

OPERATION AND PARTS MANUAL



 ***Mikasa* SERIES**
MODEL MT77HFR
TAMPING RAMMER
(HONDA GXR120RT-KRB6 GASOLINE ENGINE)

Revision # 0 (04/24/17)

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THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.



CALIFORNIA — Proposition 65 Warning

Gasoline engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

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NOTICE

Specifications and part numbers are subject to change without notice.

PARTS ORDERING PROCEDURES

Ordering parts has never been easier! Choose from three easy options:

Effective:
January 1st, 2006

www.multiquip.com



Order via Internet (Dealers Only):

Order parts on-line using Multiquip's SmartEquip website!

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- Order Parts
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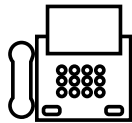
If you have an MQ Account, to obtain a Username and Password, E-mail us at: parts@multiquip.com.

To obtain an MQ Account, contact your District Sales Manager for more information.

Goto www.multiquip.com and click on **Order Parts** to log in and save!

Use the **internet** and qualify for a **5% Discount** on *Standard orders* for all orders which include complete part numbers.*

Note: Discounts Are Subject To Change



Order via Fax (Dealers Only):

All customers are welcome to order parts via Fax.

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Order via Phone: Domestic (US) Dealers Call:
1-800-427-1244

Non-Dealer Customers:

Contact your local Multiquip Dealer for parts or call 800-427-1244 for help in locating a dealer near you.



International Customers should contact their local Multiquip Representatives for Parts Ordering information.

When ordering parts, please supply:

- | | |
|---|--|
| <input type="checkbox"/> Dealer Account Number | <input type="checkbox"/> Specify Preferred Method of Shipment: |
| <input type="checkbox"/> Dealer Name and Address | <input checked="" type="checkbox"/> UPS/Fed Ex <input checked="" type="checkbox"/> DHL |
| <input type="checkbox"/> Shipping Address (if different than billing address) | <input type="checkbox"/> Priority One <input checked="" type="checkbox"/> Truck |
| <input type="checkbox"/> Return Fax Number | <input type="checkbox"/> Ground |
| <input type="checkbox"/> Applicable Model Number | <input type="checkbox"/> Next Day |
| <input type="checkbox"/> Quantity, Part Number and Description of Each Part | <input type="checkbox"/> Second/Third Day |

NOTICE

All orders are treated as *Standard Orders* and will ship the same day if received prior to 3PM PST.

WE ACCEPT ALL MAJOR CREDIT CARDS!



SAFETY INFORMATION

Do not operate or service the equipment before reading the entire manual. Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the safety messages and operating instructions could result in injury to yourself and others.



SAFETY MESSAGES

The four safety messages shown below will inform you about potential hazards that could injure you or others. The safety messages specifically address the level of exposure to the operator and are preceded by one of four words: **DANGER**, **WARNING**, **CAUTION** or **NOTICE**.

SAFETY SYMBOLS

! DANGER

Indicates a hazardous situation which, if not avoided, **WILL** result in **DEATH** or **SERIOUS INJURY**.

! WARNING

Indicates a hazardous situation which, if not avoided, **COULD** result in **DEATH** or **SERIOUS INJURY**.







! CAUTION

Indicates a hazardous situation which, if not avoided, **COULD** result in **MINOR** or **MODERATE INJURY**.

NOTICE

Addresses practices not related to personal injury.

Potential hazards associated with the operation of this equipment will be referenced with hazard symbols which may appear throughout this manual in conjunction with safety messages.

Symbol	Safety Hazard
	Lethal exhaust gas hazards
	Explosive fuel hazards
	Burn hazards
	Respiratory hazards
	Accidental starting hazards
	Eye and hearing hazards

SAFETY INFORMATION

GENERAL SAFETY

CAUTION

- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, respiratory protection, hearing protection, steel-toed boots and other protective devices required by the job or city and state regulations.



- **NEVER** operate this equipment when not feeling well due to fatigue, illness or when under medication.



- **NEVER** operate this equipment under the influence of drugs or alcohol.



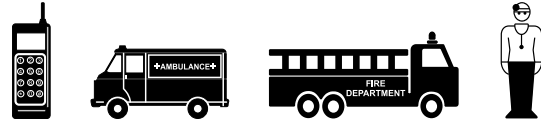
- **ALWAYS** check the equipment for loosened threads or bolts before starting.
- **DO NOT** use the equipment for any purpose other than its intended purposes or applications.

NOTICE

- This equipment should only be operated by trained and qualified personnel 18 years of age and older.
- Whenever necessary, replace nameplate, operation and safety decals when they become difficult to read.
- Manufacturer does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modification will void all warranties.
- **NEVER** use accessories or attachments that are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.
- **ALWAYS** know the location of the nearest fire extinguisher.
- **ALWAYS** know the location of the nearest first aid kit.



- **ALWAYS** know the location of the nearest phone or **keep a phone on the job site**. Also, know the phone numbers of the nearest **ambulance, doctor and fire department**. This information will be invaluable in the case of an emergency.



RAMMER SAFETY

DANGER

- **NEVER** operate the equipment in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe **bodily harm or even death**.



WARNING

- **NEVER** disconnect any **emergency or safety devices**. These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death. Disconnection of any of these devices will void all warranties.
- **DO NOT** use this machine on ground that is harder than the machine can handle, or for driving pilings or tamping rock beds. Furthermore, use of the machine on sloping ground, such as the side of an embankment, may make the machine unstable and can cause an accident. It can also result in premature machine wear due to uneven loads on the machine.

Use the machine with confidence for tamping earth and sand, soil, gravel, and asphalt. **DO NOT** use the machine for other types of jobs.

CAUTION

- **NEVER** lubricate components or attempt service on a running machine.

NOTICE

- **ALWAYS** keep the machine in proper running condition.
- Fix damage to machine and replace any broken parts immediately.
- **ALWAYS** store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children and unauthorized personnel.

SAFETY INFORMATION

ENGINE SAFETY

DANGER

- The engine fuel exhaust gases contain poisonous carbon monoxide. This gas is colorless and odorless, and can cause death if inhaled.
- The engine of this equipment requires an adequate free flow of cooling air. **NEVER** operate this equipment in any enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause injury to people and property and serious damage to the equipment or engine.



WARNING

- **DO NOT** place hands or fingers inside engine compartment when engine is running.
- **NEVER** operate the engine with heat shields or guards removed.
- **DO NOT** remove the engine oil drain plug while the engine is hot. Hot oil will gush out of the oil tank and severely scald any persons in the general area of the rammer.



CAUTION

- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing equipment.



NOTICE

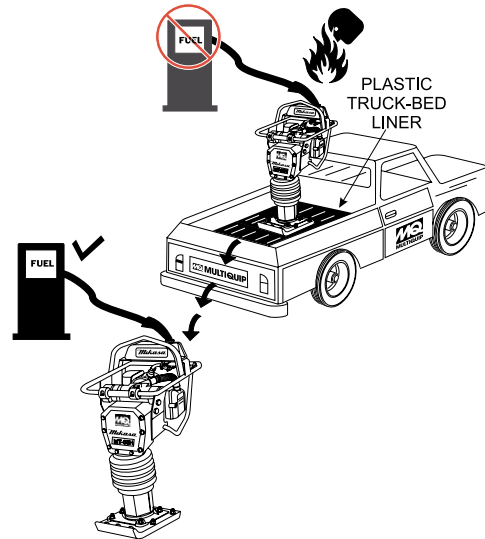
- **NEVER** run engine without an air filter or with a dirty air filter. Severe engine damage may occur. Service air filter frequently to prevent engine malfunction.
- **NEVER** tamper with the factory settings of the engine or engine governor. Damage to the engine or equipment can result if operating in speed ranges above the maximum allowable.



FUEL SAFETY

DANGER

- **DO NOT** add fuel to equipment if it is placed inside truck bed with plastic liner. Possibility exists of explosion or fire due to static electricity.



- **DO NOT** start the engine near spilled fuel or combustible fluids. Fuel is extremely flammable and its vapors can cause an explosion if ignited.
- **ALWAYS** refuel in a well-ventilated area, away from sparks and open flames.
- **ALWAYS** use extreme caution when working with **flammable** liquids.
- **DO NOT** fill the fuel tank while the engine is running or hot.
- **DO NOT** overfill tank, since spilled fuel could ignite if it comes into contact with hot engine parts or sparks from the ignition system.
- Store fuel in appropriate containers, in well-ventilated areas and away from sparks and flames.
- **NEVER** use fuel as a cleaning agent.
- **DO NOT** smoke around or near the equipment. Fire or explosion could result from fuel vapors or if fuel is spilled on a hot engine.



TRANSPORTING SAFETY

CAUTION


- NEVER allow any person or animal to stand underneath the equipment while lifting.

NOTICE

- Before lifting, make sure that the equipment parts (hook and vibration insulator) are not damaged and screws are not loose or missing.
- Always make sure crane or lifting device has been properly secured to the lifting bail (hook) of the equipment.
- **ALWAYS** shutdown engine before transporting.
- **NEVER** lift the equipment while the engine is running.
- Tighten fuel tank cap securely and close fuel cock to prevent fuel from spilling.
- Use adequate lifting cable (wire or rope) of sufficient strength.
- Use one point suspension hook and lift straight upwards.
- **DO NOT** lift machine to unnecessary heights.
- **ALWAYS** tie down equipment during transport by securing the equipment with rope.
- Never allow any person or animal to stand underneath the equipment while lifting.

ENVIRONMENTAL SAFETY

NOTICE

- Dispose of hazardous waste properly. Examples of potentially hazardous waste are used motor oil, fuel and fuel filters. 
- **DO NOT** use food or plastic containers to dispose of hazardous waste.
- **DO NOT** pour waste, oil or fuel directly onto the ground, down a drain or into any water source.

SPECIFICATIONS

Table 1. Rammer Specifications	
Overall Height	42.12 in. (1070 mm)
Overall Width	14.76 in. (375 mm)
Over Length	29.13 in. (740 mm)
Shoe Size (L x W)	13.4 x 11.2 in. (340 x 285 mm)
Fuel Tank Capacity	2.11 qt. (2.0 liters)
Lubrication Oil Capacity	0.8 qt. (0.75 liter)
No. of Blows Per Minute	644 - 695
Impact Force	2,653 - 3,080 lbf (11.8 - 13.7 kN)
Impact Plate Stroke	2 - 3.15 in. (50 - 80 mm)
Operating Weight	169.8 lbs. (77 kg)

Table 2. Engine Specifications	
Model	Honda GXR120RT-KRB6 Engine
Type	Air-Cooled 4 Stroke, single cylinder gasoline engine
Piston Displacement	7.38 cu.in. (121 cc)
Max. Output	3.6 hp/3,600 rpm (2.7 KW)
Max. Governed Speed, No Load	3,800 - 4,100 rpm
Cooling System	Air-Cooled
Engine Oil Capacity	0.3 qt. (0.28 liters)
Fuel	Unleaded gasoline
Lubricant for Engine	Automobile Oil; Class SE or higher
Starting System	Recoil Starter
Spark Plug Type	NGK CR5HSB

NOISE AND VIBRATION EMISSIONS

Table 3. Noise and Vibration Emissions

Measured Sound Power Level in dB(A)	104
Guaranteed Sound Power Level in dB(A)	107
Guaranteed Sound Pressure Level at Operator Station in dB(A)	94
Hand-Arm Vibration in m/s ²	7.8

NOTES:

1. *Products are tested for sound pressure level in accordance with European Directives 2000/14/EC and 2005/88/EC, relating to Noise Emission in the Environment by equipment for use outdoors.*
2. *Products are tested for hand/arm vibration (HAV) level in accordance with European Directives 2002/44/EC and EN500-4 and ISO 5349-1:2001, ISO 5349-2:2001.*

GENERAL INFORMATION

The Multiquip MT77HFR tamping rammer is a powerful compacting tool capable of applying a tremendous force in consecutive impacts to a soil surface. Its applications include soil compacting for road, embankments and reservoirs as well as backfilling for gas pipelines, water pipelines and cable installation work.

The impact force of the MT77HFR levels and uniformly compacts voids between soil particles to increase dry density.

Circular motion is converted to create impact force. The MT77HFR tamping rammer develops a powerful compacting force at the foot of the rammer. To maintain optimum performance, proper operation and service are essential.

The MT77HFR is equipped with an air cooled, four-cycle gasoline engine. Transmission of the power takes place by increasing the engine speed to engage the centrifugal clutch.

The MT77HFR uses an oil bath lubrication system. Always check the oil level through the oil level sight glass at the rear of the tamper foot.

Before starting the MT77HFR Tamping Rammer identify and understand the function of the controls.

CAUTION



Before starting operation check the lifting handle to:

1. Make sure that there is no damage on the bolts.
2. Make sure that there is no crack or breakage on handle.
3. Make sure that there is no fissure on the surface. If there is any abnormality or damage, replace with new one.

For operation:

This handle is to be used to lift up the shoe part of the machine with the body laid down on the ground or truck bed.

1. Use proper lifting techniques to avoid back injury. This handle is for manual lifting only.
2. Do not use this handle as a rammer lift point. Use the lifting point on the top of the machine.
3. Do not move the rammer with the lifting handle and the front rollers more than 16 feet (5 meters).

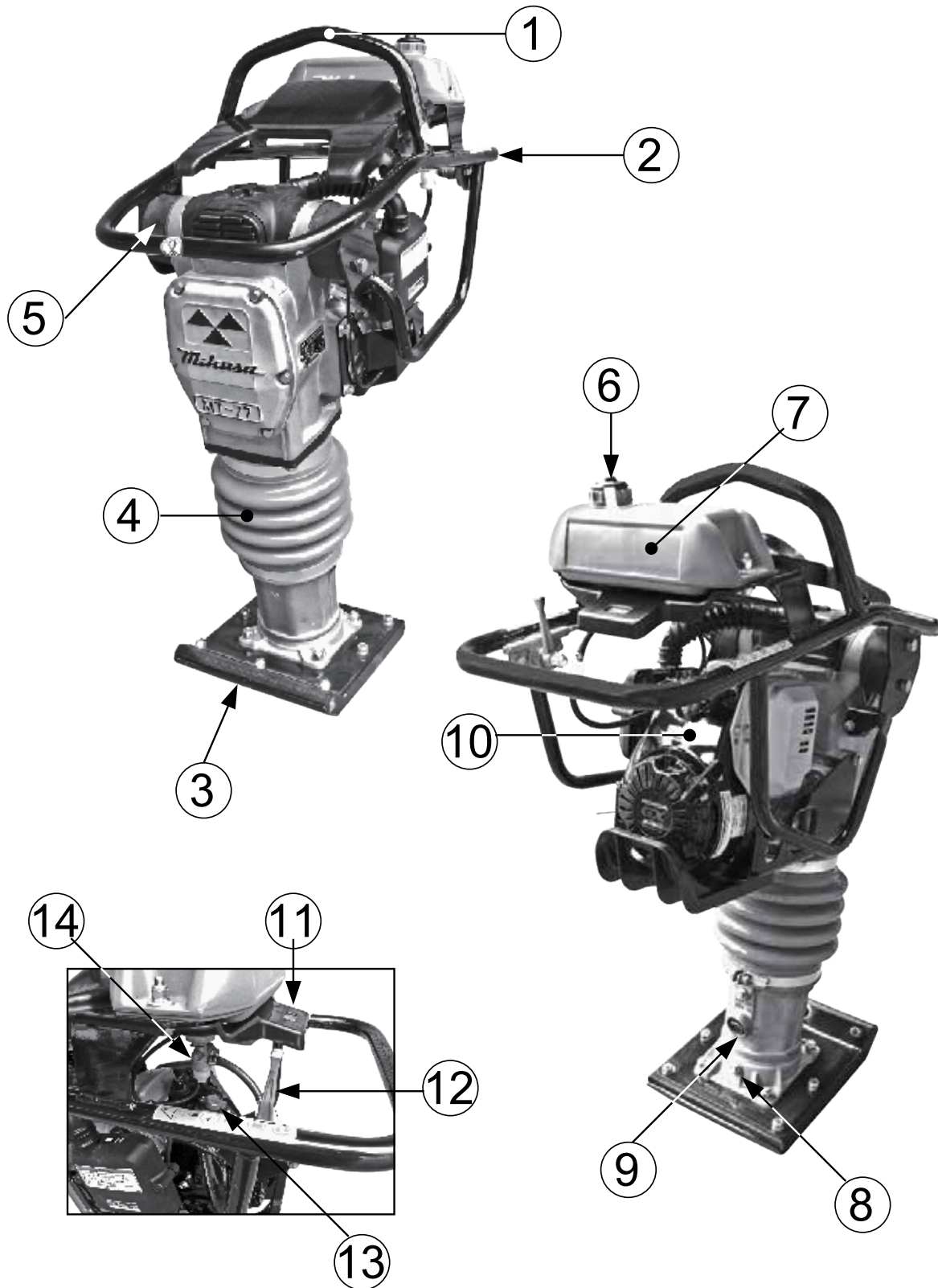


Figure 1. MT77HFR Rammer

COMPONENTS

Figure 1 shows the location of the controls and components for the MT77HFR Tamping Rammer. The functions of each control is described below:

1. **Hook** — Used to lift rammer for transporting.
2. **Handle** — To operate rammer, **GRIP** handle assembly firmly on both sides.
3. **Foot** — Laminated wood with tempered steel plate for superior shock absorption.
4. **Bellows** — Reservoir for oil bath.
5. **Shock Absorber** — Protects rammer from damage by absorbing vibration during operation.
6. **Fuel Tank Cap** — Remove this cap to add unleaded gasoline to the fuel tank. Make sure cap is tightened securely. **DO NOT** over fill.
7. **Fuel Tank** — Holds the fuel for the unit (up to 3.2 quarts).
8. **Drain Valve** — Open this valve to remove oil from the bellows.
9. **Oil Gauge (Sight Glass)** — Indicates the level of oil in the oil bath reservoir.
10. **Engine** — This unit uses a Honda GXR120RTKRB6 gasoline engine.
11. **Hour and Tacho Meter** — Measures run time and engine RPM.
12. **Throttle Lever** — Used to adjust engine speed (rpm). Move lever forward (**SLOW**) to reduce engine speed. Move lever back toward operator (**FAST**) to increase speed. Always operate the rammer at full speed (rpm).
13. **Engine Stop Switch** — Controls the starting and stopping of the engine. Switch must be in the "ON" position when starting the engine.
14. **Fuel Shut-Off Valve** — Supplies fuel from the fuel tank to the engine. To begin fuel flow move the fuel shut-off valve lever downward.

WARNING



Adding fuel to the tank should be accomplished only when the engine is stopped and has had an opportunity to cool down. In the event of a fuel spill, **DO NOT** attempt to start the engine until the fuel residue has been completely wiped up, and the area surrounding the engine is dry.

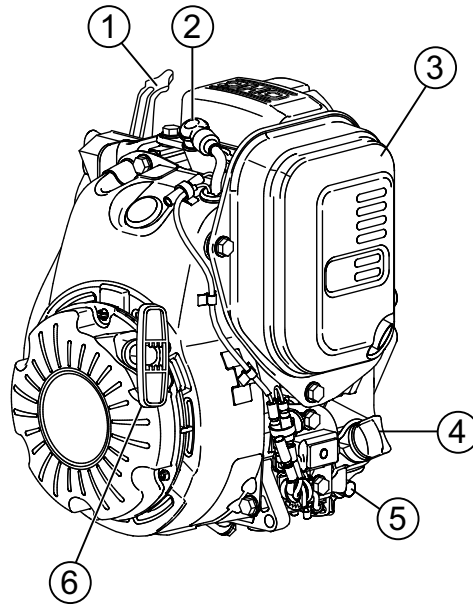


Figure 2. Honda GXR120RT-KRBF Engine

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.
2. **Spark Plug** — Provides spark to the ignition system. Set spark plug gap to 0.024 - 0.028 inch (0.6 - 0.7 mm). Clean spark plug 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 as recommended in Table 3.
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.

NOTICE

Operating the engine without an air filter, with a damaged air filter, or a filter in need of replacement will allow dirt to enter the engine, causing rapid engine wear.

WARNING



Engine components can generate extreme heat. To prevent burns, **DO NOT** touch these areas while the engine is running or immediately after operating. **NEVER** operate the engine with the muffler removed.

It is extremely important that this section be read carefully before attempting to operate the rammer. **DO NOT** use your rammer until this section is thoroughly understood.

OIL CHECK

1. Check the oil level through the oil gauge on the protective sleeve (Figure 3) at the right side of the tamper foot.

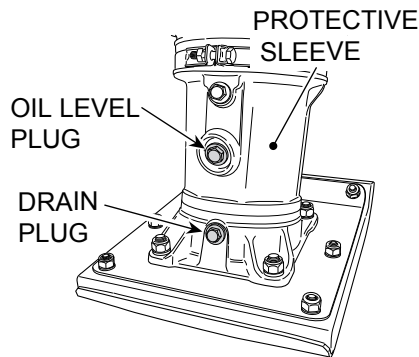


Figure 3. Oil Check

2. If not enough oil, e, add 10W-30 SE, SF or higher grade motor oil into the oil fill plug opening. The bath contains approximately 0.8 qt. (0.75 liter).

FUEL CHECK

1. Fill the fuel tank (Figure 4) with unleaded gasoline. At the same time, check the engine oil and make it a habit to replenish it often (Figure 6).

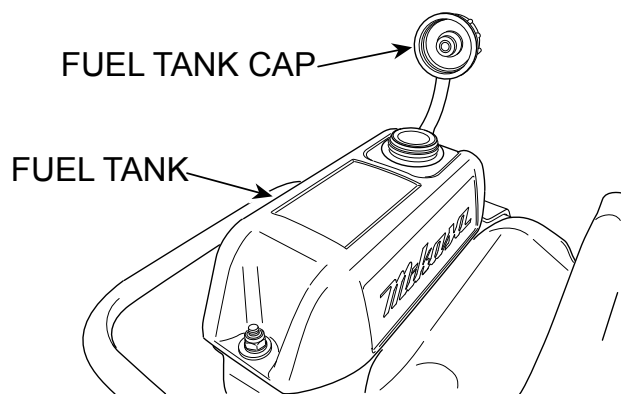


Figure 4. Fuel Tank

ENGINE OIL CHECK

2. Place the machine on a level surface and then tilt it forward (Figure 5).

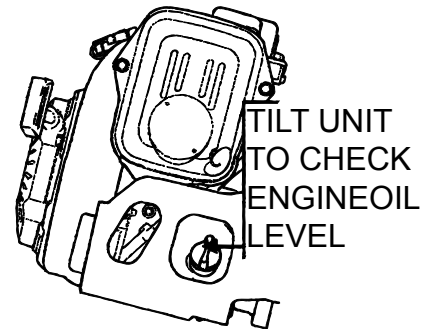


Figure 5. Tilting Machine

NOTICE

Low levels of oil may result in engine seizure due to high levels of consumption during operation.

3. Check the engine oil level and if the engine oil level is low, it should be refilled (Figure 6). Use the proper motor oil as suggested in the Table 4 below.

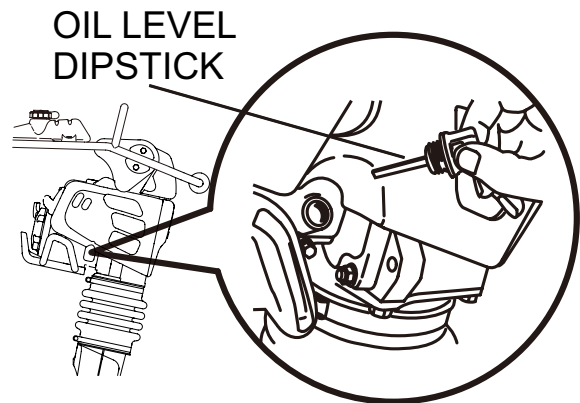


Figure 6. Engine Oil Dipstick

Table 4. Motor Oil Grade

Season or Temperature	Grade of motor oil (higher than MS class)
Spring, Summer or Autumn +120° F to +15° F	SAE 30
Winter +40° F to +15° F	SAE 30
Below +15° F	SAE 10W-30

GENERAL INSPECTION

1. Check all nuts, bolts fasteners for tightness. Retighten nuts (Figure 7) as necessary with the following torques:
 - Nut M10 — 21.6 ft·lbf (29.4 N·m)
 - Nut M12 — 78.4 ft·lbf (57.9 N·m)

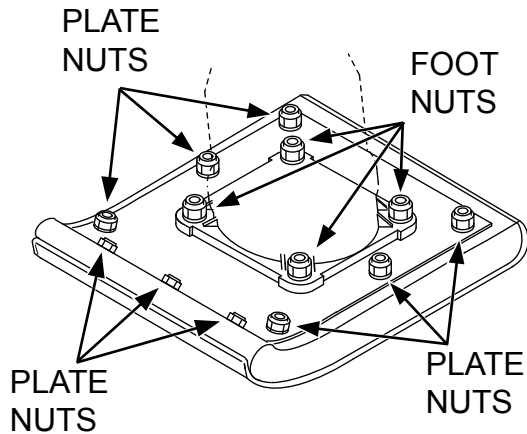


Figure 7. Tightening Nuts

2. Clean any dirt from the recoil starter and foot pedestal. Wipe the entire unit clean before operating.
3. Replace any missing or damaged Safety Operation decals.
4. Adjust height of handle. Adjust handle by loosening nuts and moving handle to suit operation. Retighten nuts.

CAUTION

Failure to understand the operation of the rammer could result in severe damage to the unit or personal injury.

INITIAL STARTUP

When starting the MT77HFR rammer perform the following:

1. Open the fuel shut-off valve by moving the lever to the **ON** (open) position (Figure 8).

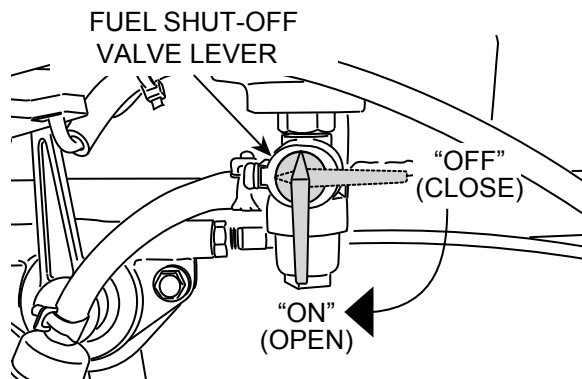


Figure 8. Fuel Shut-Off Valve

2. Set the engine **ON/OFF** switch to the **ON** (start) position (Figure 9).

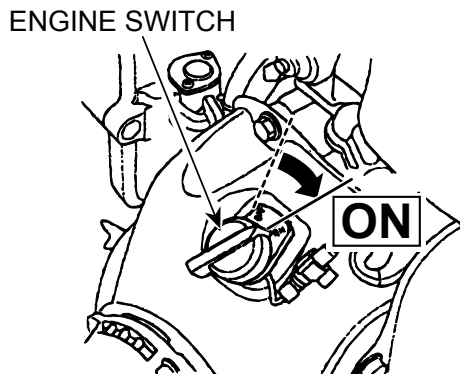


Figure 9. Engine Switch

3. Close the choke lever (Figure 10) and move the throttle lever to the "Full Open" position. Turning the choke lever 90° clockwise closes the choke. In cold weather, start the unit with choke fully closed. In warm weather or when the engine is warm, the unit can be started with choke halfway or completely open.

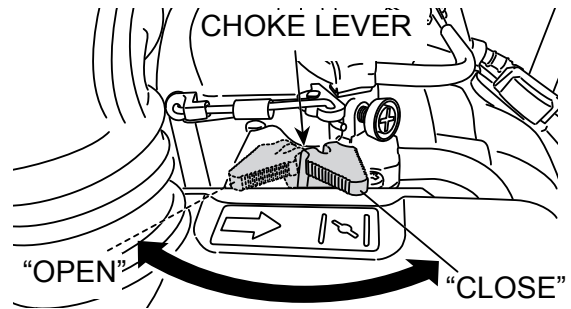


Figure 10. Choke Lever

4. Grip the starter rope handle (Figure 11) and pull it until you feel a slight resistance. Then pull sharply and quickly. Return the handle to the starter case before releasing.

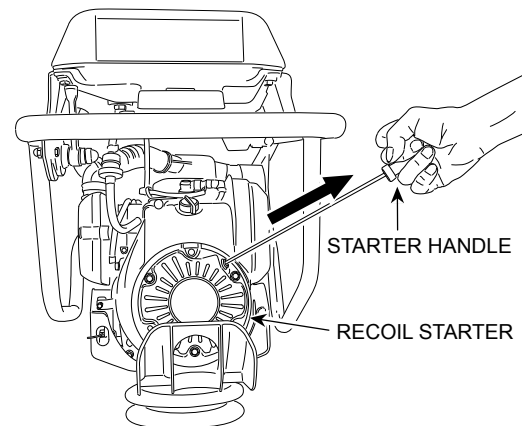


Figure 11. Recoil Starter

5. If engine fails to start, move the choke lever (Figure 10) to the half open position to avoid flooding.
6. Repeat steps 1 thru 5.
7. If the engine does not start after repeated attempts, check the spark plug for excess fuel. Clean and replace the spark plug as needed.

OPERATION

1. To start the rammer tamping action, move the throttle lever (Figure 12) **quickly** from idle to the operating position. The rammer will start up and down motion. **DO NOT** move the throttle lever slowly as this may cause damage to the clutch or spring.

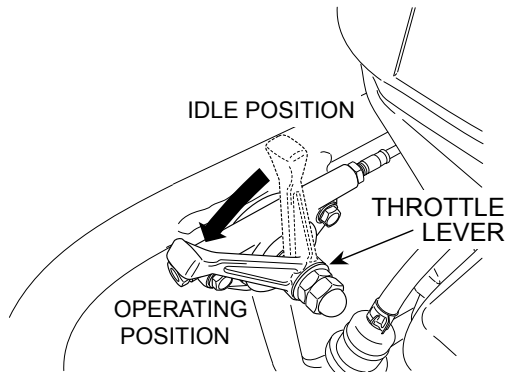


Figure 12. Throttle Lever (Operating Position)

CAUTION

If the rammer is used on sloping ground, make sure that the surroundings are safe and take extra caution in preventing the machine from falling over.

2. In cold weather, the oil in the machine will be thicker and the resistance of the components will be higher. This can cause irregular motion. Shift the throttle lever for the operating position to idle several time and allow machine to warm up before starting actual work.
3. The metal surface of the foot in contact with the ground has excellent wear resistance. However, if the ground contains large stones (size of a fist), place some fill soil over the ground for even tamping.
4. The machine will advance as it jumps up and down. For faster advance, push the handle slightly forward to make the machine lean a little forward.
5. To stop the tamping action, move throttle lever quickly from operating to idle position (Figure 13). **DO NOT** move the throttle lever slowly.

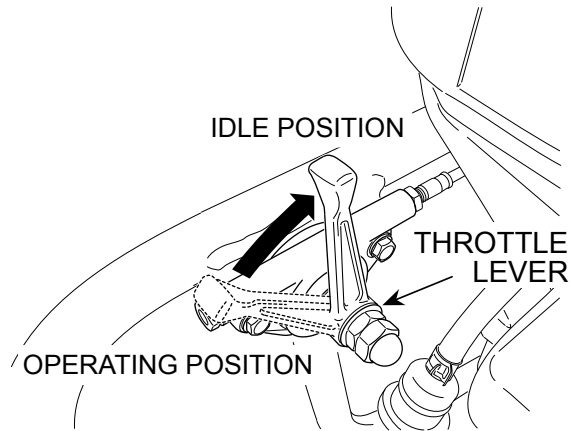


Figure 13. Throttle Lever (Idle Position)

STOPPING THE ENGINE

1. Move throttle lever quickly from the operating to idle position (Figure 13) and run the engine for three minutes at low speed. After the engine **cools**, move the engine stop switch to the OFF position (Figure 14).

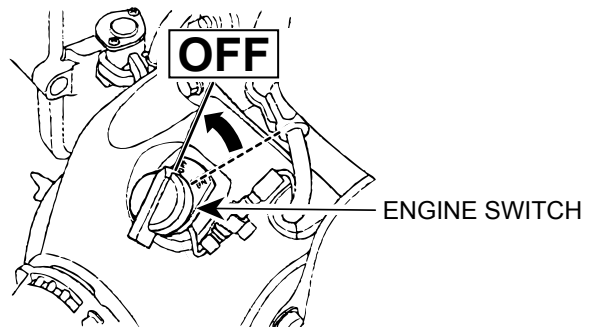


Figure 14. Engine Stop Switch (OFF)

2. Move the fuel shut-off valve lever to the OFF (Closed) position (Figure 15)

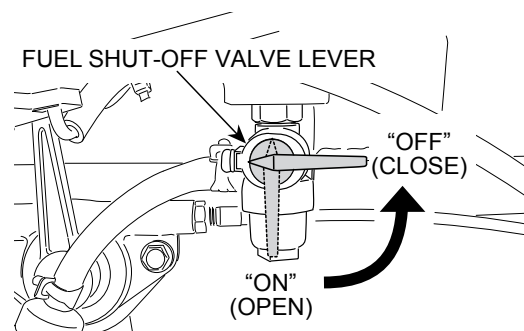


Figure 15. Fuel Shut-off Lever (OFF)

DAILY

- Thoroughly remove dirt and oil from the engine and control area.
- Clean or replace the air cleaner elements as necessary. Check and retighten all fasteners as necessary.
- Check the spring box and bellows for oil leaks. Repair or replace as needed.

EVERY 50 HOURS

- Clean the fuel shut-off valve.
- Remove and clean the spark plug, then adjust the spark gap to 0.024~0.028 inch (0.6~0.7 mm).

EVERY 150 HOURS

- Remove the element from the air cleaner cover - upper part (Figure 16) and wash it with gasoline or kerosene. Then dip it in engine oil (SAE10W-30) and squeeze lightly. Reinstall the element.

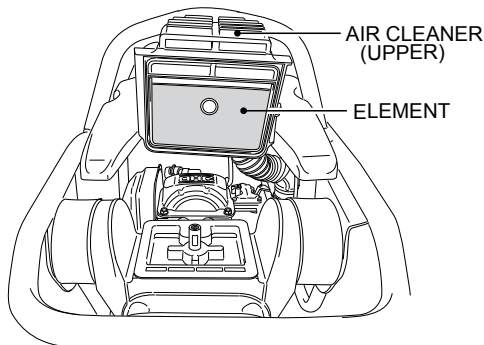


Figure 16. Air Cleaner (Upper)

- Remove the element from the air cleaner - engine (Figure 17) and wash it with gasoline or kerosene. Reinstall the element.

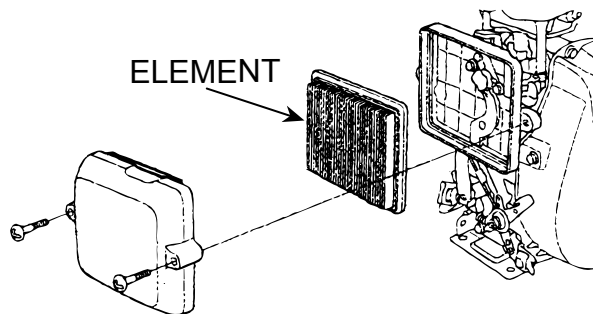


Figure 17. Air Cleaner (Engine)

EVERY 200 HOURS

- Remove the oil drain plug on foot housing (Figure 18) and drain the oil. Refill with approximately 0.8 qt. (0.75 liter) of 10W-30 SE, SF or higher grade motor oil. Check oil gauge on the protective sleeve from the right side if oil is at specified level.

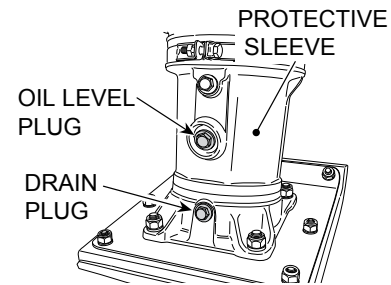


Figure 18. Oil Replacement

EVERY 2 YEARS

- Replace the fuel line every 2 years even if there is no visible damage.

STORAGE

- Wash off any dirt or mud on the machine with clean water. After the engine and main body have cooled down, store the rammer on a level location.
- Secure the machine body so that it can not fall down. If you have to lay the machine down, close the fuel tank cap securely and tighten engine oil drain plug.
- After the engine and machine body have cooled down, lay the machine so that the carburetor is facing up. Once the machine has been laid down, make sure that there is no fuel or lubrication oil leaks. If the fuel leaks, drain the fuel from the fuel tank.
- Put a cover on the machine body to protect it from dust and dirt. Store the machine in a location that is not exposed to direct sunlight and which has low humidity.

TRANSPORTING

- Transport the rammer in a secure and level upright position.
- If you must lay the machine down to transport it, drain any fuel from the fuel tank and carburetor. Then close the fuel tank cap and oil fill plug securely. Next, position the machine so that the air cleaner will be facing up (Figure 19).

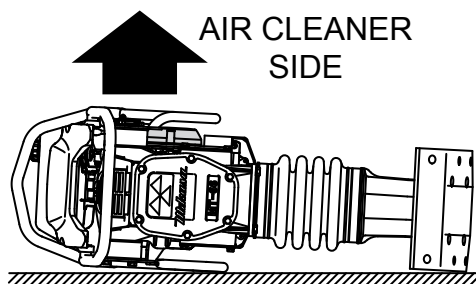


Figure 19. Transporting Rammer

LONG TERM STORAGE

- Slide the throttle lever to the **STOP** position.
- Drain any fuel including in the fuel hose.
- Replace lubrication oil and apply grease to lubrication points.
- Cover the air intake on the air cleaner and the exhaust outlet on the muffler.
- Store unit indoors covered with plastic sheet in moisture free and dust free location out of direct sunlight.

TROUBLESHOOTING

Troubleshooting (Engine)		
Symptom	Possible Problem	Solution
Difficult to start, fuel is available, but no spark at spark plug.	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.
	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.
Difficult to start, fuel is available, and spark is present at the spark plug.	ON/OFF switch is shorted?	Check switch wiring, replace switch.
	Ignition coil defective?	Replace ignition coil.
	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.
Difficult to start, fuel is available, spark is present and compression is normal.	Wrong fuel type?	Flush fuel system, replace with correct type of fuel.
	Water or dust in fuel system?	Flush fuel system.
	Air cleaner dirty?	Clean or replace air cleaner.
	Choke open?	Close choke.
Difficult to start, fuel is available, spark is present and compression is low.	Suction/exhaust valve stuck or protruded?	Reseat valves.
	Piston ring and/or cylinder worn?	Replace piston rings and/or piston.
	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 present at carburetor.	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.
	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

Troubleshooting (Engine) - continued		
Symptom	Possible Problem	Solution
Weak in power, compression is proper and does not misfire.	Air cleaner dirty?	Clean or replace air cleaner.
	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.
Engine overheats.	Spark plug heat value incorrect?	Replace with correct type of spark plug.
	Wrong type of fuel?	Replace with correct type of fuel.
	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.
Rotational speed fluctuates.	Governor adjusted incorrectly?	Adjust governor.
	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.
Starter malfunctions.	Loose, damaged wiring?	Ensure tight, clean connections on battery and starter.
	Battery insufficiently charged?	Recharge or replace battery.
	Starter damaged or internally shorted?	Replace starter.
Burns too much fuel.	Over-accumulation of exhaust products?	Check and clean valves. Check muffler and replace if necessary.
	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.
Exhaust color is continuously "black".	Air cleaner clogged?	Clean or replace air cleaner.
	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.

TROUBLESHOOTING

Troubleshooting (Rammer)		
Symptom	Possible Problem	Solution
Engine runs but rammer jumps erratically or not at all.	Operating speed of throttle lever is incorrectly set?	Set throttle lever to correct position.
	Oil in excess?	Drain excess oil. Bring to correct level.
	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.

EXPLANATION OF CODE IN REMARKS COLUMN

The following section explains the different symbols and remarks used in the Parts section of this manual. Use the help numbers found on the back page of the manual if there are any questions.

NOTICE

The contents and part numbers listed in the parts section are subject to change **without notice**. Multiquip does not guarantee the availability of the parts listed.

SAMPLE PARTS LIST

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	12345	BOLT	1	INCLUDES ITEMS W/%
2%		WASHER, 1/4 IN.		NOT SOLD SEPARATELY
2%	12347	WASHER, 3/8 IN. ...	1	MQ-45T ONLY
3	12348	HOSE	A/R	MAKE LOCALLY
4	12349	BEARING	1	S/N 2345B AND ABOVE

NO. Column

Unique Symbols — All items with same unique symbol (@, #, +, %, or >) in the number column belong to the same assembly or kit, which is indicated by a note in the “Remarks” column.

Duplicate Item Numbers — Duplicate numbers indicate multiple part numbers, which are in effect for the same general item, such as different size saw blade guards in use or a part that has been updated on newer versions of the same machine.

NOTICE

When ordering a part that has more than one item number listed, check the remarks column for help in determining the proper part to order.

PART NO. Column

Numbers Used — Part numbers can be indicated by a number, a blank entry, or TBD.

TBD (To Be Determined) is generally used to show a part that has not been assigned a formal part number at the time of publication.

A blank entry generally indicates that the item is not sold separately or is not sold by Multiquip. Other entries will be clarified in the “Remarks” Column.

QTY. Column

Numbers Used — Item quantity can be indicated by a number, a blank entry, or A/R.

A/R (As Required) is generally used for hoses or other parts that are sold in bulk and cut to length.

A blank entry generally indicates that the item is not sold separately. Other entries will be clarified in the “Remarks” Column.

REMARKS Column

Some of the most common notes found in the “Remarks” Column are listed below. Other additional notes needed to describe the item can also be shown.

Assembly/Kit — All items on the parts list with the same unique symbol will be included when this item is purchased.

Indicated by:

“INCLUDES ITEMS W/(unique symbol)”

Serial Number Break — Used to list an effective serial number range where a particular part is used.

Indicated by:

“S/N XXXXX AND BELOW”

“S/N XXXX AND ABOVE”

“S/N XXXX TO S/N XXX”

Specific Model Number Use — Indicates that the part is used only with the specific model number or model number variant listed. It can also be used to show a part is NOT used on a specific model or model number variant.

Indicated by:

“XXXXX ONLY”

“NOT USED ON XXXX”

“Make/Obtain Locally” — Indicates that the part can be purchased at any hardware shop or made out of available items. Examples include battery cables, shims, and certain washers and nuts.

“Not Sold Separately” — Indicates that an item cannot be purchased as a separate item and is either part of an assembly/kit that can be purchased, or is not available for sale through Multiquip.

SUGGESTED SPARE PARTS

MT77HFR TAMPING RAMMER WITH HONDA GXR120RT-KRB6 GASOLINE ENGINE

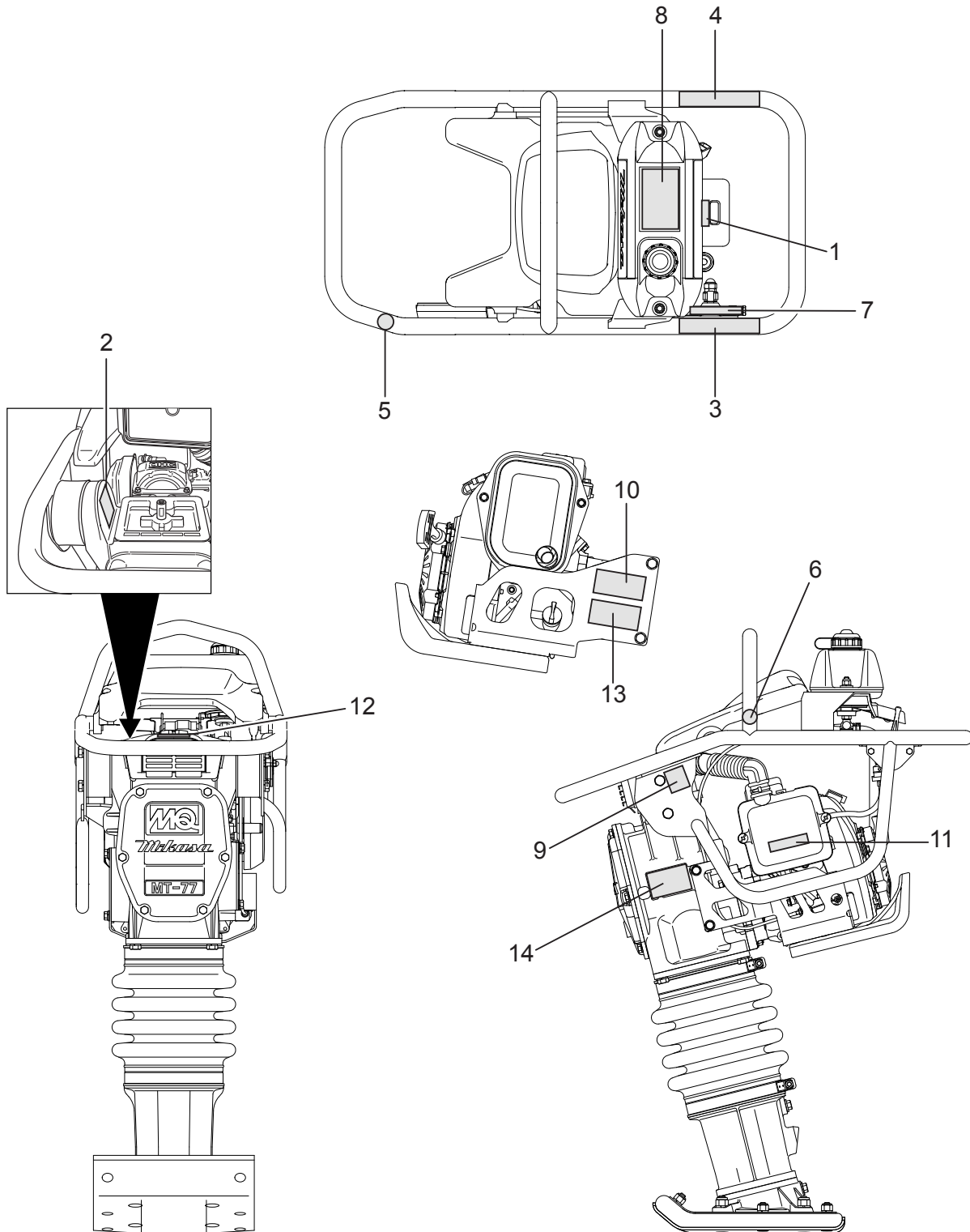
1 to 3 units

Qty.	P/N	Description
1.....	956100048.....	THROTTLE WIRE
3.....	374010100.....	ELEMENT, AIR CLEANER
1.....	361910070.....	CAP ASSEMBLY, FUEL TANK
2.....	16910GB2005	FUEL FILTER
3.....	9805655777.....	SPARK, PLUG
1.....	954406010.....	STRAINER, FUEL TANK
1.....	28462Z0DV03.....	ROPE, RECOIL STARTER
1.....	366348550.....	CLUTCH ASSEMBLY

NOTICE

Part numbers on this Suggested Spare Parts list may supersede/replace the part numbers shown in the following parts lists.

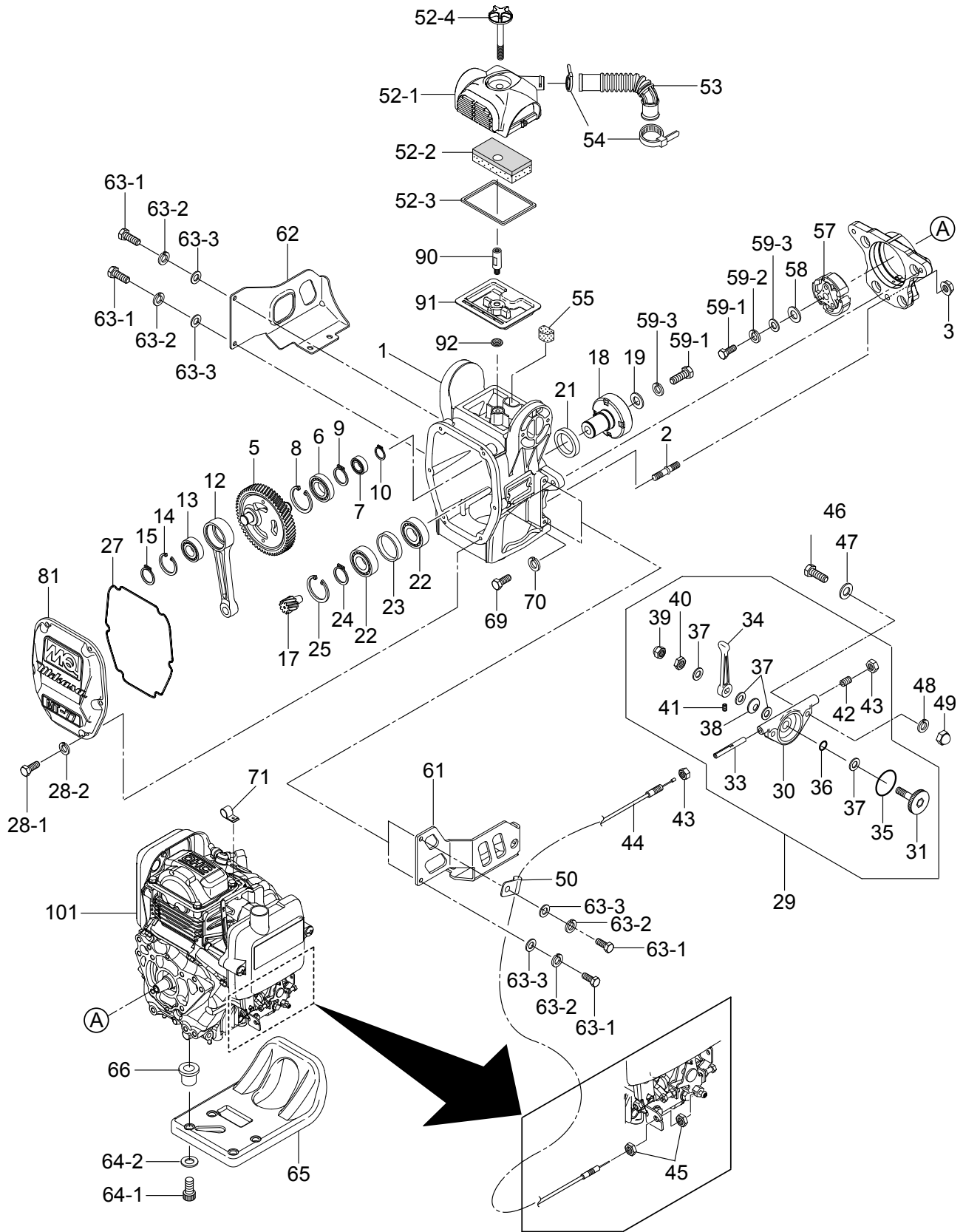
NAMEPLATES AND DECALS ASSY.



NAMEPLATES AND DECALS ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	920220690	DECAL; E/G RPM/MT-66	1	
2	920220640	DECAL; CLEANING ELEMENT	1	
3	920220650	DECAL; CAUTIONS 4/SET	1	
4	920220660	DECAL; CAUTIONS 6/SET	1	
5	920900090	DECAL; SET/MVC-MCD/EXPEU	1	
6	920900090	DECAL; SET/MVC-MCD/EXPEU	1	
7	920219730	DECAL; LEVER OPERATION/MCG	1	
8	920220670	DECAL; OPERATION/7LANG	1	
9	920210310	DECAL; EC NOISE REQ.LWA107	1	
10	920218770	DECAL; E/G FIRE WARNING	1	
11	920220680	DECAL; ENGINE CLEANER/MQ	1	
12	920220280	DECAL; CHECK DAILY(FILTER)	1	
13	920214140	DECAL; WARNING/NON-EPA	1	
14		PLATE; SERIAL NO.	1.....	CONTACT MQ PARTS DEPT.

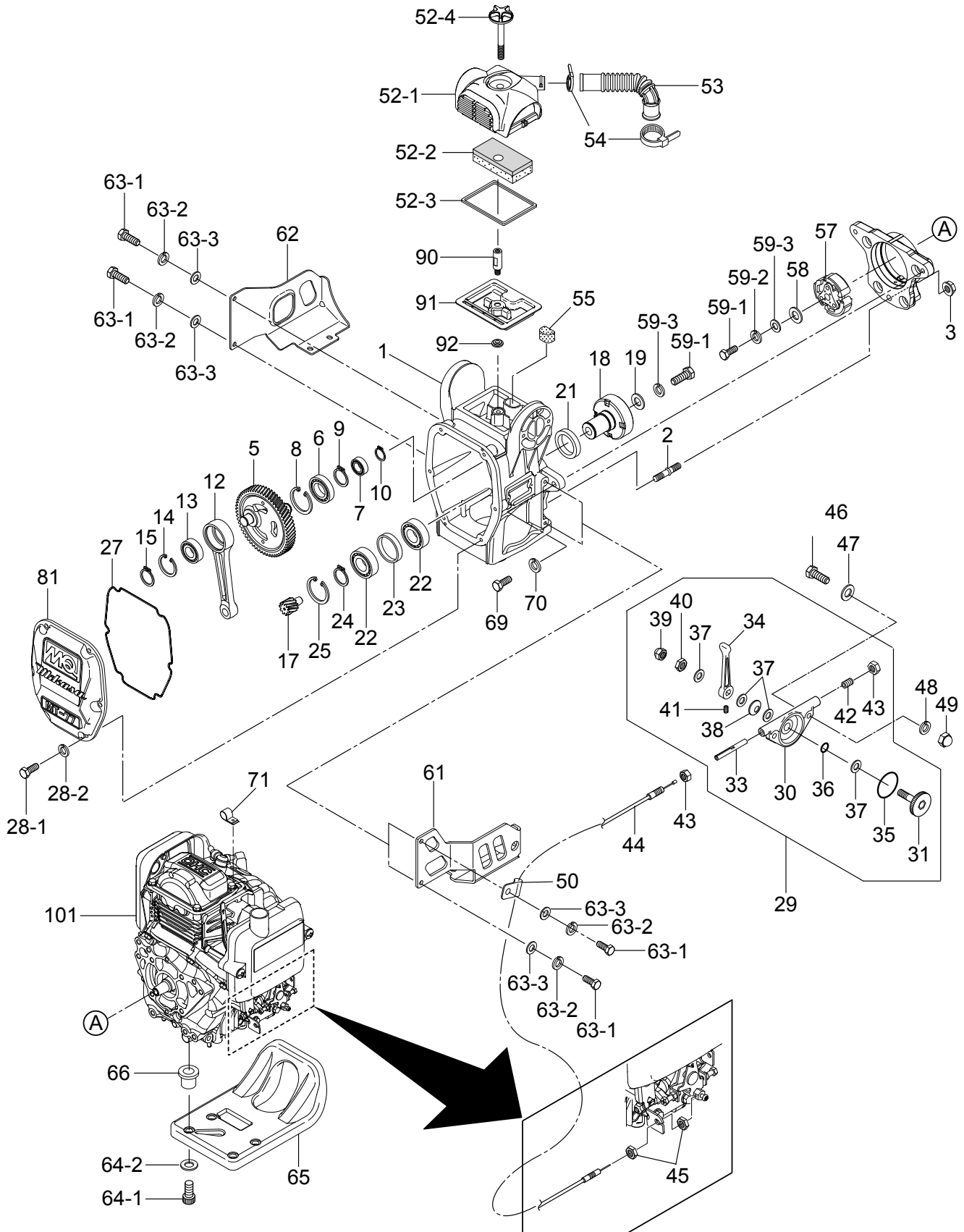
CRANKCASE AND ENGINE ASSY.



CRANKCASE AND ENGINE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	374121560	CRANKCASE	1	
2	009120204	STUD BOLT, 10X50X21	1	
3	022611010	FLANGE NUT M10	1	
5	374350260	CRANK GEAR	1	
6	040006207	BEARING 6207	1	
7	0600200020	BEARING 6204.....	1.....	REPLACES P/N 040006204
8	080100720	STOP RING	1	
9	080200350	STOP RING	1	
10	080200200	STOP RING	1	
12	371334730	CONNECTING ROD	1	
13	040006304	BEARING 6304	1	
14	080100520	STOP RING	1	
15	080200200	STOP RING	1	
17	374468020	PINION	1	
18	374350270	CLUTCH DRUM	1	
19	952401450	WASHER, 8.5X22X3	1	
21	060404010	OIL SEAL	1	
22	041006007	BEARING 6007Z	2	
23	374468030	BEARING SPACER	1	
24	080200350	STOP RING	1	
25	080100620	STOP RING	1	
27	374353300	PACKING, FRONT COVER	1	
28-1	011208025	BOLT, 8X25.....	6.....	REPLACES P/N 001220825
28-2	030208200	WASHER, LOCK M8	6	
29	362910060	THROTTLE LEVER ASSEMBLY	1.....	INCLUDES ITEMS W/\$
30\$	362341550	THROTTLE BODY	1	
31\$	362456521	THROTTLE GEAR	1	
33\$	362455620	SLIDER	1	
34\$	362455630	THROTTLE LEVER	1	
35\$	050100450	O-RING	1	
36\$	050200100	O-RING	1	
37\$	031110160	WASHER, FLAT M10	4	
38\$	032210220	CONICAL LOCK WASHER, M10	1	
39\$	022131008	CAP NUT M10	1	
40\$	020310080	NUT M10.....	1.....	REPLACES P/N 020410060
41\$	096206006	SOCKET HEAD SCREW, 6X6	1	
42\$	014208020	SOCKET HEAD SCREW, 8X20.....	1.....	REPLACES P/N 096208020
43\$	020408050	NUT M8	2	
44	956100048	THROTTLE WIRE	1	
45	020406040	NUT M6	2	
46	011206020	BOLT, 6X20.....	2.....	REPLACES P/N 001220620
47	952404470	WASHER, FLAT M6.....	2.....	REPLACES P/N 031106100
48	030206150	WASHER, LOCK M6	2	
49	022130605	CAP NUT M6	2	
50	959006120	CLIP	1	

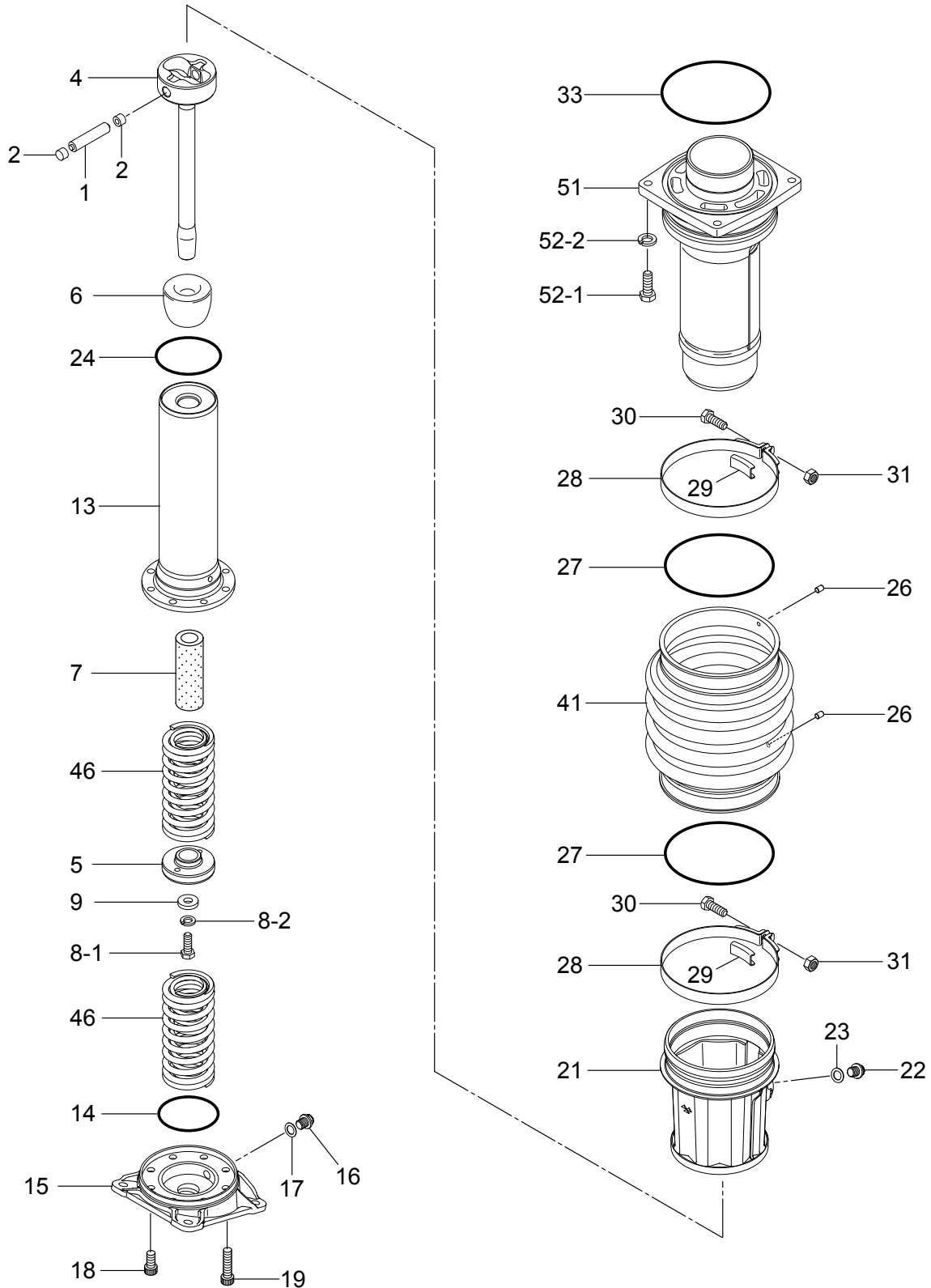
CRANKCASE AND ENGINE ASSY. (CONTINUED)



CRANKCASE AND ENGINE ASSY. (CONTINUED)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
52-1	374010050	COVER, AIR CLEANER	1	
52-2	374010100	ELEMENT, AIR CLEANER	1	
52-3	374010060	PACKING, AIR CLEANER	1	
52-4	374010110	GRIP BOLT, CLEANER	1	
53	353342400	INTAKE PIPE	1	
54	507010110A	CLAMP.....	2.....	REPLACES P/N 507010110
55	362456610	ELEMENT/BREATHER	1	
57	366348550	CLUTCH ASSEMBLY	1	
58	952401450	WASHER, 8.5X22X3	1	
59-1	011208025	BOLT, 8X25.....	2.....	REPLACES P/N 001220825
59-2	0401450080	WASHER, FLAT M8.....	1.....	REPLACES P/N 031108160
59-3	030208200	WASHER, LOCK M8	2	
61	363342520	LINK PROTECTOR	1	
62	363342530	MUFFLER PROTECTOR	1	
63-1	014208020	BOLT, 8X20.....	4.....	REPLACES P/N 001220820
63-2	0401450080	WASHER, FLAT M8.....	4.....	REPLACES P/N 031108160
63-3	030208200	WASHER, LOCK M8	4	
64-1	001520835	SOCKET HEAD BOLT, 8X35	4	
64-2	033910220	WASHER, 8.4X15.5X1.6	4	
65	374219630	GUARD, RECOIL STARTER	1	
66	366461050	COLLAR/GUARD	4	
69	0105051040	BOLT, 10X40.....	2.....	REPLACES P/N 001111040
70	030210250	WASHER, LOCK M10	2	
71	2067550101	CLAMP	1	
81	374010040	FRONT COVER	1	
90	374010070	CLEANER BOLT	1	
91	374010080	BASE, AIR CLEANER	1	
92	374010090	WASHER, STEPPED/CLEANER	1	
101	912212102	ENGINE ASSEMBLY, GXR120RTKRB6	1	

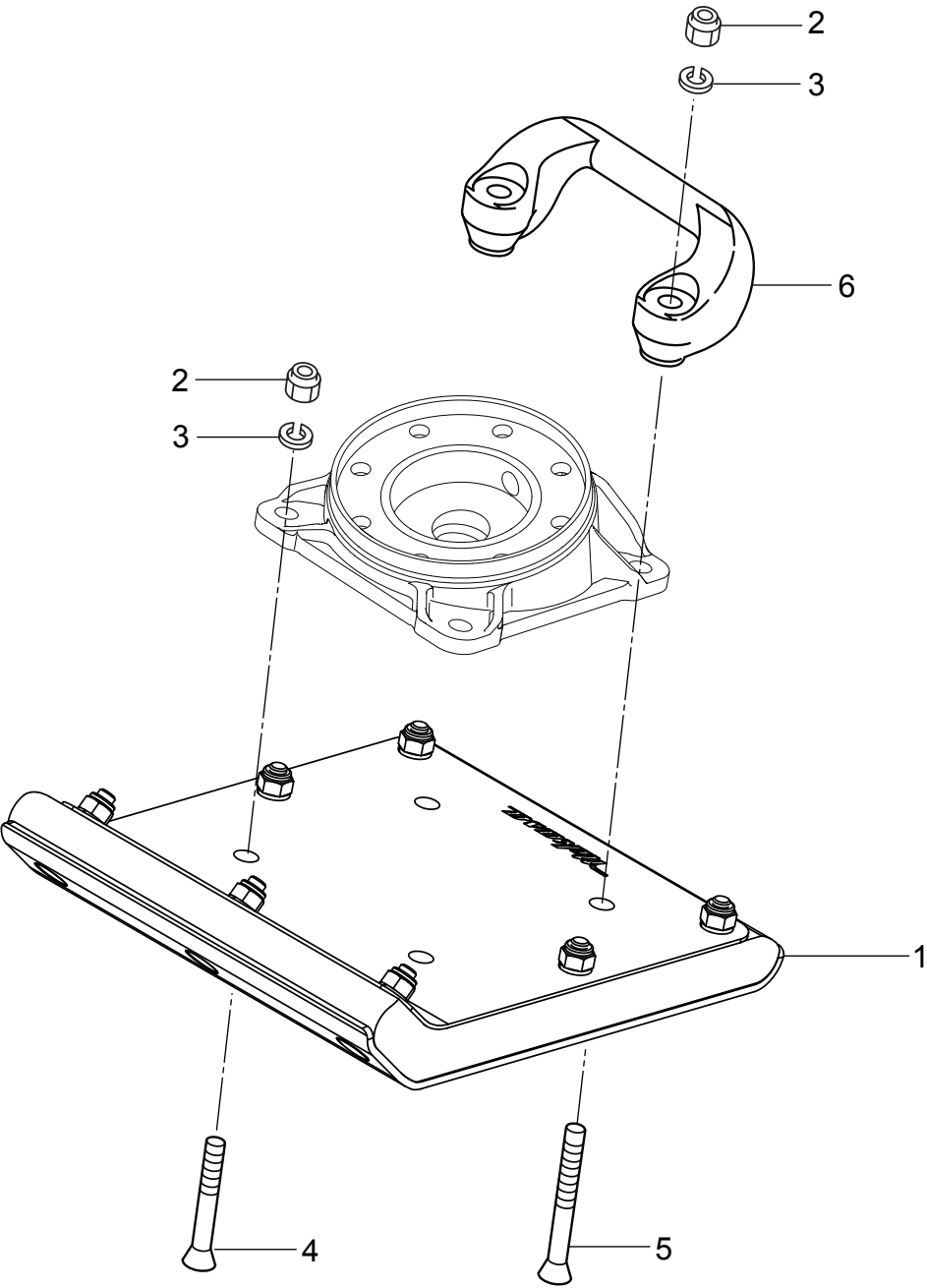
GUIDE CYLINDER AND SPRING ASSY



GUIDE CYLINDER AND SPRING ASSY

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	366900080	PISTON PIN.....	1.....	REPLACES P/N 366460100
2	366459910	PLUG, PISTON PIN	2	
4	374353310	PISTON ROD	1	
5	371459690	PISTON END	1	
6	355447250	STOPPER, UPPER	1	
7	355447260	STOPPER, LOWER	1	
8-1	001121230	BOLT 12X30	1	
8-2	030212300	WASHER, LOCK M12	1	
9	952404790	WASHER	1	
13	366345990	SPRING CYLINDER	1	
14	050100900	O-RING	1	
15	355214140	FOOT PLATE	1	
16	953405270	PLUG	1	
17	953405260	PACKING	1	
18	014210020	SOCKET HEAD BOLT 10X20.....	4.....	REPLACES P/N 001521020
19	014210040	SOCKET HEAD BOLT 10X40.....	4.....	REPLACES P/N 001521040
21	355119020	SLEEVE	1	
22	953405270	PLUG	1	
23	953405260	PACKING	1	
24	050200950	O-RING	1	
26	354446170	PIN	2	
27	050931500	O-RING	2	
28	354336352	BELLOWS CLAMP	2	
29	354442340	BAND GUIDE, BELLOWS	2	
30	011008040	BOLT 8X40.....	2.....	REPLACES P/N 001220840
31	020108060	NUT M8.....	2.....	REPLACES P/N 020308060
33	050201500	O-RING	1	
41	354010010	BELLOWS, ORANGE	1	
46	374469820	MAIN SPRING	2	
51	374219410	GUIDE CYLINDER	1	
52-1	012210040	BOLT 10X40.....	4.....	REPLACES P/N 001221040
52-2	030210250	WASHER, LOCK M10	4	

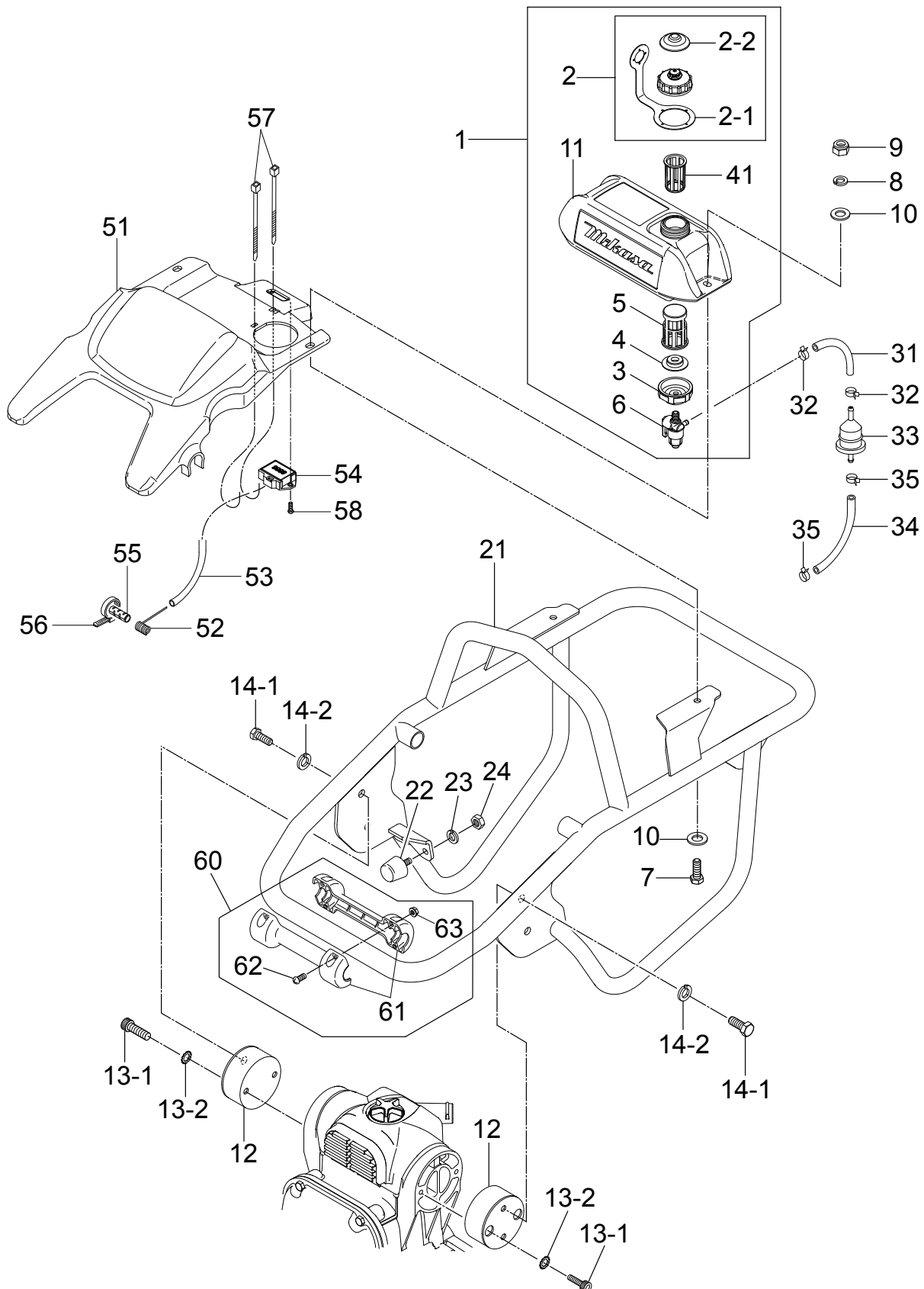
FOOT ASSY



FOOT ASSY

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	8511S	FOOT ASSEMBLY	1.....	REPLACES P/N 366910020
2	021112140	NYLON NUT M12	4.....	REPLACES P/N 022711214
3	030212300	WASHER, LOCK M12	4	
4	009110034	BOLT, SQUARE NECK 12X65	2	
5	009110035	BOLT, SQUARE NECK 12X95	2	
6	363343390	GRIP HANDLEBAR	1	

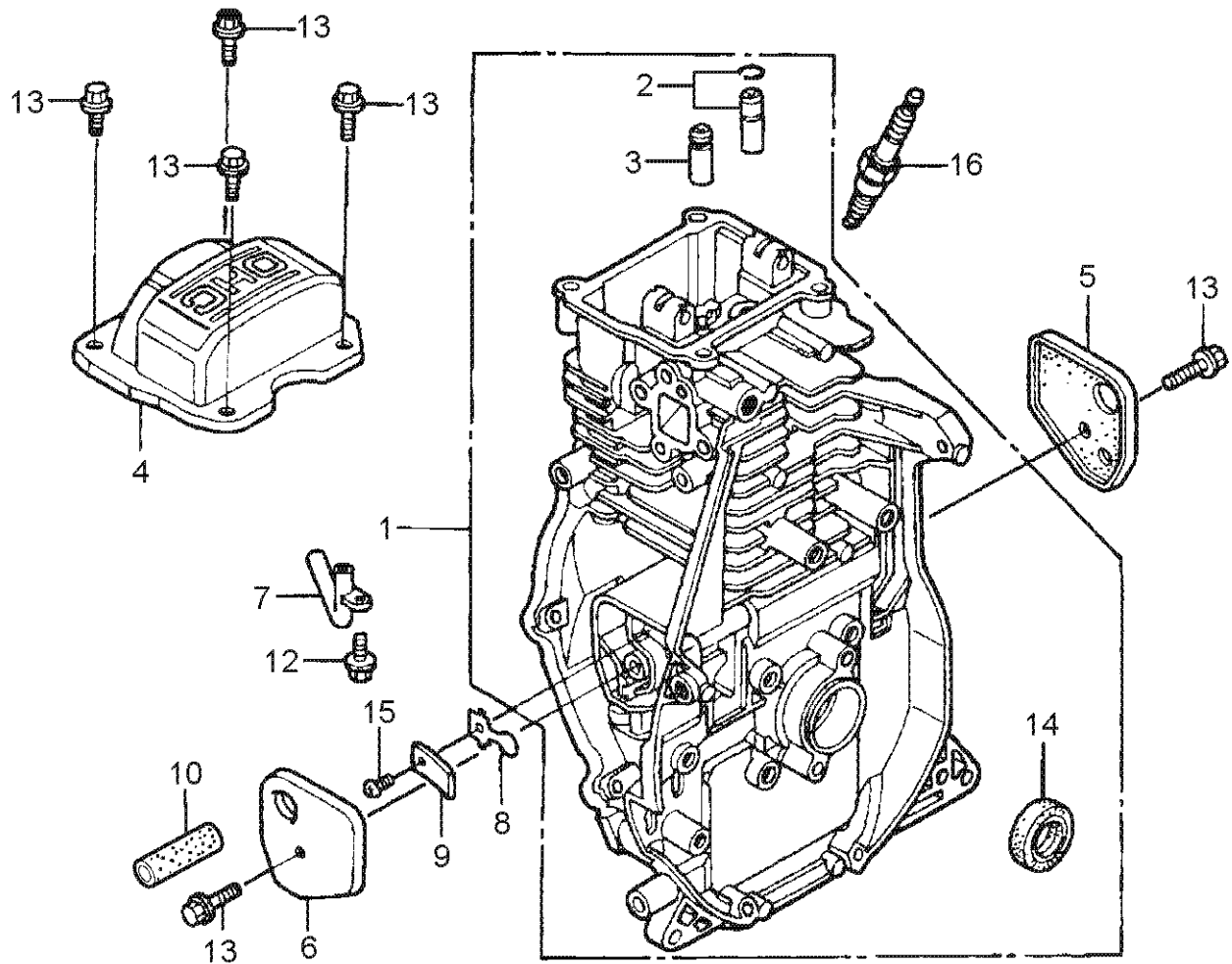
FUEL TANK AND HANDLE ASSY



FUEL TANK AND HANDLE ASSY

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	305910037	FUEL TANK ASSEMBLY	1.....	INCLUDES ITEMS W/#
2#	361910070	CAP ASSEMBLY, FUEL TANK ORANGE	1.....	INCLUDES ITEMS W/\$ REPLACES P/N 361910021
2-1#\$	353449010	STRAP, OIL TANK	1	
2-2#\$	362458350	SUB CAP, BLACK	1	
3#	351437785	HOLDER, COCK	1	
4#	954406020	PACKING, FUEL TANK	1	
5#	954406010	STRAINER, FUEL TANK	1	
6#	954300720	FUEL COCK ASSEMBLY	1	
7	011008040	BOLT 8X40.....	2.....	REPLACES P/N 001220840
8	030208200	WASHER, LOCK M8	2	
9	022710809	NYLON NUT M8	2	
10	952401450	WASHER 8.5X22X3	4	
11#	363218260	FUEL TANK	1	
12	351337070	SHOCK ABSORBER	2	
13-1	014210020	SOCKET HEAD BOLT 10X20.....	4.....	REPLACES P/N 001521020
13-2	033121009	TOOTHED LOCK WASHER B M10	4	
14-1	012210020	BOLT 10X20.....	4.....	REPLACES P/N 001221020
14-2	030210250	WASHER, LOCK M10	4	
21	374121590	HANDLE	1	
22	939010270	STOPPER RUBBER	1	
23	030208200	WASHER, LOCK M8	1	
24	020108060	NUT M8.....	1.....	REPLACES P/N 020308060
31	959028625	FUEL HOSE	1	
32	954406420	HOSE BAND	2	
33	16910GB2005	FUEL FILTER	1	
34	959028626	FUEL HOSE	1	
35	954406420	HOSE BAND	2	
41#	954407840	STRAINER	1	
51	374121970	TOP COVER	1	
52	955010309	CURL CORD	1	
53	959026827	RUBBER TUBE	1	
54	955010311	TP-22 TACHO/HOUR METER	1	
55	955010307	CLIP BELT	1	
56	454010020	CLAMP	1	
57	507010110A	CLAMP.....	2.....	REPLACES P/N 507010110
58	009110045	PAN HEAD SCREW 5X15	2	
60	366910030	ROLLER ASSEMBLY, W/SCREW.....	1.....	INCLUDES ITEMS W/&
61&	366217170	ROLLER	2	
62&	0017105020	SCREW 5X20	4.....	REPLACES P/N 091005020
63&	022610505	FLANGE NUT M5	4	

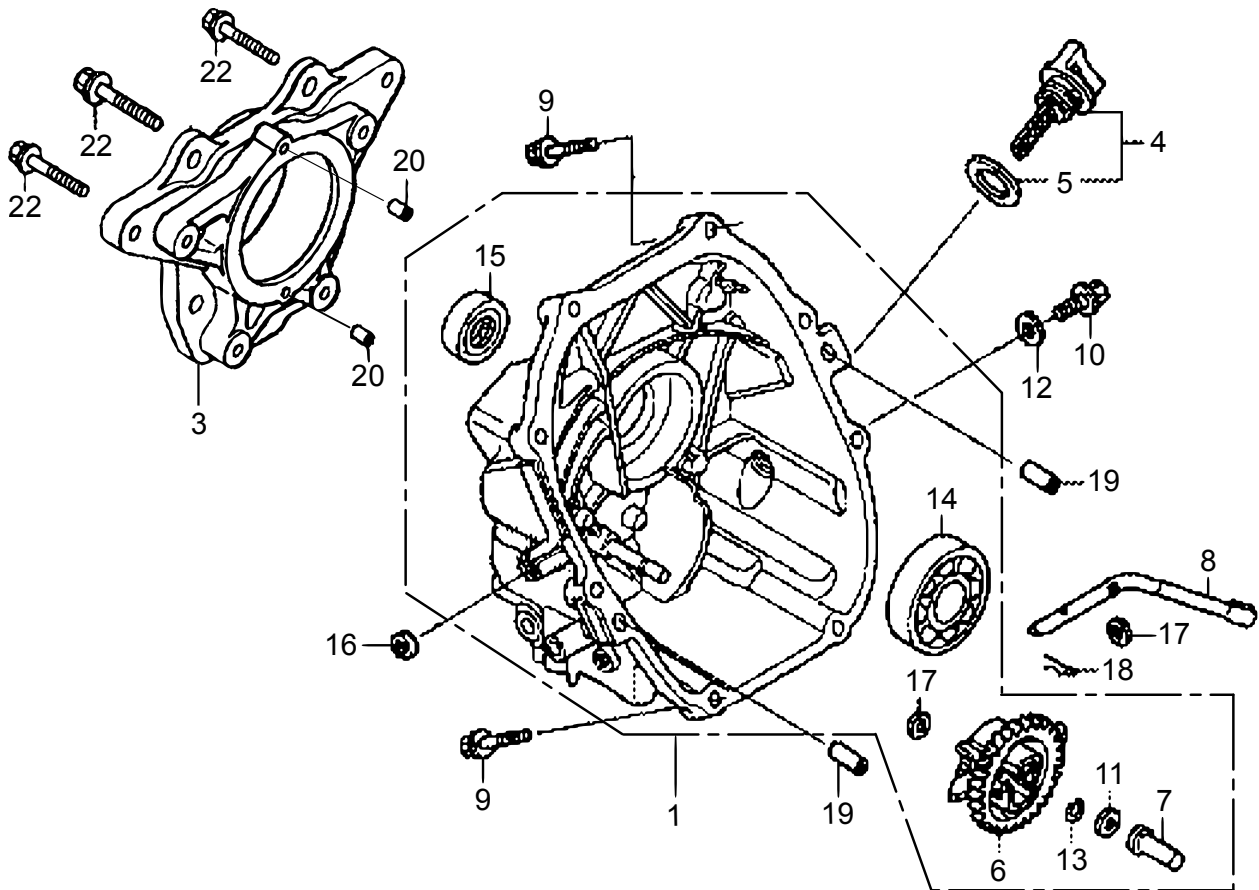
HONDA GXR120RTKRB6 ENGINE — CYLINDER BARREL ASSY.



HONDA GXR120RTKRB6 ENGINE — CYLINDER BARREL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12000ZDJ305	BARREL ASSEMBLY, CYLINDER.....	1.....	INCLUDES ITEMS W/#
2#	12201Z0D305	GUIDE ASSEMBLY, EX. VALVE (O.S.)	1	
3#	12204Z0D305	GUIDE, IN. VALVE (O.S.)	1	
4	12311Z0D000	COVER, HEAD	1	
5	12355Z0D000	COVER COMPLETE A, BREATHER	1	
6	12365Z0D000	COVER COMPLETE B, BREATHER	1	
7	15171Z0DV00	PIPE, BREATHER	1	
8	15571Z0DV71	VALVE, OIL OUTLET	1	
9	15572ZM7000	PLATE, STOPPER	1	
10	15721Z0D000	TUBE, BREATHER	1	
12	90008ZM7000	BOLT, 4X10	1	
13	90014952000	BOLT, FLANGE, 6X14	6	
14#	91202ZE6013	OIL SEAL, 22X35X6	1	
15	93500030050A	SCREW, PAN, 3X5	1	
16	9805655777	SPARK, PLUG	1	

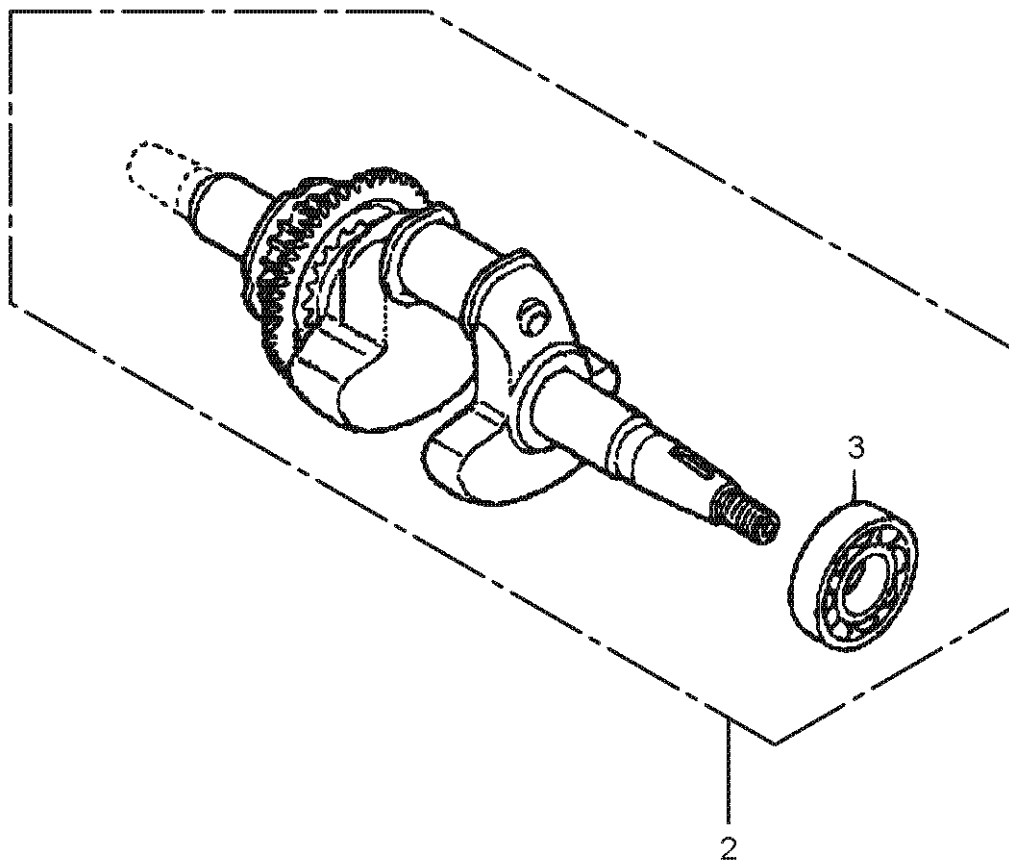
HONDA GXR120RTKRB6 ENGINE — CRANKCASE CVR. ASSY.



HONDA GXR120RTKRB6 ENGINE — CRANKCASE CVR. ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11300ZDJ305	COVER ASSEMBLY, CRANKCASE.....	1.....	INCLUDES ITEMS W/\$
3	11511Z0DV10	FLANGE, P.T.O.	1	
4	15600ZDF000	CAP ASSEMBLY, OIL FILLER	1.....	INCLUDES ITEMS W/&
5&	15625Z0T800	PACKING, OIL FILLER CAP	1	
6\$	16510ZL8000	GOVERNOR ASSEMBLY	1	
7\$	16531ZE1000	SLIDER, GOVERNOR	1	
8	16541Z0D000	SHAFT, GOVERNOR ARM	1	
9	957010602500	BOLT, FLANGE, 6X25.....	8.....	REPLACES P/N 90121952000
10	90131ZE1000	BOLT, DRAIN PLUG	1	
11\$	90451ZE1000	WASHER, THRUST	1	
12	90601ZE1000	WASHER, DRAIN PLUG	1	
13\$	90602ZE1000	CLIP, GOVERNOR HOLDER	1	
14\$	91001878003	BEARING, RADIAL BALL	1	
15\$	91203ZE0013	OIL SEAL, 22X41X6	1	
16	91231891003	OIL SEAL, 6X11X4	1	
17\$	58176	WASHER, FLAT	2.....	REPLACES P/N 9410106800
18	9425108000	PIN, LOCK	1	
19	9430108200	DOWEL PIN	2	
20	9430306100	DOWEL PIN	2	
22	957010804500	BOLT, FLANGE, 8X45	4	

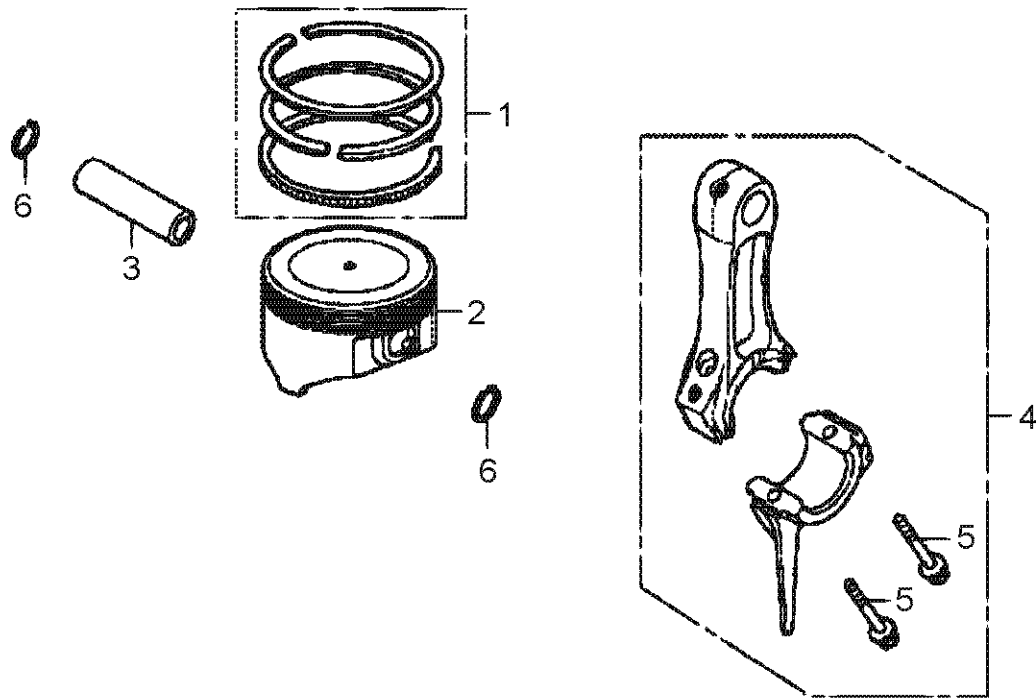
HONDA GXR120RTKRB6 ENGINE — CRANKSHAFT ASSY.



HONDA GXR120RTKRB6 ENGINE — CRANKSHAFT ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
2	13310ZDJ800	CRANKSHAFT COMPLETE.....	1.....	INCLUDES ITEMS W/%
3%	91005KS4003	BEARING, RADIAL BALL	1	

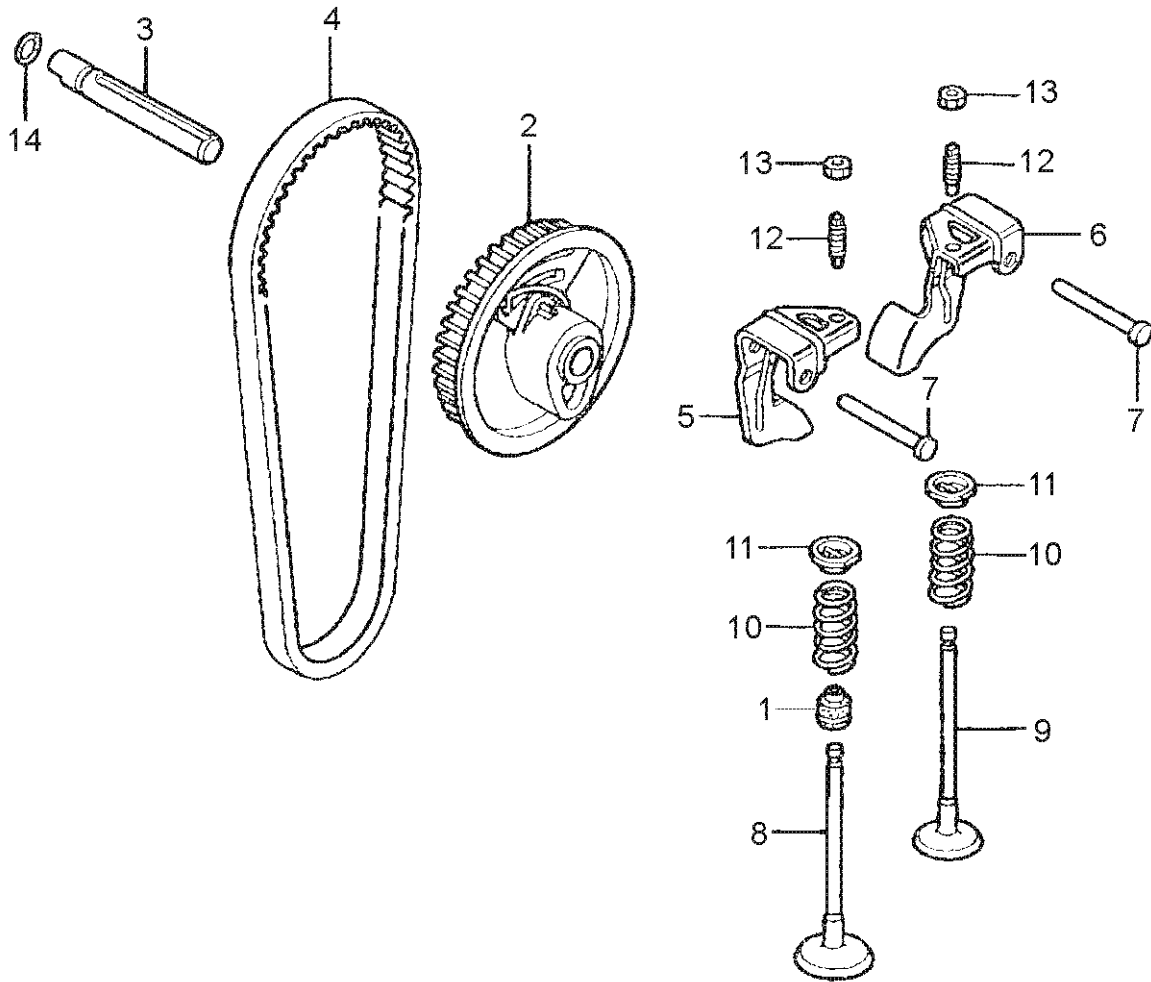
HONDA GXR120RTKRB6 ENGINE — PISTON/CONN. ROD ASSY.



HONDA GXR120RTKRB6 ENGINE — PISTON/CONN. ROD ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	13010ZDJ003	RING SET, PISTON STD.	1	
2	13101ZDJ800	PISTON	1	
3	13111ZE0000	PIN, PISTON	1	
4	13200ZDJ000	ROD ASSEMBLY, CONNECTING	1.....	INCLUDES ITEMS W/#
5#	90001ZDJ000	BOLT, CONNECTING ROD, 6X32	2	
6	90551ZE0000	CLIP, PISTON PIN, 13 MM	2	

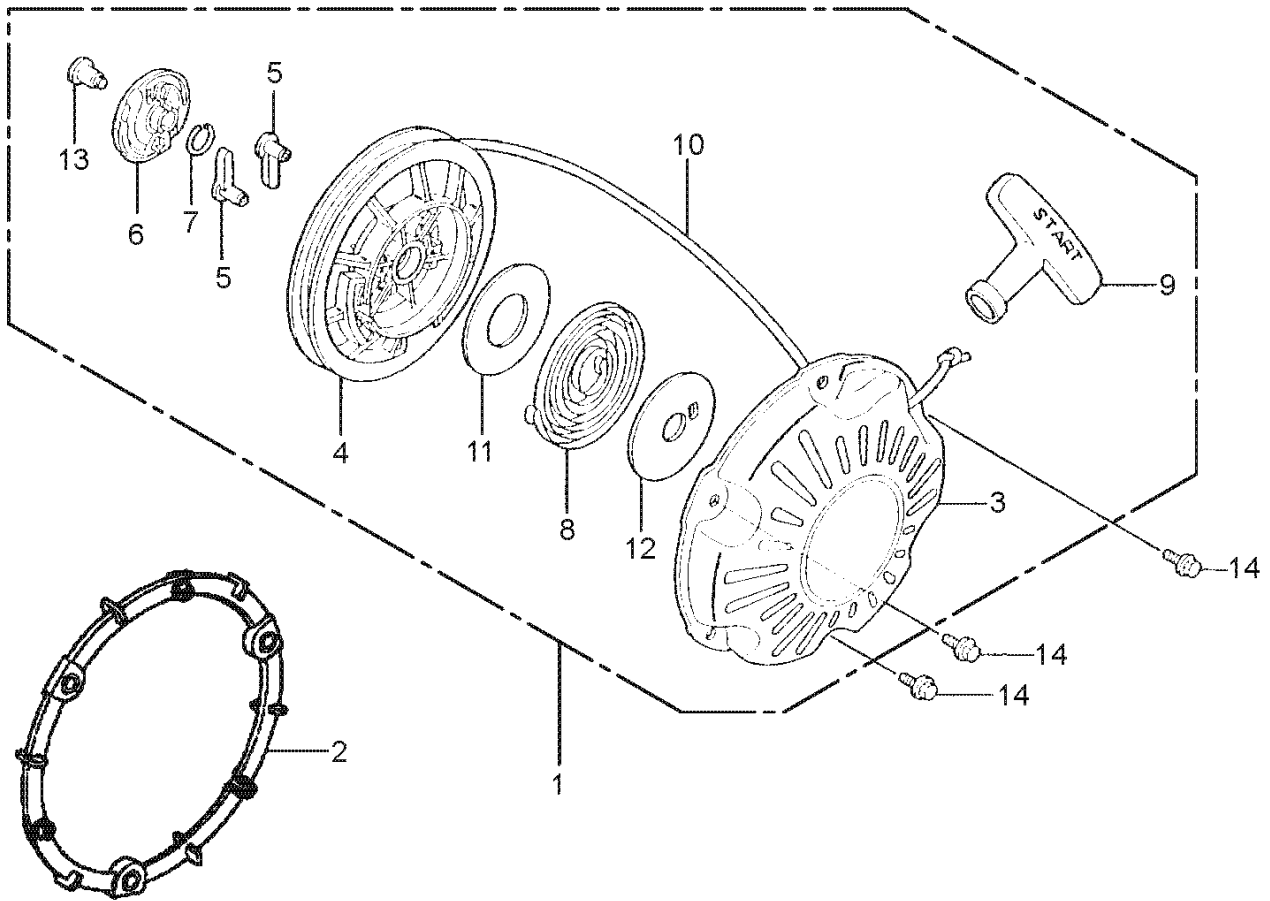
HONDA GXR120RTKRB6 ENGINE — CAMSHAFT PULLEY ASSY.



HONDA GXR120RTKRB6 ENGINE — CAMSHAFT PULLEY ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12209KT7013	SEAL, VALVE STEM	1	
2	14320ZDD000	PULLEY COMPLETE, CAMSHAFT	1	
3	14324Z0D000	SHAFT, CAM PULLEY	1	
4	14400Z0D003	BELT, TIMING	1	
5	14431ZDD000	ARM, INTAKE VALVE ROCKER	1	
6	14441ZDD000	ARM, EXHAUST VALVE ROCKER	1	
7	14461ZL8000	SHAFT, ROCKER ARM	2	
8	14711Z0D000	VALVE, INLET	1	
9	14721Z0D000	VALVE, EXHAUST	1	
10	14751Z0D000	SPRING, VALVE	2	
11	14771ZM3010	RETAINER, VALVE SPRING	2	
12	90012333000	SCREW, TAPPET ADJUSTING	2	
13	90206001000	NUT, TAPPET ADJUSTING	2	
14	91301ZM0V31	O-RING	1	

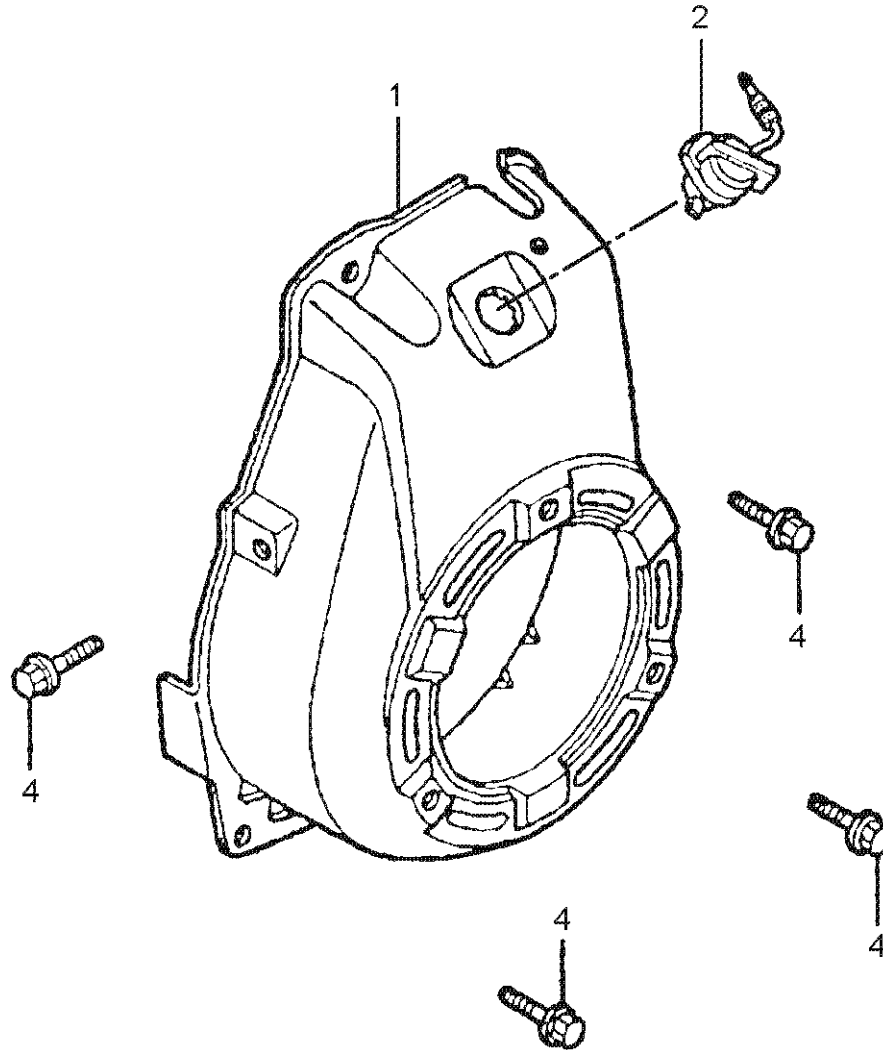
HONDA GXR120RTKRB6 ENGINE — RECOIL STARTER ASSY.



HONDA GXR120RTKRB6 ENGINE — RECOIL STARTER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	28400ZDJ003ZB	STARTER ASSEMBLY, RECOIL, BLK.	1.....	INCLUDES ITEMS W/#
2	28405ZDJ000	SPACER, RECOIL STARTER MOUNTING	1	
3#	28410ZDJ003ZB	CASE COMPLETE, RECOIL STARTER, BLK.	1	
4#	28421ZDD003	REEL, RECOIL STARTER, BLK.	1	
5#	28422ZG0W02	RATCHET, STARTER	2	
6#	28433ZG0W02	GUIDE, RATCHET	1	
7#	28441ZW9003	SPRING, FRICTION	1.....	REPLACES P/N 28441ZW6003
8#	28442ZH8003	SPRING, RECOIL STARTER	1	
9#	28461ZDD003	KNOB, RECOIL STARTER	1	
10#	28462Z0DV03	ROPE, RECOIL STARTER	1	
11#	28467Z0DV02	PLATE, SIDE	1	
12#	28468Z0DV02	PLATE, SLIDE	1	
13#	90003ZH8003	SCREW, SETTING	1	
14	957010601400	BOLT, FLANGE, 6X14	3	

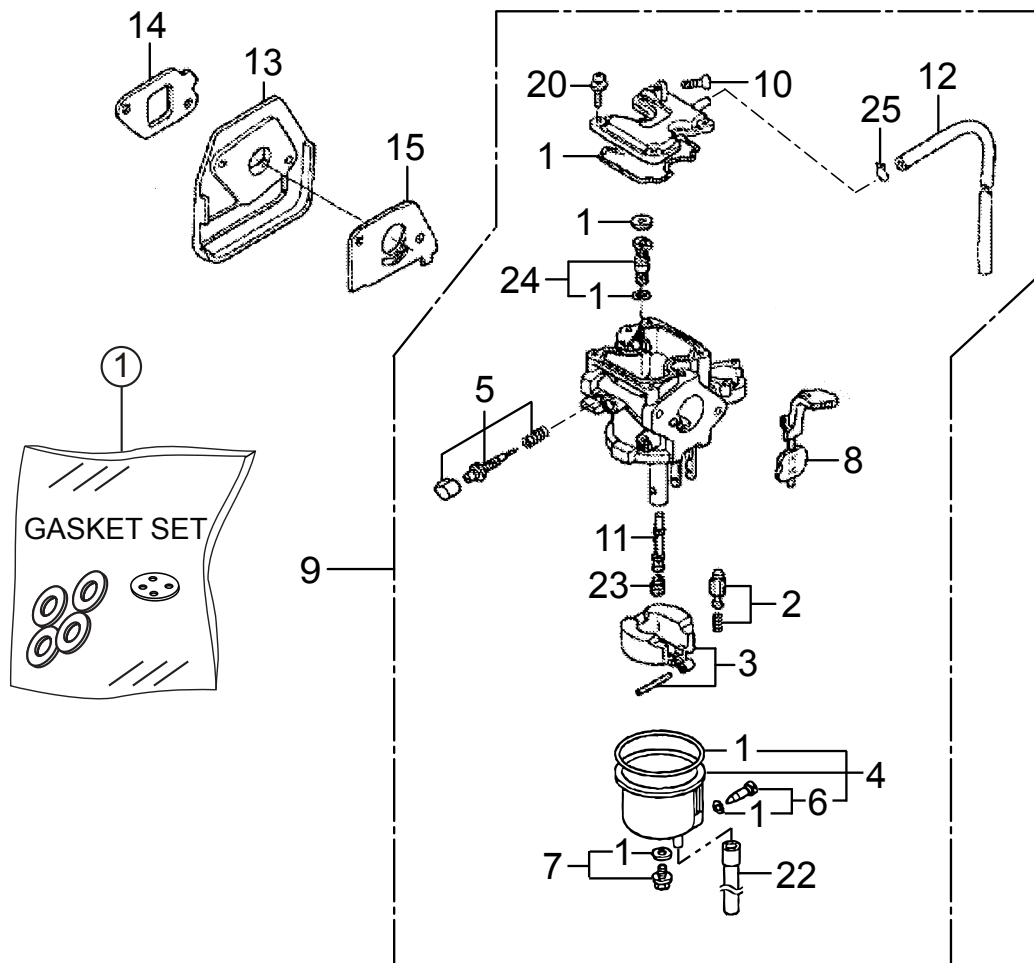
HONDA GXR120RTKRB6 ENGINE — FAN COVER ASSY.



HONDA GXR120RTKRB6 ENGINE — FAN COVER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	19610Z0DV00ZB	COVER COMPLETE, FAN, BLK.	1	
2	35120Z0DV81	SWITCH ASSEMBLY, ENGINE STOP	1	
4	90014952000	BOLT, FLANGE, 6X14	4	

HONDA GXR120RTKRB6 ENGINE — CARBURETOR ASSY.



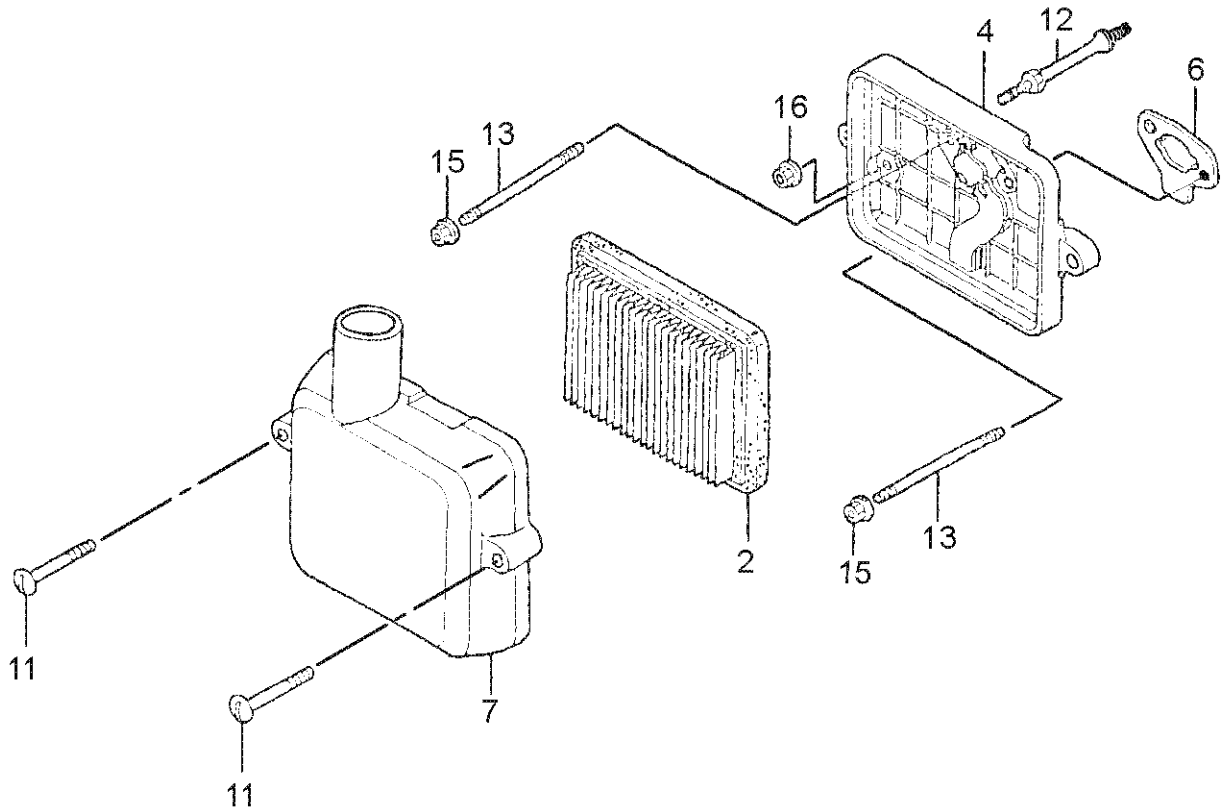
NOTICE

Gasket set, item 1 included with items 4, 6, 7, and 24.

HONDA GXR120RTKRB6 ENGINE — CARBURETOR ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1#%	16010Z4EW51	GASKET SET	1	
2#	16011ZDJ851	VALVE SET, FLOAT	1	
3#	16013ZG0811	FLOAT SET	1	
4#	16015Z4EW51	CHAMBER SET, FLOAT	1	INCLUDES ITEMS W/%
5#	16016Z0DV21	SCREW SET	1	
6#	16024124760	SCREW SET, DRAIN.....	1	INCLUDES ITEMS W/%
7#	16028ZC0005	SCREW SET.....	1	INCLUDES ITEMS W/%
8#	16044Z0DV21	LEVER SET, CHOKE	1	
9	16100ZDJ841	CARBURETOR ASSEMBLY	1	INCLUDES ITEMS W/#
10#	16124ZE0005	SCREW, THROTTLE STOP	1	
11#	16166ZDJ851	NOZZLE, MAIN	1	
12#	16199Z0DV21	TUBE, AIR VENT	1	
13	16211Z0D010	INSULATOR, CARBURETOR	1	
14	16212Z0DV20	PACKING, INSULATOR	1	
15	16221ZG0801	PACKING, CARBURETOR	1	
20#	938920401208	SCREW-WASHER, 4X12	4	REPLACES P/N 938920401218
22#	950030501931	TUBE, VINYL	1	
23#	99101ZG00600	JET, MAIN	1	
24#	99204ZE00350	JET SET, PILOT.....	1	INCLUDES ITEMS W/%
25#	90602921000	CLIP, TUBE	1	

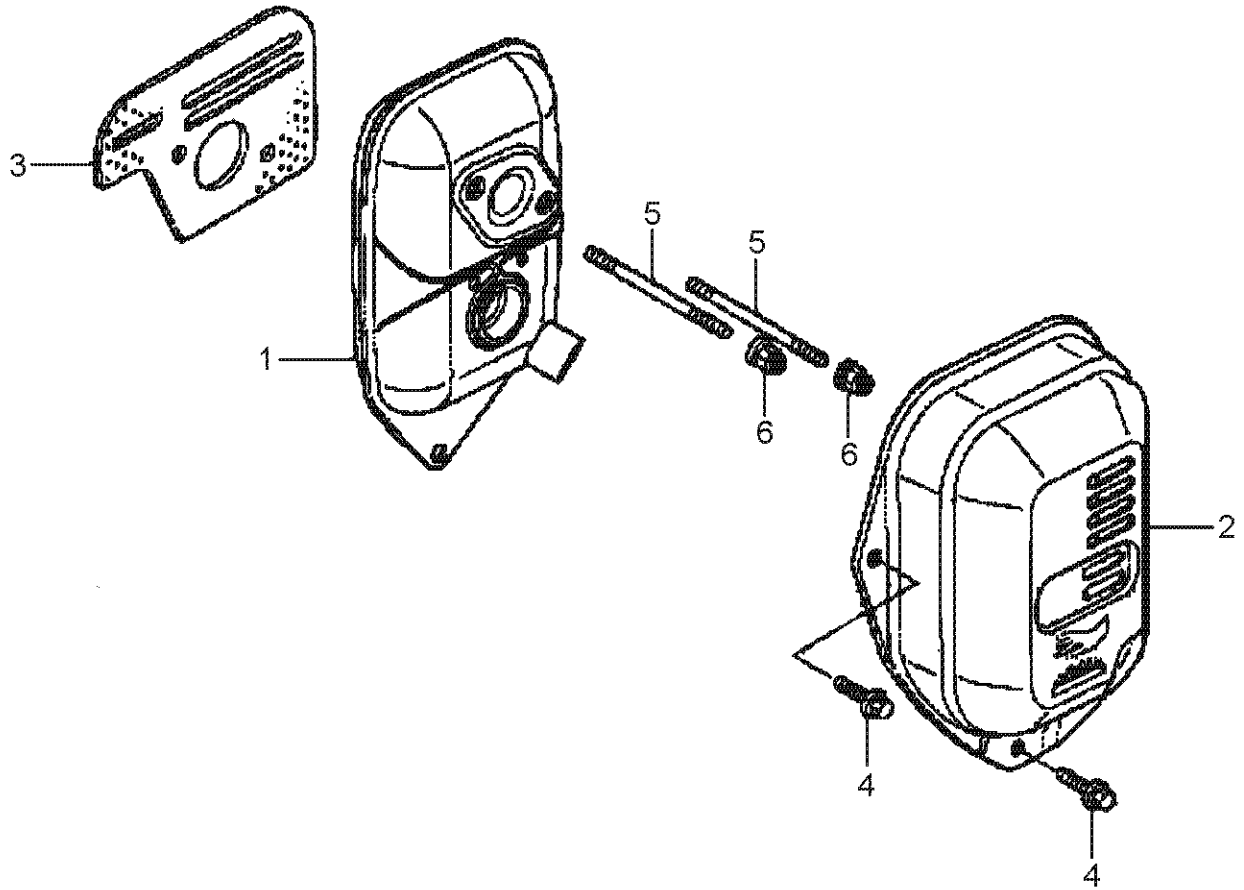
HONDA GXR120RTKRB6 ENGINE — AIR CLEANER ASSY.



HONDA GXR120RTKRB6 ENGINE — AIR CLEANER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
2	17211ZL8023	ELEMENT, AIR CLEANER	1	
4	17220Z0DV21	CASE COMPLETE, AIR CLEANER	1	
6	17228Z0DV21	PACKING, AIR CLEANER	1	
7	17231Z0DV62	COVER, AIR CLEANER	1	
11	90011Z0D000	BOLT, AIR CLEANER COVER	2	
12	90041Z0DV20	BOLT, STUD	1	
13	90042Z0DV20	BOLT, STUD, 5X75	2	
15	9405005000	NUT, FLANGE, 5 MM	2	
16	9405006000	NUT, FLANGE, 6 MM	1	

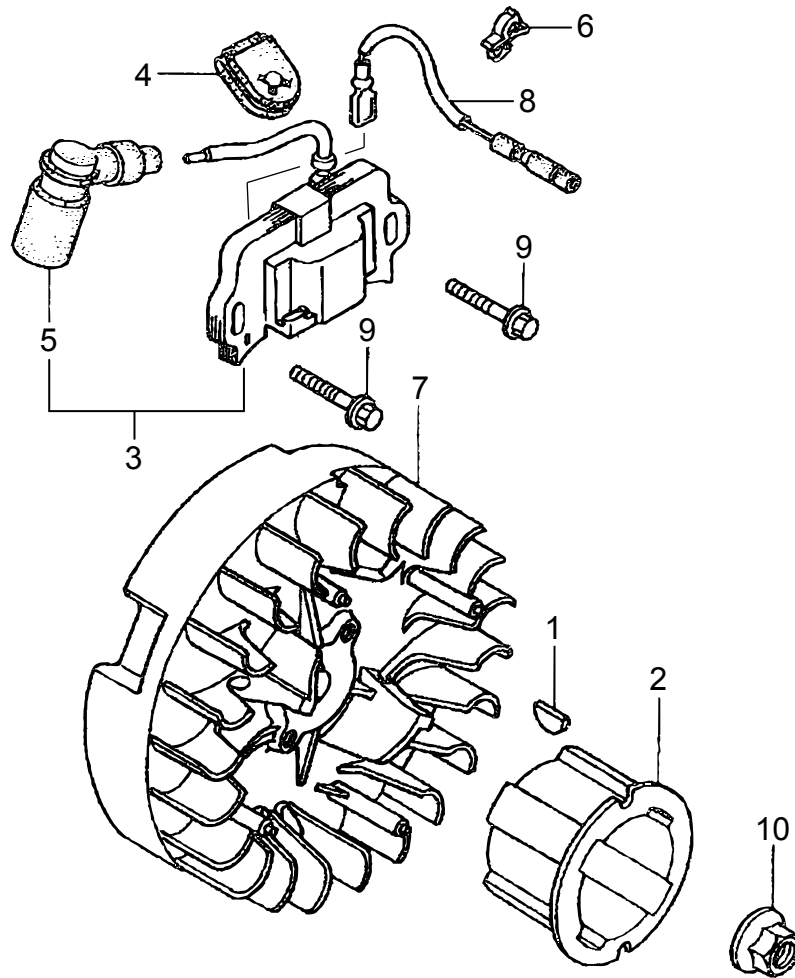
HONDA GXR120RTKRB6 ENGINE — MUFFLER ASSY.



HONDA GXR120RTKRB6 ENGINE — MUFFLER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	18310ZDJ000	MUFFLER COMPLETE (RAMMER)	1	
2	18320ZDJ000	PROTECTOR COMP., MUFFLER (RAMMER)	1	
3	18381Z0D000	GASKET, MUFFLER	1	
4	90014952000	BOLT, FLANGE, 6X14	3	
5	90048ZDJ000	BOLT, STUD, 6X56.5	2	
6	90343ZE6000	NUT, SELF-LOCK, 6 MM	2	

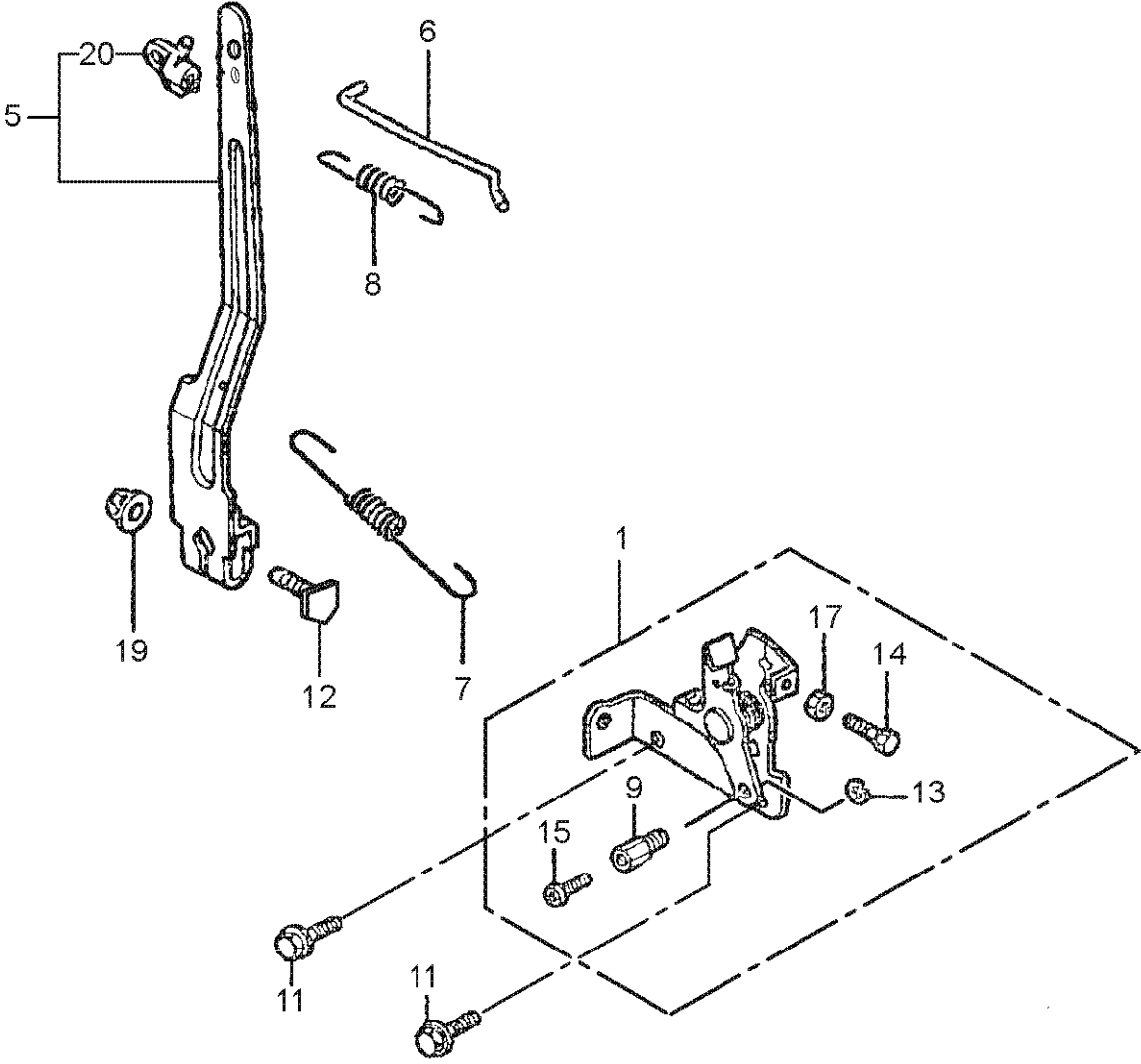
HONDA GXR120RTKRB6 ENGINE — FLYWHEEL IGNITION ASSY.



HONDA GXR120RTKRB6 ENGINE — FLYWHEEL IGNITION ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	13331357000	KEY, SPECIAL WOODRUFF, 25X18	1	
2	28451ZDJ003	PULLEY, STARTER	1	
3	30500Z0DV02	COIL ASSEMBLY, IGNITION	1.....	INCLUDES ITEMS W/ #
4	30564ZA5000	GROMMET, CORD	1	
5#	30700Z0DV01	TERMINAL ASSEMBLY, HIGH TENSION	1	
6	30701883000	CLIP, HIGH TENSION CORD	1	
7	31110ZDJ003	FLYWHEEL COMPLETE	1	
8	32195Z0D000	CORD, STOP SWITCH	1	
9	90022888010	BOLT, FLANGE, 6X20	2	
10	90201Z0T800	NUT, SPECIAL, 14 MM	1	

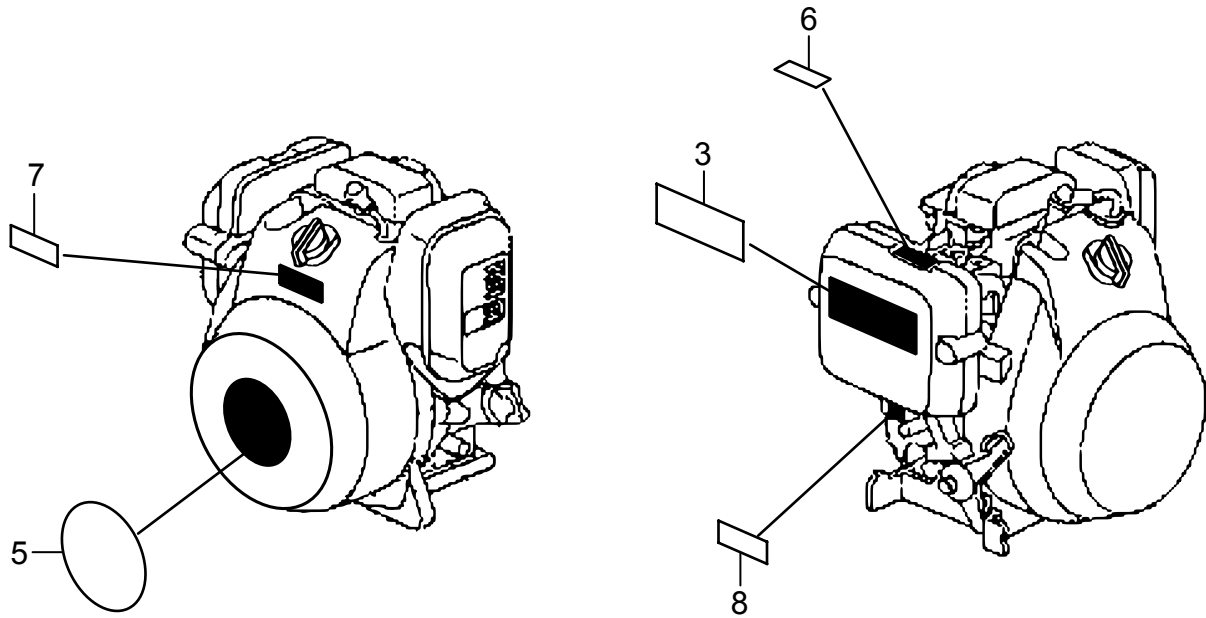
HONDA GXR120RTKRB6 ENGINE — CONTROL ASSY.



HONDA GXR120RTKRB6 ENGINE — CONTROL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	16500Z0DV50	CONTROL ASSEMBLY.....	1.....	INCLUDES ITEMS W/ &
5	16550Z0DV21	ARM COMPLETE, GOVERNOR	1.....	INCLUDES ITEMS W/ \$
6	16555Z0DV20	ROD, GOVERNOR	1	
7	16561ZDJ800	SPRING, GOVERNOR	1	
8	16562Z0DV20	SPRING, THROTTLE RETURN	1	
9&	16594883010	HOLDER, WIRE	1	
11	90014952000	BOLT, FLANGE, 6X14	2	
12	90015Z5T000	BOLT, GOVERNOR ARM	1	
13&	90605230000	CIRCLIP, 5 MM	1	
14&	92301050220A	BOLT, RECESSED, 5X20	1.....	REPLACES P/N 92301050200A
15&	0043504060	SCREW, PAN, 4X6	1.....	REPLACES P/N 93500040060H
17&	94001050000S	NUT, HEX., 5 MM	1	
19	9405006000	NUT, FLANGE, 6 MM	1	
20\$	16263883W10	JOINT, ROD	1	

HONDA GXR120RTKRB6 ENGINE — LABELS ASSY.



HONDA GXR120RTKRB6 ENGINE — LABELS ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
3	87516ZDD000	MARK, OPERATOR CAUTION (ENGLISH)	1	
5	87521ZDJ000	EMBLEM	1	
6	87528Z0D000	MARK, CHOKE INDICATION	1	
7	87539Z0J000	MARK, EX. CAUTION (ENGLISH)	1	
8	87601ZDJV20	MARK, TYPE (KRB6)	1	

TERMS AND CONDITIONS OF SALE — PARTS

PAYMENT TERMS

Terms of payment for parts are net 30 days.

FREIGHT POLICY

All parts orders will be shipped collect or prepaid with the charges added to the invoice. All shipments are F.O.B. point of origin. Multiquip's responsibility ceases when a signed manifest has been obtained from the carrier, and any claim for shortage or damage must be settled between the consignee and the carrier.

MINIMUM ORDER

The minimum charge for orders from Multiquip is \$15.00 net. Customers will be asked for instructions regarding handling of orders not meeting this requirement.

RETURNED GOODS POLICY

Return shipments will be accepted and credit will be allowed, subject to the following provisions:

1. A Returned Material Authorization must be approved by Multiquip prior to shipment.
2. To obtain a Return Material Authorization, a list must be provided to Multiquip Parts Sales that defines item numbers, quantities, and descriptions of the items to be returned.
 - a. The parts numbers and descriptions must match the current parts price list.
 - b. The list must be typed or computer generated.
 - c. The list must state the reason(s) for the return.
 - d. The list must reference the sales order(s) or invoice(s) under which the items were originally purchased.
 - e. The list must include the name and phone number of the person requesting the RMA.
3. A copy of the Return Material Authorization must accompany the return shipment.
4. Freight is at the sender's expense. All parts must be returned freight prepaid to Multiquip's designated receiving point.

5. Parts must be in new and resalable condition, in the original Multiquip package (if any), and with Multiquip part numbers clearly marked.
6. The following items are not returnable:
 - a. Obsolete parts. (If an item is in the price book and shows as being replaced by another item, it is obsolete.)
 - b. Any parts with a limited shelf life (such as gaskets, seals, "O" rings, and other rubber parts) that were purchased more than six months prior to the return date.
 - c. Any line item with an extended dealer net price of less than \$5.00.
 - d. Special order items.
 - e. Electrical components.
 - f. Paint, chemicals, and lubricants.
 - g. Decals and paper products.
 - h. Items purchased in kits.
7. The sender will be notified of any material received that is not acceptable.
8. Such material will be held for five working days from notification, pending instructions. If a reply is not received within five days, the material will be returned to the sender at his expense.
9. Credit on returned parts will be issued at dealer net price at time of the original purchase, less a 15% restocking charge.
10. In cases where an item is accepted, for which the original purchase document can not be determined, the price will be based on the list price that was effective twelve months prior to the RMA date.
11. Credit issued will be applied to future purchases only.

PRICING AND REBATES

Prices are subject to change without prior notice. Price changes are effective on a specific date and all orders received on or after that date will be billed at the revised price. Rebates for price declines and added charges for price increases will not be made for stock on hand at the time of any price change.

Multiquip reserves the right to quote and sell direct to Government agencies, and to Original Equipment Manufacturer accounts who use our products as integral parts of their own products.

SPECIAL EXPEDITING SERVICE

A \$35.00 surcharge will be added to the invoice for special handling including bus shipments, insured parcel post or in cases where Multiquip must personally deliver the parts to the carrier.

LIMITATIONS OF SELLER'S LIABILITY

Multiquip shall not be liable hereunder for damages in excess of the purchase price of the item with respect to which damages are claimed, and in no event shall Multiquip be liable for loss of profit or good will or for any other special, consequential or incidental damages.

LIMITATION OF WARRANTIES

No warranties, express or implied, are made in connection with the sale of parts or trade accessories nor as to any engine not manufactured by Multiquip. Such warranties made in connection with the sale of new, complete units are made exclusively by a statement of warranty packaged with such units, and Multiquip neither assumes nor authorizes any person to assume for it any other obligation or liability whatever in connection with the sale of its products. Apart from such written statement of warranty, there are no warranties, express, implied or statutory, which extend beyond the description of the products on the face hereof.

Effective: February 22, 2006

OPERATION AND PARTS MANUAL

HERE'S HOW TO GET HELP

PLEASE HAVE THE MODEL AND SERIAL
NUMBER ON-HAND WHEN CALLING

UNITED STATES

Multiquip Corporate Office

18910 Wilmington Ave.
Carson, CA 90746
Contact: mq@multiquip.com

Tel. (800) 421-1244
Fax (310) 537-3927

MQ Parts Department

800-427-1244
310-537-3700

Fax: 800-672-7877

Service Department

800-421-1244
310-537-3700

Warranty Department

800-421-1244
310-537-3700

Fax: 310-943-2249

Technical Assistance

800-478-1244

Fax: 310-943-2238

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Multiquip

4110 Industriel Boul.
Laval, Quebec, Canada H7L 6V3
Contact: infocanda@multiquip.com

Tel: (450) 625-2244
Tel: (877) 963-4411
Fax: (450) 625-8664

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This manual MUST accompany the equipment at all times. This manual is considered a permanent part of the equipment and should remain with the unit if resold.

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