

# PARTS AND OPERATION MANUAL

## **MULTIQUIP** **Model GA-3.6 HZ** **A.C. GENERATOR**

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Revision #3 (03/16/05)



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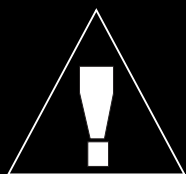
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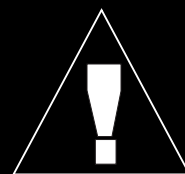
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**SERVICE DEPARTMENT/TECHNICAL ASSISTANCE:**

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FAX: 310-631-5032



# 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.

## **HERE'S HOW TO GET HELP**

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

### ***PARTS DEPARTMENT***

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### NOTE

*Specification and part number  
are subject to change without  
notice.*

## PARTS ORDERING PROCEDURES

- 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 Ground
  - UPS Second Day or Third Day\*
  - UPS Next Day\*
  - Federal Express Priority One (please provide us with your Federal Express account number)\*
  - Airborne Express\*
  - Truck or parcel post

*\*Normally shipped the same day the order is received, if prior to 2PM west coast time.*

## Earn Extra Discounts when you order by FAX!

All parts orders which include complete part numbers and are received by fax qualify for the following extra discounts:

| <u>Number of<br/>line items ordered</u> | <u>Additional Discount</u> |
|-----------------------------------------|----------------------------|
| 1-9 items                               | 3%                         |
| 10+ items**                             | 5%                         |

### Get special freight allowances when you order 10 or more line items via FAX! \*\*

- UPS Ground Service at no charge for freight
- PS Third Day Service at one-half of actual freight cost

No other allowances on freight shipped by any other carrier.

\*\*Common nuts, bolts and washers (all items under \$1.00 list price) do not count towards the 10+ line items.

\*DISCOUNTS ARE SUBJECT TO CHANGE\*

Fax order discount and UPS special programs revised June 1, 1995

**Extra Fax Discount  
for Domestic USA  
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### CAUTION:



Failure to follow instructions in this manual may lead to serious injury or even death! This equipment is to be operated by trained and qualified personnel only! This equipment is for industrial use only.

The following safety guidelines should always be used when operating the GA-3.6HZ Generator:

#### GENERAL SAFETY

- **DO NOT** operate or service this equipment before reading this entire manual.
- This equipment should not be operated by persons under 18 years of age.
- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, steel-toed boots and other protective devices required by the job.
- This generator is a source of potentially **LETHAL** high voltage. Never permit unqualified personnel-especially children to operate the generator.
- Always refuel in a well-ventilated area, away from sparks and open flames.
- Always use extreme caution when working with **flammable** liquids. When refueling, **stop the engine** and allow it to cool. **DO NOT smoke** around or near the machine. Fire or explosion could result from fuel vapors, or if fuel is spilled on a hot engine.
- This generator is equipped with a **ground terminal** for your protection. Always complete the grounding path from the generator to an external grounding source.
- **NEVER** operate this generator, or handle any electrical equipment while standing in **water, while bare foot, while hands are wet, or in the rain**. *Electrical shock could occur causing severe bodily harm or even death.*
- Keep electrical cords in good condition. Worn, bare or frayed wiring can cause electrical shock, leading to *bodily harm or even death*.
- This generator requires an adequate free flow of cooling air. Never operate the generator in any enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause serious damage to the generator and may cause injury to people.
- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing generator.

- Provide adequate ventilation when operating the generator. **DO NOT** operate the generator in any enclosed or narrow space. The generator's gasoline engine gives off **DEADLY** carbon monoxide gas.
- **NEVER** operate the generator in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe *bodily harm or even death*.
- Always make sure that the generator is secure on level ground so that it cannot slide or shift around, endangering workers. Also keep the immediate area free of bystanders.
- When using a concrete vibrator or a similar device that is immersed in a water based solution, make sure the device is equipped with short circuit protection.
- Always use rubber boots and gloves when operating a concrete vibrator or similar device.
- Use adequate size connecting cable for extension.
- Maintain electrical cords in good condition and frequently replace the entire cable of the concrete vibrator with a new one.
- **High Temperatures** – Allow the machine and engine to cool before adding fuel or performing service and maintenance functions. Contact with *hot* components can cause serious burns.

#### Emergencies

- Always know the location of the nearest **fire extinguisher** and **first aid kit**. Know the location of the nearest telephone. Also know the phone numbers of the nearest **ambulance, doctor** and **fire department**. This information will be invaluable in the case of an emergency.

#### Maintenance Safety

- **NEVER** lubricate components or attempt service on a running machine.
- Always allow the machine a proper amount of time to cool before servicing.
- Keep the machinery in proper running condition.
- Fix damage to the machine immediately and always replace broken parts.
- 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

# OPERATION AND SAFETY DECALS

## Machine Safety Decals

The GA-3.6 HZ portable generator is equipped with a number of safety decals. These decals are provided for operator safety and maintenance information. The illustration below shows these decals as they appear on the machine. Should any of these decals become unreadable, replacements can be obtained from your dealer.



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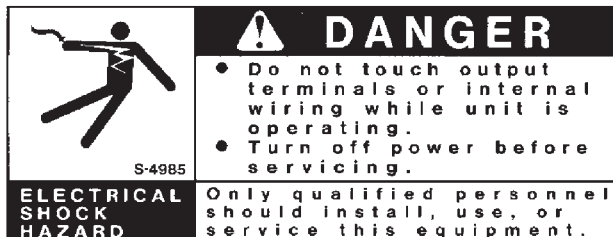
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## OPERATING INSTRUCTIONS

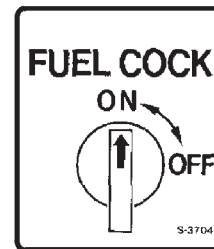
1. Before starting check the oil and fuel level.
2. Switch the circuit breaker to the "OFF" position.
3. Open the fuel valve.
4. Pull the choke knob.
5. Turns the operation switch to the "RUN" position and push
6. Pull the recoil starter.
7. After the engine starts, gradually push in the choke valve.
8. Run the generator for 3-5 minutes without load.
9. Check for any abnormal noise or smell.
10. Switch the circuit breaker to the "ON" position.
11. When stopping, remove the load and allow it to continue to run for 2-3 minutes before stopping engine.
12. Turns the operation switch to the "STOP" position.
13. After the engine completely stops, close the fuel valve.

S-4607

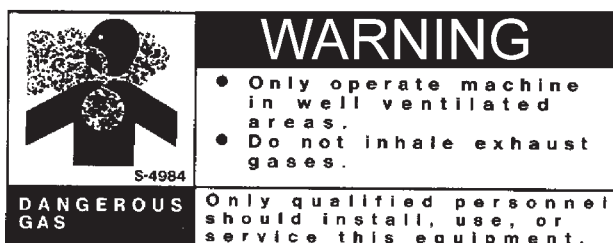
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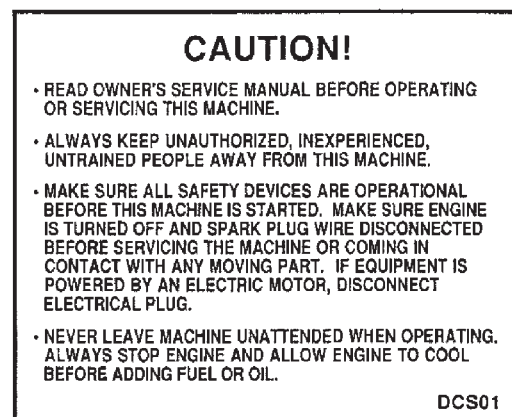
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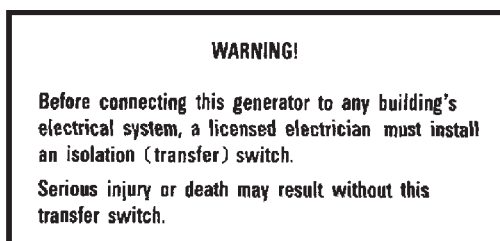
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**Table 1. Specifications**

| <b>MODEL</b>       |                           | <b>GA-3.6 Hz</b>                                                    |
|--------------------|---------------------------|---------------------------------------------------------------------|
|                    | Type                      | 2-pole, Brushless Type Revolving Field                              |
| 60 Cycle Generator | Max. Output               | 3600 Watts                                                          |
|                    | Rated Output (continuous) | 3200 Watts                                                          |
|                    | Rated Voltage             | 120/240 V                                                           |
|                    | Rated Current             | 13.5 Amps                                                           |
|                    | Phase                     | Single Phase (4-wire)                                               |
|                    | Frequency                 | 60 Hz                                                               |
|                    | Rated Speed               | 3600 RPM                                                            |
|                    | Power Factor              | 100%                                                                |
| Engine             | Model                     | Honda GX240K1VD                                                     |
|                    | Type                      | Air-cooled 4 stroke OVH 90 V- Twin horizontal shaft gasoline engine |
|                    | Bore X Stroke             | 2.87 in. X 2.28 in.                                                 |
|                    | Displacement              | 14.81 cc                                                            |
|                    | Max Output                | 8.0 H.P./3600 R.P.M.                                                |
|                    | Fuel Tank Capacity        | Approx. 10 U.S. Gallons                                             |
|                    | Fuel                      | Unleaded Automobile Gasoline                                        |
|                    | Lube Oil Capacity         | 2 1/3 pints                                                         |
|                    | Speed Control Method      | Centrifugal Fly-weight Type                                         |
|                    | Starting Method           | Recoil Start                                                        |
| Dimension (LXWXH)  |                           | 635 X 500 X 480 mm                                                  |
| Dry Net Weight     |                           | 163 lbs (74 Kg.)                                                    |

**Effects of Altitude and Heat**

The maximum output of the engine listed above is applicable to supplying electrical power for continuous service at ambient conditions in accordance with SAE Test cord J607. The above ambient conditions are at standard sea level, with a barometric reading of 29.92 inches and a temperature of 60 degrees fahrenheit.

Generally, the engine output power will decrease 3 1/2% for each 1000 feet of altitude above sea level, and 1% for each 10° F fahrenheit above the standard temperature of 60° F

### WARNING:



Before connecting this generator to any building's electrical system, a licensed electrician must install an isolation (transfer) switch.

Serious injury or death may result without this transfer switch.

### GA-3.6 HZ FAMILIARIZATION

#### Generator

The Multiquip Model GA-3.6 HZ generator has been designed as a portable lightweight power source for 60 Hz (single-phase) vibrators, lighting facilities, power tools, submersible pumps and other industrial and construction machinery.

This generator is powered by a **HONDA** gasoline engine. The alternator, a brushless revolving-field type, is permanently aligned to the engine through rigid coupling.

The generator is mounted on rubber vibration isolators that have a steel base backplate which is attached to the protective steel pipe carrying frame. The protective carrying frame is made of steel tubing and fully wraps around the generator to protect against damage.

This portable generator is supplied with a electrical **control box**. To reduce vibration caused by the engine, the control box is also placed on rubber isolators.

#### Control Box

The control box has the following: (all outputs are 60 Hz, single phase)

- One 120V output receptacle.
- One 240V output receptacle.
- One 120V output receptacle (GFI protected).
- One main 13.5 amp circuit breaker.
- AC Voltmeter
- Idle Control Switch
- Full Power Switch
- Operation Switch

#### Excitation System

All GA-series generators use a magnet attached to a flywheel to produce AC voltage from a lamp coil beneath the flywheel. As the magnet passes the coil it produces approximately 19-22 AC volts.

This voltage (19-22 VAC) is then sent to the control box that contains three rectifying diodes:

- Excitation (diode 1)
- Battery (diode 2)
- Slow Down (diode 3)

The AC voltage will pass through the excitation diode that converts the voltage to DC power.

This DC power is then sent to the excitation windings housed within the main windings commonly called the "stator".

This voltage is then transferred into the rotor through induction. The rotor contains two diodes within it which rectify the DC voltage and send it out through the main windings, as AC voltage.

#### Engine

The four-cycle air-cooled HONDA gasoline engine is designed to meet every performance requirement of this generator. Reference Table 1, page 8 for engine specifications.

Figure 1 (page 10) shows the basic controls and indicators for the GA-3.6 HZ generator.

#### NOTE

In keeping with Multiquip's policy of constantly improving its products, the specifications quoted herein are subject to change without prior notice.

# GA-3.6 HZ — CONTROLS AND INDICATORS

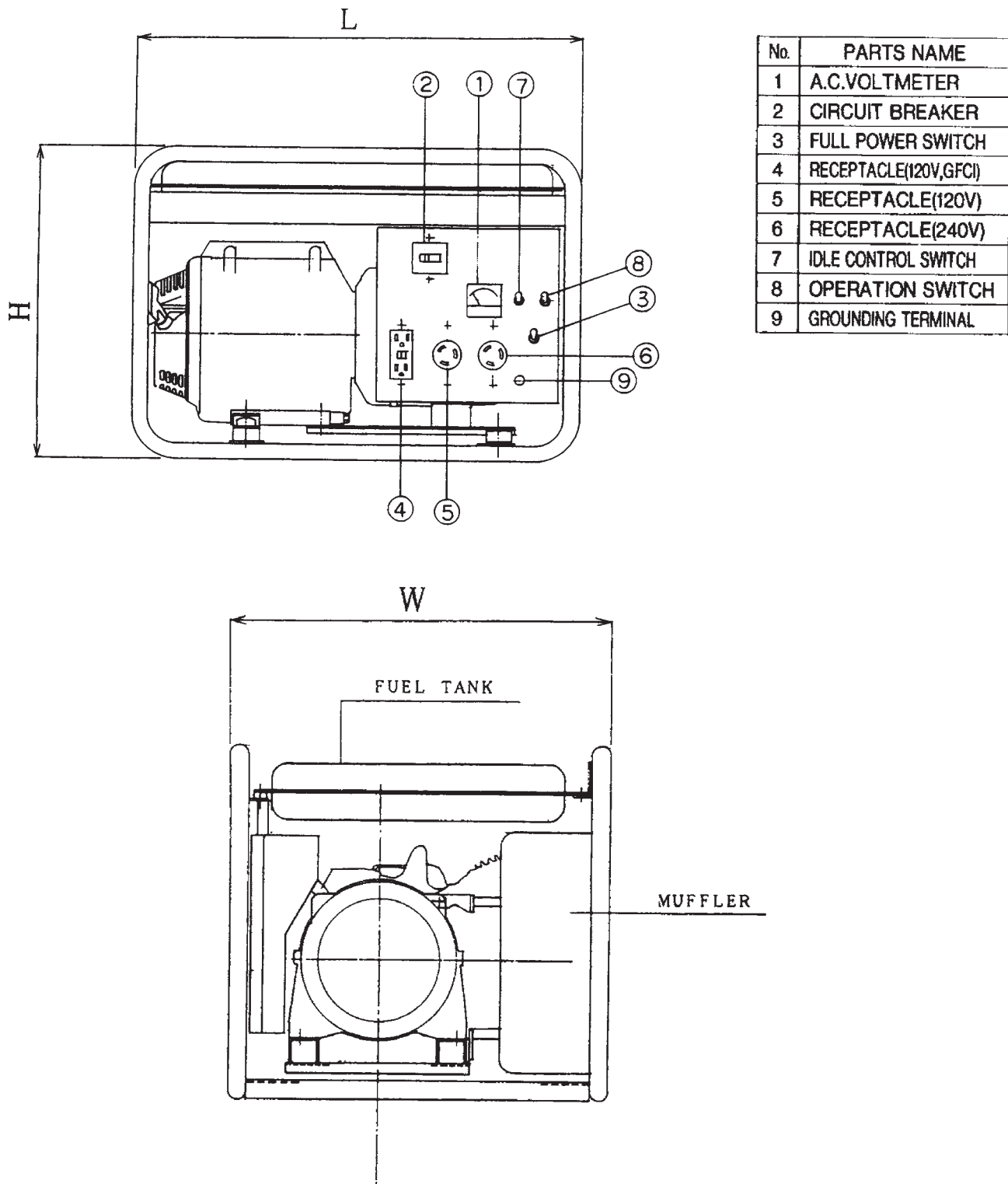


Figure 1. Controls and Indicators

### Outdoor Installation

Install the generator in a location where it will not be exposed to rain or sunshine. Make sure that the generator is on secure level ground so that it cannot slide or shift around. Also install the generator in a manner so that the exhaust will not be discharged in the direction of nearby homes.

The installation site must be relatively free from moisture and dust. All electrical equipment should be protected from excessive moisture. Failure to do so will result in deterioration of the insulation and will result in short circuits and grounding.

Foreign materials such as dust, sand, lint and abrasive materials have a tendency to cause excessive wear, not only to the engine parts, but also to the alternator parts.

### CAUTION :



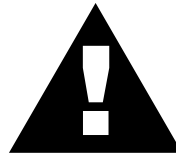
Pay close attention to ventilation when operating the generator inside confined areas. The engine exhaust contains noxious elements.

### Indoor Installation

Exhaust gases from gasoline engines are extremely poisonous. Whenever an engine is installed indoors the exhaust fumes must be vented to the outside. The engine should be installed at least two feet from any outside wall. Using an exhaust pipe which is too long or too small can cause excessive back pressure which will cause the engine to heat excessively and possibly burn the valves.

Eliminate the danger of deadly carbon monoxide gas. Remember that exhaust fumes from any gasoline engine are very poisonous if discharged in a closed room, but harmless if allowed to mix with the outside air. If the generator is installed indoors, you must make provisions for venting the engine exhaust to the outside of the building.

### CAUTION :



An electric shock is apt to happen when vibrators are used. Pay close attention to handling when operating vibrators and always use rubber boots and gloves to insulate the body from a short circuit.

## General Inspection Prior to Operation

This generator has been thoroughly inspected and accepted prior to shipment from the factory. However, be sure to check for damaged parts or components, or loose nuts and bolts, which could have occurred in transit.

## Ground

The nut and ground terminal on the generator should always be used to connect the generator to a suitable ground. The ground path should be of #8 size wire.

Connect the terminal of the ground wire between the lock washer and the nut and tighten the nut fully. Connect their end of the wire to a suitable ground.

## Circuit Breaker

To protect the generator from an overload, a 2-pole 13.5 amp circuit breaker is provided on the control box. Make sure to switch this circuit breaker to the "OFF" position prior to starting the engine.

## Extension Cable

When electric power is to be provided to various tools or loads at some distance from the generator, extension cords are normally used. Cables should be sized to allow for distance in length and amperage so that the voltage drop between the generator and point of use (load) is held to a minimum. Use the cable selection chart (Table 2 ) as a guide for selecting proper cable size.

**Table 2. Cable Selection (60 Hz, single phase operation)**

| Current<br>in<br>Amperes                               | Load In Watts   |                 | Maximum Allowable Cable Length |          |          |          |
|--------------------------------------------------------|-----------------|-----------------|--------------------------------|----------|----------|----------|
|                                                        | At 120<br>Volts | At 240<br>Volts | #10 Wire                       | #12 Wire | #14 Wire | #16 Wire |
| 2.5                                                    | 300             | 600             | 1000 ft.                       | 600 ft.  | 375 ft.  | 250 ft.  |
| 5                                                      | 600             | 1200            | 500 ft.                        | 300 ft.  | 200 ft.  | 125 ft.  |
| 7.5                                                    | 900             | 1800            | 350 ft.                        | 200 ft.  | 125 ft.  | 100 ft.  |
| 10                                                     | 1200            | 2400            | 250 ft.                        | 150 ft.  | 100 ft.  |          |
| 15                                                     | 1800            | 3600            | 150 ft.                        | 100 ft.  | 65 ft.   |          |
| 20                                                     | 2400            | 4800            | 125 ft.                        | 75 ft.   | 50 ft.   |          |
| CAUTION: Equipment damage can result from low voltage. |                 |                 |                                |          |          |          |

**Lubrication Oil**

Fill the engine crankcase with lubricating oil through the filler hole, but do not overfill. Make sure the generator is level. With the dipstick inserted all the way, but without being screw into the filler hole, verify that the oil level is maintained between the two notches on the dipstick.

The oil listed in Table 3 is recommended to ensure better engine performance. Use class SC or higher grade motor oil.

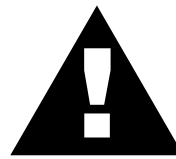
**Fuel**

Close the fuel cock before filling the tank. Fill the fuel tank with clean and fresh unleaded gasoline. Do not fill the tank beyond capacity.

Pay attention to the fuel tank capacity when replenishing fuel. Refer to the fuel tank capacity listed on page 8 Specification Table1.

The fuel tank cap must be closed tightly after filling.

Handle fuel in a safety container. If the container does not have a spout, use a funnel.

**CAUTION :**

Never fill the fuel tank while the engine is running or in the dark. Gasoline spillage on a hot engine can cause a fire or explosion. If gasoline spillage occurs, wipe up the spilled gasoline completely to prevent fire hazards.

**Table 3. Recommended Motor Oil**

| <b>Temperature Range</b>         | <b>Type Oil</b>       |
|----------------------------------|-----------------------|
| 104° F ~ 23° F<br>(40° C ~ -5°C) | SAE 30                |
| 23° F ~ 5° F<br>(-5° C ~ -15°C)  | SAE 20 or sae 10W-30  |
| Below 5° C (-15°)                | SAE 10W or SAE 10W-30 |

### CAUTION :



When using a combination of dual receptacles, total load should not exceed the rated capacity of the generating.

#### Power Outlets

The generator has the following 120/240 volt 60 Hz (single-phase) receptacles.

- Single Phase
  - One Duplex NEMA (GFCI) 5-20R (120V, 20 Amp)
  - One Twist Lock NEMA L5-30R (120V, 30 Amp)
  - One Twist Lock NEMA L6-20R (240V, 20 Amp)

#### Main Circuit Breaker (2-Pole 120/240V 60 Hz)

This 2-pole 13.5 amp breaker protects the generator from short circuiting or overloading from the 120/240V 60 Hz single phase load.

#### Idle Control Switch

This unit is provided with an automatic idle control for noise suppression and reduced fuel consumption. The automatic idle control automatically engages under a no-load condition. With the automatic idle control switched “ON”, the engine revolutions will automatically drop to about 2500 rpm (low-speed operation) within 3 seconds after the load stops. When the operation is resumed, the engine speed is automatically increased to about 3600 rpm (high-speed operation) as soon as the load is connected.

#### Fuel Gauge

The fuel gauge is located on the fuel tank and allows easy monitoring of the fuel level.

#### AC Voltmeter

This voltmeter indicates (with a mark) the rated 60 Hz, single phase output voltage. In addition the voltmeter can also be used as a diagnostic tool.

If the voltmeter indicator (needle) is below the rated voltage, engine problems may exist (low/high RPM's). To prevent damage to the generator or power tools turn the generator OFF and consult your authorized Multiquip service dealer.

### Single Phase Load

Always be sure to check the nameplate on the generator and equipment to insure the wattage, amperage and frequency requirements are satisfactorily supplied by the generator for operating the equipment.

Generally, the wattage listed on the nameplate of the equipment is its rated output. Equipment may require 130—150% more wattage than the rating on the nameplate, as the wattage is influenced by the efficiency, power factor and starting system of the equipment.

#### NOTE

If wattage is not given on the equipment's name plate, approximate wattage may be determined by multiplying nameplate voltage by the nameplate amperage.

WATTS = VOLTAGE x AMPERAGE

To determine the running wattage for your load, multiply the running wattage as indicated by steps 1, 2, and 3 below:

#### 1. INCANDESCENT LOADS

Lights, heaters and similar appliances.

Total the running wattage and multiply by 1.

Example:

29 light bulbs @ 100W each = 2.9 KW

use a 3 KW generator.

#### 2. SMALL MOTORS

Drills and other small power tools.

Total the running wattage and multiply by 2.

Example:

A 1 inch drill runs at 1 KW

use a 2 KW generator.

#### 3. LARGE MOTORS

Submersible pumps, table saws etc.

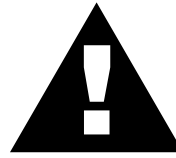
Total the running wattage and multiply by 3.

Example:

A conveyor belt runs at 8 KW

use a 24 KW generator.

### CAUTION:



Motors and motor-driven equipment draw much greater current for starting than during operation.

An inadequate size connecting cable which cannot carry the required load can cause a voltage drop which can burn out the appliance or tool and overheat the cable.

The idle control is operated at minimum load capacity of 100W. If the load capacity is less than 100W, throw the idle control switch to the OFF position.

## GA-3.6 HZ — OPERATING INSTRUCTIONS

### Before Starting

1. Be sure to disconnect the electrical load and switch the main circuit breaker to the "OFF" position prior to starting the engine.
2. Never start the engine with the main circuit breaker "ON".
3. Check the lubricating oil level prior to starting the engine. Make sure the generator is level. The oil level must be maintained between two notches on the dipstick.
4. When there is not enough lubricating oil, fill the crankcase with high grade motor oil. Use a high quality detergent oil classified SC, SD or SE. (See Table 3 on page 13)

### CAUTION:



- NEVER start the engine when the oil level is below the lower mark on the dipstick.
- Check the fuel level on the fuel gauge. When fuel is low, fill the fuel tank with clean fresh unleaded automotive gasoline.
- If gasoline spillage occurs, completely wipe up the spilled gasoline.

### Starting

1. Place the idle control switch in the "ON" (up) position.
2. Close the choke. Adjust the opening of the choke valve according to operating conditions. When the engine is warm or the air temperature is high, close the choke valve halfway or open it all the way.
3. Confirm that the main circuit breaker on the generator control box is "OFF".
4. Set the operation switch to the "ON" position and grasp the starting rope and slowly pull it out. The resistance becomes hardest at a certain position, corresponding to the compression point. Rewind the rope a little from that point and pull out sharply.
5. If the engine fails to start, repeat the procedure.

### CAUTION:

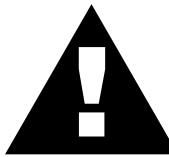


- DO NOT pull the starter rope all the way to the end.
- DO NOT release the starter rope after pulling. Allow it to rewind as soon as possible.

### Warm up

1. When the engine starts, open the choke slowly.
2. Run the engine at low speed for 3 minutes without load until the engine warms up.
3. Turn the idle control switch to the "OFF" (down) position and check the voltage by referring to the voltmeter on the control box.

### CAUTION:



**DO NOT** change the engine speed control lever which has been set at the factory prior to shipping.

1. Check the generator for abnormal noise and smells. Then connect the load to the receptacles of the generator.
2. Switch the main circuit breaker to the "ON" position and turn the idle control switch to the "ON" (down) position for normal (load) engine operation.

### Operation

Check the voltage by referring to the voltmeter on the control box. When the voltmeter indicates 120 volts, 120 volts from the 120V receptacles and 240 volts from the 240V receptacle can be obtained at the same time. Refer to Figure 1, Controls and Indicators, item 4 on page 10.

### Stopping the Engine

### CAUTION:



**NEVER** stop the engine suddenly while running at high speeds.

1. Remove the load from the generator. Place the circuit breaker in the "OFF" position. Refer to Figure 1, item 5 on page 10. Run the engine (no-load) with the idle control switch set to the ON position for three to five minutes, then stop the engine.
2. Turn the START/STOP switch to the "STOP" position.
3. Never stop the engine suddenly while running at high speed.
4. Close the fuel cock.

### General Inspection

At least daily or prior to each use, the generating set should be cleaned and inspected for deficiencies. Check for loose, missing or damaged nuts, bolts or other fasteners. Also check for fuel or oil leaks.

### Engine Side (Refer to the Engine Instruction Manual)

#### Check Oil Level

Check the crankcase oil level prior to each use, or when the fuel tank is filled. Make sure the generating set is level. The oil level must be between the two notches on the dipstick.

#### Changing Oil

Change oil after the first 20 hours of operation. Drain and refill the engine crankcase every 50 operating hours or once a week thereafter. Drain crankcase oil into a suitable container while engine is still warm. Replace the drain plug tightly. Add oil through the filler hole.

#### Air Cleaner

Every 50 hours: Remove air cleaner element (std. or heavy duty types), and wash in kerosene or liquid detergent and hot water. Wrap foam element in a cloth and squeeze dry. Wipe heavy duty paper element dry with toweling. Saturate element with kerosene; squeeze excess from foam element. Wipe excess from heavy duty paper element.

### Service Daily

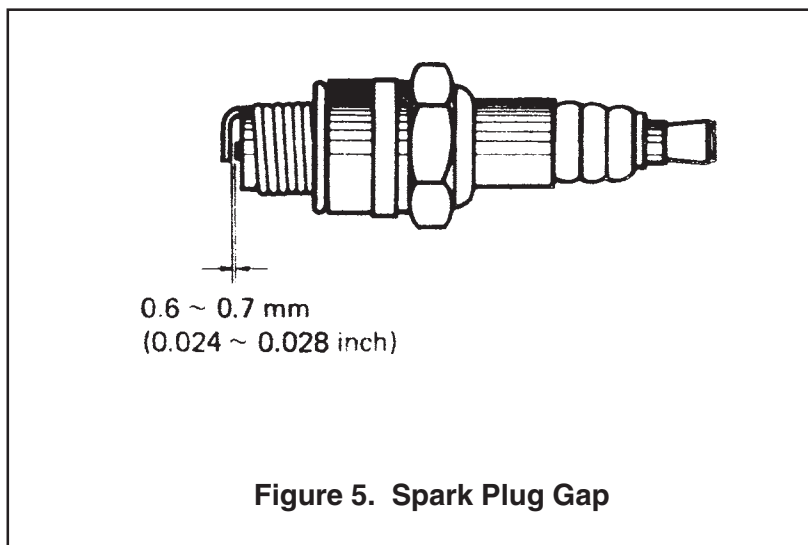
If engine is operating in very dusty and dry grass conditions. A clogged air cleaner will result in high fuel consumption, loss of power and excessive carbon buildup in the combustion chamber.

#### Cleaning the Fuel Strainer

Clean the fuel strainer if it contains dust or water. Remove dust or water in the strainer cap and wash it in gasoline. Securely fasten the fuel strainer cap so that fuel will not leak. Check the fuel strainer every 200 hours of operation or once a month.

#### Spark Plug

Remove carbon build-up on the spark plug (Figure 5) with a wire brush. Set the spark plug gap to 0.6—0.7mm (0.024-0.028 inch). Tighten with a spark plug socket wrench. Clean the spark plug every 50 operating hours or once a week.



## GA-3.6 HZ — PREPARATION FOR LONG -TERM STORAGE

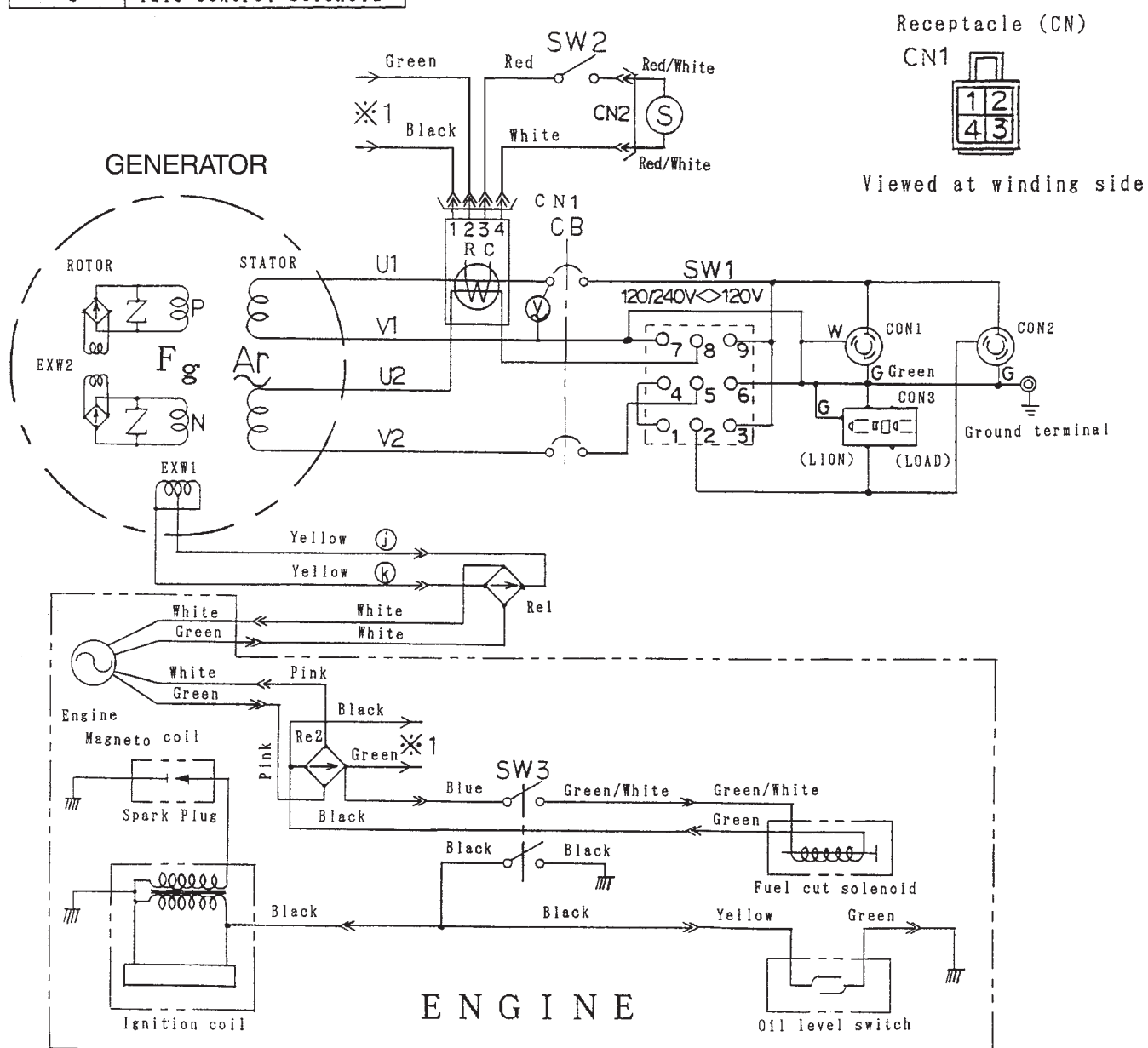
### Generator Storage

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

- Drain the fuel tank completely.
- Run the engine until the gasoline in the carburetor is completely consumed.
- Completely drain the oil from the crankcase and refill with fresh oil.
- Remove the spark plug, pour 2 or 3 cc of SAE 30 oil into the cylinder and crank slowly to distribute the oil.
- Slowly rotate the engine a few times with the starter Rope and install a new plug.
- Pull out the starter rope slowly and stop at the compression point.
- Clean all external parts of the generating set with a cloth.
- Cover the generating set and store in a clean, dry place.

# GA-3.6 HZ — WIRING DIAGRAM

| SYMBOL | PARTS NAME            |
|--------|-----------------------|
| Ar     | Armature Winding      |
| Fg     | Field Winding         |
| EXW1~2 | Excitation Winding    |
| CON1   | Receptacle for 120V   |
| CON2   | Receptacle for 240V   |
| CON3   | Receptacle for 120V   |
| V      | AC-Voltmeter          |
| Rel~2  | Rectifier             |
| CB     | Circuit Breaker       |
| SW1    | Full Power Switch     |
| SW2    | Idle Control Switch   |
| SW3    | Operation Switch      |
| RC     | Idle Control Device   |
| S      | Idle Control Solenoid |



## GA-3.6 HZ — 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 5) information shown below and on the proceeding 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 5. ENGINE TROUBLESHOOTING**

| SYMPTOM                                    | POSSIBLE PROBLEM                                                    | SOLUTION                                                                                                                      |
|--------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Poor starting                              | Inspect carburetor to see if fuel is reaching it?                   | Check fuel line                                                                                                               |
|                                            | No Fuel?                                                            | Add Fuel                                                                                                                      |
|                                            | Water in fuel tank?                                                 | Flush or replace fuel tank.                                                                                                   |
|                                            | Fuel filter clogged?                                                | Replace fuel filter                                                                                                           |
|                                            | Stuck carburetor?                                                   | Check float mechanism.                                                                                                        |
|                                            | Spark plug is red?                                                  | Spark plug is fouled. Check transistor ignition unit.                                                                         |
|                                            | Spark plug is blue-white?                                           | Insufficient compression, injected air leaking. Carburetor jets are clogged (overflow).                                       |
|                                            | No spark present at tip of spark plug?                              | Transistor ignition unit broken, high voltage cord cracked or broken. Start/Stop switch broken. Replace spark plug if fouled. |
|                                            | No oil?                                                             | Add oil as required.                                                                                                          |
|                                            | Oil pressure alarm lamp blinks upon starting?                       | Check Automatic shutdown circuit "oil sensor".                                                                                |
| Insufficient power output "no compression" | Engine will not turn over?                                          | Replace cylinder and piston and if necessary axel joint.                                                                      |
|                                            | Cylinder head connecting bolts loose?                               | Tighten cylinder head connecting bolts.                                                                                       |
|                                            | Cylinder head gasket damaged?                                       | Replace cylinder head gasket.                                                                                                 |
|                                            | Malfunction of valve seat?                                          | Re-seat valves.                                                                                                               |
|                                            | Spark plug is loose?                                                | Replace spark plug.                                                                                                           |
|                                            | Worn piston rings?                                                  | Replace piston rings.                                                                                                         |
| Insufficient power output "compression"    | Malfunction in air-cleaner system, air filter clogged?              | Clean or replace air filter.                                                                                                  |
|                                            | Air leaking in from interface between carburetor and cylinder head? | Tighten bolts between carburetor and cylinder head. Replace cylinder head gasket.                                             |
|                                            | Malfunction in fuel system?                                         | Clean or replace fuel filter.<br>Clean or replace carburetor.<br>Check carburetor float.                                      |

## GA-3.6 HZ — TROUBLESHOOTING (ENGINE)

**TABLE 5. ENGINE TROUBLESHOOTING (CONTINUED)**

| <b>SYMPTOM</b>                                           | <b>POSSIBLE PROBLEM</b>                               | <b>SOLUTION</b>                                                 |
|----------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------|
| Insufficient power output<br>"compression" and overheats | Malfunction in cooling fan?                           | Check or replace cooling fan.                                   |
|                                                          | Air in-take filter clogged?                           | Clean or replace air in-take filter.                            |
| Burns to much fuel                                       | Over accumulation of exhaust products?                | Clean and check valves.<br>Check muffler, replace if necessary. |
|                                                          | Wrong spark plug?                                     | Replace spark plug with manufactures suggested type spark plug. |
| Exhaust color is continiously<br>"WHITE"                 | Lubricating oil is wrong viscosity?                   | Replace lubricating oil with correct viscosity.                 |
|                                                          | Worn rings?                                           | Replace rings                                                   |
| Exhaust color is continiously<br>"BLACK"                 | Air cleanner clogged?                                 | Clean or replace air cleaner.                                   |
|                                                          | Choke valve has not been set to the correct position? | Adjust choke valve to the correct position.                     |
|                                                          | Carburetor defective, seal on carburetor broken?      | Replace carburetor or seal.                                     |
|                                                          | Poor carburetor adjustment<br>"engine runs too rich?" | Adjust carburetor.                                              |

## GA-3.6 HZ — TROUBLESHOOTING (GENERATOR)

Practically all generator 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 Generator Troubleshooting (Table 6) information shown below and on the preceding 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 6. GENERATOR TROUBLESHOOTING**

| SYMPTOM                                                                           | POSSIBLE PROBLEM                         | SOLUTION                                                                 |
|-----------------------------------------------------------------------------------|------------------------------------------|--------------------------------------------------------------------------|
| Low voltage                                                                       | Engine speed too low?                    | Raise engine speed to rated RPM.                                         |
| Low voltage. Engine speed normal 3650 RPM (unloaded), 2500 RPM (idle)             | AC voltmeter not working?                | Replace Ac voltmeter.                                                    |
|                                                                                   | Control box internal wiring malfunction? | Check control box wiring.                                                |
|                                                                                   | Defective ignition coil?                 | Check red and green ignition wires. Replace ignition wires if necessary. |
|                                                                                   | Rotor winding malfunction?               | Check or replace rotor.                                                  |
|                                                                                   | Stator winding malfunction?              | Check or replace stator.                                                 |
|                                                                                   | Leakage breaker malfunction?             | Check or replace CB1 or CB2.                                             |
|                                                                                   | Full power switch malfunction?           | Check full power switch and full power switch circuit.                   |
| Voltage output too high.                                                          | Engine speed too high?                   | Lower engine speed to rated RPM.                                         |
| Voltage output too high. Engine speed normal 3650 RPM (unloaded), 2500 RPM (idle) | Control box internal wiring malfunction  | Check control box wiring.                                                |
| Circuit breaker will not turn on "NO LOAD"                                        | Defective circuit breaker?               | Replace circuit breaker.                                                 |
| Circuit breaker will turn on "LOADED" but trips immediately.                      | Overload?                                | Reduce load or replace breaker.                                          |
|                                                                                   | Load circuit is shorted?                 | Check load circuit for short.                                            |
| Does not accelerate from low to high "NO LOAD"                                    | Stuck solenoid?                          | Check solenoid.                                                          |
|                                                                                   | Bad Idle control switch?                 | Check or replace idle control switch.                                    |
| Does not accelerate from low to high "LOAD ACTIVE"                                | Idle control switch malfunction?         | Check or replace idle control switch.                                    |
|                                                                                   | Idle control device malfunction?         | Check or replace idle control device.                                    |
|                                                                                   | Control box internal wiring defective?   | Check control box wiring.                                                |

## GA-3.6 HZ — TROUBLESHOOTING (GENERATOR)

**TABLE 6. GENERATOR TROUBLESHOOTING (CONTINUED)**

| SYMPTOM                                       | POSSIBLE PROBLEM                 | SOLUTION                                                    |
|-----------------------------------------------|----------------------------------|-------------------------------------------------------------|
| Does not decelerate no "VOLTAGE OUTPUT".      | Defective rotor windings?        | Check or replace rotor.                                     |
|                                               | Defective solenoid?              | Check or replace solenoid.                                  |
|                                               | Defective idle control device?   | Check or replace idle control device.                       |
|                                               | Defective solenoid?              | Check or replace idle control device.                       |
| Does not decelerate but has "VOLTAGE OUTPUT". | Control box wiring malfunction?  | Check control box wiring, replace any defective components. |
|                                               | Defective solenoid?              | Check or replace solenoid.                                  |
|                                               | Idle control device malfunction? | Check or replace idle control device.                       |

## GA-3.6 HZ — EXPLANATION OF CODE IN REMARKS COLUMN

How to read the marks and remarks used in this parts book.

### Items Found In the “Remarks” Column

Serial Numbers-Where indicated, this indicates a serial number range (inclusive) where a particular part is used.

Model Number-Where indicated, this shows that the corresponding part is utilized only with this specific model number or model number variant.

### Items Found In the “Items Number” Column

All parts with same symbol in the number column, \*, #, +, %, or ■, belong to the same assembly or kit.

#### NOTE

If more than one of the same reference number is listed, the last one listed indicates newest (or latest) part available.

#### NOTE

*The contents of this catalog are subject to change without notice.*

## GA-3.6 HZ — SUGGESTED SPARE PARTS

### GA-3.6HZ 1 TO 5 UNITS WITH HONDA GX240K1VD ENGINE

#### *1 to 5 Units*

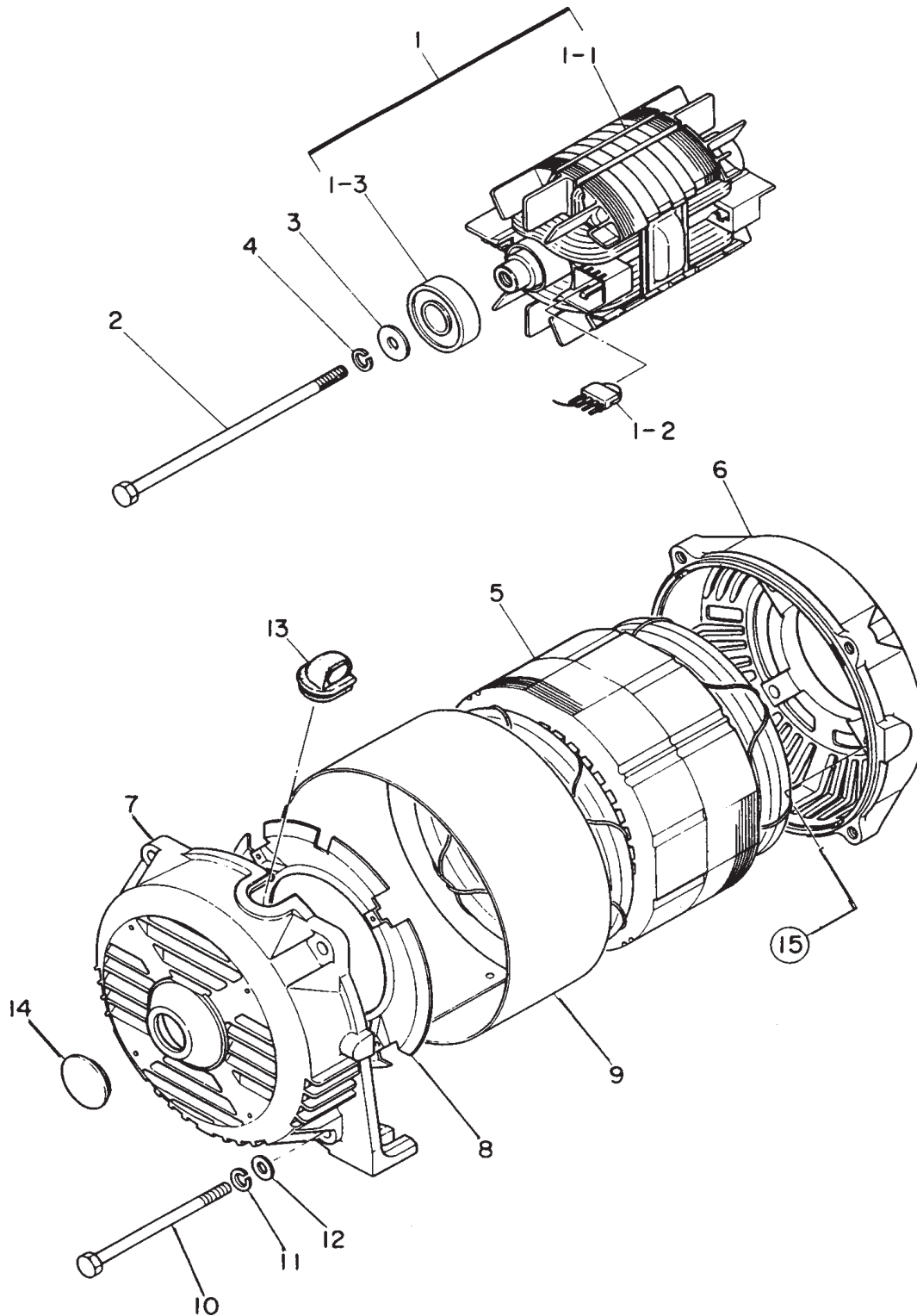
| Qty.    | P/N                | Description           |
|---------|--------------------|-----------------------|
| 5 ..... | 9807955846 .....   | SPARK PLUG            |
| 1 ..... | 15510ZE2W01 .....  | OIL LEVEL SWITCH      |
| 1 ..... | 15600735700 .....  | DIPSTICK              |
| 1 ..... | 28400ZEW01ZB ..... | RECOIL STARTER        |
| 5 ..... | 17211899000 .....  | ELEMENT AIR           |
| 1 ..... | 16100ZEF00 .....   | CARBURETOR ASSY.      |
| 1 ..... | 16950ZB4015 .....  | FUEL COCK ASSY.       |
| 5 ..... | 0810107103 .....   | FUEL FILTER           |
| 2 ..... | 0810106004 .....   | CAP, FUEL TANK        |
| 2 ..... | 0601805327 .....   | CIRCUIT BREAKER       |
| 3 ..... | 0601823204 .....   | RECTIFIER             |
| 2 ..... | 0601812597 .....   | RECEPTACLE            |
| 2 ..... | 0601811031 .....   | RECEPTACLE, 125V, 30A |
| 2 ..... | 0601811032 .....   | RECEPTACLE, 250V 20A  |

#### NOTE

Part numbers on this Suggested Spare Parts List may supercede/replace the P/N shown in the text pages of this book.

## GA-3.6 HZ — GENERATOR ASSY.

### GENERATOR ASSY.



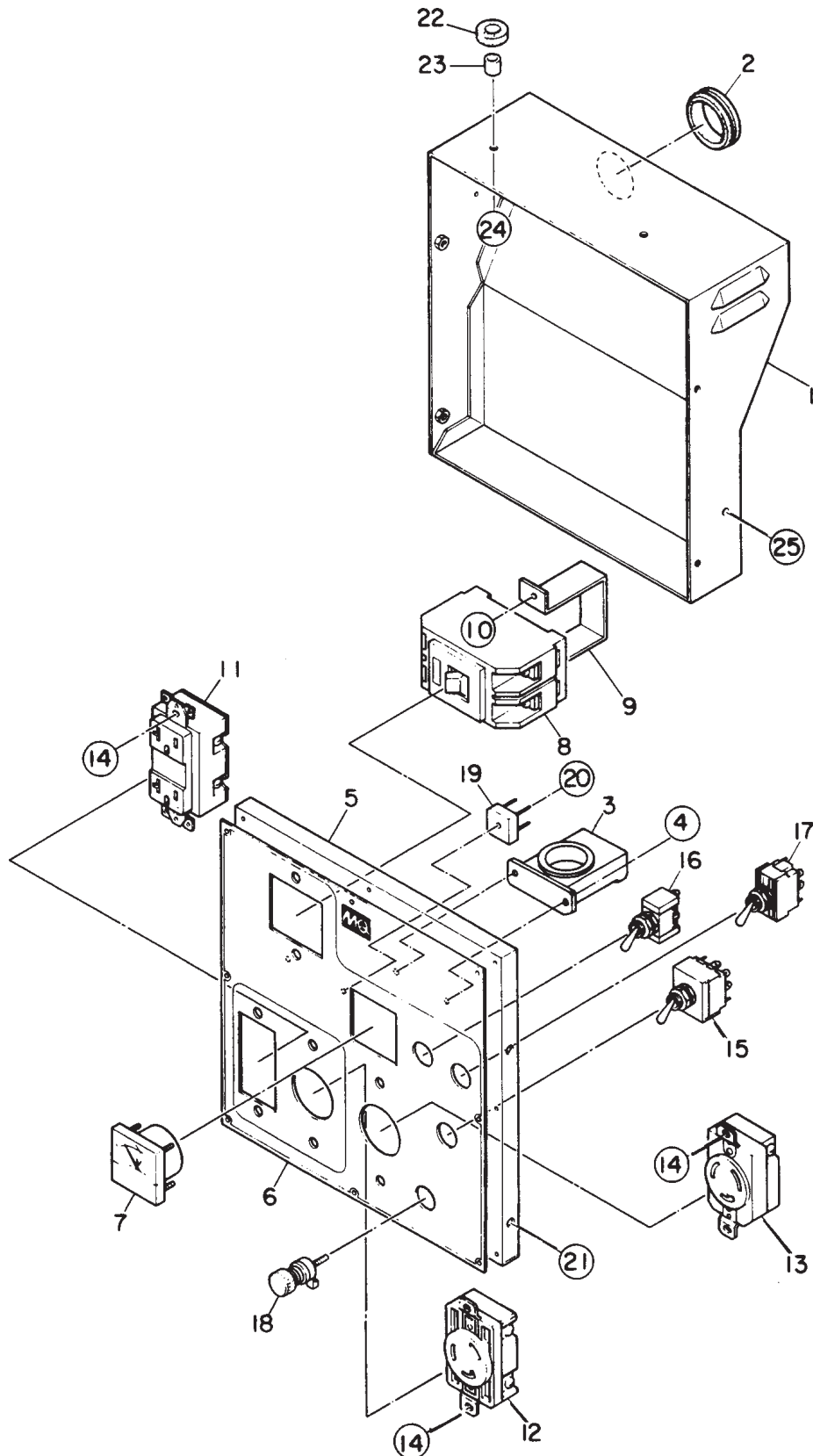
## GA-3.6 HZ — GENERATOR ASSY.

### GENERATOR ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>     | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|----------------------|-------------|----------------|
| 1         | 7911002003     | ROTOR ASS'Y          | 1           |                |
| 1-1       | 7661080003     | FIELD COIL           | 1           |                |
| 1-2       | 0601823207     | RECTIFIER            | 2           | D3SB60(S)      |
|           | 0771706304     | SURGE ABSORBER       | 2           | TNR15G431K     |
| 1-3       | 0771017004     | BEARING              | 1           | 6304 2RUNYCM   |
| 2         | 7911017004     | SET BOLT, ROTOR      | 1           |                |
| 3         | 0801086104     | SET WASSHER, BEARING | 1           |                |
| 4         | 0040010000     | SPRING WASHER        | 1           |                |
| 5         | 7911344003     | ARMATURE ASS'Y       | 1           |                |
| 6         | 7901315502     | END BRACKET          | 1           |                |
| 7         | 7871315022     | END BRACKET          | 1           |                |
| 8         | 7875021513     | GUIDE PANEL, AIR     | 1           |                |
| 9         | 7661331003     | COVER                | 1           |                |
| 10        | 7911316004     | SET BOLT, STATOR     | 4           |                |
| 11        | 0040008000     | SPRING WASHER        | 4           |                |
| 12        | 0041208000     | PLAIN WASHER         | 4           |                |
| 13        | 7871329514     | GROMMET              | 1           |                |
| 14        | 0601851760     | CAP                  | 1           | 0B-13          |
| 15        | 0010108020     | HEX. HEAD BOLT       | 4           |                |
|           | 0040008000     | SPRING WASHER        | 4           |                |

## GA-3.6 HZ — CONTROL BOX ASSY.

## CONTROL BOX ASSY.

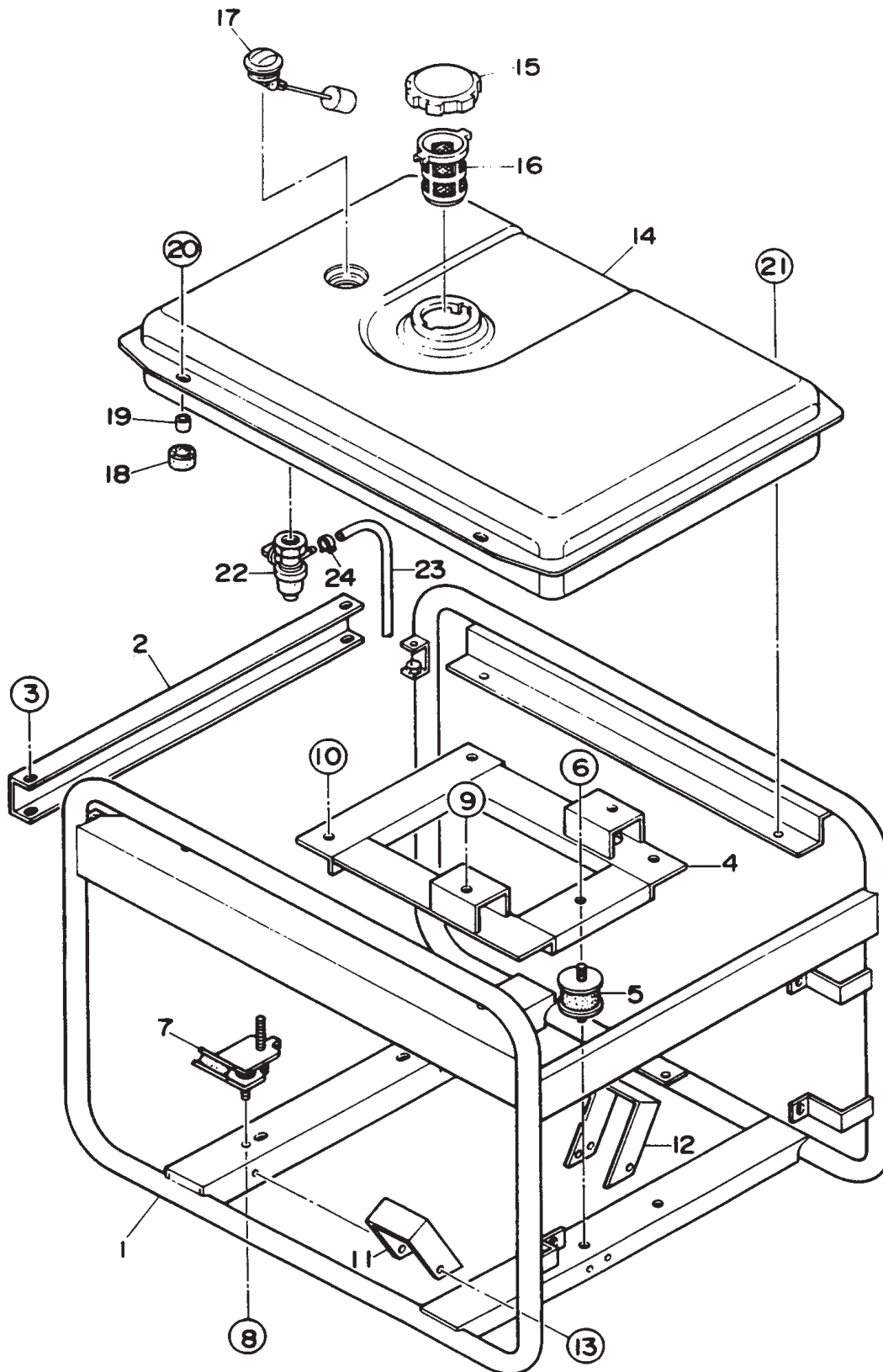


## GA-3.6 HZ — CONTROL BOX ASSY.

### CONTROL BOX ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>         | <u>QTY.</u> | <u>REMARKS</u>         |
|-----------|----------------|--------------------------|-------------|------------------------|
| 1         | 7911811403     | CONTROL BOX              | 1           |                        |
| 2         | 0601850102     | GROMMET                  | 1           | G-3                    |
| 3         | 0601823853     | SLOW DOWN UNIT           | 1           | ND-80                  |
| 4         | 0027104010     | MACHINE SCRE             | 2           |                        |
|           | 0207004010     | HEX. NUT                 | 2           |                        |
| 5         | 7911821413     | CONTROL PANEL            | 1           |                        |
| 6         | 7910501212     | NAME PLATE               | 1           | N5431B uptoS/N.2975451 |
|           | 7910501222     | NAME PLATE               | 1           | N-5431CfrS/N..2975452  |
| 7         | 0601800258     | AC VOLTMETER             | 1           | 8283:0-120V.0-240V     |
| 8         | 0601805327     | CIRCUIT BREAKER          | 1           | KM-2:265V,13.5A        |
| 9         | 4341817004     | BRACKET, CIRCUIT BREAKER | 1           |                        |
| 10        | 0027104010     | MACHINE SCREW            | 2           |                        |
| 11        | 0601812597     | RECEPTACLE               | 1           | 5-20R,GF5352(GFCI)     |
| 12        | 0601811035     | RECEPTACLE               | 1           | L5-30R:125V,30A        |
| 13        | 0601811032     | RECEPTACLE               | 1           | L6-20R:250V,20A        |
| 14        | 0027104010     | MACHINE SCREW            | 6           |                        |
|           | 0207004000     | HEX. NUT                 | 6           |                        |
| 15        | 0601830737     | FULL POWER SWITCH        | 1           | ET1330D12              |
| 16        | 0601830727     | IDLE CONTROL SWITCH      | 1           | ET115A12               |
| 17        | 0601830738     | OPERATION SWITCH         | 1           | ET210K12               |
| 18        | 0601815109     | GROUND TERMINAL          | 1           | T-381                  |
| 19        | 0601823204     | RECTIFIER                | 2           | S5VB60                 |
| 20        | 0027103020     | MACHINE SCREW            | 2           |                        |
| 21        | 0017105010     | HEX. HEAD BOLT           | 4           |                        |
| 22        | 0805088004     | RUBBER CUSHION           | 2           |                        |
| 23        | 0805088304     | COLLAR                   | 2           |                        |
| 24        | 0017106020     | HEX. HEAD BOLT           | 2           |                        |
| 25        | 0017106016     | HEX. HEAD BOLT           | 1           |                        |

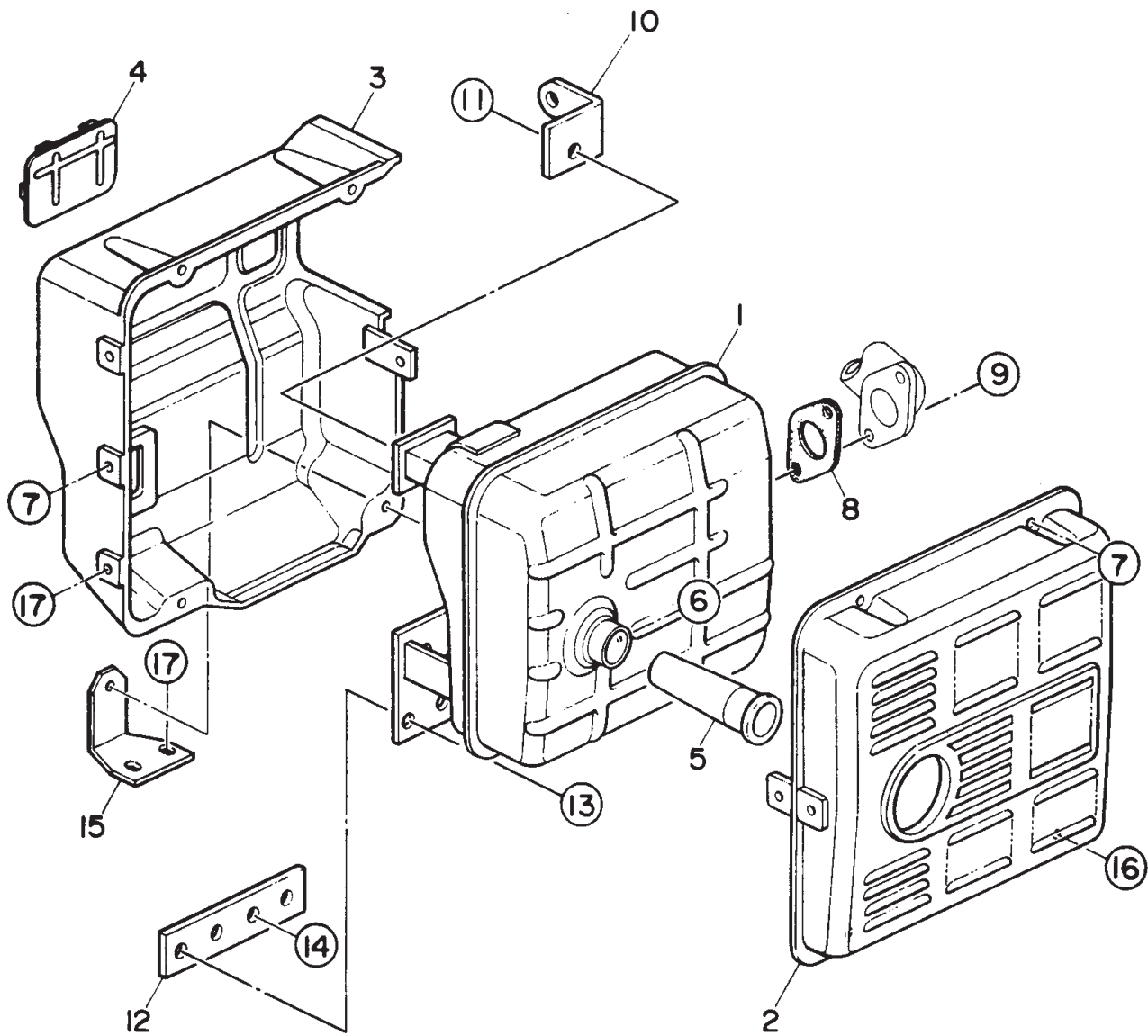
## PIPE FRAME ASSY.



## PIPE FRAME ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>  | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|-------------------|-------------|----------------|
| 1         | 7915412002     | PIPE FRAME        | 1           |                |
| 2         | 7915415004     | BRACKET           | 1           |                |
| 3         | 0017106016     | HEX. HEAD BOLT    | 4           |                |
| 4         | 7915443003     | BASE              | 1           |                |
| 5         | 7895419004     | RUBBER SUSPENSION | 2           |                |
| 6         | 0207008000     | HEX. NUT          | 4           |                |
| 7         | 1725419214     | RUBBER SUSPENSION | 2           |                |
| 8         | 0207008000     | HEX. NUT          | 4           |                |
| 9         | 0017108040     | HEX. HEAD BOLT    | 2           |                |
| 10        | 0017108040     | HEX. HEAD BOLT    | 2           |                |
|           | 0207008000     | HEX. NUT          | 2           |                |
| 11        | 7915455103     | COVER             | 1           |                |
| 12        | 7915455003     | COVER             | 1           |                |
| 13        | 0017106016     | HEX. HEAD BOLT    | 6           |                |
| 14        | 7905512002     | FUEL TANK         | 1           |                |
| 15        | 0810106004     | CAP,FUEL TANK     | 1           |                |
| 16        | 0810107103     | FUEL FILTER       | 1           |                |
| 17        | 0602125031     | FUEL GAUGE        | 1           |                |
| 18        | 7855525514     | RUBBER CUSHION    | 2           |                |
| 19        | 7855525604     | GCOLLAR           | 2           |                |
| 20        | 0017108030     | HEX. HEAD BOLT    | 2           |                |
| 21        | 0017108020     | HEX. HEAD BOLT    | 2           |                |
| 22        | 0605511087     | FUEL COCK         | 1           |                |
| 23        | 0605513140     | HOSE              | 1           |                |
| 24        | 0605515096     | HOSE BAND         | 2           |                |

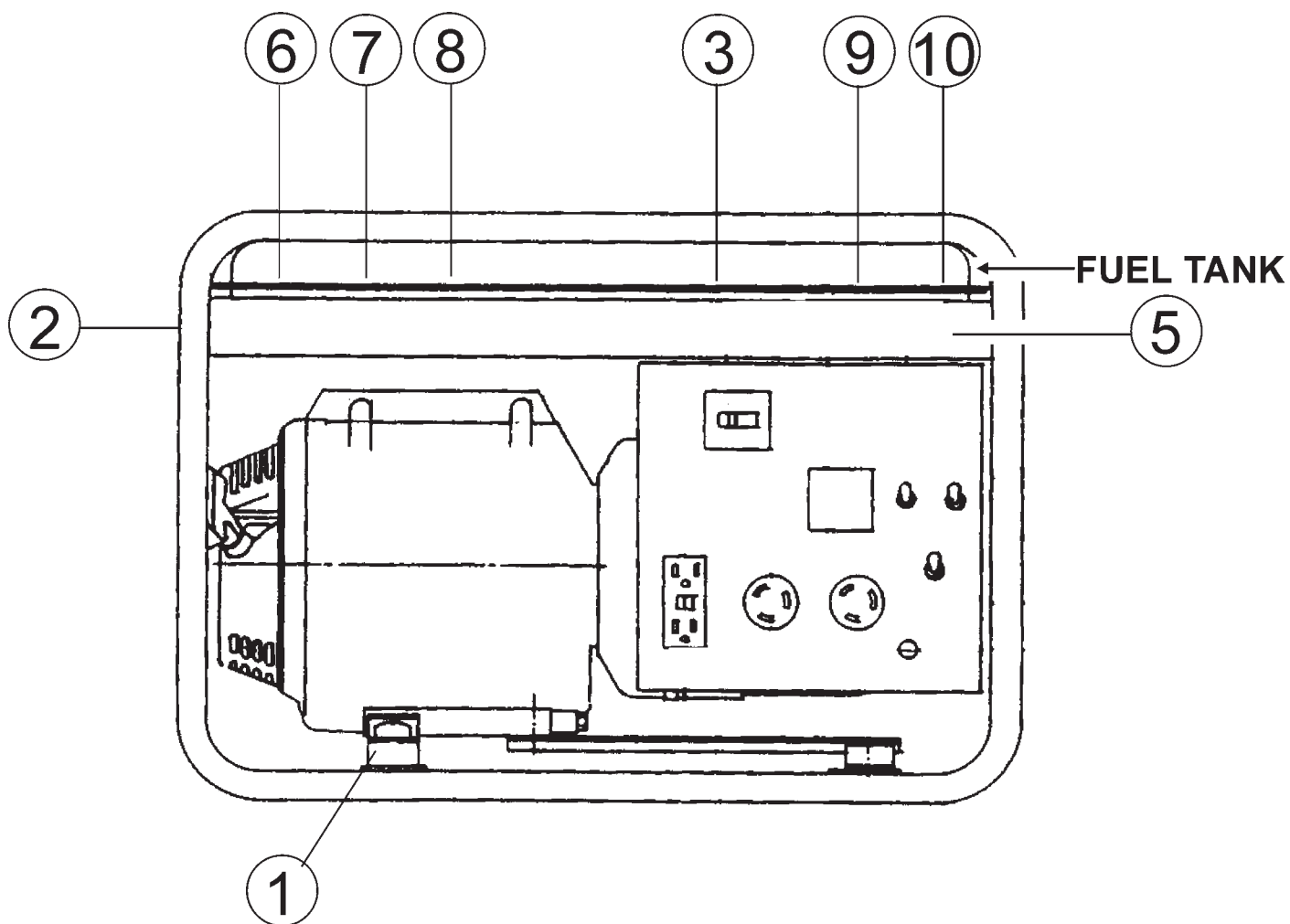
## MUFFLER ASSY.



**MUFFLER ASSY.**

| <b><u>NO</u></b> | <b><u>PART NO</u></b> | <b><u>PART NAME</u></b> | <b><u>QTY.</u></b> | <b><u>REMARKS</u></b> |
|------------------|-----------------------|-------------------------|--------------------|-----------------------|
| 1                | 7912310003            | MUFFLER                 | 1                  |                       |
| 2                | 0602302000            | PROTECTOR, MUFFLER      | 1                  | HONDA18320ZB4000      |
| 3                | 0602302002            | PROTECTOR, MUFFLER      | 1                  | HONDA18325ZB4000      |
| 4                | 0602302003            | SEAL                    | 2                  | HONDA18329ZB4000      |
| 5                | 0602322060            | ARRESTER, SPARK         | 1                  | HONDA18355ZB4630      |
| 6                | 0602322060            | TAPPING SCREW           | 1                  | HONDA90183-671-003    |
| 7                | 0017106012            | HEX. HEAD BOLT          | 5                  |                       |
| 8                | 0602320175            | GASKET                  | 1                  | HONDA18333ZB4800      |
| 9                | 0602322061            | HEX. HEAD BOLT          | 2                  | HONDA95700-08020-00   |
| 10               | 7915461004            | BRACKET                 | 1                  |                       |
| 11               | 0017108020            | HEX. HEAD BOLT          | 1                  |                       |
| 12               | 7915460004            | BRACKET                 | 1                  |                       |
| 13               | 0017108025            | HEX. HEAD BOLT          | 2                  |                       |
|                  | 0207008000            | HEX. NUT                | 2                  |                       |
| 14               | 0017108020            | HEX. HEAD BOLT          | 2                  |                       |
| 15               | 7915469004            | BRACKET                 | 1                  |                       |
| 16               | 0017106020            | HEX. HEAD BOLT          | 1                  |                       |
| 17               | 0017106012            | HEX. HEAD BOLT          | 2                  |                       |

## NAMEPLATE AND DECALS

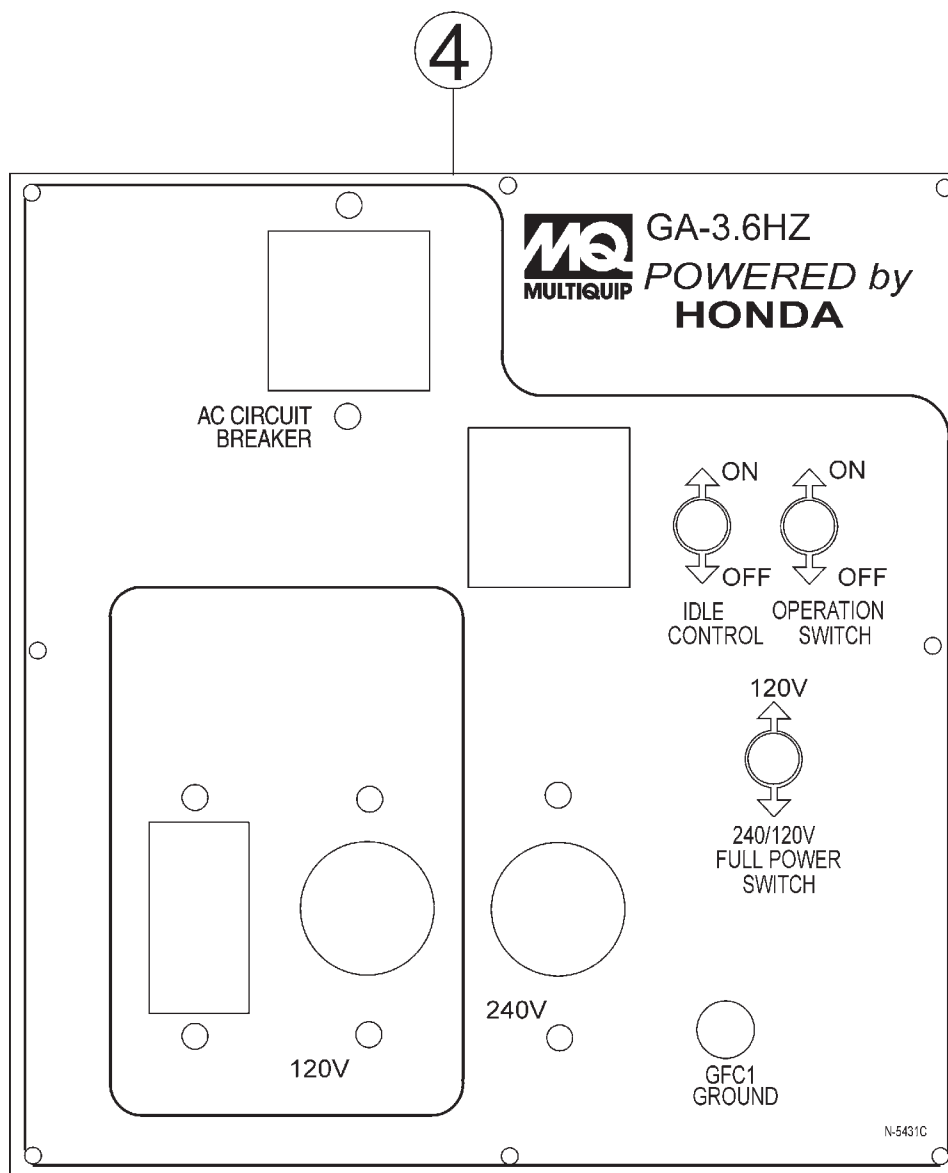


## GA-3.6 HZ—NAMEPLATE AND DECALS

### NAMEPLATE AND DECALS

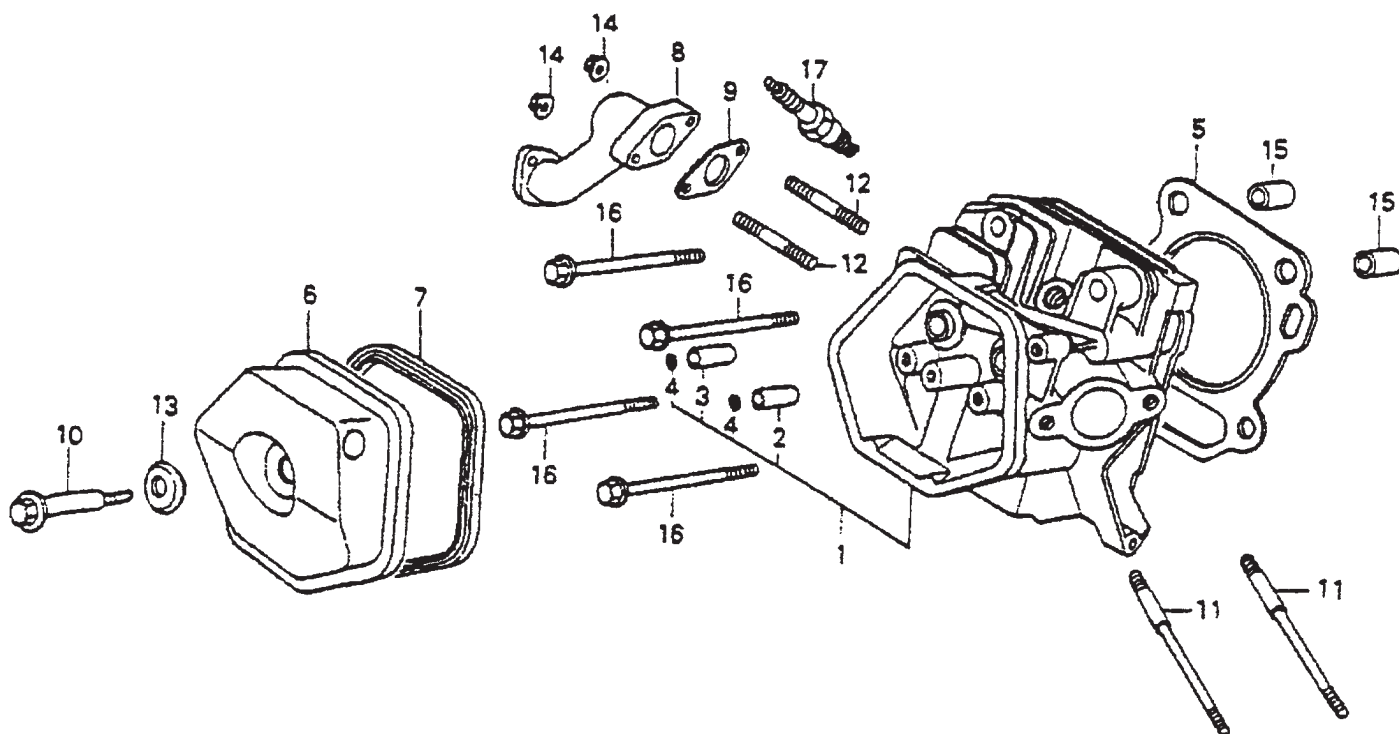
| NO | PART NO    | PART NAME                        | QTY. | REMARKS |
|----|------------|----------------------------------|------|---------|
| 1  | 0800628504 | DECAL : GROUND                   | 1    | S-1123  |
| 2  | 1980680004 | DECAL : FUEL COCK                | 1    | S-3704  |
| 3  | 7900638004 | DECAL : OPERATING INSTRUCTIONS   | 1    | S-4605  |
| 4  | 7910501222 | DECAL : MQ GA-3.6HZ              | 1    |         |
| 5  | 7910631002 | DECAL : MQ 3600                  | 1    | S-3753  |
| 6  | 0820610304 | DECAL : CAUTION                  | 1    |         |
| 7  | 0820610404 | DECAL : WARNING                  | 1    |         |
| 8  | 7900636004 | DECAL : OPERATE AT 3600 RPM ONLY | 1    |         |
| 9  | 8700611804 | DECAL : WARNING                  | 1    |         |
| 10 | 8700611904 | DECAL : DANGER                   | 1    |         |

SEE ADDITIONAL DECAL ILLUSTRATIONS ON PAGE 7.



## HONDA GX240K1 ENGINE — CYLINDER HEAD ASSY.

CYLINDER HEAD ASSY.



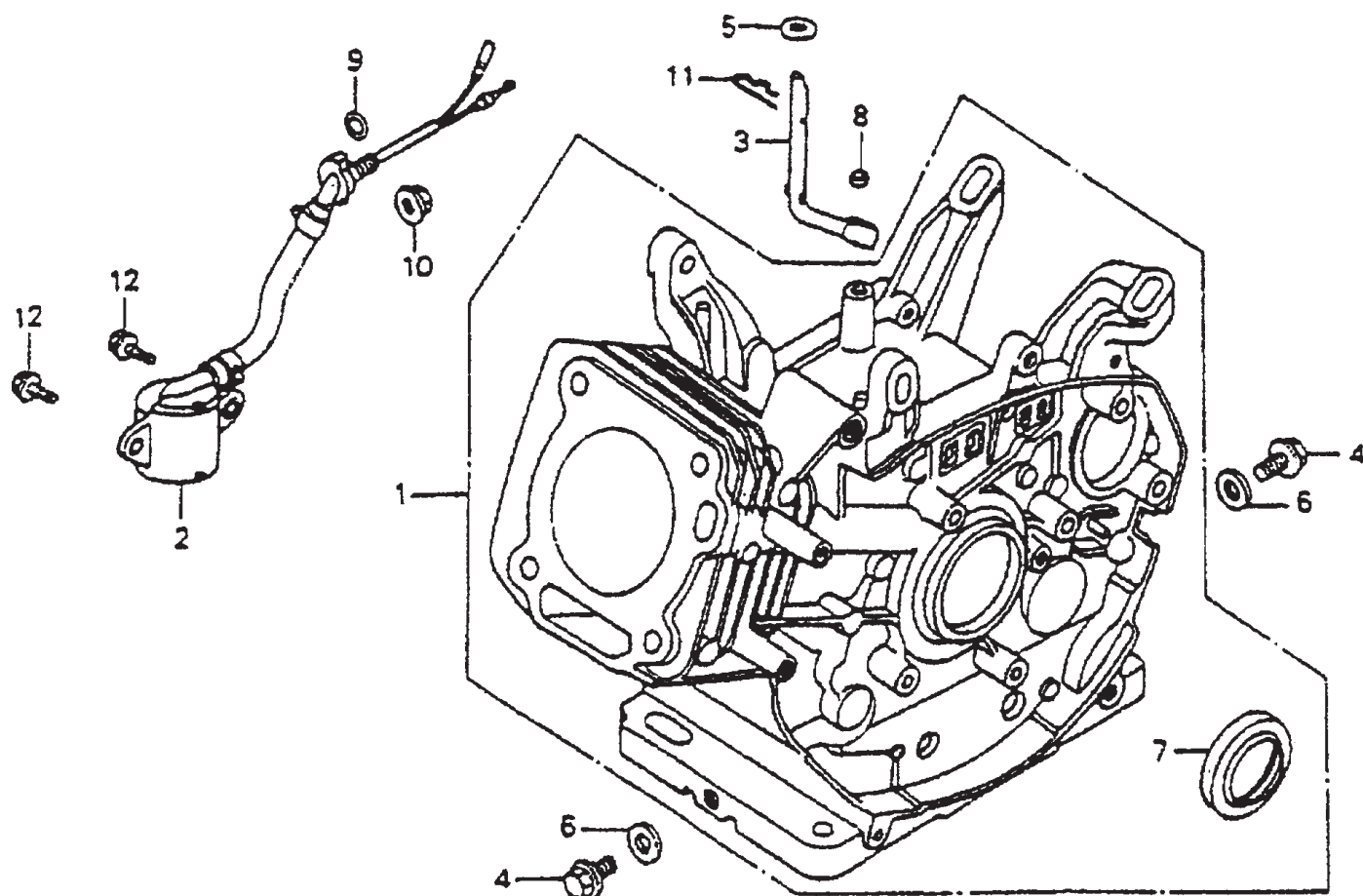
# HONDA GX240K1 ENGINE — CYLINDER HEAD ASSY.

## CYLINDER HEAD ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>             | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|------------------------------|-------------|----------------|
| 1         | 122AOZH9000    | HEAD COMP., CYLINDER         | 1           |                |
| 2         | 12204ZE2325    | GUIDE, IN. VALVE (OVER SIZE) | 1           |                |
| 3         | 12205ZE2315    | GUIDE, EX. VALVE (OVER SIZE) | 1           |                |
| 4         | 12216ZE2300    | CLIP, VALVE GUIDE            | 1           |                |
| 5         | 12251ZE2800    | GASKET, CYLINDER HEAD        | 1           |                |
| 6         | 12310ZE2010    | COVER COMP., HEAD            | 1           |                |
| 7         | 12391ZE2010    | PACKING, HEAD COVER          | 1           |                |
| 8         | 18330ZE3700    | PIPE, EX.                    | 1           |                |
| 9         | 18333ZE3800    | GASKET, EX. PIPE             | 1           |                |
| 10        | 90014ZE2000    | BOLT, HEAD COVER             | 1           |                |
| 11        | 90042ZE2700    | BOLT, STUD, 8X98             | 2           |                |
| 12        | 90047ZE2000    | BOLT, STUD, 8X47             | 2           |                |
| 13        | 90441ZE2010    | WASHER COMP., HEAD COVER     | 1           |                |
| 14        | 9405008000     | NUT, FLANGE, 8MM             | 2           |                |
| 15        | 9430112200     | PIN, DOWEL, 12X20            | 2           |                |
| 16        | 957251008000   | BOLT, FLANGE, 10X80          | 4           |                |
| 17        | 9807955846     | PLUG, SPARK (BPR5ES NGK)     | 1           |                |
|           | 9807955855     | PLUG, SPARK (W16EPR-U ND)    | 1           |                |

## HONDA GX240K1 ENGINE — CYLINDER BARREL ASSY.

CYLINDER BARREL ASSY.



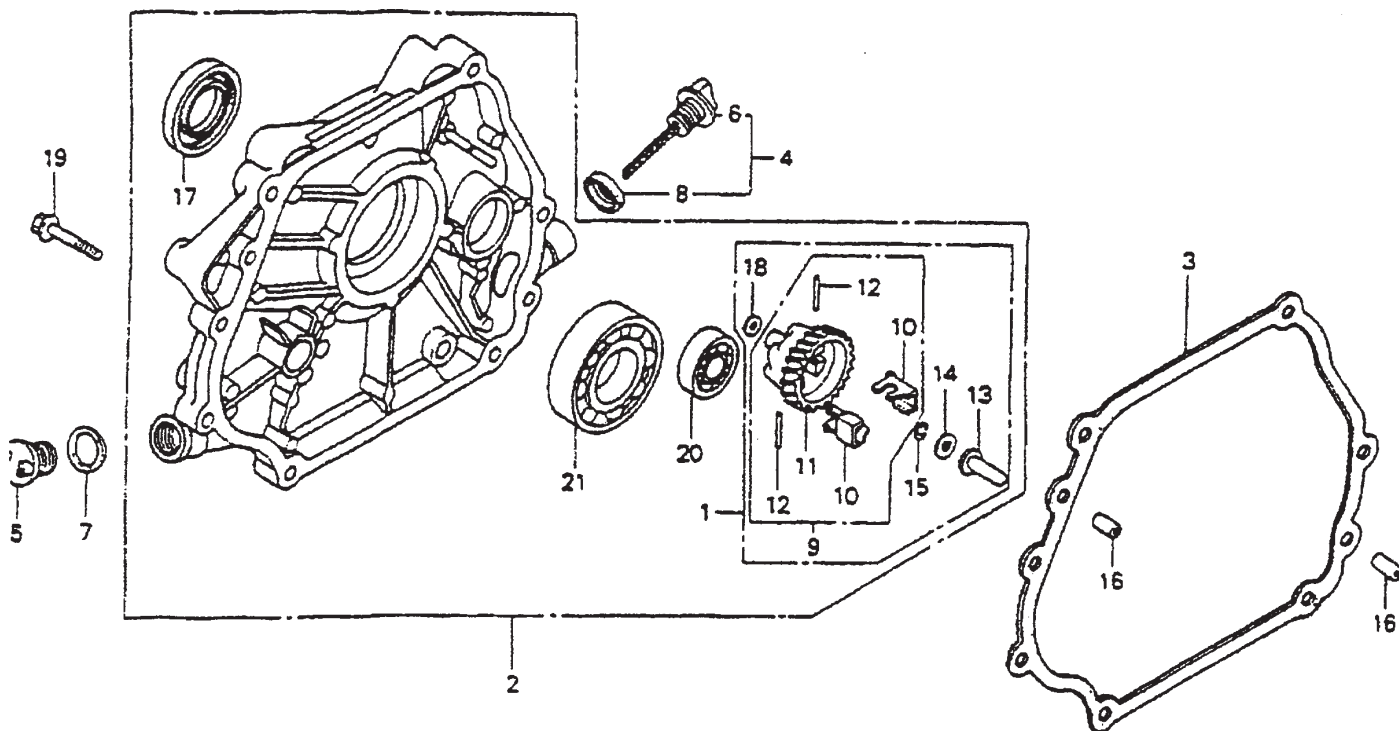
## HONDA GX240K1 ENGINE — CYLINDER BARREL ASSY.

### CYLINDER BARREL ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>        | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|-------------------------|-------------|----------------|
| 1         | 120A0GZE2813   | BARREL ASSY., CYLINDER  | 1           |                |
| 2         | 15510ZE2W01    | SWITCH ASSY., OIL LEVEL | 1           |                |
| 3         | 16541ZE2000    | SHAFT, GOVERNOR ARM     | 1           |                |
| 4         | 90131883000    | BOLT, DRAIN PLUG        | 2           |                |
| 5         | 90446KE1000    | WASHER, 8.2X17X0.8      | 1           |                |
| 6         | 9410912000     | WASHER, DRAIN PLUG      | 2           |                |
| 7         | 91201890003    | OIL SEAL                | 1           |                |
| 8         | 91253671004    | OIL SEAL                | 1           |                |
| 9         | 91353671004    | O RING, 14MM            | 1           |                |
| 10        | 9405010000     | NUT, FLANGE, 10MM       | 1           |                |
| 11        | 9425108000     | PIN, LOCK, 8MM          | 1           |                |
| 12        | 957010601200   | BOLT, FLANGE, 6Z12      | 2           |                |

## HONDA GX240K1 ENGINE — CRANKCASE COVER ASSY.

CRANKCASE COVER ASSY.



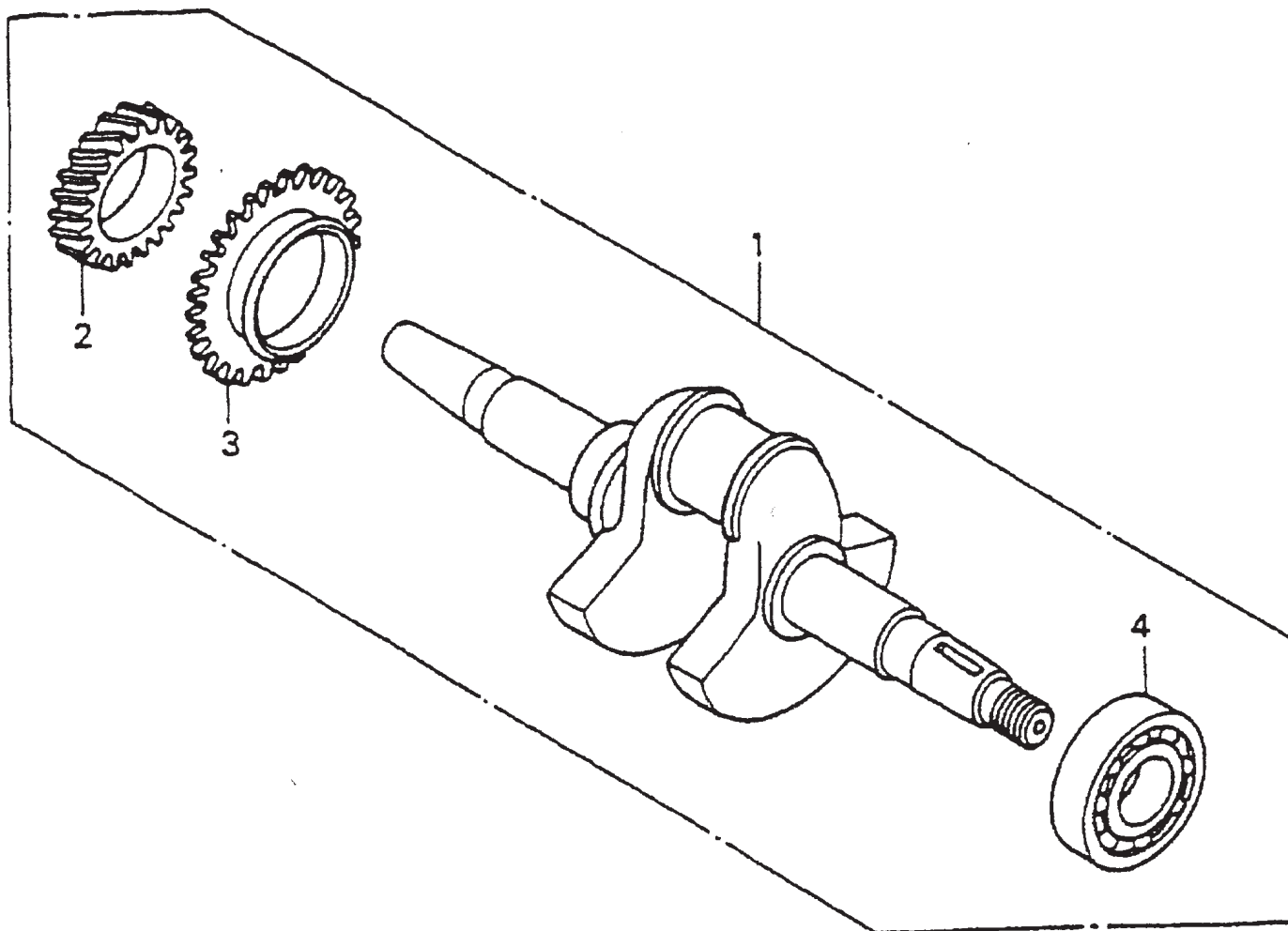
## HONDA GX240K1 ENGINE — CRANKCASE COVER ASSY.

### CRANKCASE COVER ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>          | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|---------------------------|-------------|----------------|
| 1         | 06165ZE2000    | GOVERNOR KIT              | 1           |                |
| 2         | 11300ZE2000    | COVER ASSY., CRANKCASE    | 1           |                |
| 3         | 11381ZE2800    | PACKING, CASE COVER       | 1           |                |
| 4         | 15600735700    | CAP ASSY., OIL FILLER     | 1           |                |
| 5         | 15620ZG4910    | CAP, OIL FILLER           | 1           |                |
| 6         | 15620735700    | CAP, OIL FILLER           | 1           |                |
| 7         | 15621896010    | PACKING, OIL FILLER CAP   | 1           |                |
| 8         | 15625ZE1000    | PACKING, OIL FILLER CAP   | 1           |                |
| 9         | 16510ZE2000    | GOVERNOR ASSY.            | 1           |                |
| 10        | 16511ZE2000    | WEIGHT, GOVERNOR          | 2           |                |
| 11        | 16512ZE2000    | HOLDER, GOVERNOR WEIGHT   | 1           |                |
| 12        | 16513ZE2000    | PIN, GOVERNOR WEIGHT      | 2           |                |
| 13        | 16531ZE2000    | SLIDER, GOVERNOR          | 1           |                |
| 14        | 90473147000    | WASHER, 6X16              | 1           |                |
| 15        | 90602ZE1000    | CLIP, GOVERNOR HOLDER     | 1           |                |
| 16        | 90701HC4000    | PIN, DOWEL, 8X12          | 2           |                |
| 17        | 91201890003    | OIL SEAL, 30X46X8         | 1           |                |
| 18        | 9410106800     | WASHER, PLAIN, 6MM        | 1           |                |
| 19        | 959000803500   | BOLT, FLANGE, 8X35        | 1           |                |
| 20        | 961006206000   | BEARING, RADIAL BALL 6206 | 1           |                |
| 21        | 961006207000   | BEARING, RADIAL BALL 6207 | 1           |                |

## HONDA GX240K1 ENGINE — CRANKSHAFT ASSY.

CRANKSHAFT ASSY.



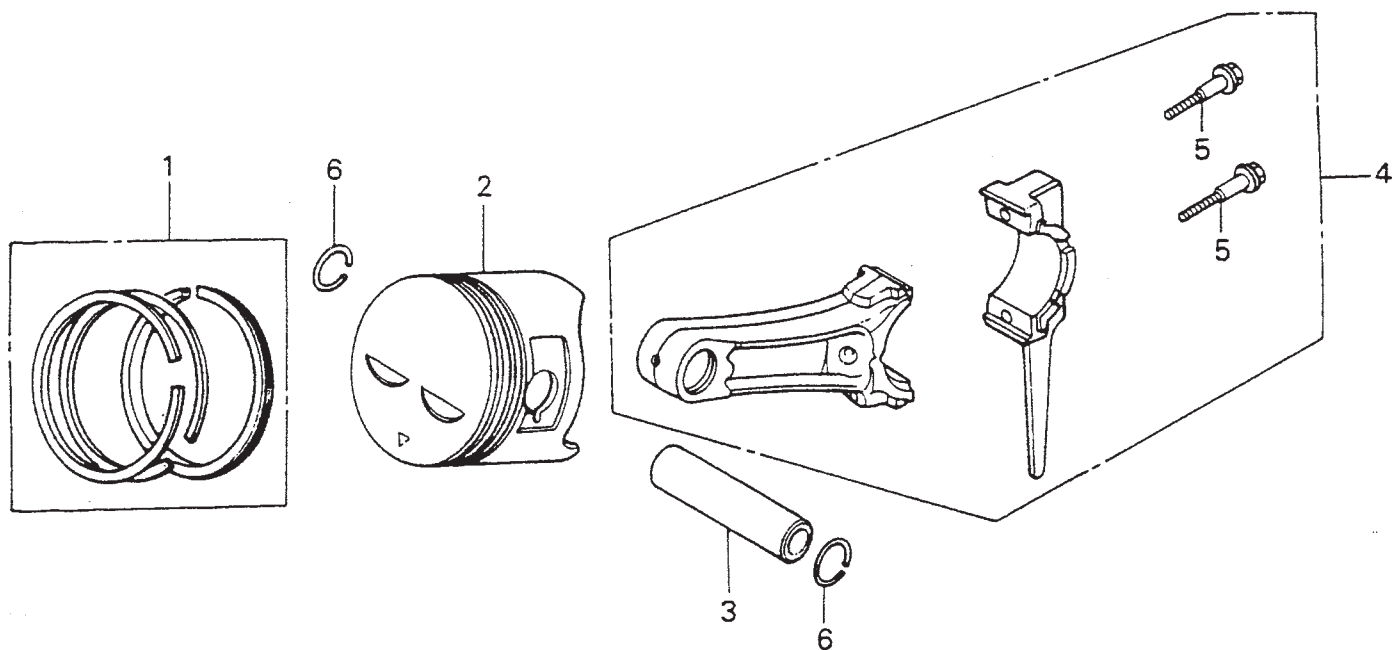
## HONDA GX240K1 ENGINE — CRANKSHAFT ASSY.

### CRANKSHAFT ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>           | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|----------------------------|-------------|----------------|
| 1         | 13310ZE2701    | CRANKSHAFT COMP.           | 1           |                |
| 2         | 14311ZE2310    | GEAR, TIMING               | 1           |                |
| 3         | 16505ZE2300    | GEAR, GOVERNOR DRIVE       | 1           |                |
| 4         | 961006206000   | BEARING, RADIAL BALL, 6206 | 1           |                |

## HONDA GX240K1 ENGINE — PISTON ASSY.

PISTON ASSY.



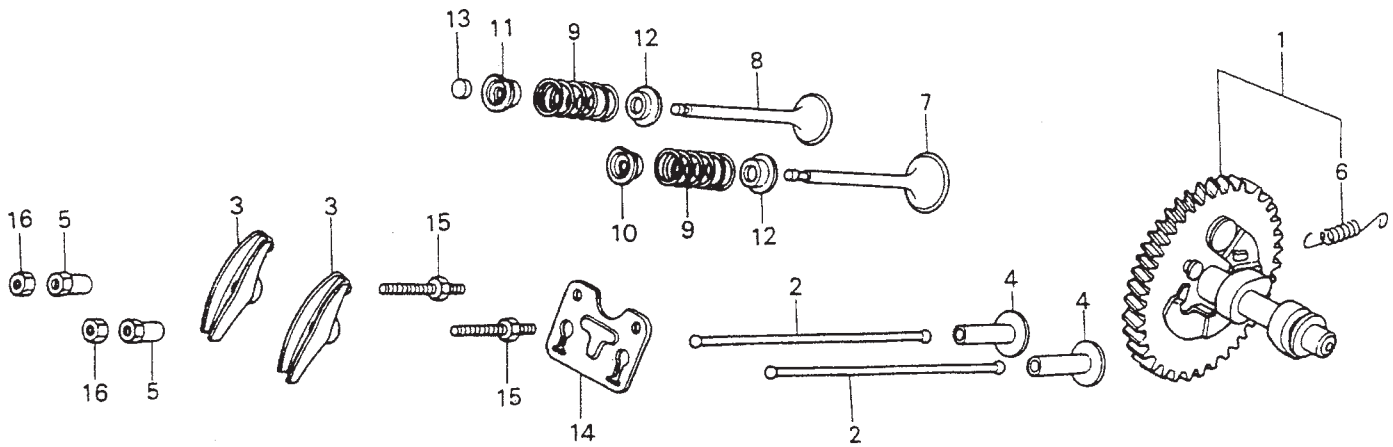
# HONDA GX240K1 ENGINE — PISTON ASSY.

## PISTON ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>        | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|-------------------------|-------------|----------------|
| 1         | 13020ZE2013    | RING SET, PISTON (STD)  | 1           |                |
|           | 13010ZE2014    | RING SET, PISTON (STD)  | 1           |                |
|           | 13011ZE2013    | RING SET, PISTON (0.25) | 1           |                |
|           | 13011ZE2014    | RING SET, PISTON (0.25) | 1           |                |
|           | 13012ZE2013    | RING SET, PISTON (0.50) | 1           |                |
|           | 13012ZE2014    | RING SET, PISTON (0.50) | 1           |                |
|           | 13013ZE2013    | RING SET, PISTON (0.75) | 1           |                |
|           | 13013ZE2014    | RING SET, PISTON (0.75) | 1           |                |
| 2         | 13101ZE2W00    | PISTON (STD)            | 1           |                |
|           | 13102ZE2W00    | PISTON (0.25)           | 1           |                |
|           | 13103ZE2W00    | PISTON (0.50)           | 1           |                |
|           | 13104ZE2W00    | PISTON (0.75)           | 1           |                |
| 3         | 13111ZE2000    | PIN, PISTON             | 1           |                |
| 4         | 13200ZE2000    | ROD ASSY., CONNECTING   | 1           |                |
| 5         | 90001ZE8000    | BOLT, CONNECTING ROD    | 2           |                |
| 6         | 90551ZE1000    | CLIP, PISTON PIN, 18MM  | 2           |                |

## HONDA GX240K1 ENGINE — CAMSHAFT ASSY.

### CAMSHAFT ASSY.



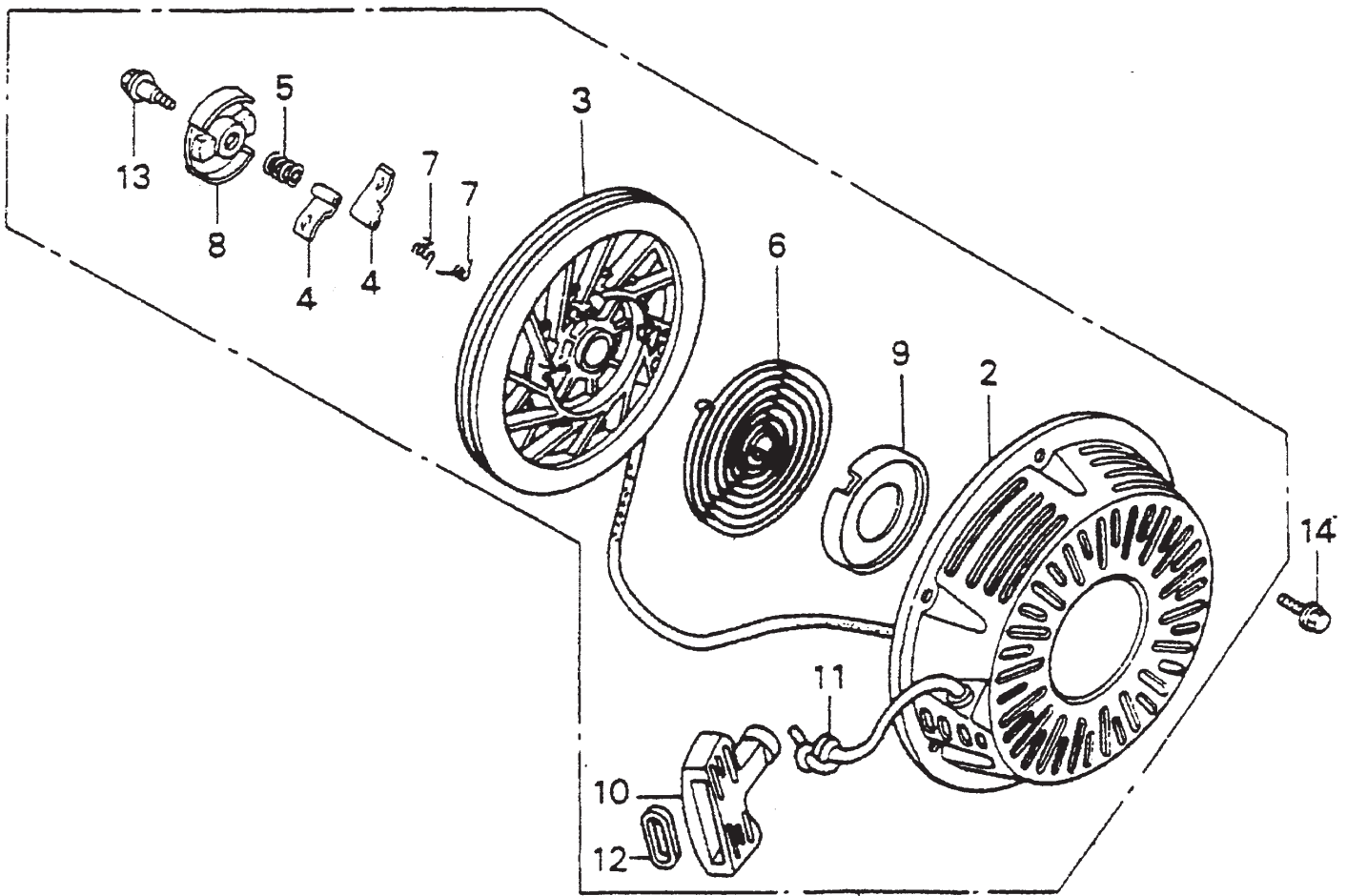
# HONDA GX240K1 ENGINE — CAMSHAFT ASSY.

## CAMSHAFT ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>           | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|----------------------------|-------------|----------------|
| 1         | 14100ZE2W00    | CAMSHAFT ASSY.             | 1           |                |
| 2         | 14410ZE2013    | ROD, PUSH                  | 2           |                |
| 3         | 14431ZE2000    | ARM, VALVE ROCKER          | 2           |                |
| 4         | 14441ZE2000    | LIFTER, VALVE              | 2           |                |
| 5         | 14451ZE1003    | PIVOT, ROCKER ARM          | 2           |                |
| 6         | 14568ZE1000    | SPRING, WEIGHT RETURN      | 1           |                |
| 7         | 14711ZE2000    | VALVE, IN                  | 1           |                |
| 8         | 14721ZE2000    | VALVE, EX.                 | 1           |                |
| 9         | 14751ZE2003    | SPRING, VALVE              | 2           |                |
| 10        | 14771ZE2000    | RETAINER, IN. VALVE SPRING | 1           |                |
| 11        | 14773ZE2000    | RETAINER, EX. VALVE SPRING | 1           |                |
| 12        | 14775ZE2010    | SEAT, VALVE SPRING         | 2           |                |
| 13        | 14781ZE2000    | ROTATOR, VALVE             | 1           |                |
| 14        | 14791ZE2010    | PLATE, PUSH ROD GUIDE      | 1           |                |
| 15        | 90012ZE0010    | BOLT, PIVOT                | 2           |                |
| 16        | 90206ZE1000    | NUT, PIVOT ADJUSTING       | 2           |                |

## HONDA GX240K1 ENGINE — RECOIL STARTER ASSY.

RECOIL STARTER ASSY.



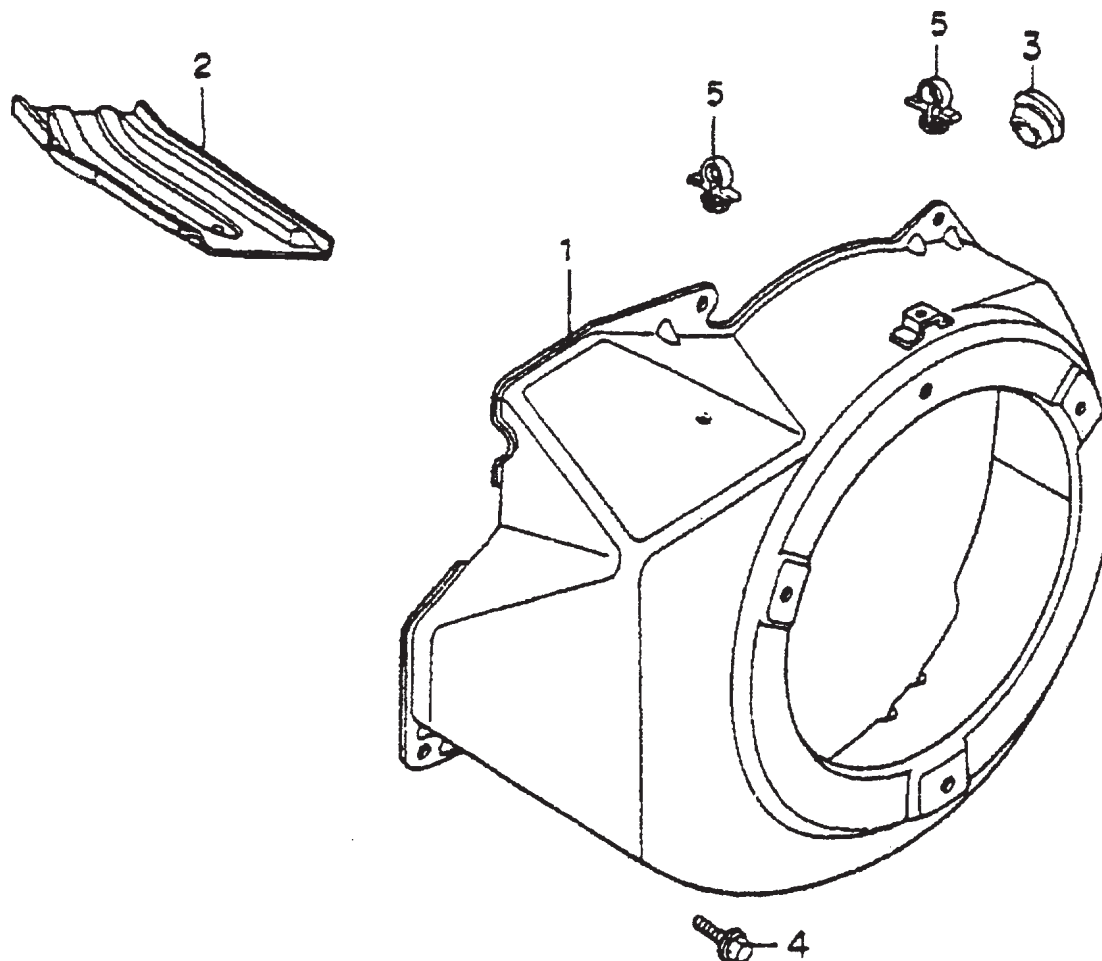
# HONDA GX240K1 ENGINE — RECOIL STARTER ASSY.

## RECOIL STARTER ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>           | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|----------------------------|-------------|----------------|
| 1         | 28400ZE2W01ZB  | STARTER ASSY, RECOIL       | 1           |                |
| 2         | 28410ZE2W01ZB  | CASE COMP., RECOIL STARTER | 1           |                |
| 3         | 28421ZE2W01    | PULLEY, RECOIL STARTER     | 1           |                |
| 4         | 28422ZE2W01    | RATCHET, STARTER           | 2           |                |
| 5         | 28441ZE2W01    | SPRING, FRICTION           | 1           |                |
| 6         | 28442ZE2W01    | SPRING, STARTER RETURN     | 1           |                |
| 7         | 28443ZE2W01    | SPRING, RATCHET            | 2           |                |
| 8         | 28444ZE2W01    | RETAINER, SPRING           | 1           |                |
| 9         | 28445ZE2W01    | HOLDER, SPRING             | 1           |                |
| 10        | 28461ZE2W01    | GRIP, STARTER              | 1           |                |
| 11        | 28462ZE2W01    | ROPE, RECOIL STARTER       | 1           |                |
| 12        | 28469ZE2W01    | GRID REINFORCEMENT         | 1           |                |
| 13        | 90004ZE2W01    | SCREW, CENTER              | 1           |                |
| 14        | 957010600800   | BOLT, FLANGE, 6X8          | 3           |                |

## HONDA GX240K1 ENGINE — FAN COVER ASSY.

FAN COVER ASSY.



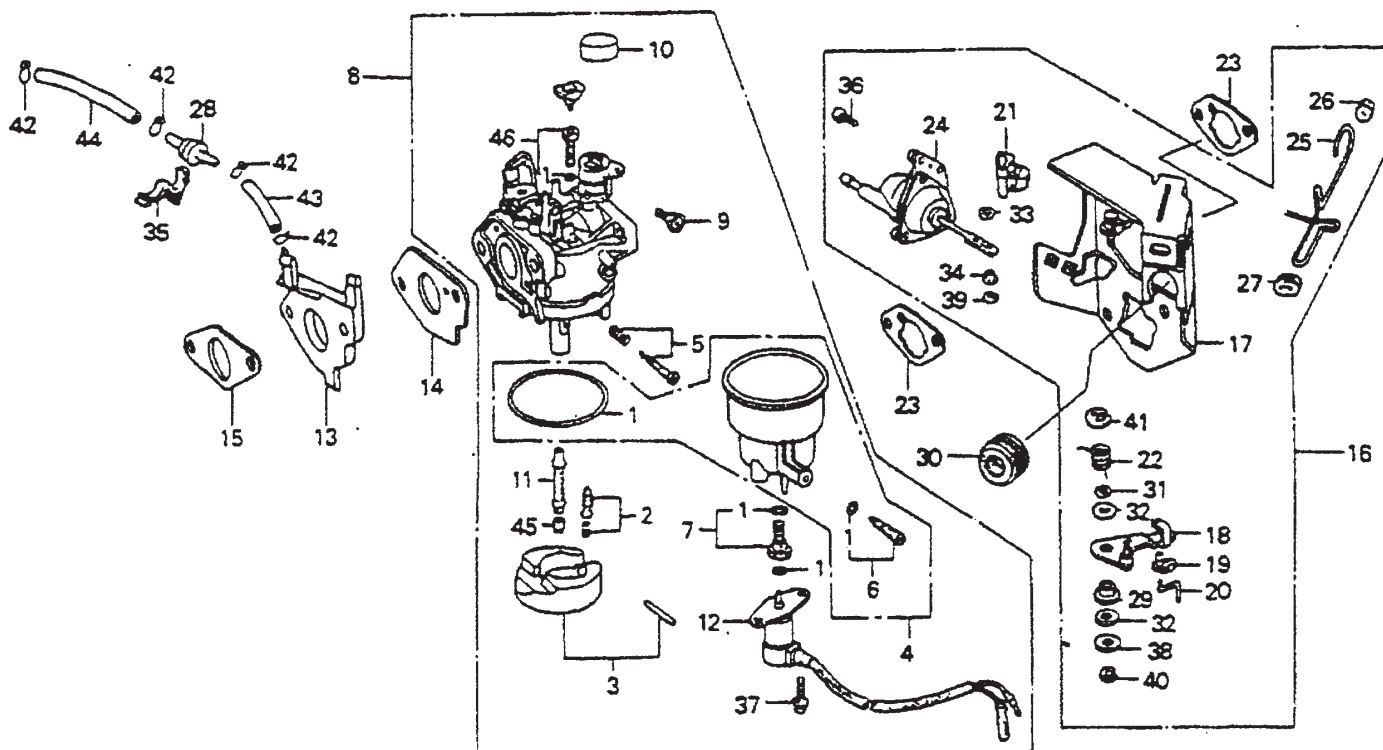
## HONDA GX240K1 ENGINE — FAN COVER ASSY.

### FAN COVER ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>    | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|---------------------|-------------|----------------|
| 1         | 19610ZE2700ZD  | COVER COMP., FAN    | 1           |                |
| 2         | 19631ZH9000    | SHROUD              | 1           |                |
| 3         | 81329567020    | GROMMET, DRAIN HOLE | 1           |                |
| 4         | 90013883000    | BOLT, FLANGE, 6X12  | 6           |                |
| 5         | 90654SA4003    | CLIP                | 2           |                |

# HONDA GX240K1 ENGINE — CARBURETOR ASSY.

## CARBURETOR ASSY.



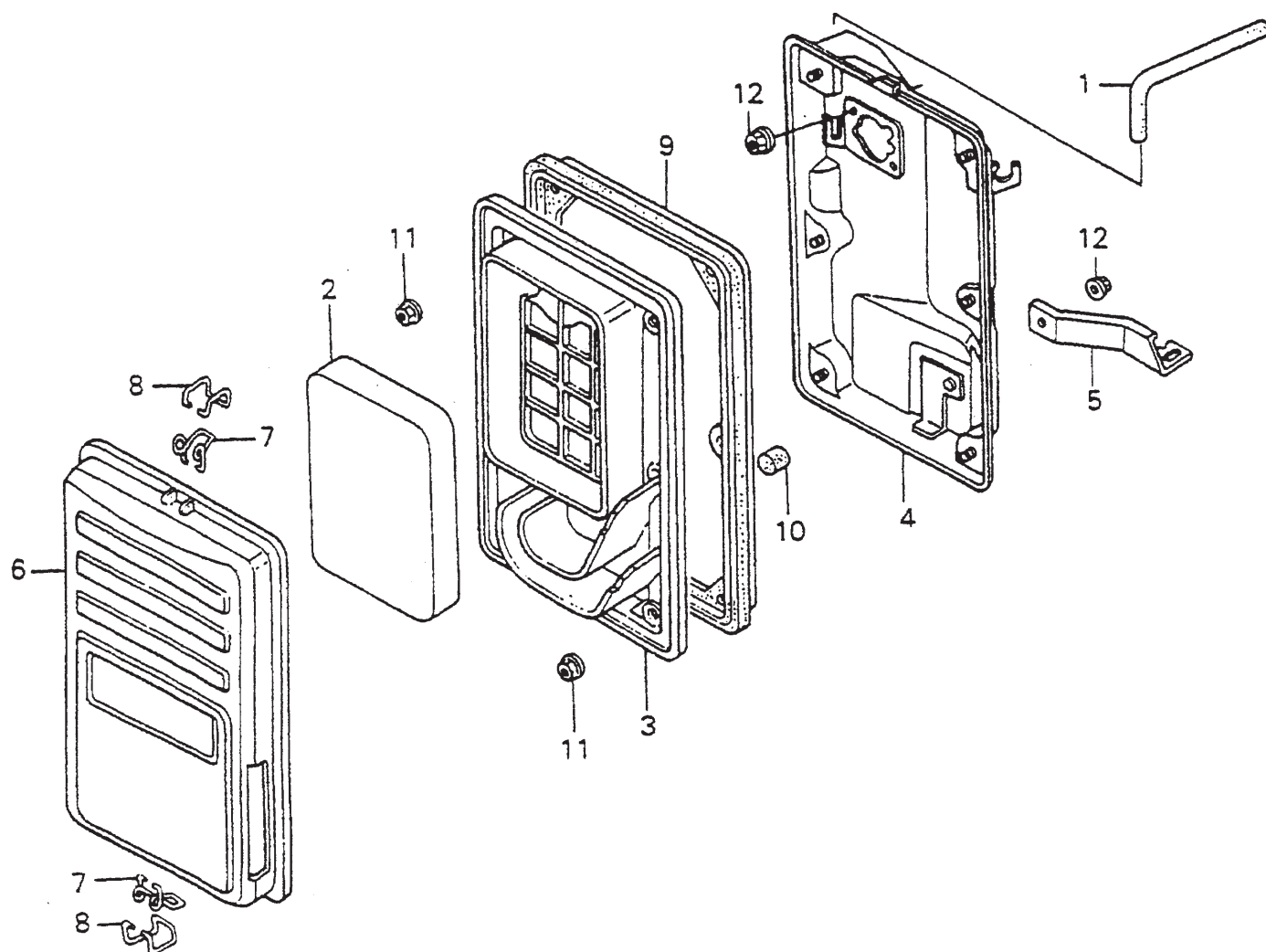
# HONDA GX240K1 ENGINE — CARBURETOR ASSY.

## CARBURETOR ASSY.

| NO | PART NO      | PART NAME             | QTY. | REMARKS |
|----|--------------|-----------------------|------|---------|
| 1  | 16010ZE3701  | GASKET SET            | 1    |         |
| 2  | 16011ZA0931  | VALVE SET, FLOAT      | 1    |         |
| 3  | 16013ZA0931  | FLOAT SET             | 1    |         |
| 4  | 16015ZA0931  | CHAMBER SET, FLOAT    | 1    |         |
| 5  | 16016ZH7W01  | SCREW SET             | 1    |         |
| 6  | 16024124761  | SCREW SET, DRAIN      | 1    |         |
| 7  | 16028ZA0931  | SCREW SET             | 1    |         |
| 8  | 16100ZE2F00  | CARBURETOR ASSY.      | 1    |         |
| 9  | 16124ZE0005  | SCREW, THROTTLE STOP  | 1    |         |
| 10 | 16148141881  | CAP, CHOKE DUST       | 1    |         |
| 11 | 16166ZE2015  | NOZZLE, MAIN          | 1    |         |
| 12 | 16230ZE3701  | VALVE ASSY., SOLENOID | 1    |         |
| 13 | 16211ZE2700  | INSULATOR, CARBURETOR | 1    |         |
| 14 | 16221ZA0800  | PACKING, CARBURETOR   | 1    |         |
| 15 | 16223ZA0800  | PACKING, INSULATOR    | 1    |         |
| 16 | 16260ZE2722  | STAY, MANUAL CHOKE    | 1    |         |
| 17 | 16261ZE2702  | STAY, COMP., SOLENIOD | 1    |         |
| 18 | 16262ZE2711  | LEVER, CHOKE          | 1    |         |
| 19 | 16263ZA0000  | JOINT, ROD            | 1    |         |
| 20 | 16264ZE2701  | ROD, CHOKE            | 1    |         |
| 21 | 16265ZE2721  | STOPER, CHOKE ROD     | 1    |         |
| 22 | 16268ZE2721  | SPRING, MANUAL CHOKE  | 1    |         |
| 23 | 16269ZA0800  | PACKING, AIR CLEANER  | 2    |         |
| 24 | 16400ZE2703  | DIAPHRAGM ASSY.       | 1    |         |
| 25 | 16611ZE2711  | ROD, CHOKE CONTROL    | 1    |         |
| 26 | 16613893000  | GROMMET, CHOKE ROD    | 1    |         |
| 27 | 16615893000  | GUIDE, CHOKE ROD      | 1    |         |
| 28 | 36135ZV003   | VALVE, DASHPOT CHECK  | 1    |         |
| 29 | 53149964003  | BUSH, ARM PIVOT       | 1    |         |
| 30 | 88911MJ3000  | GROMMET, FENDER       | 1    |         |
| 31 | 90431ZE2700  | WASHER, CHOKE LEVER   | 1    |         |
| 32 | 90432ZE2700  | SEAL, CHOKE LEVER     | 2    |         |
| 33 | 90433ZE2700  | WASHER, THRUST        | 1    |         |
| 34 | 90434ZE2700  | COLLAR, LOVER         | 1    |         |
| 35 | 90650SD9003  | CLIP, WIRE HARNESS    | 1    |         |
| 36 | 93500050120A | SCREW, PAN, 5X12      | 2    |         |
| 37 | 938920501208 | SCREW, WASHER 5X12    | 2    |         |
| 38 | 9410305000   | WASHER, PLAIN 5MM     | 1    |         |
| 39 | 9454002010   | E-RING 2MM            | 1    |         |
| 40 | 9454004010   | E-RING 4MM            | 1    |         |
| 41 | 9454007010   | E-RING 7MM            | 1    |         |
| 42 | 9500202070   | CLIP B7, TUBE         | 4    |         |
| 43 | 950053506510 | TUBE, 3.5X65          | 1    |         |
| 44 | 950053513010 | TUBE, 3.5X130         | 1    |         |
| 45 | 99101ZF50750 | JET, MAIN, #78        | 1    |         |
|    | 99101ZF50780 | JET, MAIN, #80        | 1    |         |
|    | 99101ZF50800 | JET, MAIN, #82        | 1    |         |
| 46 | 99204ZA00450 | JET SET, PILOT, #45   | 1    |         |

# HONDA GX240K1 ENGINE — AIR CLEANER ASSY.

## AIR CLEANER ASSY.



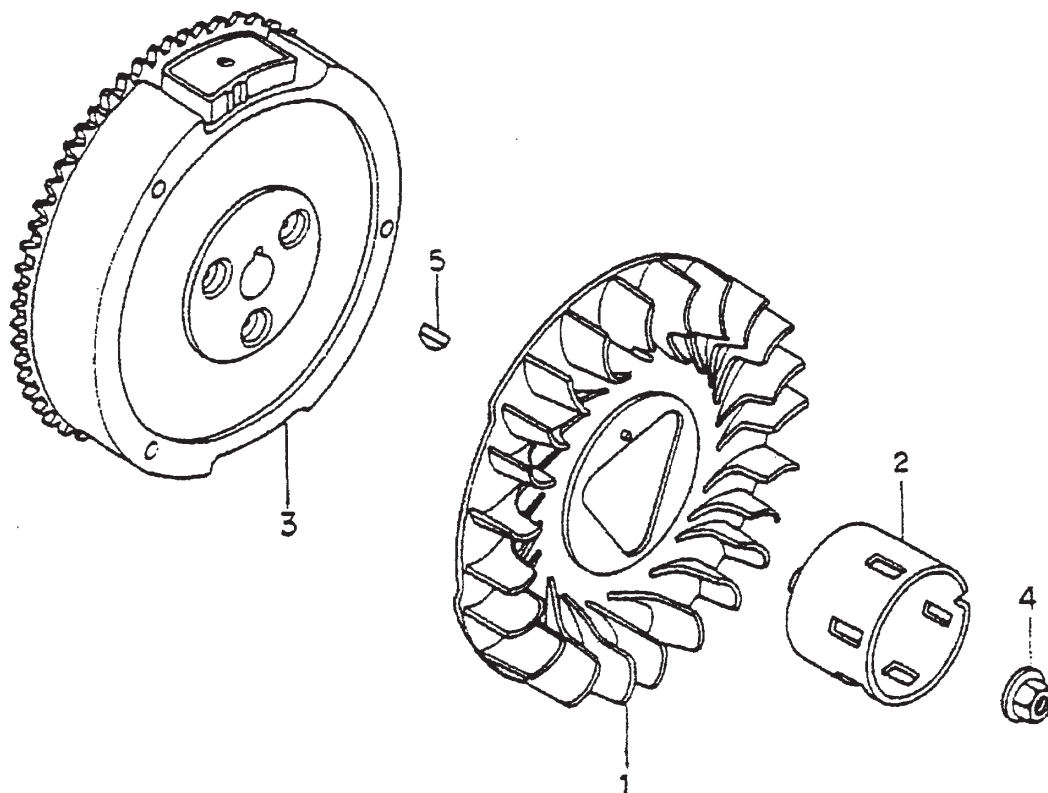
## HONDA GX240K1 ENGINE — AIR CLEANER ASSY.

### AIR CLEANER ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>         | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|--------------------------|-------------|----------------|
| 1         | 15721ZB4000    | TUBE BREATHER            | 1           |                |
| 2         | 17211899000    | ELEMENT, AIR CLEANER     | 1           |                |
| 3         | 17212ZB4003    | SEPARATOR, AIR CLEANER   | 1           |                |
| 4         | 17220ZB4003    | CASE COMP., AIR CLEANER  | 1           |                |
| 5         | 17222ZB4000    | STAY, AIR CLEANER        | 1           |                |
| 6         | 17231899000    | COVER COMP., AIR CLEANER | 1           |                |
| 7         | 17235899000    | CLIP A, AIR CLEANER WIRE | 2           |                |
| 8         | 17236899000    | CLIP B, AIR CLEANER WIRE | 2           |                |
| 9         | 17252899000    | SEAL, AIR CLEANER        | 1           |                |
| 10        | 17367413690    | FILTER, DRAIN TUBE       | 1           |                |
| 11        | 9405005000     | NUT, FLANGE, 5 MM        | 6           |                |
| 12        | 9405006000     | NUT, FLANGE, 6 MM        | 3           |                |

## HONDA GX240K1 ENGINE — FLYWHEEL ASSY.

FLYWHEEL ASSY.



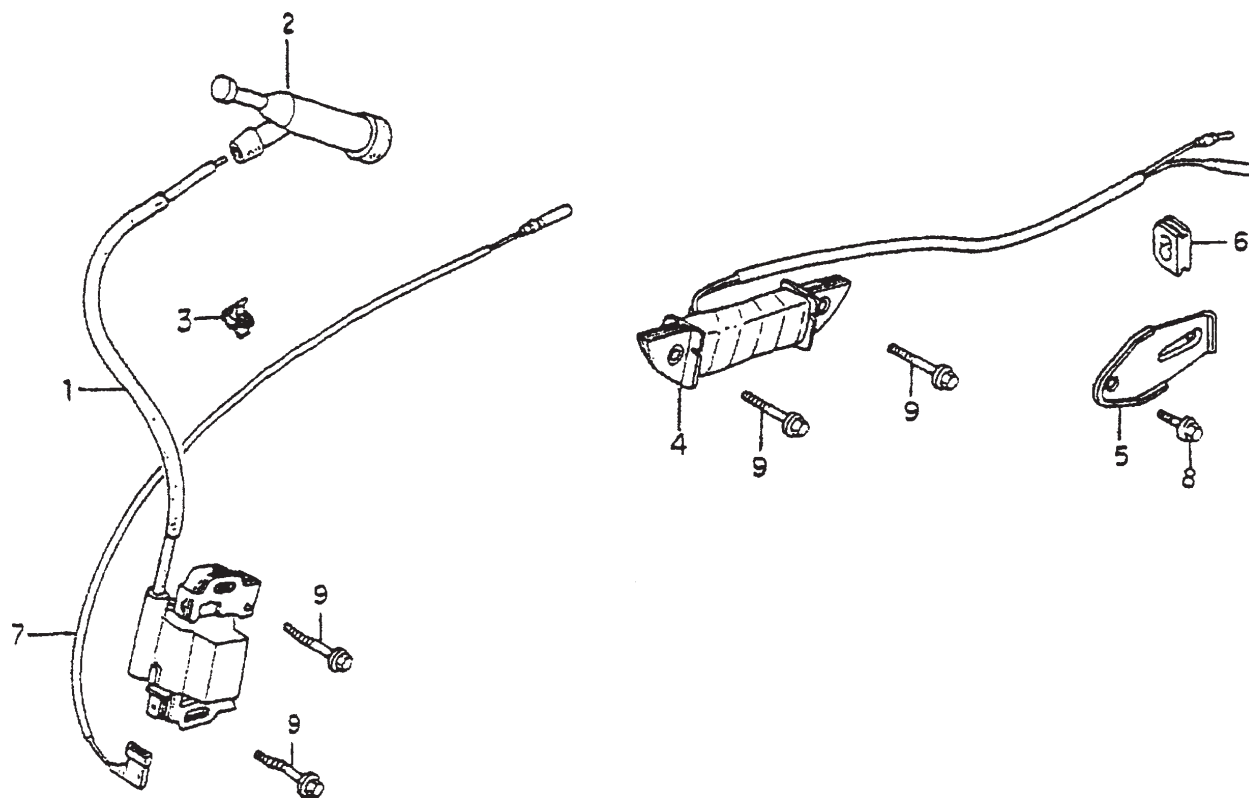
## HONDA GX240K1 ENGINE — FLYWHEEL ASSY.

### FLYWHEEL ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>      | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|-----------------------|-------------|----------------|
| 1         | 19511ZE2000    | FAN, COOLING          | 1           |                |
| 2         | 28451ZE2W01    | PULLEY, STARTER       | 1           |                |
| 3         | 31100ZE2811    | FLYWHEEL COMP.        | 1           |                |
| 4         | 90201ZE3790    | NUT, SPECIAL, 16MM    | 1           |                |
| 5         | 90741ZE2000    | KEY, SPECIAL WOODRUFF | 1           |                |

## HONDA GX240K1 ENGINE — IGNITION COIL ASSY.

IGNITION COIL ASSY.



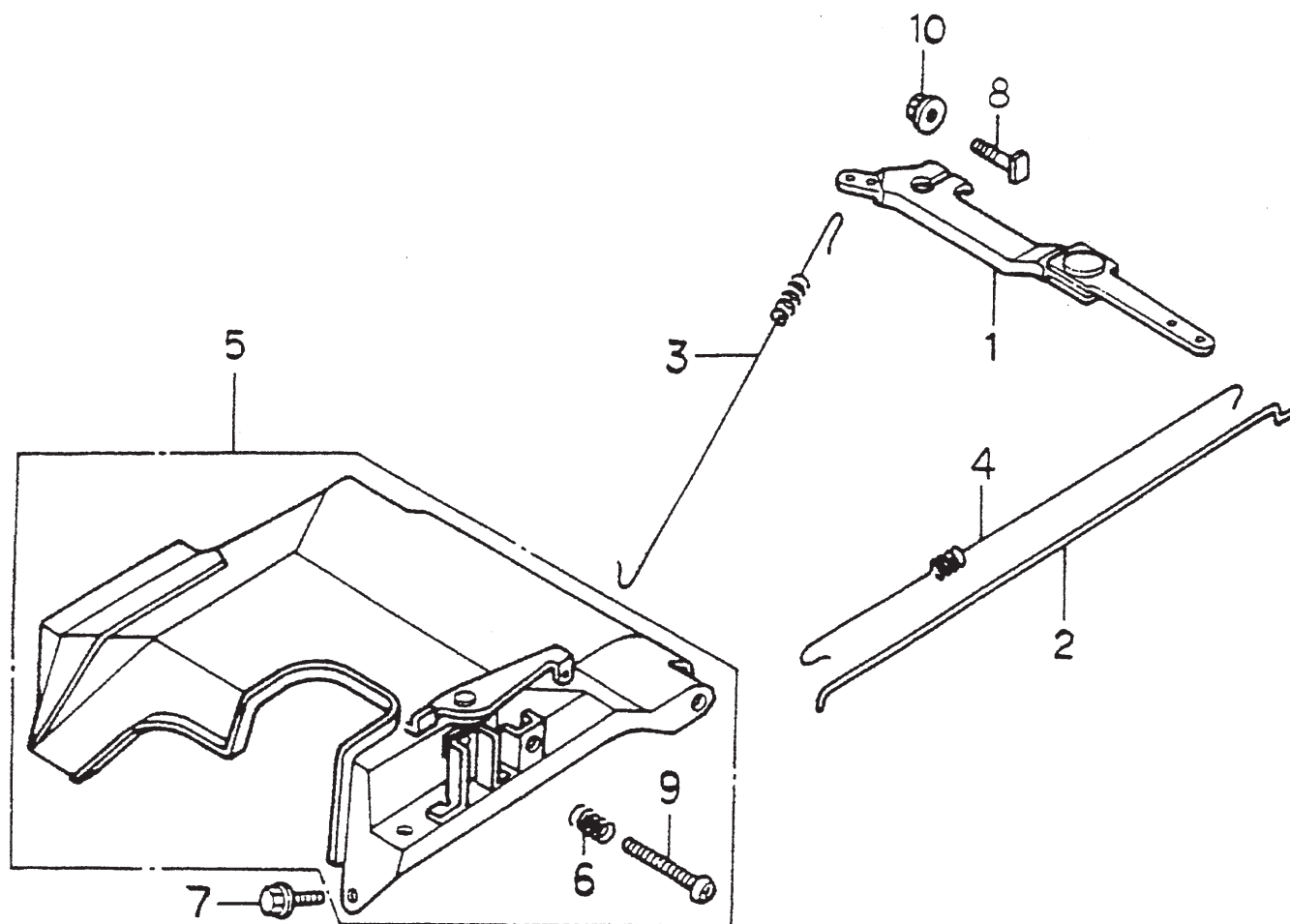
## HONDA GX240K1 ENGINE — IGNITION COIL ASSY.

### IGNITION COIL ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>           | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|----------------------------|-------------|----------------|
| 1         | 30500ZE2013    | COIL ASSY., IGNITION       | 1           |                |
| 2         | 30700ZE1013    | CAP ASSY., NOISE SUPPRESSO | 1           |                |
| 3         | 30701883000    | CLIP, HIGH TENSION CORD    | 1           |                |
| 4         | 31501ZE1811    | COIL ASSY., LAMP 12V/25W   | 1           |                |
|           | 31510ZE3003    | COIL ASSY., LAMP 12V/25W   | 1           |                |
| 5         | 31511ZE2000    | CLAMPER, CORD              | 1           |                |
| 6         | 31512ZE2000    | GROMMET, CORD              | 1           |                |
| 7         | 36101ZE2701    | CORD, STOP SWITCH          | 1           |                |
| 8         | 90013883000    | BOLT, FLANGE, 6X12         | 1           |                |
| 9         | 90015883000    | BOLT, FLANGE, 6X28         | 6           |                |

## HONDA GX240K1 ENGINE — GOVERNOR/CONTROL ASSY.

GOVERNOR/CONTROL ASSY.



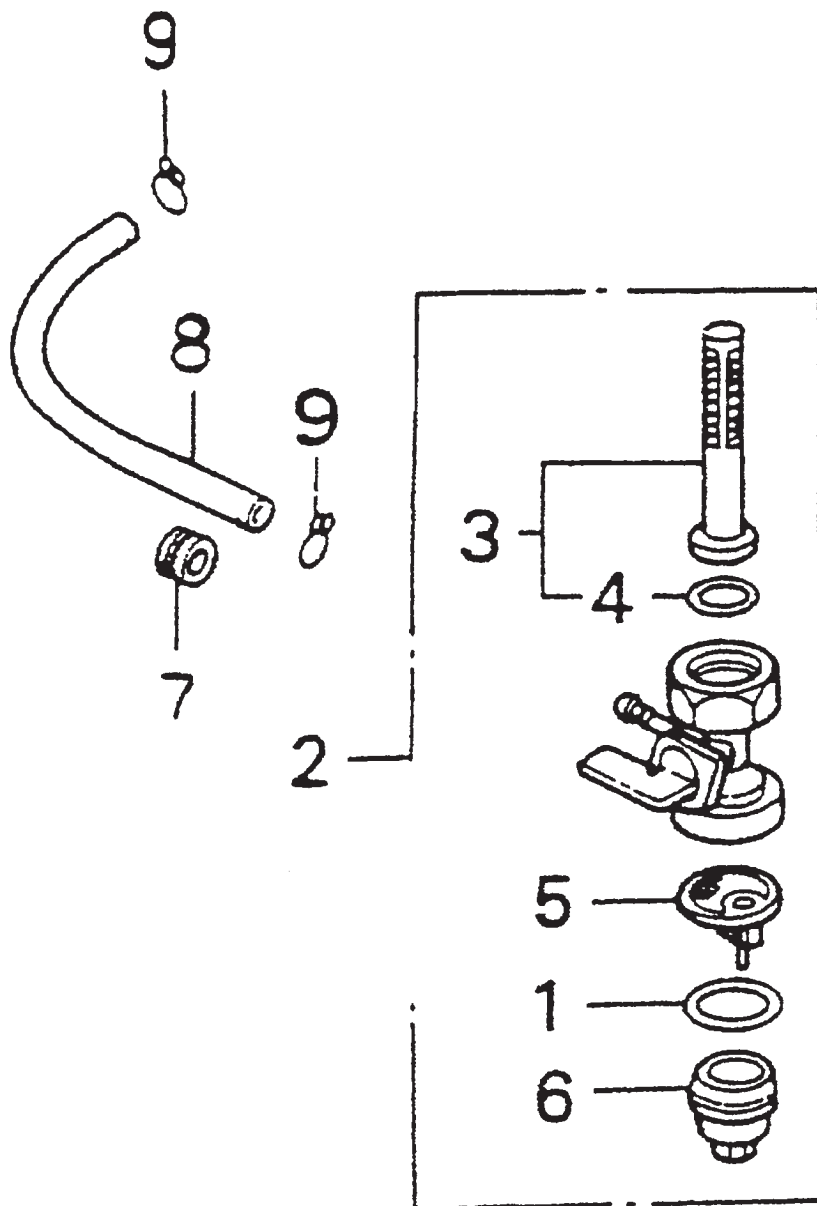
## HONDA GX240K1 ENGINE — GOVERNOR/CONTROL ASSY.

### GOVERNOR/CONTROL ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>          | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|---------------------------|-------------|----------------|
| 1         | 16550ZE2700    | ARM, GOVERNOR             | 1           |                |
| 2         | 16555ZE2000    | ROD, GOVERNOR             | 1           |                |
| 3         | 16561ZE2000    | SPRING, GOVERNOR          | 1           |                |
| 4         | 16562ZE2700    | SPRING, THROTTLE RETURN   | 1           |                |
| 5         | 16570ZE2701    | CONTROL ASSY.             | 1           |                |
| 6         | 16584883300    | SPRING, CONTROL ADJUSTING | 1           |                |
| 7         | 90013883000    | BOLT, FLANGE, 6X12        | 2           |                |
| 8         | 90015ZE5010    | BOLT, GOVERNOR ARM        | 1           |                |
| 9         | 93600050350A   | SCREW, PAN, 5X35          | 1           |                |
| 10        | 9405006000     | NUT, FLANGE, 6MM          | 1           |                |

## HONDA GX240K1 ENGINE — FUEL COCK ASSY.

FUEL COCK ASSY.



## HONDA GX240K1 ENGINE — FUEL COCK ASSY.

### FUEL COCK ASSY.

| <u>NO</u> | <u>PART NO</u> | <u>PART NAME</u>           | <u>QTY.</u> | <u>REMARKS</u> |
|-----------|----------------|----------------------------|-------------|----------------|
| 1         | 16173001004    | PACKING, FUEL STRAINER CUP | 1           |                |
| 2         | 16950ZB4015    | COCK ASSY., FUEL           | 1           |                |
| 3         | 16952ZB4005    | SCREEN, FUEL STRAINER      | 1           |                |
| 4         | 16958397771    | O-RING                     | 1           |                |
| 5         | 16959471831    | FILTER CUP                 | 1           |                |
| 6         | 16967GA6671    | CUP, FUEL STRAINER         | 1           |                |
| 7         | 90854ZB2000    | RUBBER, FUEL TUBE          | 1           |                |
| 8         | 950014519040   | TUBE, FUEL, 4.5X190        | 1           |                |
| 9         | 9500202080     | CLIP B8, TUBE              | 2           |                |

**PAYMENT TERMS**

Terms of payment for parts are net 10 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 listed in the parts price book 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 5 working days from notification, pending instructions. If a reply is not received within 5 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 \$20.00 to \$50.00 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 here under 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.

[illegible]

# PARTS AND OPERATION MANUAL

## **HERE'S HOW TO GET HELP**

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

### **PARTS DEPARTMENT**

*800-427-1244 or 310-537-3700*

*FAX: 800-672-7877 or 310-637-3284*

### **SERVICE DEPARTMENT/TECHNICAL ASSISTANCE**

*800-478-1244 or 310-537-3700*

*FAX: 310- 537-4259*

### **WARRANTY DEPARTMENT**

*888-661-4279, or 310-661-4279*

*FAX: 310- 537-1173*

### **MAIN**

*800-421-1244 or 310-537-3700*

*FAX: 310-537-3927*

Manufactured for MULTQUIP INC.

by  
DENYO MANUFACTURING CO., JAPAN

**Table 2. ME-75H Engine Specifications**

|                              |                                      |
|------------------------------|--------------------------------------|
| MODEL                        | Robin EC12-G                         |
| Type                         | Air-Cooled 2 Stroke Gasoline Engine  |
| Piston Displacement          | 6.96 cu.in. (114 cc)                 |
| Max. Output                  | 4.5 hp/4.000 rpm (3.0 KW)            |
| Max. Governed Speed, No Load | 4300 rpm                             |
| Cooling System               | Air-Cooled                           |
| Lubrication System           | Fuel-Lubrication Oil Spraying System |
| Fuel                         | Unleaded gasoline 25:1 (oil)         |
| Starting System              | Recoil Starter                       |

### **MULTQUIP INC.**

POST OFFICE BOX 6254

CARSON, CA 90749

310-537-3700 • 800-421-1244

FAX: 310-537-3927

E-MAIL: [mq@multiquip.com](mailto:mq@multiquip.com)

WWW: [multiquip.com](http://multiquip.com)

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Quebec, Canada • Manchester, UK • Rio De Janeiro, BR • Guadalajara, MX