OPERATION AND PARTS MANUAL

MULTIQUIP®

Mikasa SERIES

MODEL MVC-90H

ONE-WAY PLATE COMPACTOR

(HONDA GASOLINE ENGINE)

Revision #3 (01/10/11)

To find the latest revision of this publication, visit our website at: www.multiquip.com

THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

⚠ WARNING ⚠

CALIFORNIA — Proposition 65 Warning

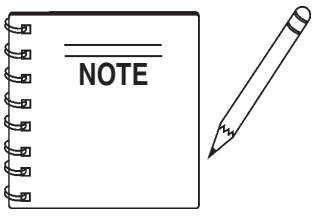
Engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

NOTES

MULTIQUIP MVC-90H PLATE COMPACTOR

COMPONENT DRAWINGS

HONDA GX160K1QMX2/ GX160U1QMX2 GASOLINE ENGINE



Specification and part number are subject to change without notice.

www.multiquip.com

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

Effective:
January 1st, 2006

Best Deal!

Order via Internet (Dealers Only):
Order parts on-line using Multiquip's SmartEquip website!

- View Parts Diagrams
- Order Parts
- Print Specification Information

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.
Domestic (US) Customers dial:
1-800-6-PARTS-7 (800-672-7877)

Fax your order in and qualify for a **2% Discount** on *Standard orders* for all orders which include complete part numbers.*

Note: Discounts Are Subject To Change

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:

- ❒ **Dealer Account Number**
- ❒ **Dealer Name and Address**
- ❒ **Shipping Address (if different than billing address)**
- ❒ **Return Fax Number**
- ❒ **Applicable Model Number**
- ❒ **Quantity, Part Number and Description of Each Part**
- ❒ **Specify Preferred Method of Shipment:**
  - ✓ UPS/Fed Ex
    - Priority One
    - Ground
    - Next Day
    - Second/Third Day
  - ✓ DHL
  - ✓ Truck

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!

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
	Rotating parts hazards

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.

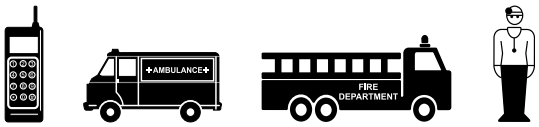
- **ALWAYS** check the equipment for loosened threads or bolts before starting.
- **DO NOT** use the equipment for any purpose other than its intended purposes or applications.
- **ALWAYS** clear the work area of any debris, tools, etc. that would constitute a hazard while the equipment is in operation.

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 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.



COMPACTOR 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.

⚠ 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.

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.

- Keep fingers, hands hair and clothing away from all moving parts to prevent injury.
- **DO NOT** remove the radiator cap while the engine is hot. High pressure boiling water will gush out of the radiator and severely scald any persons in the general area of the compactor.

- **DO NOT** remove the coolant drain plug while the engine is hot. Hot coolant will gush out of the coolant tank and severely scald any persons in the general area of the compactor.
- **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 compactor.

⚠ CAUTION

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

NOTICE

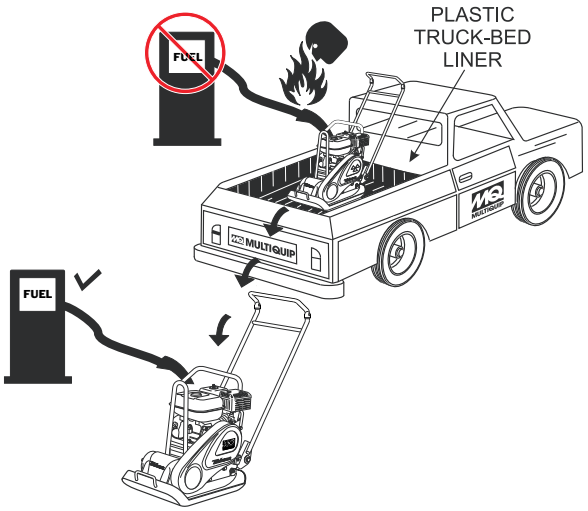
- **NEVER** run engine without an air filter or with a dirty air filter. Severe engine damage may occur. Service air filter frequently to prevent engine malfunction.

- **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.
- **NEVER** tip the engine to extreme angles during lifting as it may cause oil to gravitate into the cylinder head, making the engine start difficult.

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. Diesel 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.

BATTERY SAFETY (ELECTRIC START ONLY)

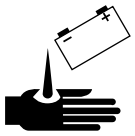
DANGER

- **DO NOT** drop the battery. There is a possibility that the battery will explode.
- **DO NOT** expose the battery to open flames, sparks, cigarettes, etc. The battery contains combustible gases and liquids. If these gases and liquids come into contact with a flame or spark, an explosion could occur.

WARNING

- **ALWAYS** wear safety glasses when handling the battery to avoid eye irritation. The battery contains acids that can cause injury to the eyes and skin.

- Use well-insulated gloves when picking up the battery.
- **ALWAYS** keep the battery charged. If the battery is not charged, combustible gas will build up.
- **DO NOT** charge battery if frozen. Battery can explode. When frozen, warm the battery to at least 61°F (16°C).
- **ALWAYS** recharge the battery in a well-ventilated environment to avoid the risk of a dangerous concentration of combustible gases.
- If the battery liquid (dilute sulfuric acid) comes into contact with **clothing or skin**, rinse skin or clothing immediately with plenty of water.



- If the battery liquid (dilute sulfuric acid) comes into contact with **eyes**, rinse eyes immediately with plenty of water and contact the nearest doctor or hospital to seek medical attention.

CAUTION

- **ALWAYS** disconnect the **NEGATIVE battery terminal** before performing service on the equipment.
- **ALWAYS** keep battery cables in good working condition. Repair or replace all worn cables.

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 lifitng 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.

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.

NOTES

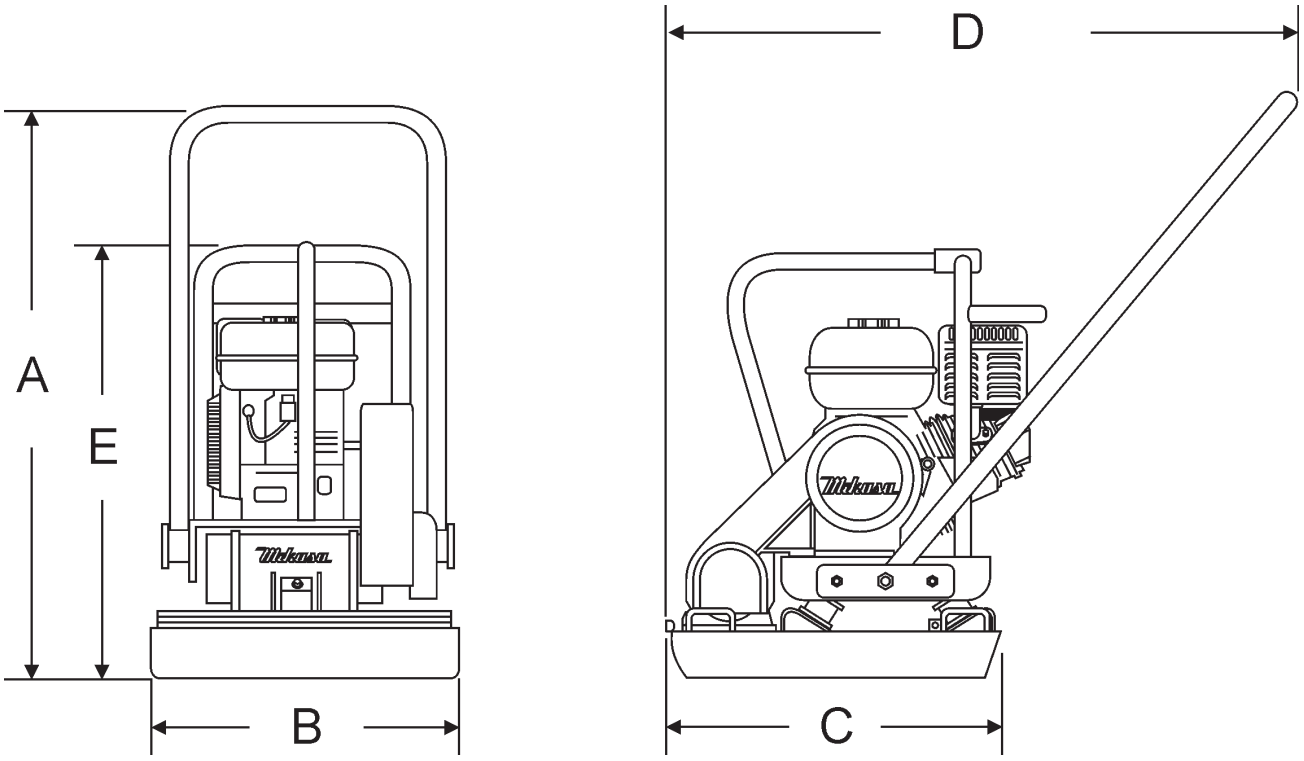


Figure 1. MVC-90H Plate Compactor Dimensions

TABLE 3. DIMENSIONS		
Reference Letter	**Description**	**Dimensions in. (mm)**
A	Height (Handle Deployed)	34 in. (863.6 mm.)
B	Overal Width	21 in. (533 mm.)
C	Length (Plate only)	23 in. (584 mm.)
D	Length (Handle Deployed)	48 in. (1,219 mm.)
E	Height (Handle Detatched)	31 in. (787 mm.)

MVC-90H PLATE COMPACTOR — SPECIFICATIONS

TABLE 1. COMPACTOR SPECIFICATIONS	
Model	MVC-90H
Centrifugal Force	3,350 lbs. (1,520 kg)
Vibration Frequency	5,600 vpm (93 Hz)
Maximum Forward Speed	82 ft/min (25 m/min)
Plate Size (L x W)	22 x 19.6 in (560 x 500 mm)
Operating Weight	194 lbs. (88 kg)
Maximum Area of Compaction	8,036 sq. ft/hr (746 sq. m/hr)
HP Rating	5.5 BHP (4.2 KW)
Water Tank Capacity	5.6 qts. (5.3 liters)

TABLE 2. ENGINE SPECIFICATIONS	
Engine Make	HONDA
Engine Model	GX160K1QMX2/GX160U1QMX2
Engine Type	Air-cooled, 4-stroke, Single Cylinder,OHV, Horizontal Shaft Gasoline Engine
Displacement	9.9 cu. in (163 cc)
Maximum Output	5 H.P./3,600 rpm
Oil Capacity	1.3 pints (0.6 liters)
Fuel Type	Unleaded
Fuel Tank Capacity	0.95 gallons (3.6 liters)
Dry Weight	33.1 lbs./(15 kg)
Speed Control Method	Centrifugal Flyweight Type
Starting Method	Recoil Start
Dimensions (L x W x H)	12.0 x 14.4 x 13.2 in (304 x 362 x 335 mm)

MVC-90H PLATE COMPACTOR — GENERAL INFORMATION

Definition of Plate Compactor

The Mikasa MVC-90H is a walk behind, plate compactor designed for the compaction of sand, mixed soils and asphalt. This plate compactor is a powerful compacting tool capable of applying a tremendous force in consecutive high frequency vibrations to a soil surface. Its applications include compacting for road, embankments and reservoirs as well as backfilling for gas pipelines, water pipelines and cable installation work.

The MVC-90H has a heavy-duty steel base plate with closed design. It is ribbed for extra strength. The tubular steel roll bar cage protects engine components and provides a lifting point.

The MVC-90H also has a reversible, shock-mounted handle.

Vibratory Plate

The vibratory plate of the compactor produce low amplitude high frequency vibrations, designed to compact granular soils and asphalt.

The resulting vibrations cause forward motion. The engine and handle are vibration isolated from the vibrating plate.

The double-V belt drive assures less downtine and superior drive characteristics. Unit can still operate if one belt breaks.

Water Tank

The compactor has a built-in water tank which helps provent damage and adds to long life. Brass water valve eliminates rust and corrosion problems.

Frequency/Speed

The compactor's vibrating plate has a frequency range between 5,800 vpm (vibrations per minute). The forward and reverse travel speed of the compactor is approximately 82 ft./minute (25 meters/minute).

Engine

The Mikasa MVC-90H Plate Compactor is equipped with a Honda GX160K1QMX2/GX160U1QMX2 air cooled, 4-cycle gasoline engine. The engine drives an eccentric weight at a high speed to develop a compaction force.

Controls

Before starting the MVC-90H Plate Compactor identify and understand the function of the controls and components.

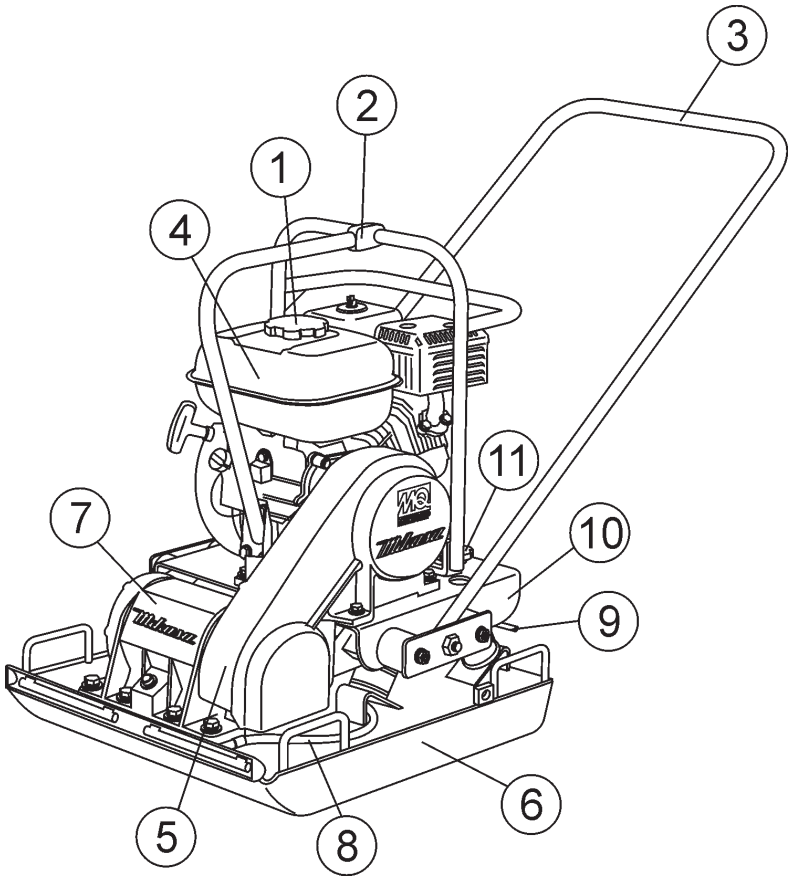


Figure 3. MVC-90H Plate Compactor Components

Figure 3 shows the location of the components and general maintenance parts. The function of each component is described below:

1. **Fuel Tank Cap –** Remove this cap to add fuel.
2. **Lifting Bale –** When lifting of the compactor is required either by forklift, crane etc., tie a rope or chain around this lifting point.
3. **Handle Bar –** When operating the compactor use this handle bar to manuever the compactor.
4. **Gasoline Engine –** This plate compactor uses a Honda GX160K1QMX2/GX160U1QMX2 engine. Refer to the Honda owner's manual for engine information and related topics.
5. **Belt Cover –** Remove this cover to gain acess to the V-belts. **NEVER** run the compactor without the V-belt cover. If the V-belt cover is not installed, the possibility exist that your hand may get caught between the V-belt and clutch, thus causing serious injury and bodily harm.
6. **Vibrating Plate –** A flat, open plate made of durable cast iron construction used in the compacting of soil.
7. **Vibration Case –** Encloses the eccentric, gears and counter weights.
8. **Water Tube (Sprinkler) –** Supplies water to the soil via a splash plate.
9. **Water Shut-Off Valve –** Turn this valve downward to let water flow from the water tank to the water tube.
10. **Water Tank –** Holds 5.6 quarts of water, built-in.
11. **Water Tank Cap –** Remove this cap to add water to the water tank.

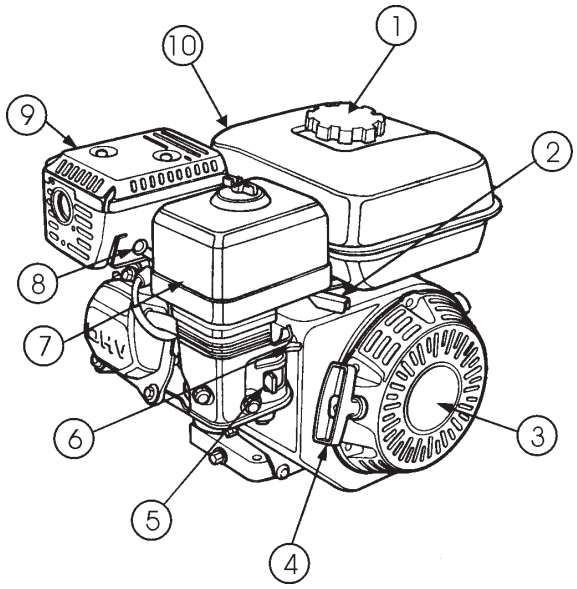


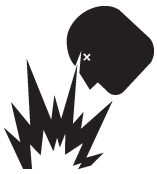
Figure 4. Honda GX160K1QMX2 Engine Controls & Components

The engine (Figure 4) must be checked for proper lubrication and filled with fuel prior to operation. Refer to the manufacturer's Engine manual for instructions & details of operation and servicing.

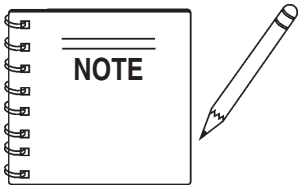
1. **Fuel Filler Cap –** Remove this cap to add unleaded gasoline to the fuel tank. Make sure cap is tightened securely. **DO NOT** over fill.

⚠ CAUTION - Fueling The Engine

Adding fuel to the tank should be done 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.



2. **Throttle Lever –** Used to adjust engine RPM speed (lever advanced forward **SLOW**, lever back toward operator **FAST**).
3. **Engine ON/OFF Switch – ON** position permits engine starting, **OFF** position stops engine operations.
4. **Recoil Starter (pull rope) –** Manual-starting method. Pull the starter grip until resistance is felt, then pull briskly and smoothly.
5. **Fuel Valve Lever – OPEN** to let fuel flow, **CLOSE** to stop the flow of fuel.
6. **Choke Lever –** Used in the starting of a cold engine, or in cold weather conditions. The choke enriches the fuel mixture.
7. **Air Cleaner –** Prevents dirt and other debris from entering the fuel system. Remove wing-nut on top of air filter cannister to gain access to filter element.



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.

8. **Spark Plug –** Provides spark to the ignition system. Set spark plug gap to 0.6 - 0.7 mm (0.028 - 0.031 inch) for HONDA engine, and 0.5 - 0.6 mm (0.020 - 0.024 inch) for ROBIN engine. Clean spark plug once a week.
9. **Muffler –** Used to reduce noise and emissions.

⚠ CAUTION - Burn Hazard

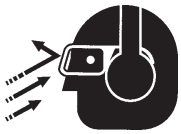
Engine components can generate extreme heat. To prevent burns, **DO NOT** touch these areas while the engine is running or immediately after operating. **NEVER** operate the engine with the muffler removed.

10. **Fuel Tank –** Holds unleaded gasoline. For additional information refer to engine owner's manual.

Before Starting:

CAUTION - General Safety Precautions

NEVER operate the compactor in a confined area or enclosed area structure that does not provide ample ***free flow of air***.



ALWAYS wear approved eye and hearing protection before operating the compactor.

- Read safety instructions at the beginning of manual.
- Remove dirt and dust, particularly in the engine cooling air inlet, carburetor and air cleaner.
- Check the air filter for dirt and dust. If air filter is dirty, clean or replace the air filter with a new one as required.
- Check carburetor for external dirt and dust. Clean with dry compressed air.
- Check fastening nuts and bolts for tightness.
- Check the Engine Oil level.
- Check the Fuel level.
- Check the V-belt tension and wear.
- Check the Vibrator Oil level.

Engine Oil Check

1. To check the engine oil level, place the plate compactor on secure level ground with the engine stopped.
2. Remove the filler cap/dipstick from the engine oil filler hole (Figure 5) and wipe it clean.

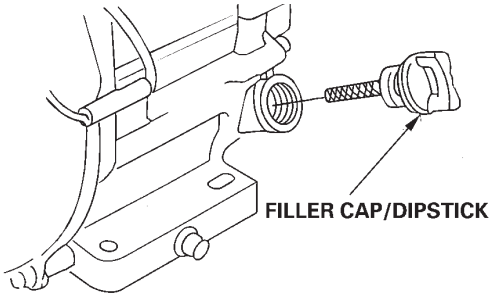


Figure 5. Engine Oil Dipstick

3. Insert and remove the dipstick without screwing it into the filler neck. Check the oil level shown on the dipstick.
4. If the oil level is low (Figure 6), fill to the edge of the oil filler hole with the recommended oil type (Table 4). Maximum oil capacity is 400 cc.

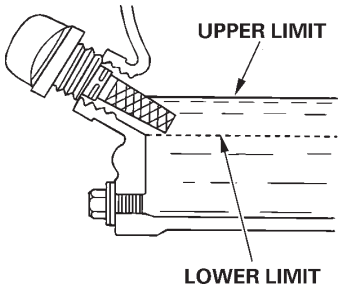
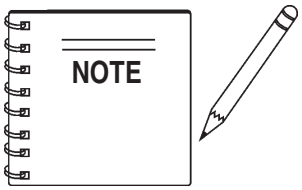


Figure 6. Engine Oil Dipstick



The Oil Alert system will automatically stop the engine before the engine falls below safe limits. Always be sure to check the engine oil level prior to starting the engine.

Table 4. Oil Type

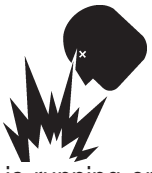
Season	Temperature	Oil Type
Summer	25°C or Higher	SAE 10W-30
Spring/Fall	25°C~10°C	SAE 10W-30/20
Winter	0°C or Lower	SAE 10W-10

Fuel Check:

1. Remove the gasoline cap located on top of fuel tank.
2. Visually inspect to see if the fuel level is low. If fuel is low, replenish with unleaded fuel.
3. When refueling, be sure to use a strainer for filtration. **DO NOT** top-off fuel. Wipe up any spilled fuel ***immediately!***

⚠ WARNING - Explosive Fuel

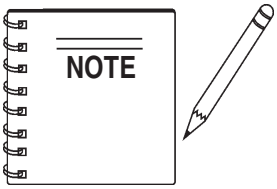
Gasoline is extremely flammable, and its vapors can cause an explosion if ignited. **DO NOT** start the engine near spilled fuel or combustible fluids.



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 approved containers, in well-ventilated areas and away from sparks and flames.

Vibrator Oil Check

1. Place the plate compactor horizontally on a flat surface. Make sure the compactor is level when checking the oil in the vibrator assembly.
2. Check vibrator oil level by removing the plug (vibrator oil gauge) as shown in Figure 7. The oil level should be up to the oil plug. The vibrator holds 140 cc (approximately 4 oz).



When adding or replacing oil, replace using only SAE 10W-30 motor oil.

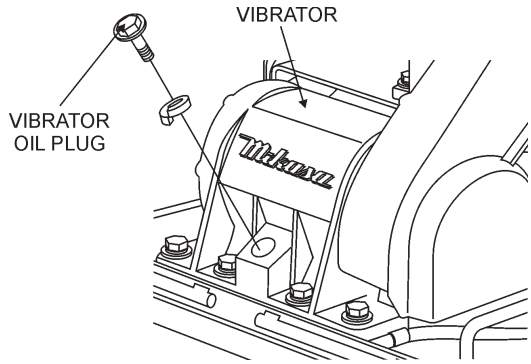


Figure 7. Vibrator Oil Plug

V-Belt Check

⚠ CAUTION - Checking and Replacing the V-Belt

NEVER attempt to check the V-belt with the engine running. Severe injury can occur if your hand gets caught between the V-belt and the clutch. Always use safety gloves.

1. To check the V-belt tension, remove the three bolts that secure the belt cover to the frame as shown in Figure 8.

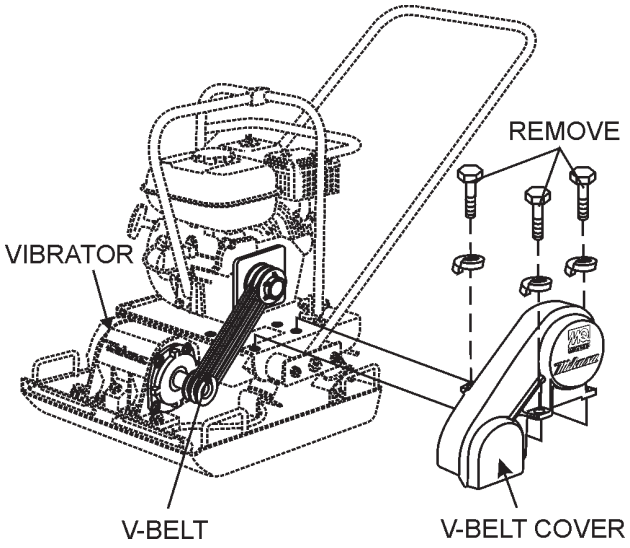


Figure 8. V-Belt Cover Removal

2. The V-belt tension is proper if the V-belt bends 10 to 15 mm (Figure 9) when depressed with finger at midway between the clutch and vibration pulley shafts.

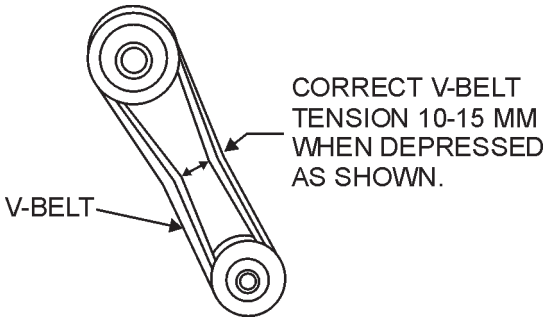


Figure 9. V-Belt Tension

3. A loose V-belt will decrease the power transmission output, causing reduced compaction and premature wear of the belt.
4. If the V-belt becomes worn or loose, replace it .

Starting the Engine (Honda engine):

This section is intended to assist the operator with the ***initial start-up*** of the compactor. It is extremely important that this section be read carefully before attempting to use the compactor in the field.

1. Place the ***fuel valve lever*** (Figure 10) in the **ON** position.

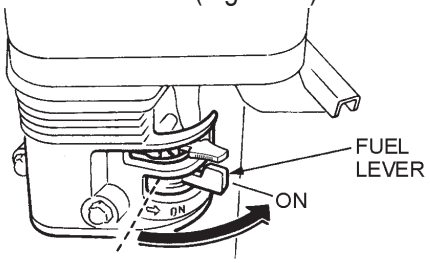


Figure 10. Fuel Valve Lever (ON Position)

2. Place the ***Engine ON/OFF switch*** (Figure 11) in the **ON** position.

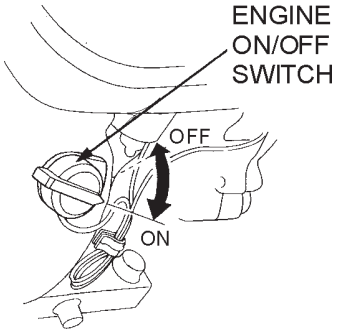


Figure 11. Engine ON/Off Switch (ON Position)

3. Place the ***Choke Lever*** (Figure 12) in the **OPEN** position.

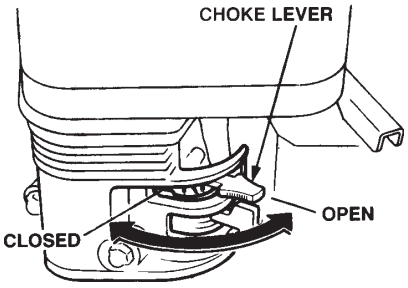
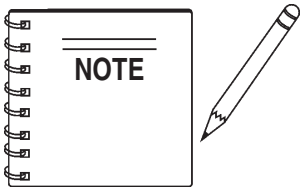


Figure 12. Choke Lever (OPEN Position)



The **CLOSED** position of the choke lever enriches the fuel mixture for starting a **COLD** engine. The **OPEN** position provides the correct fuel mixture for normal operation after starting, and for restarting a warm engine.

4. Place the ***throttle lever*** (Figure 13) halfway between ***fast*** and ***slow***.

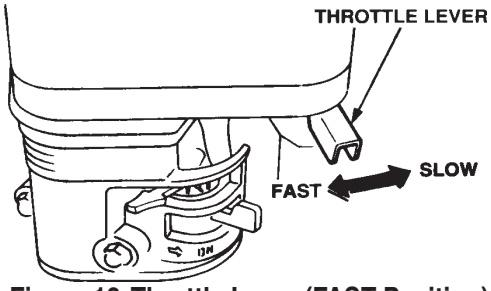


Figure 13. Throttle Lever (FAST Position)

5. Grasp the starter grip (Figure 14) and slowly pull it out. The resistance becomes the hardest at a certain position, corresponding the compression point. Rewind the rope a little from that point and pull out sharply.

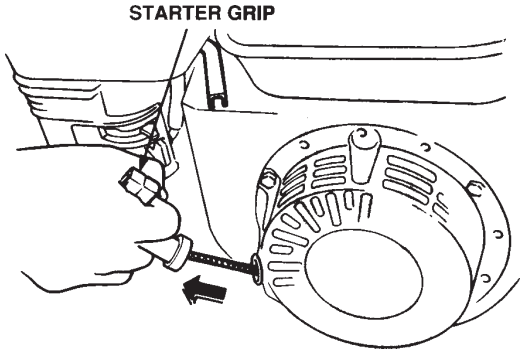


Figure 14. Recoil Starter Grip (Pull to Start)

⚠ CAUTION - Using the Recoil Starter Rope

DO NOT pull the starter rope all the way to the end.

DO NOT release the starter rope after pulling. Allow it to rewind as soon as possible.

6. If the engine has started, slowly return the choke lever (Figure 11) to the **CLOSED** position. If the engine has not started repeat steps 1 through 5.

7. Before the compactor is put into operation run the engine for 3-5 minutes.

8. Check for abnormal engine noises or fuel leaks.

MVC-90H PLATE COMPACTOR — SHUT-DOWN PROCEDURE

Stopping the Engine

⚠ CAUTION - Stopping the engine while working

NEVER stop the engine suddenly while working at high speeds. This can damage your engine.

1. Place the ***throttle lever*** (Figure 15) in **SLOW** position, and listen for the engine speed to decrease.

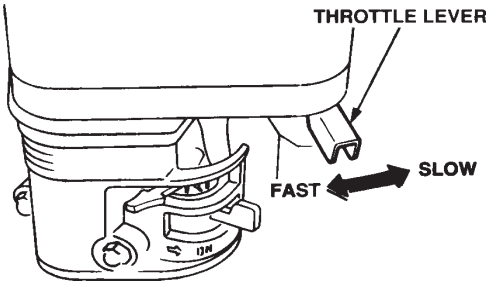


Figure 15. Throttle Lever (SLOW Position)

2. Place the ***Engine ON/OFF switch*** (Figure 16) in the **OFF** position.

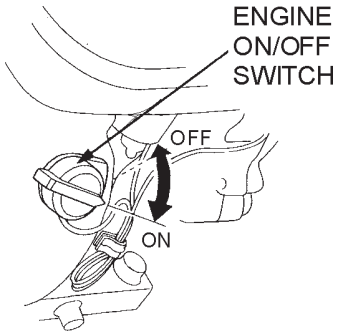


Figure 16. Engine ON/Off Switch (OFF Position)

3. Place the ***fuel valve lever*** (Figure 17) in the **OFF** position.

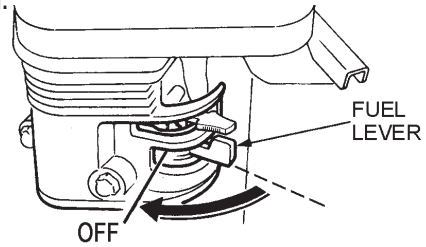


Figure 17. Fuel Valve Lever (OFF Position)

Emergency Shutdown Proucedure:

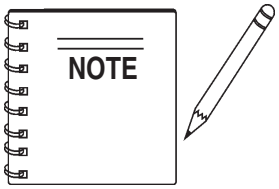
1. Move the throttle lever quickly to the **SLOW** position (Figure 15).
2. Place the engine **ON/OFF** switch in the **OFF** position (Figure 16).

Operation

⚠ CAUTION - General Operation Safety

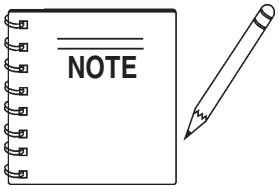
Make sure to follow all safety rules referenced in the safety section of this manual before operating compactor. Keep work area clear of debris and other objects that could cause damage to the compactor or bodily injury.

1. Once the engine has started, move the engine throttle lever quickly to the **FAST** position. With the throttle lever in the fast position, the engine speed should be around 2,300 RPM, which engages the centrifugal clutch.



Always move the throttle lever quickly without hesitation. Increasing the engine speed slowly causes the clutch to slip and can damage your clutch.

2. Firmly gasp the compactor's handle bar with both hands as the compactor begins moving forward.
3. Slowly walk behind the compactor and be on the lookout for any large objects or foreign matter that might cause damage to the compactor or bodily injury.



Whenever the compactor's vibration becomes weak or lost during normal operation regardless of operation hours, check the V-belt and clutch immediately.

Operating the Compactor on High Moisture Content Soil

Compactor traveling speed may drop on soils which contain clay, or other types of soil. Soil with high moisture content can cause the compaction plate to "stick" to the ground (not lifting up off the ground very fast or high).

To rectify this problem, consider the following:

- Check the bottom plate to see if clay or equivalent material has been lodged in the plate mechanism. If so, wash with water and remove.
- Remember the compactor does not work as efficiently on clay or soils that have a high moisture content level.
- If the soil has a high moisture level, dry soil to appropriate moisture content level or carry out compaction twice.

Using the Compactor Sprinkler System

The MVC-90H is equipped with a watering system that can be used to wet the ground during compaction to keep dust levels down.

To operate the watering system, turn the water cock handle to open the valve (Figure 18) and start the water flow. With the compactor at full speed and the water cock fully open, the water system will provide approximately 20 minutes of sprinkling.

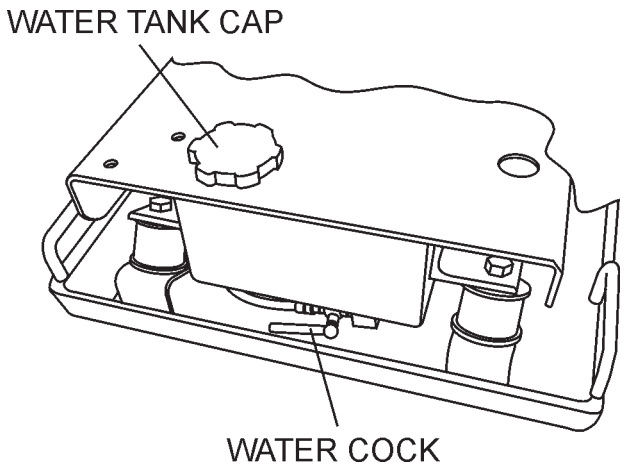


Figure 18. Water System

Maintenance

⚠ CAUTION - General Maintenance Safety

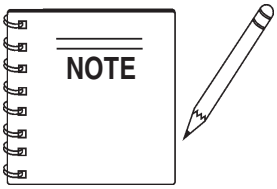
Inspection and other services should ***always*** be carried out on hard and level ground with the engine shutdown.

Inspection and Maintenance Service Tables.

To make sure your plate compactor is always in good working condition before using, carry out the maintenance inspection in accordance with Tables 5 through 7.

Daily Service

- Check for leakage of fuel or oil.
- Remove soil and clean the bottom of compaction plate.
- Check engine oil.
- Check for loose screws including tightness. See Table 5 below (tightening torque), for retightening:



These inspection intervals are for operation under normal conditions. Adjust your inspection intervals based on the number hours plate compactor is in use, and particular working conditions.

TABLE 5. TIGHTENING TORQUE (in. kg/cm) Diameter

Material	6mm	8mm	10mm	12mm	14mm	16mm	18mm	20mm
4T	70	150	300	500	750	1,100	1,400	2,000
6-8T	100	250	500	800	1,300	2,000	2,700	3,800
11T	150	400	800	1,200	2,000	2,900	4,200	5,600
*	100 (6mm)			300 ~ 350 (8mm)			650 ~ 700 (10mm)	
* (In case counter-part is of aluminum)								
Material and quality of material is marked on each bolt, and screw.								
Note: Threads in use with this machine are all right handed								

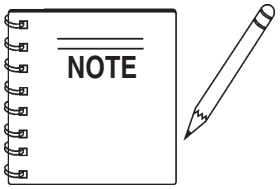
TABLE 6. ENGINE INSPECTION

(For details, see seperate Engine Manual)

Check Item	Hours of Operation
Fuel or Oil Leakage	Every 8 Hours (Daily)
Fastening Threads Tightness	Every 8 Hours (Daily)
Check/Replenish Engine Oil	Every 8 Hours (Daily)
Replace Engine Oil	First 20 hours, then every 100 hours
Check/Clean the Air Cleaner	Every 50 hours

TABLE 7. MVC-90H MACHINE INSPECTION

ITEM	HOURS OF OPERATION	REMARKS
Damaged Parts	Every 8 hours	Check Before Daily Operation
Loose or Lost Screws	Every 8 hours	Check Before Daily Operation
Function of Controlling System Part	Every 8 hours	Check Before Daily Operation
Vibrator Oil Check	Every 100 hours	See Page 21
Vibrator Oil Replacement	Every 300 hours	
V-belt & Clutch Check	Every 200 hours	See Page 22



Fuel piping and connections should be replaced every 2 years.

Engine Oil Replacement:

1. Replace engine oil, in first 20 hours of operation and every 100 hours afterwards.
2. Oil may be drained more easily when it is warm after operation (For more details, see separate engine Owner's Manual).
3. When changing the engine oil, thenold oil can be drained by removing the oil filler cap, and un-screwing the engine oil drain plug located at the base of the engine (Figure 19).
4. Remember to refill engine crankcase with the recommended type of oil as listed in Table 4.

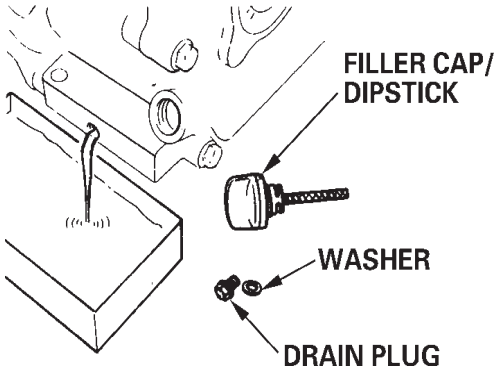
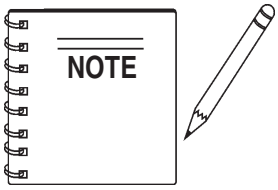


Figure 19. Engine Oil Plug

Changing Vibrator Oil

1. When changing the vibrator oil, remove the oil plug located at the bottom of the vibrator (Figure 19),
2. Tip the compactor to drain the oil.



Vibrator oil will drain more easily while it is warm.

Air Filter

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.
2. To clean or replace air filter loosen the wing nut on the air filter housing (Figure 20), remove the cover and take out air filter cartridge.

   If only cleaning of the air filter is desired blow through the air filter cartridge from the inside, moving a jet of dry compressed air up and down until all dust is removed.

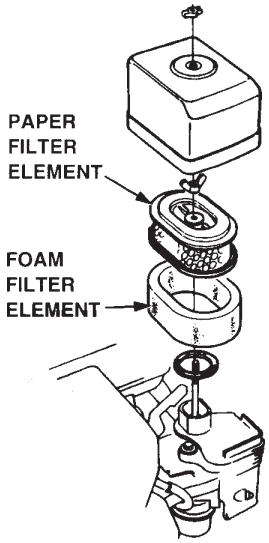


Figure 20. Air Filter

Replacing the V-belt

⚠ CAUTION - Checking and Replacing the V-Belt

NEVER attempt to check the V-belt with the engine running. Severe injury can occur if your hand gets caught between the V-belt and the clutch. Always use safety gloves.

1. Remove the belt cover.
2. Place an offset wrench (13 mm) or the like on the vibrator pulley (lower) fastening bolt.
3. Using a waste cloth or the like, pull the V-belt back strongly at midway of the belt on the left side and rotate the offset wrench clockwise so that the V-belt will come off.
4. Check the clutch and replace as necessary, following the procedures listed in ***Checking the Clutch***.
5. Place the V-belt on the lower vibrator pulley. Push the V-belt to the left side of the upper clutch and rotate the offset wrench clockwise so that the V-belt moves onto the pulley.

Checking the Clutch

1. With belt cover removed, visually check outer drum of the clutch for seizure and "V" groove for wear or damage.
2. Clean the "V" groove as necessary.
3. Check the clutch lining and shoe for signs of wear. If the shoe is worn, replace the clutch to prevent deficient power transmission and slippage.

Replacing the Clutch

1. Remove V-belt.
2. Remove bolt at engine power output by tapping an engaged wrench (e.g. tapping with hammer) and rotate the bolt counterclockwise.
3. Remove clutch with a pulley extractor.
4. To install a new clutch, reverse steps 1-3.

MVC-90H PLATE COMPACTOR — PREPARATION FOR LONG -TERM STORAGE

Compactor Storage

For storage of the compactor for over 30 days, the following is required:

- Drain the fuel tank completely.
- Run the engine until the fuel in the injection system is completely consumed**.**
- Completely drain the oil from the engine crankcase and follow procedures described in the engine Owner's Manual for engine storage.
- Completely drain the compactor's hydraulic oil from the vibrating case.
- Clean entire plate compactor, especially the bottom plate removing all dirt and foreign matter.
- Cover plate compactor and engine with plastic covering or equivalent and store in a clean, dry place.

MVC-90H PLATE COMPACTOR — TROUBLESHOOTING (ENGINE)

Practically all breakdowns can be prevented by proper handling and maintenance inspections, but in the event of a breakdown, please take a remedial action following the diagnosis based on the Engine Troubleshooting (Table 8) information shown below and on the following page. If the problem cannot be remedied, please leave the unit just as it is and consult our company's business office or service plant.

TABLE 8. ENGINE TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Difficult to start, "fuel is available, but no SPARK at spark plug".	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, 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 dirtry?	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, and replace with correct type of fuel.
	Water or dust in fuel system?	Flush fuel system.
	Air cleaner dirty?	Clean or replace air cleaner.
Difficult to start, "fuel is available, spark is present and compression is low"	Suction/exhaust valve stuck or protruded?	Re-seat 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.	Fuel not available 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 clogged?	Replace fuel filter.
	Fuel tank cap breather hole clogged?	Clean or replace fuel tank cap.
	Air in fuel line?	Bleed fuel line.

TABLE 8. ENGINE TROUBLESHOOTING (CONTINUED)		
SYMPTOM	**POSSIBLE CAUSE**	**SOLUTION**
"Weak in power" compression is proper and does not misfire.	Air cleaner not clean?	Clean or replace air cleaner
	Improper level in carburetor?	Check float adjustment, re-build carbureator.
	Defective Spark plug?	Clean or replace spark plug.
	Defective Spark plug?	
"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 improper?	Replace with correct type of spark plug.
	Correct type of fuel?	Replace with correct type of fuel
	Cooling fins dirty?	Clean cooling fins.
Rotational speed fluctuates.	Governor adjusted correctly?	Adjust governor.
	Governor spring defective?	Replace governor spring.
	Fuel flow restricted?	Check entire fuel system for leaks or clogs.
Recoil starter malfunction.	Recoil mechanism clogged with dust and dirt?	Clean recoil assembly with soap and water.
	Sprial spring loose?	Replace sprial spring.

MVC-90H PLATE COMPACTOR — TROUBLESHOOTING (PLATE COMPACTOR)

Practically all breakdowns can be prevented by proper handling and maintenance inspections, but in the event of a breakdown, please take a remedial action following the diagnosis based on the Plate Compactor Troubleshooting (Table 9) information shown below and on the following page. If the problem cannot be remedied, please leave the unit just as it is and consult our company's business office or service plant.

TABLE 9. PLATE COMPACTOR TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Travel speed too low, and vibration is weak.	Engine speed too low?	Set engine speed to correct RPM.
	Clutch slips?	Check or replace clutch.
	V-belt slips?	Adjust or replace V-belt.
	Excessive oil in vibrator?	Drain excess oil and fill to proper level.
	Malfunction in vibrator housing?	Check eccentric, gears and counter weights.
Does not travel forward.	V-belt slips?	Replace V-belt.
	Clutch slips?	Check clutch springs and shoes.
	Vibrator locked?	Check vibrator housing (eccentric, gears and counterweights)

NOTE PAGE

MVC-90H — EXPLANATION OF PARTS SECTION 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"

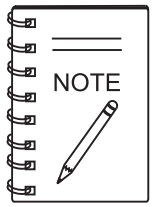
"Make/Obtain Locally" — Indicates that the part can be purchased at any hardware shop or made out of available items. Examples include battery cables, shims, and certain washers and nuts.

"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.

MIKASA MVC-90H
1 TO 3 UNITS
W/ HONDA GX160K1QMX2/GX160U1QMX2 ENGINES

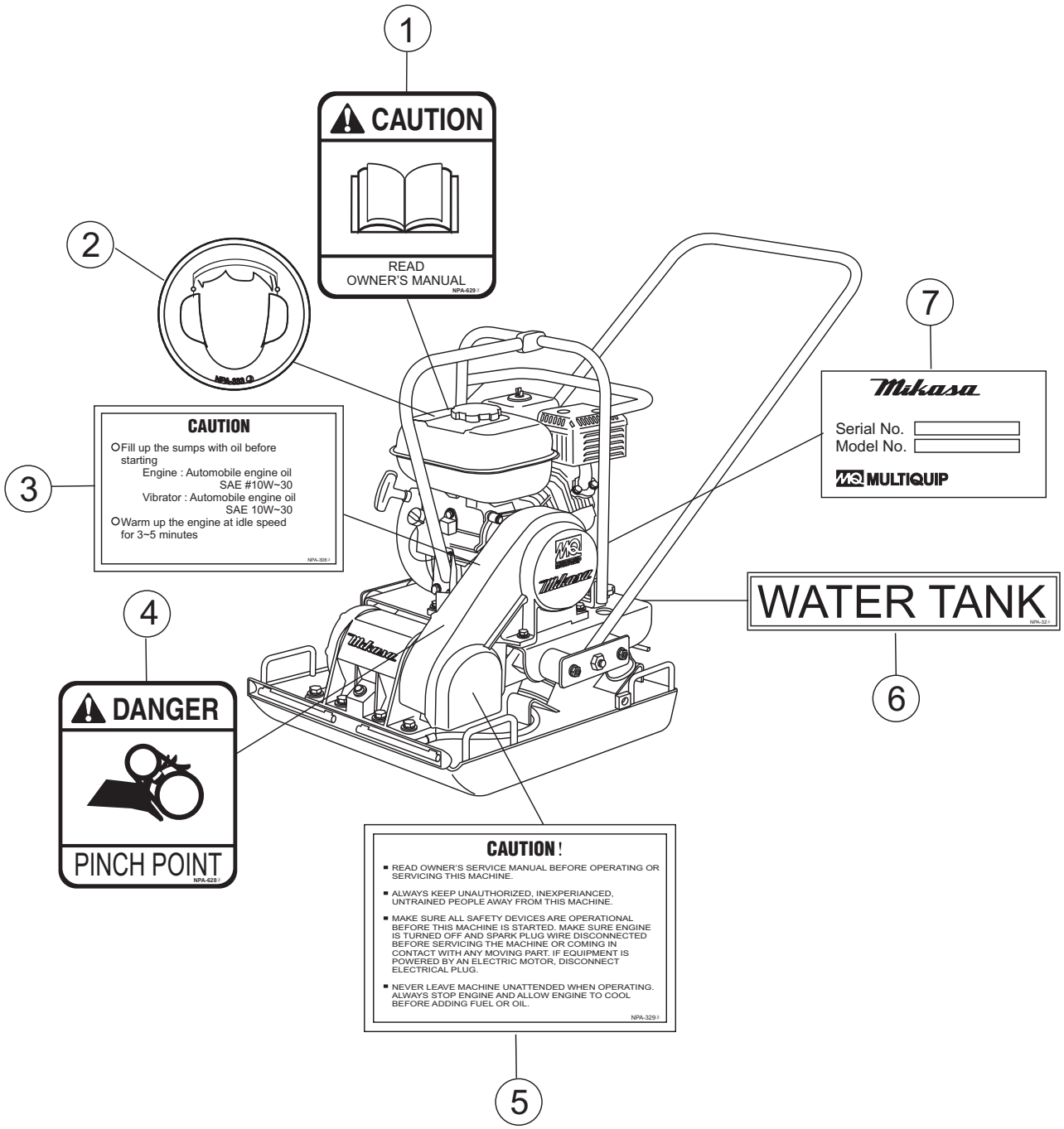
QTY.	P/N	DESCRIPTION
4	070100340	V-BELT, A33
1	0430430015	CAP, WATER TANK
3	9807956846	SPARK PLUG (✖)
3	0650140480	SPARK PLUG (◊)
1	28462ZH8003	ROPE, RECOIL STARTER
3	17210ZE1505	ELEMENT, AIR CLEANER (✖)
3	17210ZE1517	ELEMENT, AIR CLEANER (◊)
1	17620ZH7023	CAP, FUEL TANK (✖)
1	17620Z0T305	CAP, FUEL TANK (◊)
1	17672ZE2W01	FILTER, FUEL TANK
4	930405011	SHOCK ABSORBER
2	402313120	THROTTLE WIRE

✖



✖ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW
◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

NAME PLATE AND DECALS

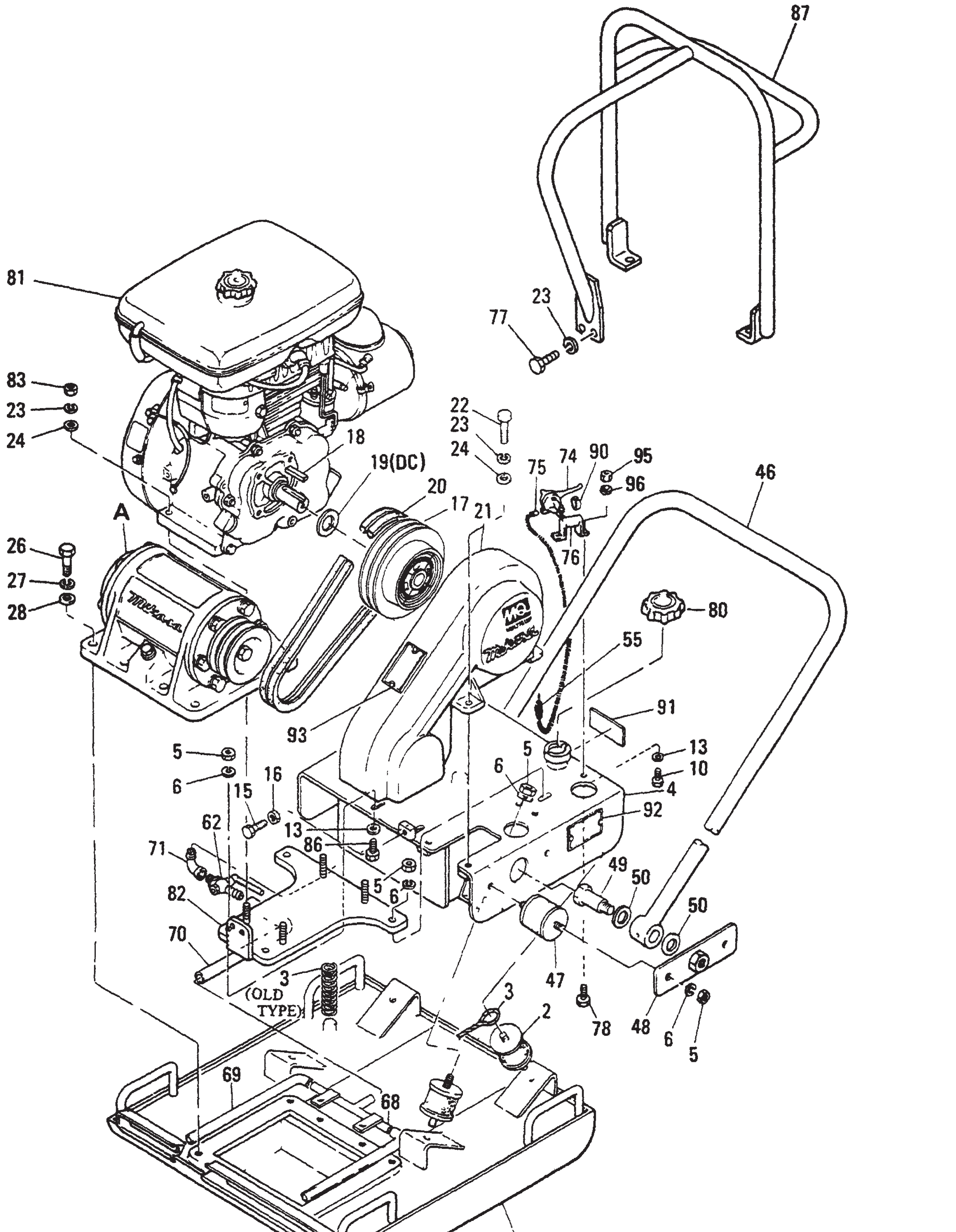


MVC-90H PLATE COMPACTOR — NAME PLATE AND DECALS

NAME PLATE AND DECALS

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	920206290	DECAL, READ OPERATORS MANUAL	1	NPA-629
2	920203330	DECAL, HEARING PROTECTION	1	NPA-333
3	920203060	DECAL, OIL CAUTION	1	NPA-306
4	920206280	DECAL, DANGER PINCH POINT	1	NPA-628
5	920203290	DECAL, CAUTION OPERATING INSTRUCTIONS	1	NPA-329
6	920200320	DECAL, WATER TANK	1	NPA-320
7		NAME PLATE	1	CONTACT PARTS DEPT.

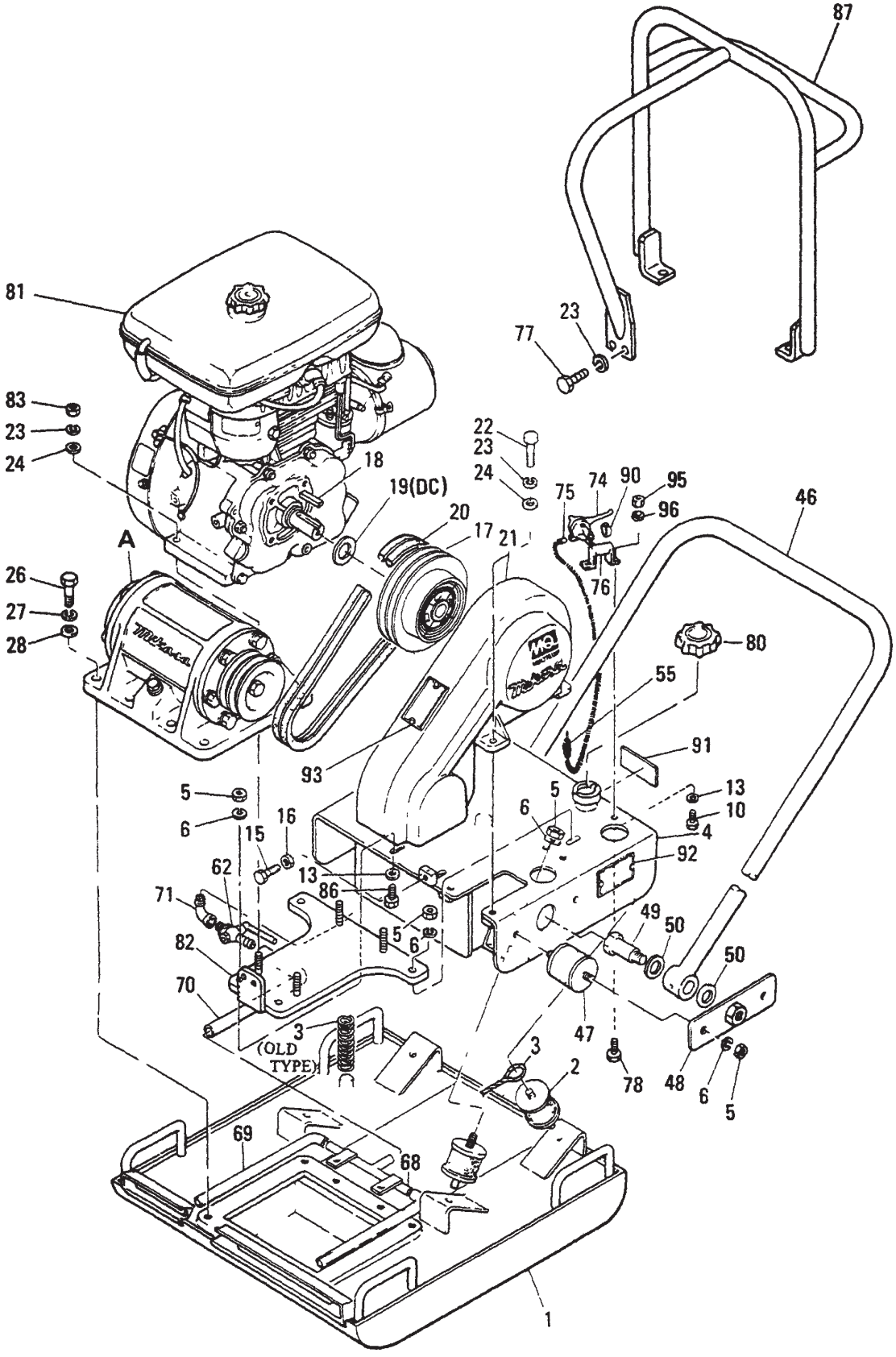
BODY ASSY.


87
81
23
77
83
23
24
18
22
23
24
19(DC)
20
17
21
74
90
95
75
96
46
A
26
27
28
76
80
55
91
93
5
6
16
15
5
6
13
10
4
62
13
86
92
71
5
6
49
50
82
50
70
3
(OLD
TYPE)
47
3
2
78
48
6
5
69
68
1

BODY ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	402100430	VIBRATING PLATE	1	
2	930405011	SHOCK ABSORBER	4	
3	959404350	EARTH WIRE	1	
4	402010010	BASE	1	
5	020310080	NUT M10	12	
6	030210250	SW M10	12	
10	012010030	BOLT 10 X 30	2	
13	031110160	PW M10	4	
15	011008035	BOLT 8 X 35	1	
16	020108060	NUT M8	1	
17	402326850	CLUTCH ASSY, A2- 143- 19	1	
18	408412320	KEY 4.77 X 4.77 X 35	1	
19	402420740	SPACER, CLUTCH 19.05 X 27 X 5	1	
20	070100340	V- BELT A33	2	
21	402106590	BELT COVER	1	
22	001200830	BOLT 8 X 30	4	
23	030208200	SW M8	10	
24	031108160	PW M8	8	
26	012112035	BOLT 12X35 H	8	
27	030212300	SW M12	8	
28	031112230	PW M12	6	
46	402010080	HANDLE	1	
47	930305020	SHOCK ABSORBER	4	
48	402010020	PLATE, HANDLE SETTING	2	
49	402402430	BOLT, HANDLE SETTING	2	
50	952402281	WASHER 21363	4	

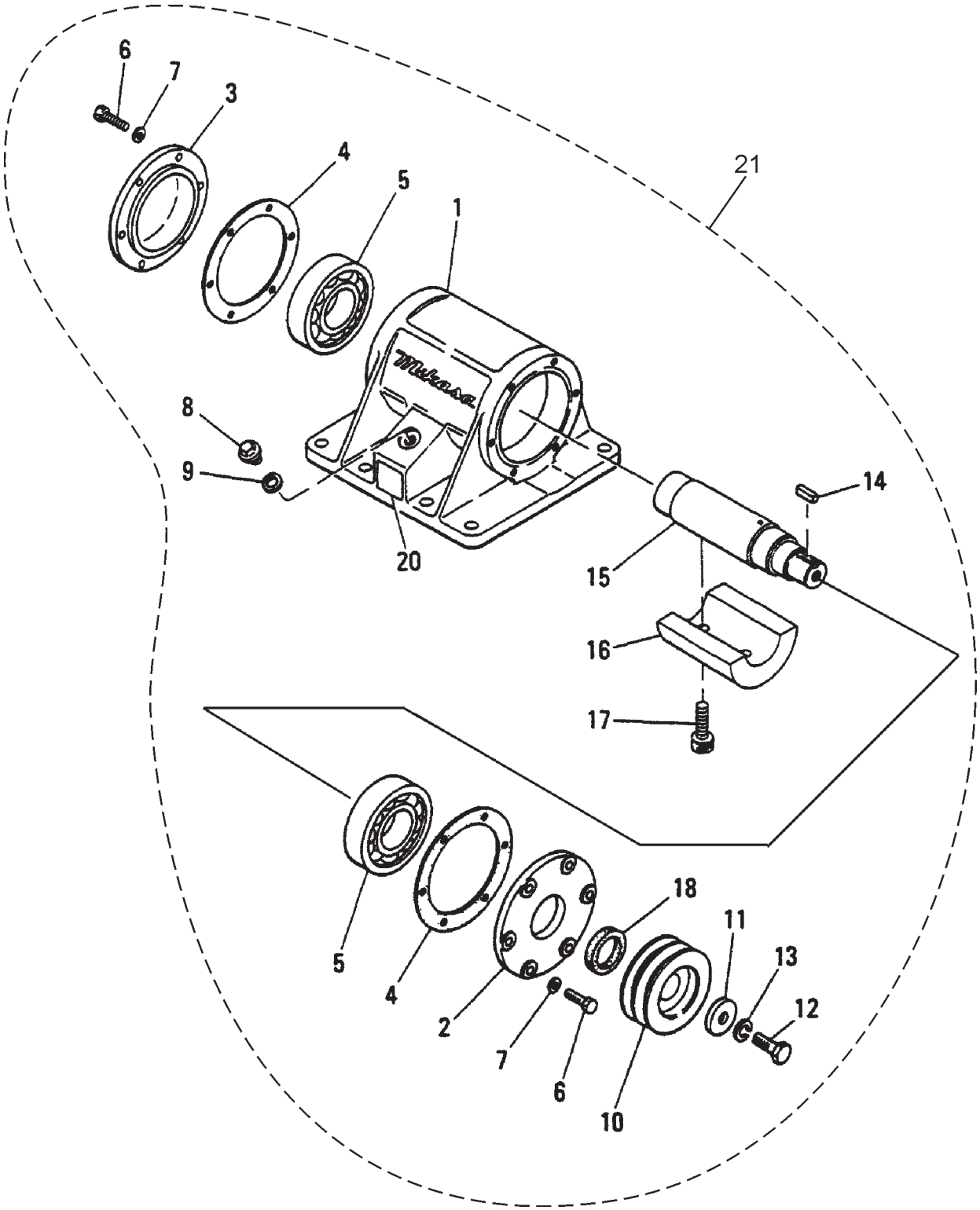
BODY ASSY.


87
81
23
77
83
23
24
22
23
24
18
19(DC)
20
17
21
75
74
90
95
96
46
A
26
27
28
76
80
55
91
93
5
6
16
15
13
62
71
86
5
6
82
70
3
(OLD TYPE)
5
6
13
10
4
92
49
50
50
47
78
48
6
5
3
2
69
68
1

BODY ASSY. (CONTINUED)

NO.	PART NO.	PART NAME	QTY.	REMARKS
55	402010110	RETURN SPRING	1	
62	954403241	COCK PT1/4	1	
68	402010040	T-JOINT	1	
69	402010050	VINYL PIPE A, 10 X 13 X 380	2	
70	402010060	VINYL PIPE B, 10 X 13 X 350	1	
71	954401600	ELBOW 1/4	1	
74	956300060	THROTTLE LEVERL ASSY	1	
75	402313120	THROTTLE WIRE, S110-250	1	
76	501310130	LEVER HOLDER	1	
77	011008020	BOLT 8X20	2	
78	011008025	BOLT 8X25	2	
80	0430430015	CAP, WATER TANK	1	
81	912216006	ENGINE ASSY, GX160K1QMX2	1	..... S/N N-5696 AND BELOW
81	912216011	ENGINE ASSY, GX160U1QMX2	1	..... S/N N-5697 AND ABOVE
82	402207080	ENGINE BASE	1	
83	020108060	NUT, M8	4	
84	952403630	WASHER, 9 X30 X3	1	
86	012010035	BOLT 10 X 30	2	
87	402206900	GUARD	1	
90	959403750	RUBBER, SLIP STOP	1	
91	920200320	DECAL, WATER TANK	1	
92	920200390	PLATE, S. NUMBER	1	
93	920200650	DECAL, CAUTION	1	
94	030208200	SW, M8	1	
95	020108060	NUT, M8	2	
96	030208200	SW, M8	2	

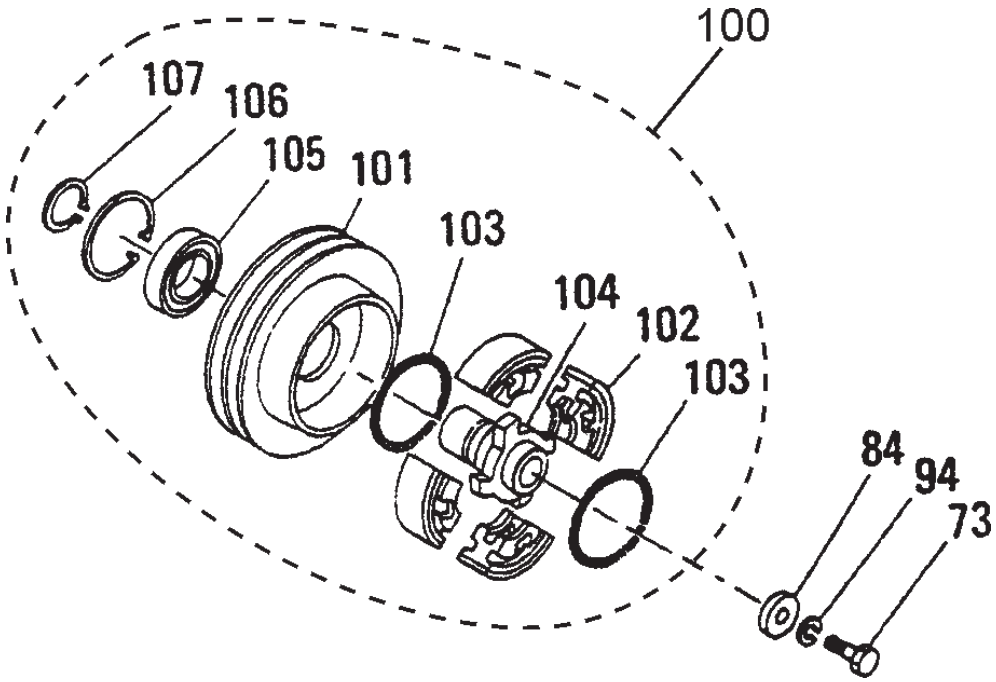
VIBRATOR ASSY.



VIBRATOR ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1*	408010050	VIBRATING CASE	1	
2*	401301260	CASE COVER/A	1	
3*	401301270	CASE COVER/B	1	
4*	401010190	PACKING	2	
5*	040406309	BEARING 6309C4	2	
6*	011208025	BOLT 8X25 T	12	
7*	030208200	SW M8	12	
8*	953400270	PLUG 1/4X14	1	
9*	953400160	PACKING 1/4	1	
10*	401010210	PULLEY/VIBRATOR	1	
11*	401010220	WASHER 13406	1	
12*	012112035	BOLT 12X35 H	1	
13*	030212300	SW M12	1	
14*	951010090	KEY 7X7X23	1	
15*	401010200	ROTARY SHAFT	1	
16*	401010240	ECCENTRIC ROTATOR	1	
17*	014212030	SOCKET HEAD BOLT 12X30 T	2	
18*	060403060	OIL SEAL TC- 35488	1	
20*	920101190	DECAL, TURBINE OIL/NP- 119	1	
21	402910010	VIBRATOR ASSY	1	INCLUDES ITEMS W/*

CLUTCH ASSY. (OLD TYPE)

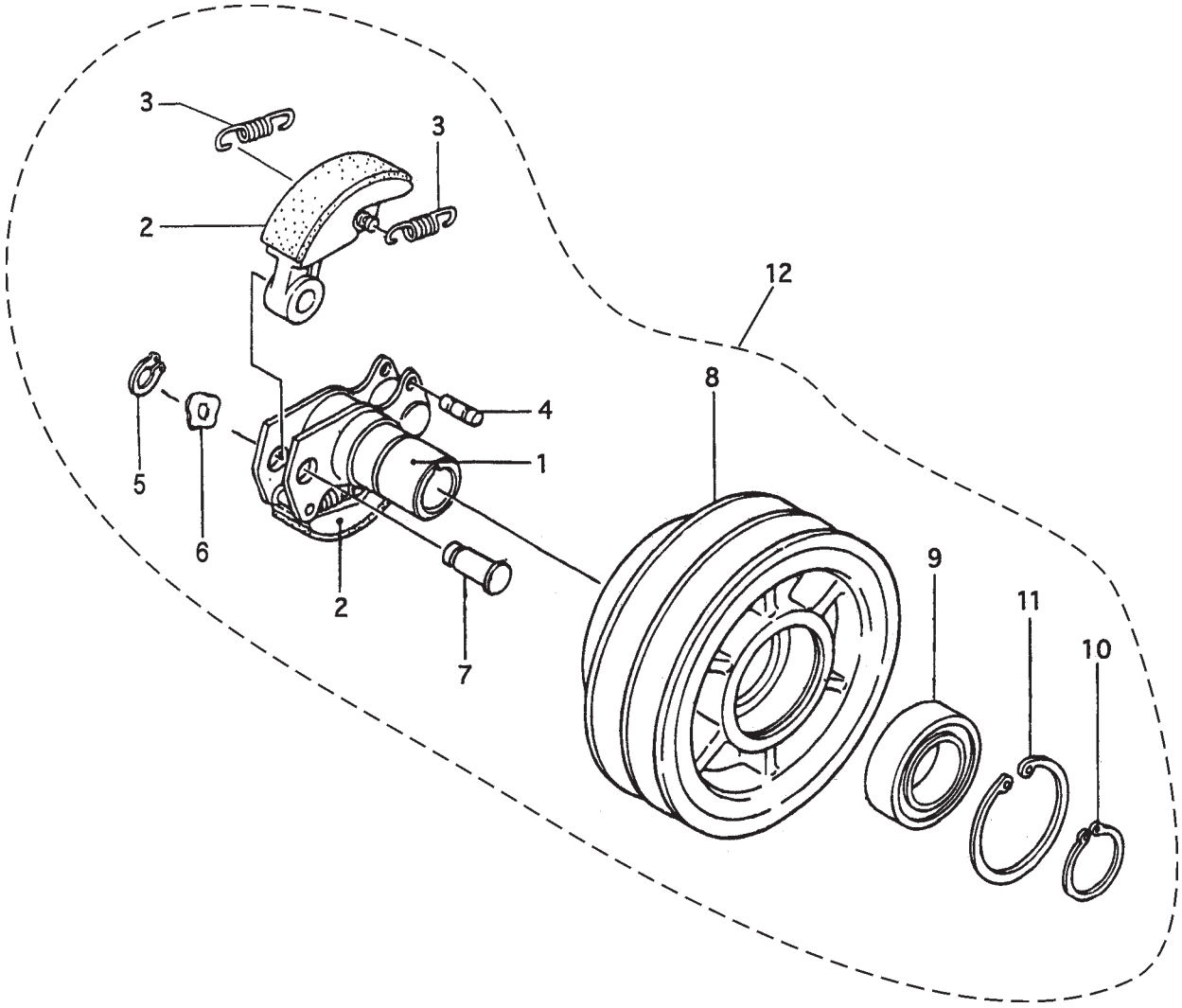


MVC-90H PLATE COMPACTOR — CLUTCH ASSY. (OLD TYPE)

CLUTCH ASSY. (OLD TYPE)

NO.	PART NO.	PART NAME	QTY.	REMARKS
73	402010150	BOLT, 5/16-24 UNF-35MM	1	
84	952403630	WASHER 9X30X3	1	
94	030208200	SW M8	1	
100		CLUTCH ASSY.	1	..... MUST USE NEW CLUTCH ASSY.
101		PULLEY DRUM A2- 143	1	..... MUST USE NEW CLUTCH ASSY.
102	941020010	CLUTCH SHOE T90	4	
103	941030010	CLUTCH SPRING/1.2X6.5X155	2	
104		CLUTCH SHAFT S19.05DL- 65	1	..... MUST USE NEW CLUTCH ASSY.
105	046006006	BEARING 6006DDU	1	
106	080600550	STOP RING AR- 55	1	
107	080200300	STOP RING S- 30	1	

CLUTCH ASSY. (NEW TYPE)

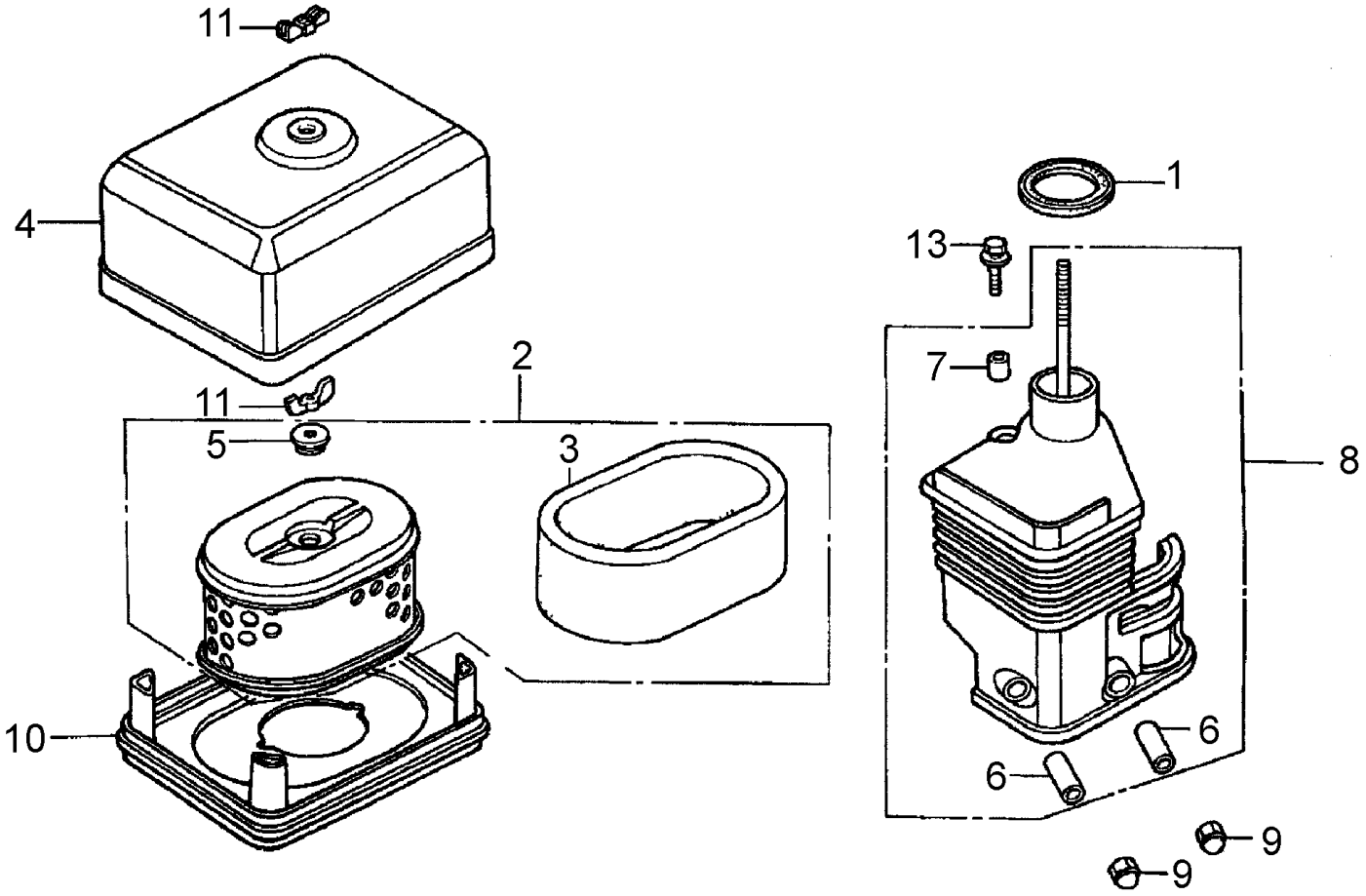


MVC-90H PLATE COMPACTOR — CLUTCH ASSY. (NEW TYPE)

CLUTCH ASSY. (NEW TYPE)

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	943040050	CLUTCH SHAFT D:19.05	1	
2	943020030	CLUTCH SHOE	2	
3	943030030	CLUTCH SPRING	4	
4	943050080	SPRING PIN (A), CLUTCH	2	
5	952010060	WASHER, WAVE	2	
6	080200120	STOP RING, S-12	2	
7	943050070	ARM PIN, CLUTCH	2	
8	943010030	PULLEY DRUM /D;143	1	
9	046006006	BEARING 6006DDU	1	
10	080200300	STOP RING S- 30	1	
11	080100550	STOP RING R- 55	1	
12	402326850	CLUTCH AY, A2- 143- 19	1	

HONDA GX160K1QMX2/GX160U1QMX2 ENG.— AIR CLEANER (DUAL) ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG.— AIR CLEANER (DUAL) ASSY.

AIR CLEANER (DUAL) ASSY.

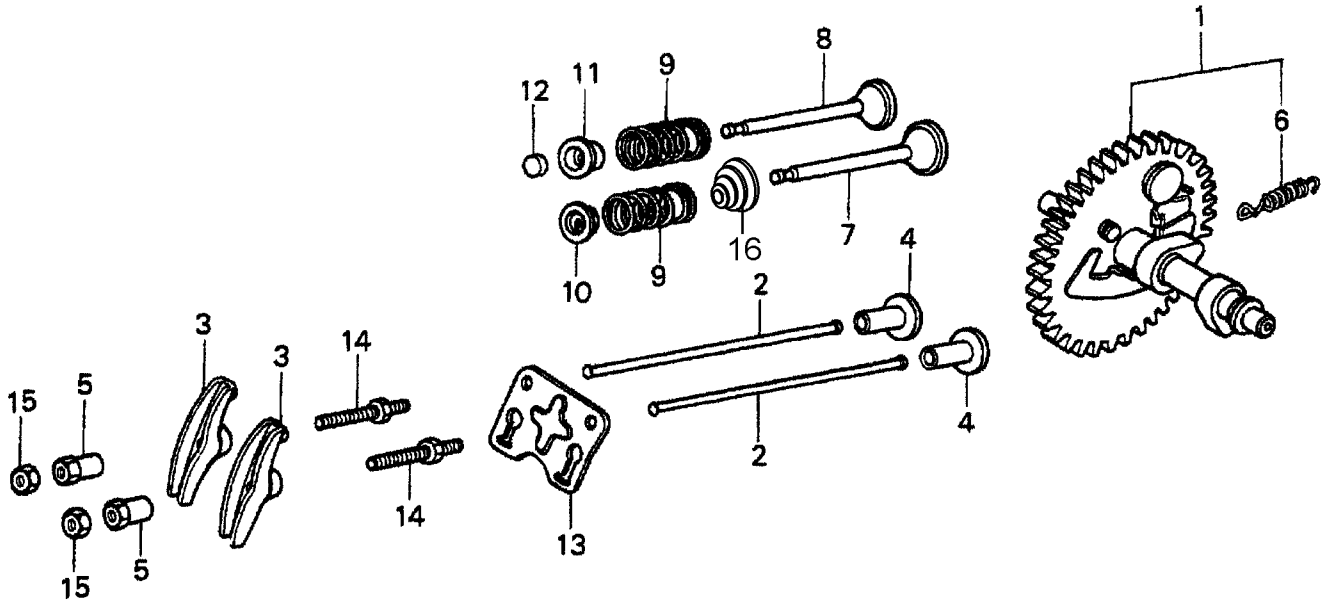
NO.	PART NO.	PART NAME	QTY.	REMARKS
1	16271ZE1000	GASKET, ELBOW	1	INCLUDES ITEMS W@
2⨯	17210ZE1505	ELEMENT, AIR CLEANER (DUAL)	1	
2◊	17210ZE1517	ELEMENT, AIR CLEANER (DUAL)	1	
3⨯@	17218ZE1505	FILTER (OUTER)	1	
3◊@	17218ZE1507	FILTER (OUTER)	1	
4	17230ZE1820	COVER, AIR CLEANER (DUAL)	1	
5@	17232891000	GROMMET, AIR CLEANER	1	
6#	17238ZE7010	COLLAR, AIR CLEANER	2	
7#	17239ZE1000	COLLAR B, AIR CLEANER	1	
8	17410ZE1020	ELBOW, AIR CLEANER	1	INCLUDES ITEMS W/#
94	90201415000	NUT, CAP (6 MM)	2	
9◊	9405006000	NUT, CAP (6 MM)	2	
10	17235ZE1831	NOSE, MUFFLER	1	
11	90325044000	WINGNUT, TOOL BOX SETTING	2	
13	957010602000	BOLT, FLANGE (6 X 20)	1	
14◊	57528ZH7000	MARK, CHOKE (GRAY)	1	

NOTICE

⨯ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CAMSHAFT ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CAMSHAFT ASSY.

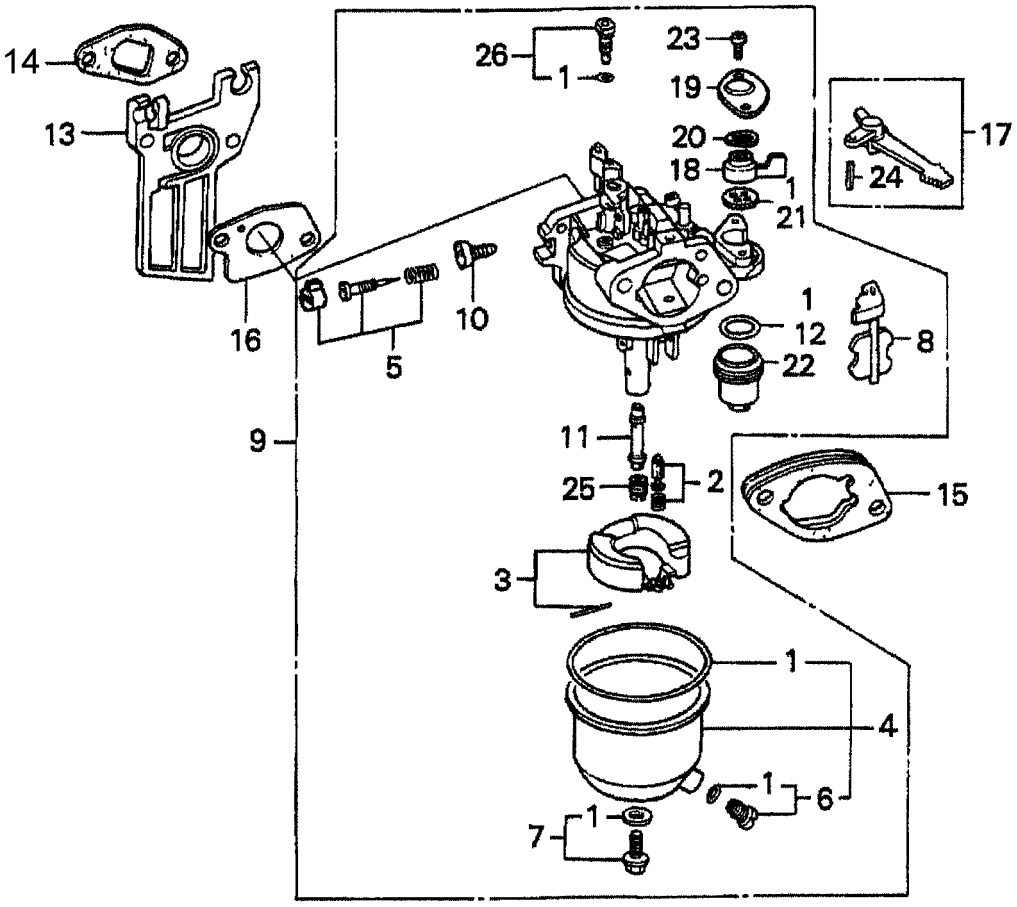
CAMSHAFT ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	14100ZE1812	CAMSHAFT ASSY.	1	INCLUDES ITEMS W/@
2	14410ZE1010	ROD, PUSH	2	
3	14431ZE1000	ARM, VLAVE ROCKER	2	
4	14441ZE1010	LIFTER, VALVE	2	
5	14451ZE1013	PIVOT, ROCKER ARM	2	
6@	14568ZE1000	SPRING, WEIGHT RETURN	1	
7	14711ZF1000	VALVE, IN.	1	
8	14721ZF1000	VALVE, EX. (STELITE)	1	
9	14751ZF1000	SPRING VALVE	2	
10	14771ZE1000	RETAINER, IN. VALVE SPRING	1	
11	14773ZE1000	RETAINER, EX. VALVE SPRING	1	
12	14781ZE1000	ROTATOR, VALVE	1	
13	14791ZE1010	PLATE, PUSH ROD GUIDE	1	
14	90012ZE0010	BOLT, PIVOT (8MM)	2	
15	90206ZE1000	NUT, PIVOT ADJ.	2	
16◊	12209ZH8003	SEAL, VALVE STEM	1	

NOTICE

- ⨻ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW
- ◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CARBURETOR ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CARBURETOR ASSY.

CARBURETOR ASSY.

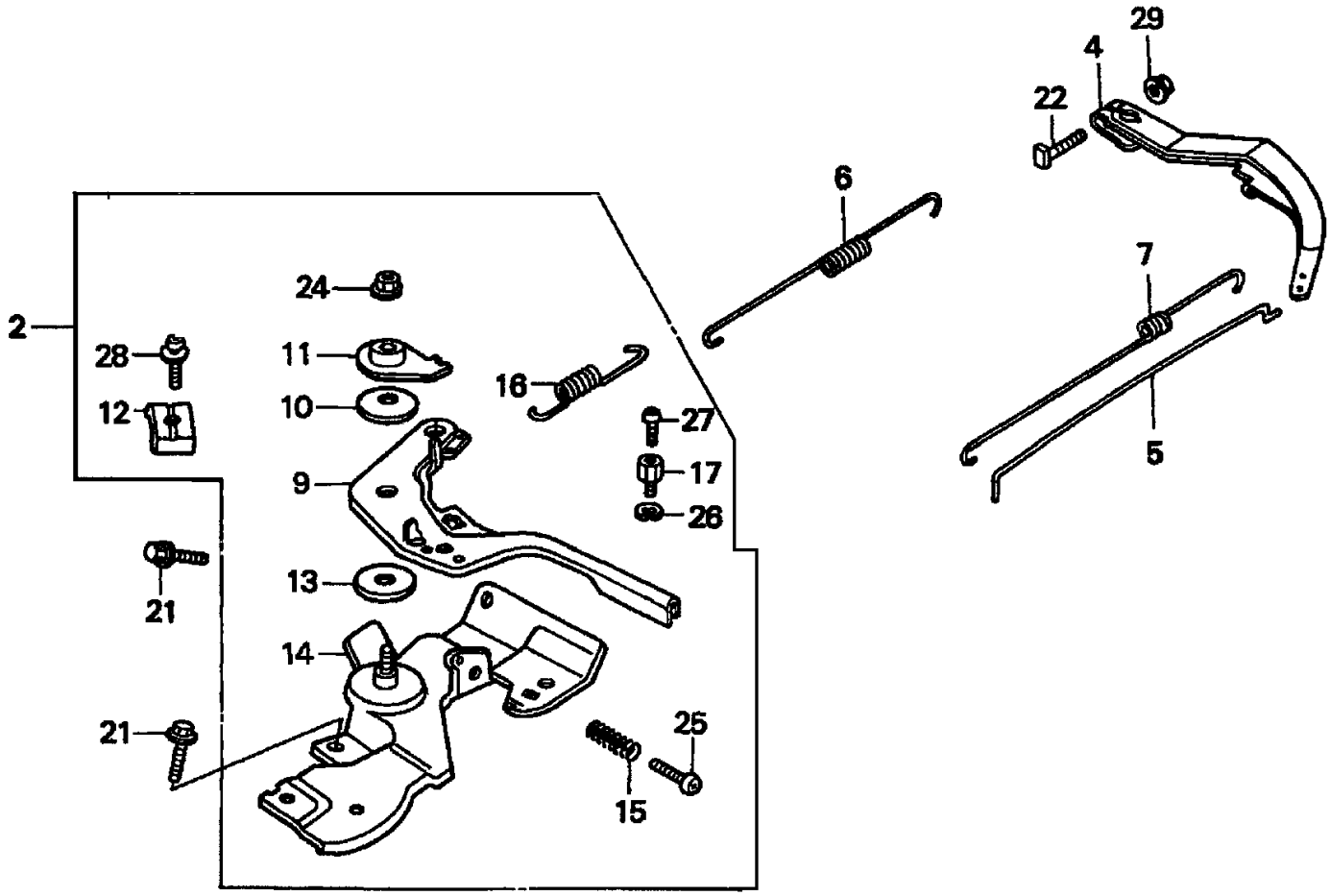
NO.	PART NO.	PART NAME	QTY.	REMARKS
1	16010ZE1812	GASKET SET	1	
2@	16011ZE0005	VALVE SET, FLOAT	1	
3@	16013ZE0005	FLOAT SET	1	
4@	16015ZE0831	CHAMBER SET, FLOAT	1	
5@	16016ZH7W01	SCREW SET	1	
6@	16024ZE1811	SCREW SET, DRAIN	1	
7@	16028ZE0005	SCREW SET B	1	
8@	16044ZE0005	CHOKE SET	1	
9@	16100ZH8W51	CARBURETOR ASSY. (BE65B B)	1	INCLUDES ITEMS W/@
10@	16124ZE0005	SCREW, THROTTLE STOP	1	
11@	16166ZH8W50	NOZZLE, MAIN	1	
12@	16173001004	O-RING	1	
13	16211ZE1000	INSULATOR, CARBURETOR	1	
14	16212ZH8800	GASKET, INSULATOR	1	
15	16220ZE1020	SPACER, CARBURETOR	1	
16	16221ZH8801	GASKET, CARBURETOR	1	
17	16610ZE1000	LEVER, CHOKE (STD)	1	INCLUDES ITEMS W/#
18@	16953ZE1812	LEVER, VALVE	1	
19@	16954ZE1811	PLATE, LEVER SETTING	1	
19@	16954ZE1812	PLATE, LEVER SETTING	1	
20@	16956ZE1811	SPRING, VALVE LEVER	1	
21@	16957ZE1812	GASKET, VALVE	1	
22@	16967ZE0811	CUP, FUEL STRAINER	1	
23@	93500030060H	SCREW, PAN (3 X 6)	2	
23@	93500030061H	SCREW, PAN (3 X 6)	2	
24#	9430520122	PIN, SPRING (2 X 12)	1	
25⨉	99101ZH80650	JET, MAIN (#65) OPTIONAL	1	
25⨉	99101ZH80680	JET, MAIN (#68) OPTIONAL	1	
25@	99101ZH80700	JET, MAIN (#70)	1	
26@	99204ZE00350	JET, SET, PILOT (#35)	1	

NOTICE

⨉ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CONTROL ASSY.

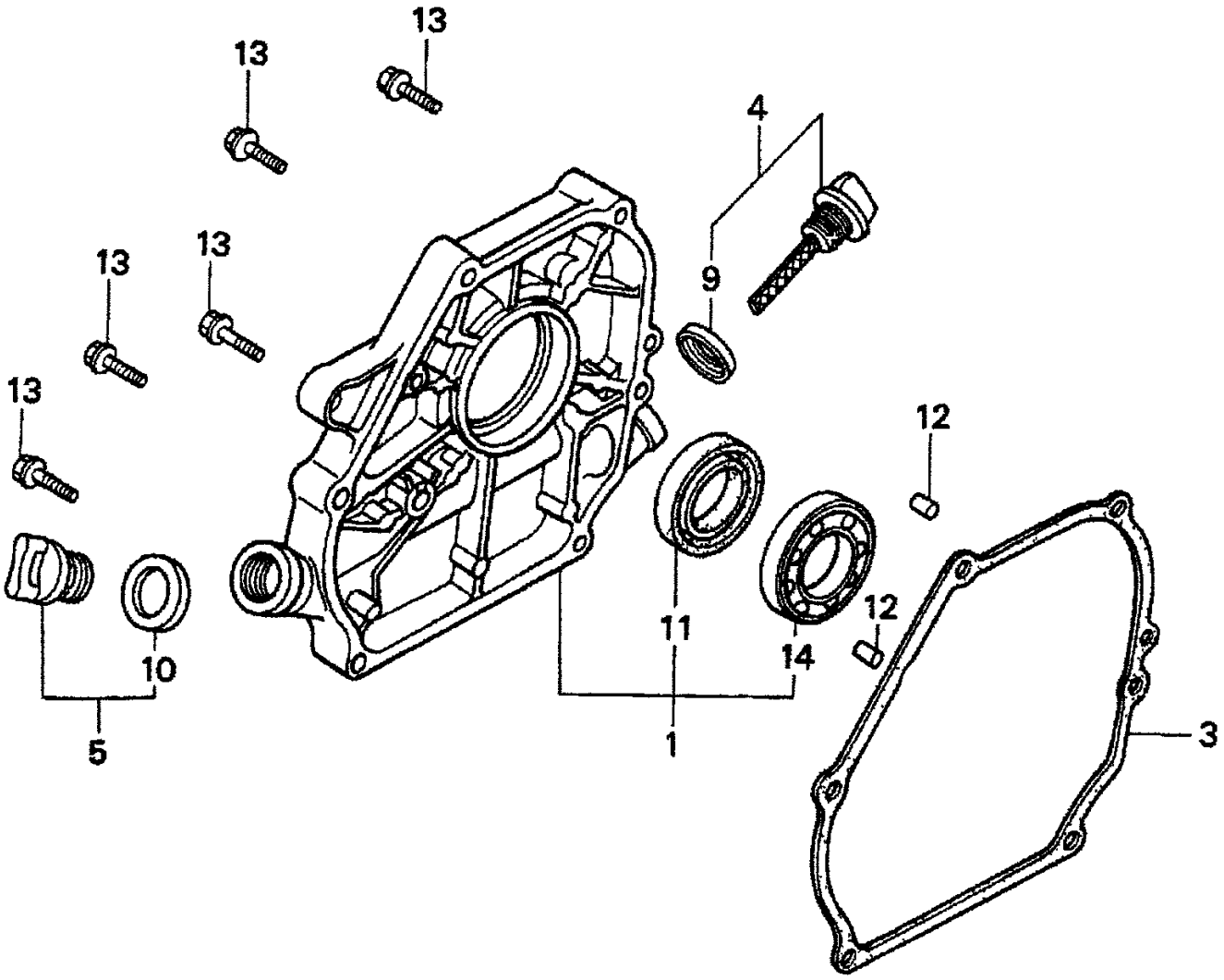


HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CONTROL ASSY.

CONTROL ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
2	16500ZH8813	CONTROL ASSY.	1	INCLUDES ITEMS W/@
4	16551ZE0010	ARM, GOVERNOR	1	
5	16555ZE1000	ROD, GOVERNOR	1	
6	16561ZE1020	SPRING, GOVERNOR	1	
7	16562ZE1020	SPRING, THROTTLE RETURN	1	
9@	16571ZH8020	LEVER CONTROL	1	
10@	16574ZE1000	SPRING LEVER	1	
11@	16575ZH8000	WASHER, CONTROL LEVER	1	
12	16576891000	HOLDER, CABLE	1	
13@	16578ZE1000	SPACER, CONTROL LEVER	1	
14@	16580ZH8813	BASE CONTROL	1	
15@	16584883300	SPRING, CONTROL ADJUSTING	1	
16@	16592ZE1810	SPRING, CABLE RETURN	1	
17@	16594883010	HOLDER, WIRE	1	
17@	16594883010	HOLDER, WIRE	1	
21	90013883000	BOLT, FLANGE (6 X 12) (CT200)	2	
22	90015ZE5010	BOLT, GOVERNOR ARM	1	
24@	90114SA0000	NUT, SELF-LOCK (6MM)	1	
25@	93500050250H	SCREW, PAN (5 X 25)	1	
26@	90605230000	CIRCLIP	1	
27@	93500040060H	SCREW, PAN (5 X 25)	1	
28	93500050160A	SCREW, PAN (5 X 16)	1	
29	9405006000	NUT, FLANGE (6MM)	1	

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CRANKCASE COVER ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CRANKCASE COVER ASSY.

CRANKCASE COVER ASSY.

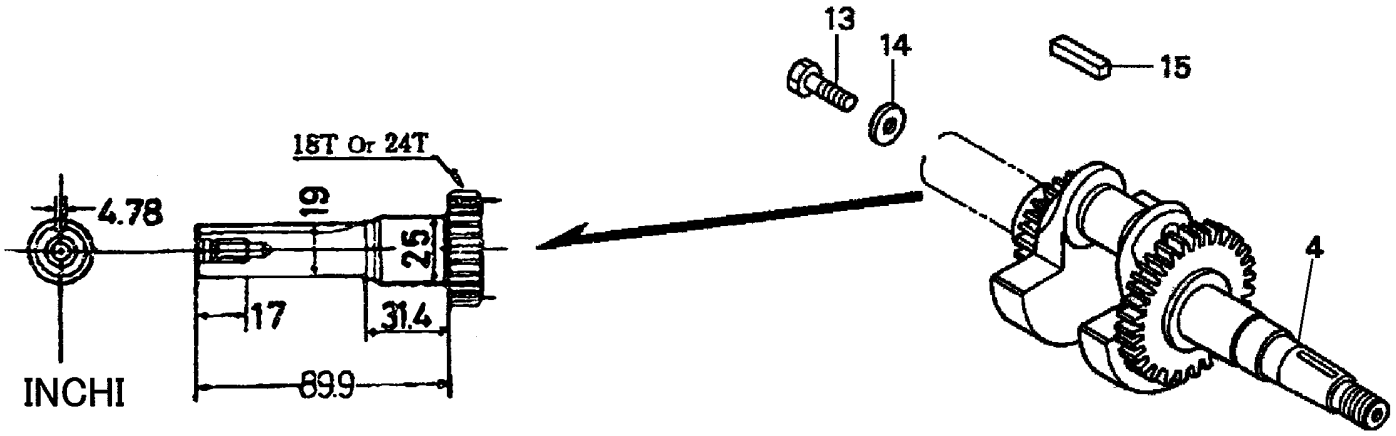
NO.	PART NO.	PART NAME	QTY.	REMARKS
1⨯	11300ZE1641	COVER ASSY., CRANKCASE (U-TYPE)	1	INCLUDES ITEMS W/@
1◊	11300ZE1642	COVER ASSY., CRANKCASE (U-TYPE)	1	INCLUDES ITEMS W/%
3	11381ZH8801	GASKET, CASE COVER	1	
4	15600ZE1003	CAP ASSY., OIL FILLER	1	INCLUDES ITEMS W/#
5	15600ZG4003	CAP ASSY., OIL FILLER	1	INCLUDES ITEMS W/+
6#	15620ZE1003	CAP, OIL FILLER		
9#	15625ZE1003	GASKET, OIL FILLER CAP	1	
10+	15625ZE1003	GASKET, OIL FILLER CAP	1	
11⨯@	91202883005	OIL SEAL (25 X 41 X 6)	1	
11◊%	91201Z0T801	OIL SEAL (25 X 41 X 6)	1	
12	9430108140	PIN A, DOWEL (8 X 14)	2	
13	957010803200	BOLT, FLANGE (8 X 32)	6	
14@%	961006205000	BEARING, RADIAL BALL (6205)	1	

NOTICE

⨯ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CRANKSHAFT ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CRANKSHAFT ASSY.

CRANKSHAFT ASSY.

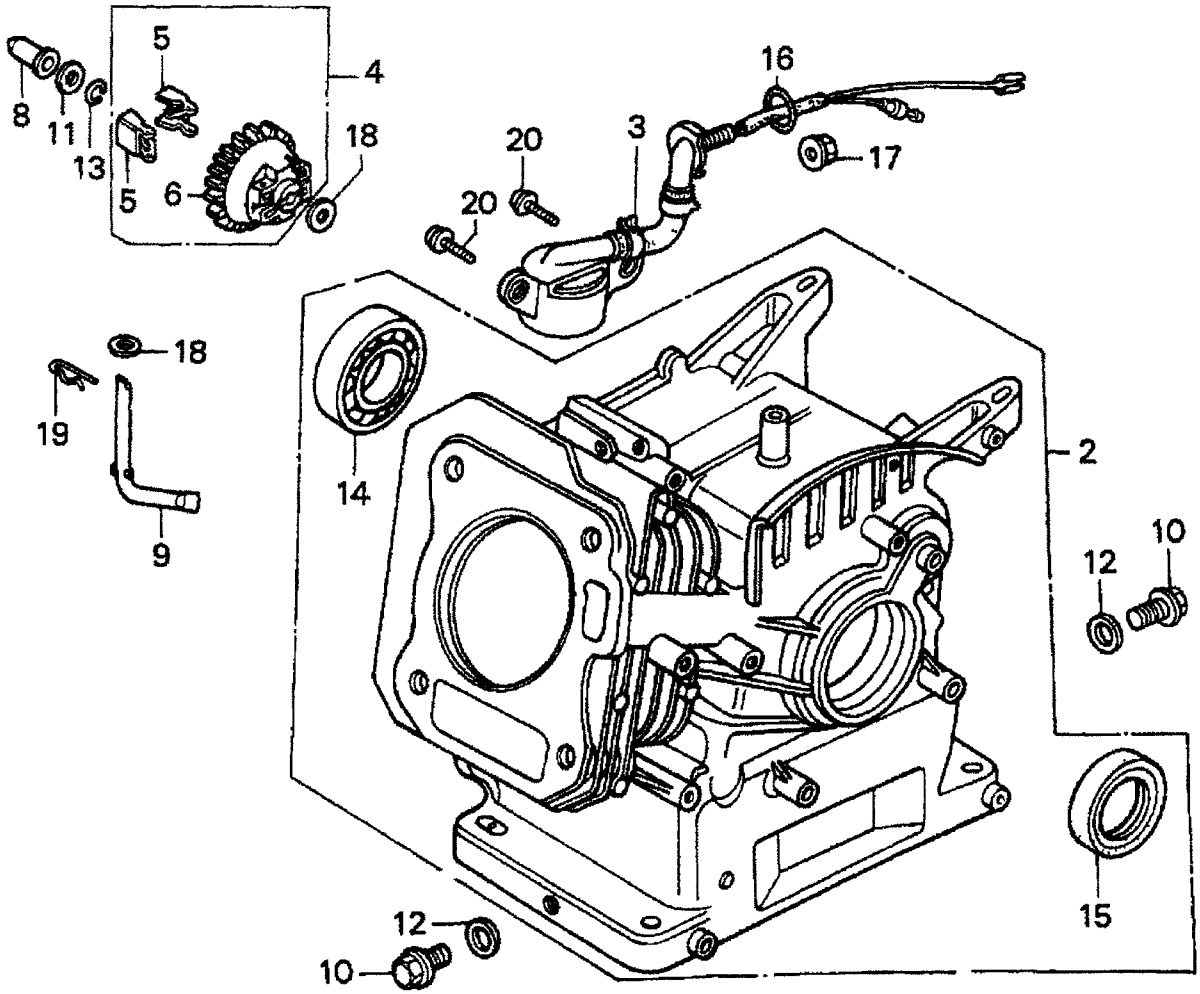
NO.	PART NO.	PART NAME	QTY.	REMARKS
4	13310ZE1601	CRANKSHAFT (Q-TYPE)	1	
13⨯	90003ZE1000	BOLT, HEX 5/16”	1	S/N 6745959 AND ABOVE
13◊	90003ZE1000	BOLT, HEX 5/16”	1	
14⨯	90473842000	WASHER, 8 MM	1	S/N 6745959 AND ABOVE
14◊	90473842000	WASHER, 8 MM	1	
15	90745ZE1600	KEY, 78 X 38 MM	1	

NOTICE

⨯ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CYLINDER BARREL ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CYLINDER BARREL ASSY.

CYLINDER BARREL ASSY.

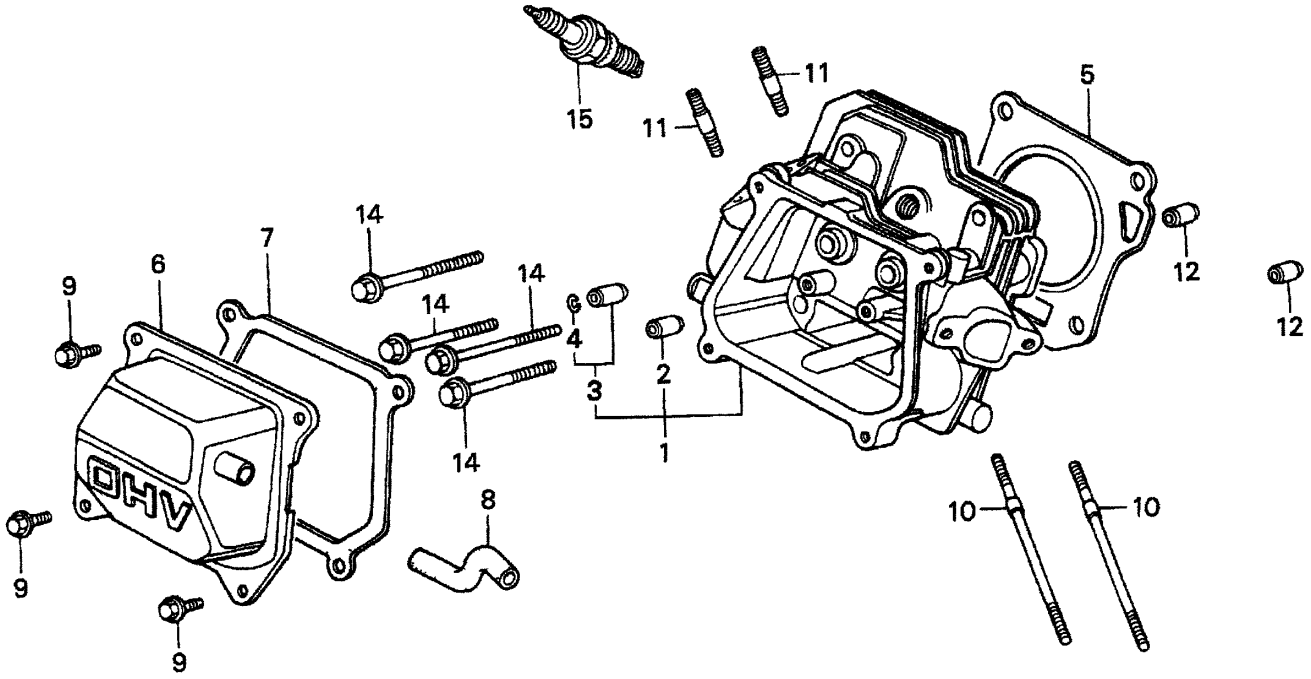
NO.	PART NO.	PART NAME	QTY.	REMARKS
2⨯	12000ZH8811	CYLINDER ASSY. (OIL ALERT)	1	INCLUDES ITEMS W/@
2◊	12000ZH8426	CYLINDER ASSY. (OIL ALERT)	1	INCLUDES ITEMS W/%
3⨯	15510ZE1023	SWITCH ASSY., OIL LEVEL	1	S/N 4367320 AND BELOW
3⨯	15510ZE1033	SWITCH ASSY., OIL LEVEL	1	S/N 4367321 AND ABOVE
3◊	15510ZE1033	SWITCH ASSY., OIL LEVEL	1	
4	16510ZE1000	GOVERNOR ASSY.	1	INCLUDES ITEMS W/#
5⨯#	16511ZE1000	WEIGHT, GOVERNOR	2	
6#	16512ZE1000	HOLDER, GOVERNOR WEIGHT	1	
8	16531ZE1000	SLIDER, GOVERNOR	1	
10	90131ZE1000	BOLT, DRAIN PLUG	2	
11	90451ZE1000	WASHER, THRUST (6MM)	1	
12	90601ZE1000	WASHER, DRAIN PLUG (10.2MM)	2	
13	90602ZE1000	CLIP, GOVERNOR HOLDER	1	
14@%	91001ZF1003	BEARING, RADIAL BALL (6205)	1	
15⨯@	91202883005	OIL SEAL (25 X 41 X 6)	1	
15◊%	91201Z0T801	OIL SEAL (25 X 41 X 6)	1	
16⨯	91353671003	O-RING (13.5 X 1.5) (ARAI)	1	
16◊	91353671004	O-RING, 14MM	1	
17	9405010000	NUT, FLANGE (10MM)	1	
18	9410106800	WASHER, PLAIN (6MM)	2	
19	9425108000	PIN, LOCK (8MM)	1	
20	957010601200	BOLT, FLANGE (6 X 12)	2	

NOTICE

⨯ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CYLINDER HEAD ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — CYLINDER HEAD ASSY.

CYLINDER HEAD ASSY.

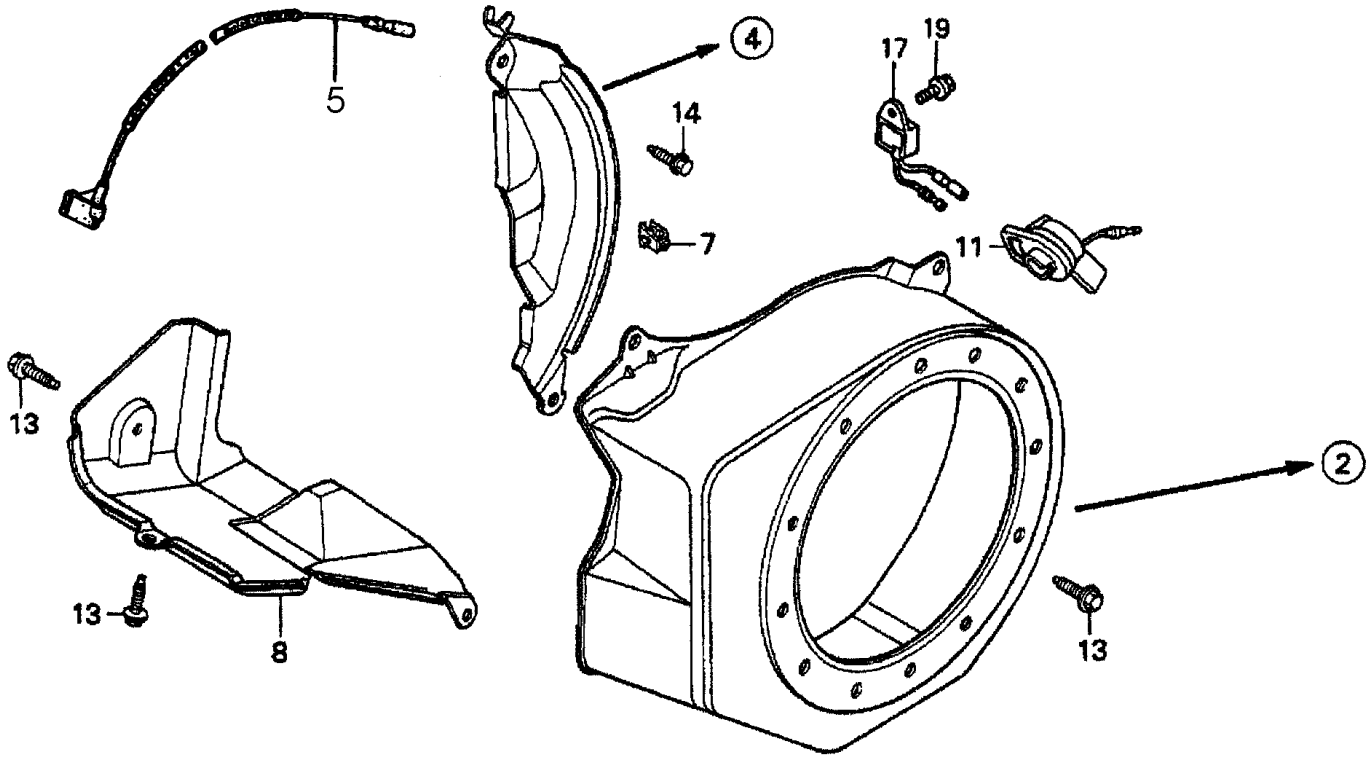
NO.	PART NO.	PART NAME	QTY.	REMARKS
1	12210ZH8000	CYLINDER HEAD	1	INCLUDES ITEMS W/@
1	12210ZH8405	CYLINDER HEAD	1	INCLUDES ITEMS W/+
2@+	12204ZE1306	GUIDE, VALVE (OS) (OPTIONAL)	1	
3@+	12205ZE1315	GUIDE, EX. VALVE (OS) (OPTIONAL)	1	INCLUDES ITEMS W/#
4@#+	12216ZE5300	CLIP, VALVE GUIDE	1	
5	12251ZF1800	GASKET, CYLINDER HEAD	1	
6	12310ZE1010	COVER, HEAD	1	
7	12391ZE1000	GASKET, CYLINDER HEAD COVER	1	
8	15721ZH8000	TUBE, BREATHER	1	
9	90016ZE1000	BOLT, FLANGE (6 X 13)	4	
10	90043ZE1020	BOLT, STUD (6 X 109)	2	
11	90047ZE1000	BOLT, STUD (8 X 32)	2	
12	9430110160	PIN A, DOWELL (10 X 16)	2	
14	957230806000	BOLT, FLANGE (8 X 60)	4	
15⨯	9807955846	SPARK PLUG (BPR5ES) (NGK)	1	
15⨯	9807956846	SPARK PLUG (BPR6ES) (NGK)	1	
15◊	0650140480	SPARK PLUG (EY45V)	1	

NOTICE

⨯ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — FAN COVER ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — FAN COVER ASSY.

FAN COVER ASSY.

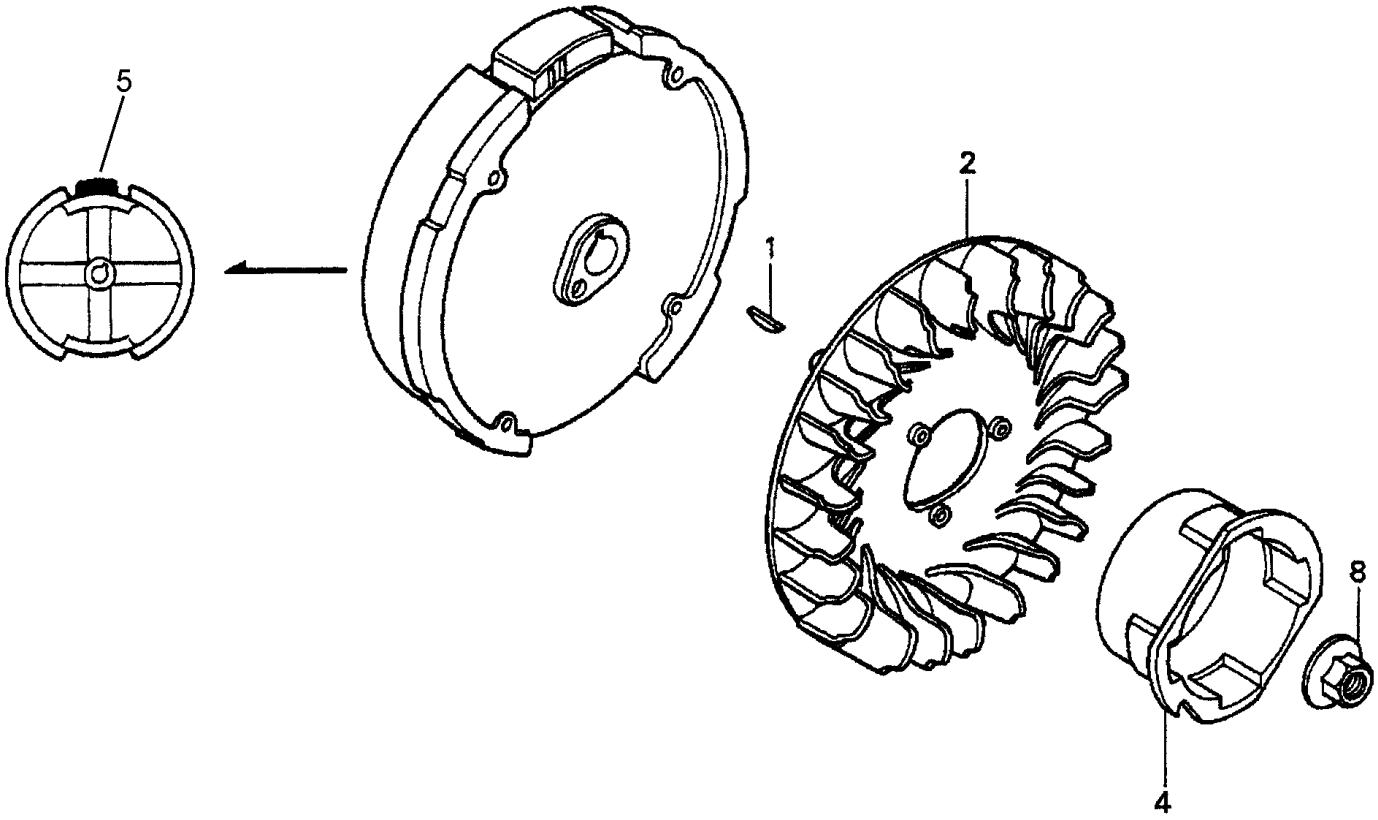
NO.	PART NO.	PART NAME	QTY.	REMARKS
2	19610ZE1000ZC	COVER, FAN *NH1* (BLACK)	1	
4	19612ZH8811	PLATE, SIDE (OIL ALERT)	1	
5◊	36101ZE1010	CORD, STOP SWITCH 370 MM	1	
7	90601ZH7013	CLIP, HARNESS	1	
8	19630ZH8000	SHROUD	1	
11※	36100ZE1015	SWITCH ASSY., ENGINE STOP	1	S/N 4368640 AND BELOW
11※	36100ZH7003	SWITCH ASSY., ENGINE STOP	1	S/N 4368641 AND ABOVE
11◊	36100ZF6P81	SWITCH ASSY., ENGINE STOP	1	
13	90013883000	BOLT, FLANGE (6 X 12) (CT200)	6	
14	90022888010	BOLT, FLANGE (6 X 20) (CT200)	1	
17	34150ZH7003	ALERT UNIT, OIL	1	
19	957010600800	BOLT, FLANGE (6 X 8)	1	

NOTICE

※ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — FLYWHEEL ASSY.

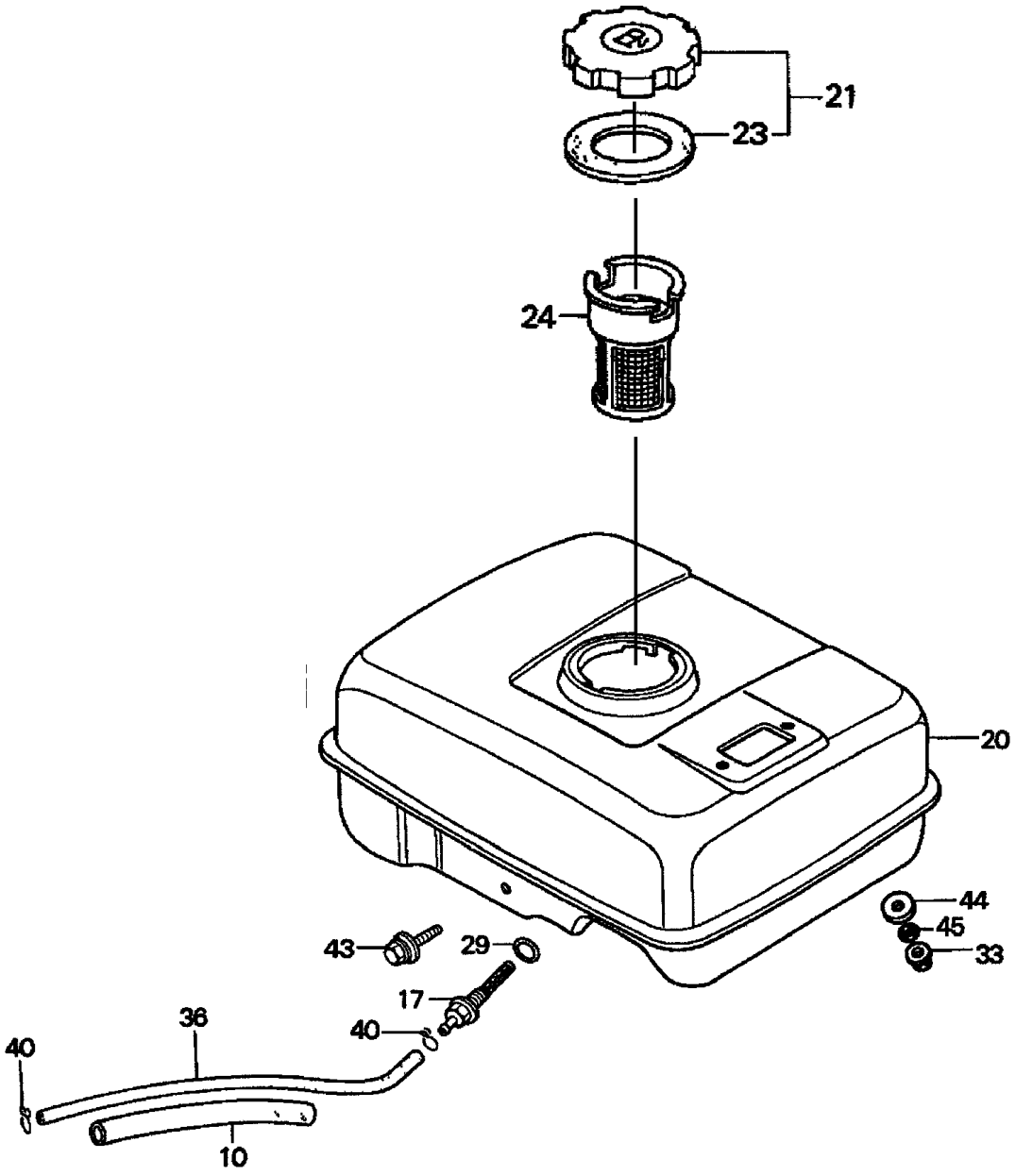


HONDA GX160K1QMX2/GX160U1QMX2 ENG. — FLYWHEEL ASSY.

FLYWHEEL ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	13331357000	KEY, SPECIAL WOODRUFF (25 X 18)	1	
2	19511ZE1000	FAN, COOLING	1	
4	28451ZH8003	PULLEY, STARTER	1	
5	31100ZE1010	FLYWHEEL	1	
8	90201878003	NUT, SPECIAL (14MM)	1	

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — FUEL TANK ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — FUEL TANK ASSY.

FUEL TANK ASSY.

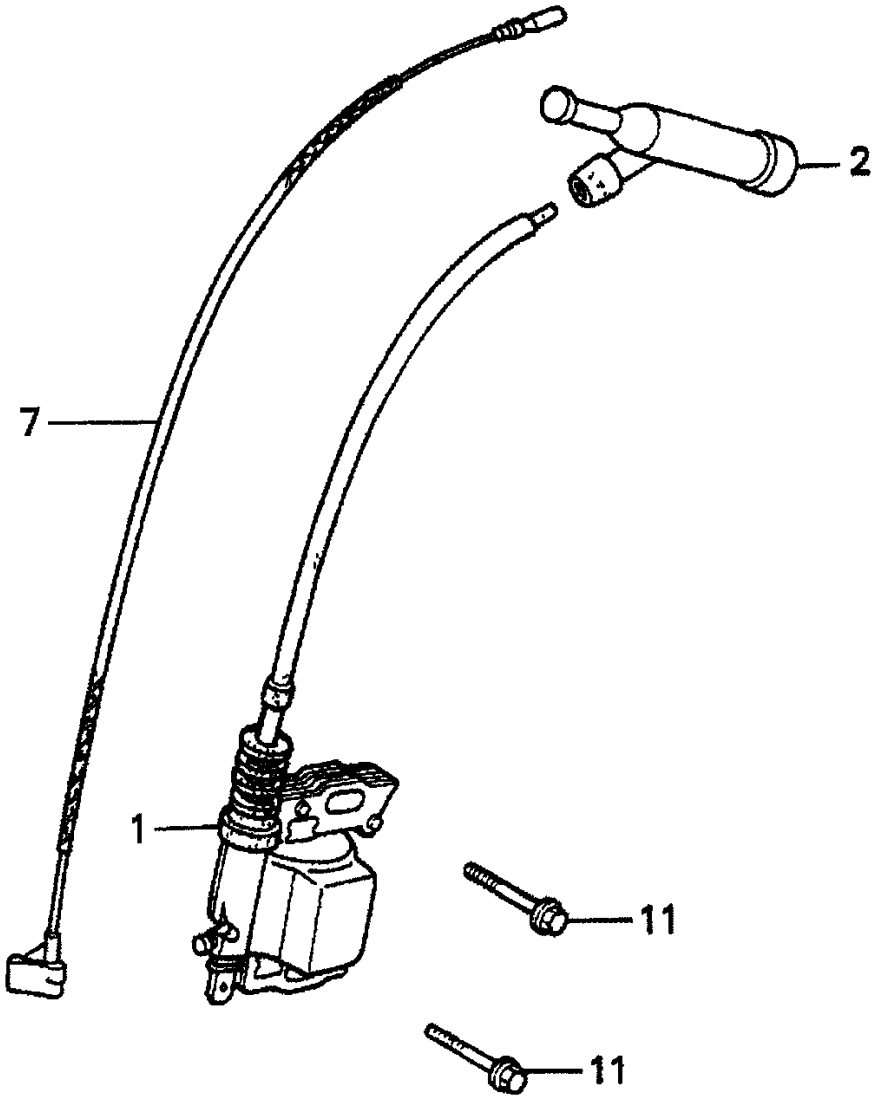
NO.	PART NO.	PART NAME	QTY.	REMARKS
10	16854ZH8000	RUBBER, SUPPORTER (107MM)	1	
17	16955ZE1000	JOINT, FUEL TANK	1	
20	17510ZE1020ZF	TANK, FUEL *NH1* (BLACK)	1	
21⨯	17620ZH7023	CAP, FUEL FILLER (BLACK)	1	INCLUDES ITEMS W/@
21◊	17620Z0T305	CAP, FUEL FILLER	1	INCLUDES ITEMS W/#
23⨯@	17631ZH7003	GASKET, FUEL FILLER CAP	1	
23◊#	17631Z0T812	GASKET, FUEL FILLER CAP	1	
24	17672ZE2W01	FILTER, FUEL	1	
29⨯	91353671003	O-RING (13.5 X 1.5) (ARAI)	1	
29◊	91353671004	O-RING 14MM	1	
33	9405006000	NUT, FLANGE (6MM)	2	
36⨯	950014500360M	BULK HOSE, FUEL (4.5 X 3000) (4.5 X 140)	1	
36◊	950014514040	BULK HOSE, FUEL 4.5X140	1	
36◊	950014500160M	BULK HOSE, FUEL 4.5X1M	1	
40	9500202080	CLIP, TUBE (B8)	2	
43⨯	957010602500	BOLT, FLANGE (6 X 25)	1	
43◊	90004ZH7003	BOLT, FLANGE (6 X 29)	1	
44⨯	90404680000	WASHER	2	S/N 6745959 AND ABOVE
44◊	90404680000	WASHER	2	
45⨯	91319ME5003	O-RING	2	S/N 6745959 AND ABOVE
45◊	91319ME5003	O-RING	2	

NOTICE

⨯ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — IGNITION COIL ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — IGNITION COIL ASSY.

IGNITION COIL ASSY.

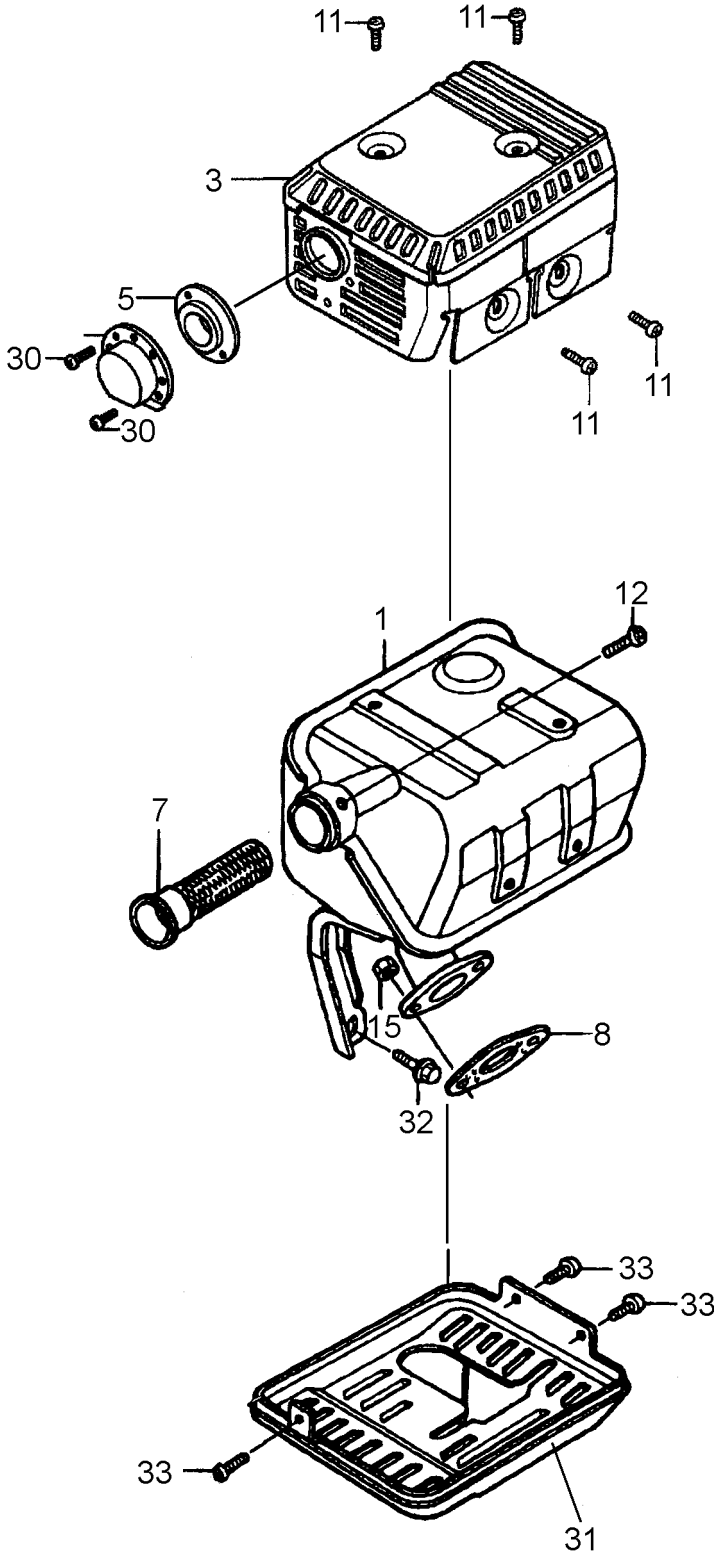
NO.	PART NO.	PART NAME	QTY.	REMARKS
1⁙	30500ZE1033	COIL ASSY., IGNITION	1	
1◊	30500ZE1063	COIL ASSY., IGNITION	1	
2	30700ZE1013	CAP ASSY., NOISE SUPPRESSOR	1	
7	36101ZE1010	WIRE, STOP SWITCH (370MM)	1	
11	90121952000	BOLT, FLANGE (6 X 25)	2	

NOTICE

⁙ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — MUFFLER ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — MUFFLER ASSY.

MUFFLER ASSY.

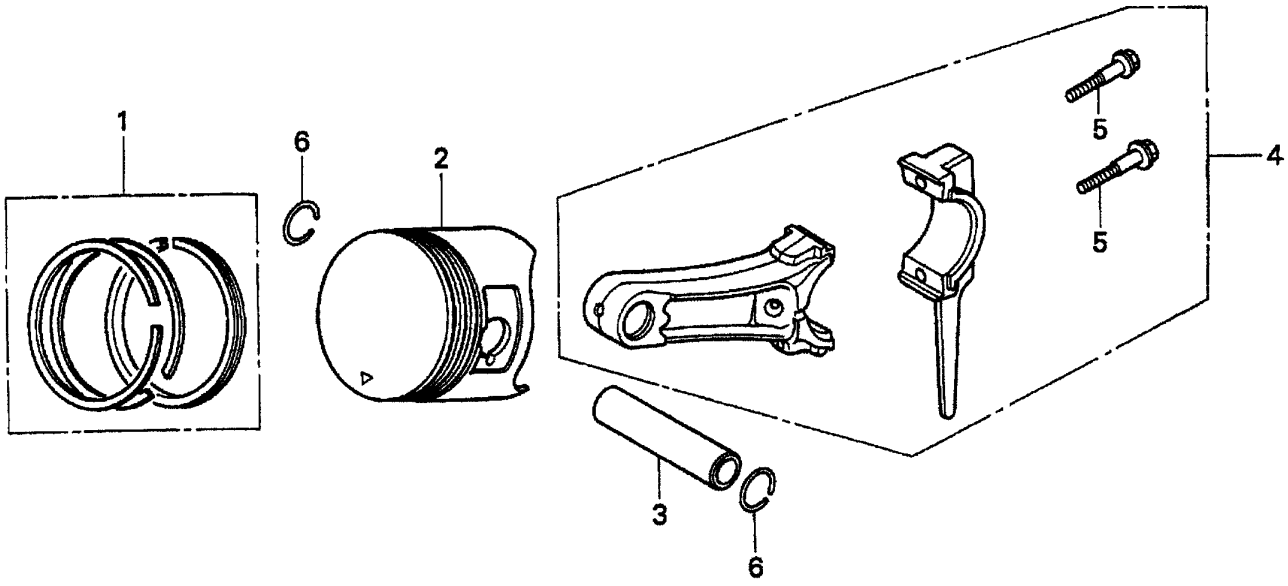
NO.	PART NO.	PART NAME	QTY.	REMARKS
1⁘	18310ZH8810	MUFFLER (ARRESTOR)	1	S/N 6745958 AND BELOW
1⁘	18310ZK8V50	MUFFLER	1	S/N 6745959 AND ABOVE
1◊	18310ZK8V50	MUFFLER	1	
3	18320ZF1H01	PROTECTOR, MUFFLER	1	
5⁘	18331883810	CAP, MUFFLER	1	
5◊	18340ZE1010	CAP, MUFFLER	1	
7	18355ZE1000	ARRESTER, SPARK	1	
8	18381ZH8800	GASKET, MUFFLER	1	
11	90050ZE1000	SCREW, TAPPING (5 X 8)	4	
12	90055ZE1000	SCREW, TAPPING (4 X 6)	1	
13	18522ZE1000	GUIDE, MUFFLER	1	
15	94001080000S	NUT, HEX (8MM)	2	
30	90002ZG0003	SCREW, TAPPING (4 X 8)	2	
31◊	18325ZE1010	PROTECTOR, LOWER	1	
32◊	90016ZE1000	BOLT, FLANGE 6X13	1	
33◊	90055ZE1000	SCREW, TAPPING 4X6	4	

NOTICE

⁘ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — PISTON ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — PISTON ASSY.

PISTON ASSY.

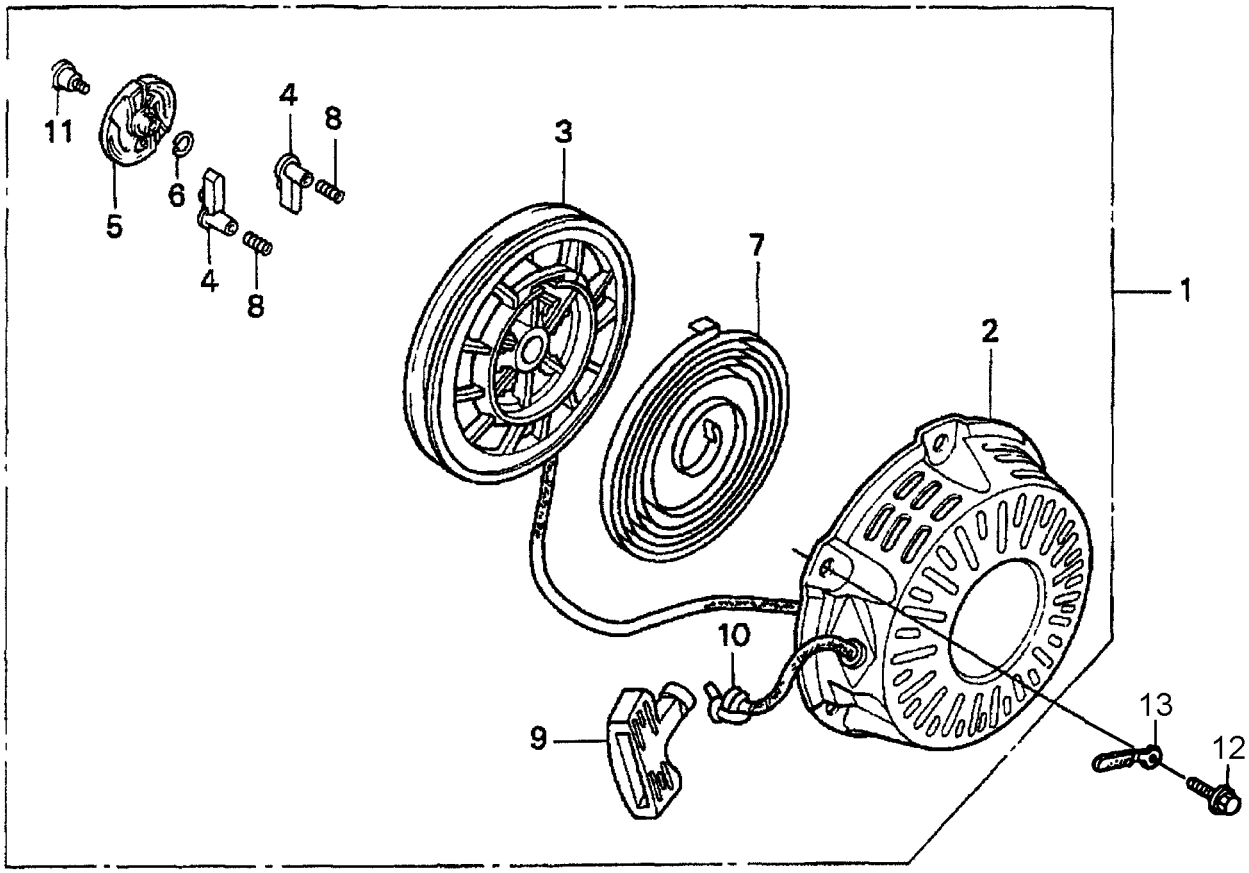
NO.	PART NO.	PART NAME	QTY.	REMARKS
1⨯	13010ZF1023	RING SET, PISTON (STD)	1	S/N 5495899 AND BELOW
1⨯	13010ZH8941	RING SET, PISTON (STD)	1	S/N 5495900~7603338
1⨯	13010ZL0003	RING SET, PISTON (STD)	1	S/N 7603339 AND ABOVE
1◊	13010ZL0003	RING SET, PISTON (STD)	1	
1⨯	13011ZF1023	RING SET, PISTON (OS 0.25)	1	S/N 5495899 AND BELOW
1⨯	13011ZH8941	RING SET, PISTON (OS 0.25)	1	S/N 5495900~7603338
1⨯	13011ZL0003	RING SET, PISTON (OS 0.25)	1	S/N 7603339 AND ABOVE
1◊	13011ZL0003	RING SET, PISTON (OS 0.25)	1	
1⨯	13012ZF1023	RING SET, PISTON (OS 0.50)	1	S/N 5495899 AND BELOW
1⨯	13012ZH8941	RING SET, PISTON (OS 0.50)	1	S/N 5495900~7603338
1⨯	13012ZL0003	RING SET, PISTON (OS 0.50)	1	S/N 7603339 AND ABOVE
1⨯	13013ZF1023	RING SET, PISTON (OS 0.75)	1	S/N 5495899 AND BELOW
1⨯	13013ZH8941	RING SET, PISTON (OS 0.75)	1	S/N 5495900~7603338
1⨯	13013ZL0003	RING SET, PISTON (OS 0.75)	1	S/N 7603339 AND ABOVE
1◊	13013ZL0003	RING SET, PISTON (OS 0.75)	1	
2⨯	13101ZH8000	PISTON (STD)	1	S/N 7603338 AND BELOW
2⨯	13101ZH8010	PISTON (STD)	1	S/N 7603339 AND ABOVE
2◊	13101ZH8010	PISTON (STD)	1	
2⨯	13102ZH8000	PISTON (OS 0.25)	1	S/N 7603338 AND BELOW
2⨯	13102ZH8010	PISTON (OS 0.25)	1	S/N 7603339 AND ABOVE
2◊	13102ZH8010	PISTON (OS 0.25)	1	
2⨯	13103ZH8000	PISTON (OS 0.50)	1	S/N 7603338 AND BELOW
2⨯	13103ZH8010	PISTON (OS 0.50)	1	S/N 7603339 AND ABOVE
2◊	13103ZH8010	PISTON (OS 0.50)	1	
2⨯	13104ZH8000	PISTON (0.75)	1	S/N 7603338 AND BELOW
2⨯	13104ZH8010	PISTON (0.75)	1	S/N 7603339 AND ABOVE
2◊	13104ZH8010	PISTON (0.75)	1	
3	13111ZE1000	PIN, PISTON	1	
4	13200ZE1010	ROD ASSY., CONNECTING	1	INCLUDES ITEM W/@
5@	90001ZE1000	BOLT, CONNECTING ROD	2	
6	90551ZE1000	CLIP, PISTON PIN (18MM)	2	

NOTICE

⨯ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — RECOIL STARTER ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — RECOIL STARTER ASSY.

RECOIL STARTER ASSY.

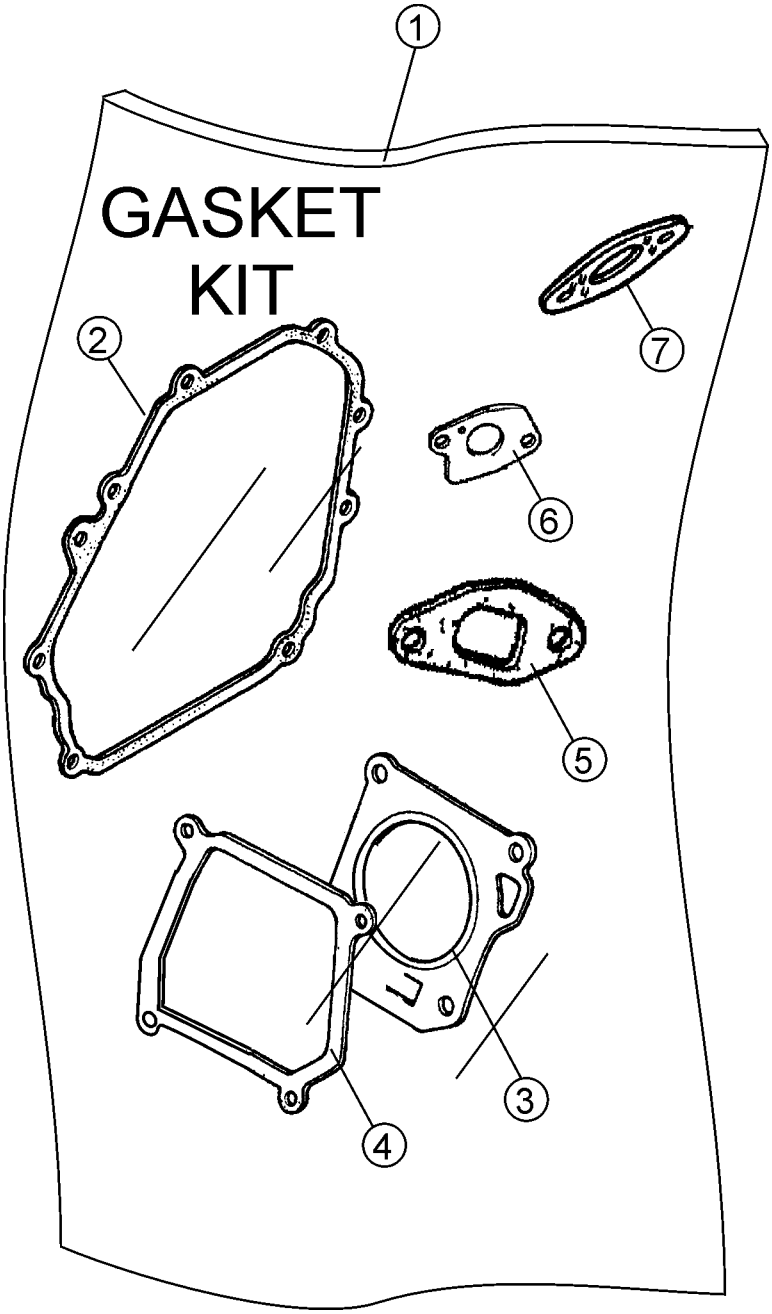
NO.	PART NO.	PART NAME	QTY.	REMARKS
1⨯	28400ZH8013ZB	STARTER ASSY., RECOIL “NH1”(BLACK)	1	INCLUDES ITEMS W/@
1◊	28400ZH8023ZB	STARTER ASSY., RECOIL	1	INCLUDES ITEMS W/%
2@%	28410ZH8003ZB	CASE, RECOIL STARTER “NH1”(BLACK)	1	
3⨯@%	28420ZH8013	REEL, RECOIL STARTER	1	
3◊@%	28421ZH8801	REEL, RECOIL STARTER	1	
4⨯@%	28422ZH8013	RATCHET, STARTER	2	
4◊@%	28422ZH8801	RATCHET, STARTER	2	
5@%	28433ZH8003	GUIDE, RATCHET	1	
6⨯@%	28441ZH8003	SPRING, FRICTION	1	
6◊@%	28441ZH8801	SPRING, FRICTION	1	
7@%	28442ZH8003	SPRING, RECOIL STARTER	1	
8⨯@%	28443ZH8003	SPRING, RETURN	2	
8◊@%	28443ZH8801	SPRING, RETURN	2	
9@%	28461ZH8003	KNOB, RECOIL STARTER	1	
10@%	28462ZH8003	ROPE, RECOIL STARTER	1	
11⨯@%	90003ZH8003	SCREW, SETTING	1	
11◊@%	90003ZH8801	SCREW, SETTING	1	
12	90008ZE2003	BOLT, FLANGE (6 X 10)	3	
13◊	32901MA1000	CLIP, CORD	1	

NOTICE

⨯ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — GASKET KIT ASSY.

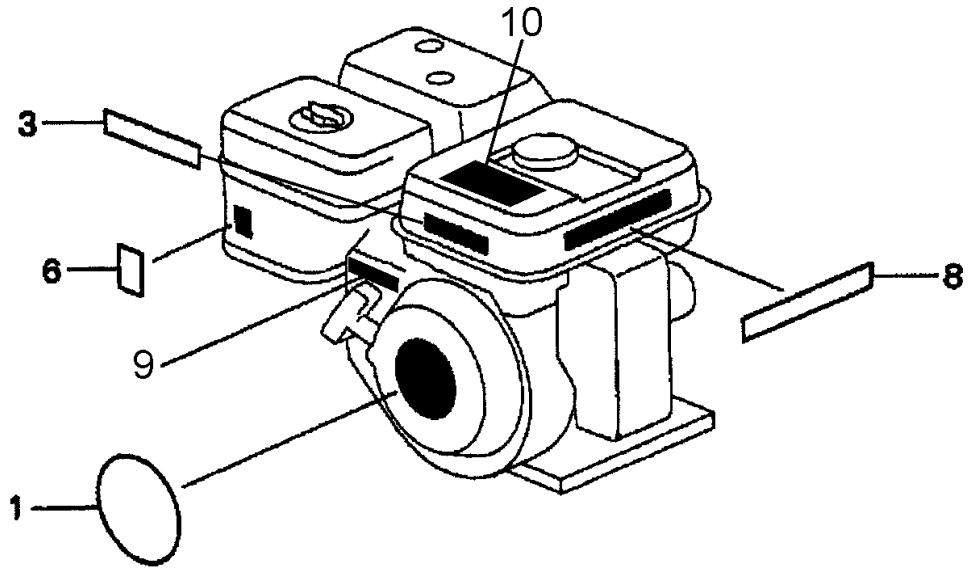


HONDA GX160K1QMX2/GX160U1QMX2 ENG. — GASKET KIT ASSY.

GASKET KIT ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	06111ZH8405	GASKET KIT	1	INCLUDES ITEMS W/@
2@	11381ZH8801	GASKET, CASE COVER	1	
3@	12251ZF1800	GASKET, CYLINDER HEAD	1	
4@	12391ZE1000	GASKET, CYLINDER HEAD COVER	1	
5@	16212ZH8800	GASKET, INSULATOR	1	
6@	16221ZH8801	GASKET, CARBURETOR	1	
7@	18381ZH8800	GASKET, MUFFLER	1	

HONDA GX160K1QMX2/GX160U1QMX2 ENG. — LABELS ASSY.



HONDA GX160K1QMX2/GX160U1QMX2 ENG. — LABELS ASSY.

LABELS ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1⨯	87521ZH8010	EMBLEM (5.5)	1	S/N 7438467 AND BELOW
1⨯	87521ZH8020	EMBLEM (5.5)	1	S/N 7438468 ~8367036
1⨯	87521ZH8030	EMBLEM (5.5)	1	S/N 8367036 AND ABOVE
1◊	87521ZH8030	EMBLEM (5.5)	1	
3	87522ZH9010	LABEL, CAUTION	1	
6⨯	87528ZE1810	MARK, CHOKE	1	
6◊	57528ZH7000	MARK, CHOKE (GRAY)	1	
8	87532ZH8810	MARK, OIL ALERT (E)	1	
9◊	87532ZH7000	MARK, THROTTLE INDICATION	1	
10◊	87516ZH7000	MARK, OPERATOR CAUTION ENGLISH	1	

NOTICE

⨯ GX160K1QMX2: Model MVC-90H S/N N-5696 AND BELOW

◊ GX160U1QMX2: Model MVC-90H S/N N-5697 AND ABOVE

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

NOTES

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 (800) 537-3927

MQ Parts Department

800-427-1244
310-537-3700

Fax: 800-672-7877
Fax: 310-637-3284

Service Department

800-421-1244
310-537-3700

Fax: 310-537-4259

Warranty Department

800-421-1244
310-537-3700

Fax: 310-537-1173

Technical Assistance

800-478-1244

Fax: 310-943-2238

MEXICO

MQ Cipsa

Carr. Fed. Mexico-Puebla KM 126.5
Momoxpan, Cholula, Puebla 72760 Mexico
Contact: pmastretta@cipsa.com.mx

Tel: (52) 222-225-9900
Fax: (52) 222-285-0420

UNITED KINGDOM

Multiquip (UK) Limited Head Office

Unit 2, Northpoint Industrial Estate,
Globe Lane,
Dukinfield, Cheshire SK16 4UJ
Contact: sales@multiquip.co.uk

Tel: 0161 339 2223
Fax: 0161 339 3226

CANADA

Multiquip

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

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

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.

The information and specifications included in this publication were in effect at the time of approval for printing. Illustrations, descriptions, references and technical data contained in this manual are for guidance only and may not be considered as binding. Multiquip Inc. reserves the right to discontinue or change specifications, design or the information published in this publication at any time without notice and without incurring any obligations.

Your Local Dealer is:

MULTIQUIP®