	Replace lubricating oil with correct viscosity.
	Worn rings?	Replace rings.
	Air cleaner clogged?	Clean or replace air cleaner.
Exhaust color is continuously "black".	Choke valve set to incorrect position?	Adjust choke valve to correct position.
	Carburetor defective, seal on carburetor broken?	Replace carburetor or seal.
	Poor carburetor adjustment, engine runs too rich?	Adjust carburetor.
Will not start, no power with key "ON". (if applicable)	ON/OFF device not activated ON?	Turn on ON/OFF device.
	Battery disconnected or discharged?	Check cable connections. Charge or replace battery
	Ignition switch/wiring defective?	Replace ignition switch. Check wiring.

### **13. WAREHOUSE LOCATIONS**

### We are at your service

We have established a network of reputable distributors with trained mechanics and full facilities for maintenance and rebuilt, and to carry an adequate stock parts in all areas of the country. Their sales engineers are available for professional consultation. If you cannot locate your nearest distributor contact our sales branch listed below so we can point you in the right direction.

Phone: 956-796-9411 Fax: 956-462-2500 service@btmequipment.com

### **14. ADDITIONAL NOTES:**