

OPERATION AND PARTS MANUAL



MODEL GA-2.5H PORTABLE AC GENERATOR (HONDA GASOLINE ENGINE) S/N 5496762 AND BELOW S/N 5496763 AND ABOVE

Revision #5 (03/04/08)

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.

MQ GA-2.5H — AC Portable Generator

Proposition 65 Warning	2
Table Of Contents	4
Parts Ordering Procedures	5
Safety Alert Message Symbols	6-7
Rules for Safe Operation	8-10
Specifications (Generator)	11
Specifications (Engine)	12
Dimensions	13
General Information	14
Load Application	15
Controls and Indicators	16-17
Generator Refueling	18
Installation	19-20
Pre-Inspection	21
Pre-Inspection (Engine)	22
Initial Start-up (Engine)	23
Initial Start-up (Engine/Operation)	24
Preparation For Long Term Storage	25
Maintenance	26-27
Wiring Diagram (S/N 5496762 & below)	28
Wiring Diagram (S/N 5496763 & above)	29
Troubleshooting (Engine)	30-31
Troubleshooting (Generator)	32
Explanation Of Codes In Remarks Column	34
Suggested Spare Parts	35

Generator Component Drawings

Nameplate and Decals	36-37
Generator Assembly	38-39
Control Box Assembly (S/N 5496762 & below) ..	40-41
Control Box Assembly (S/N 5496763 & above) .	42-43
Pipe Frame Assembly (S/N 5496762 & below) ..	44-45
Pipe Frame Assembly (S/N 5496763 & above) ..	46-47

Honda GX160K1EMA2 Gasoline Engine

Cylinder Head Assembly	48-49
Cylinder Barrel Assembly	50-51
Crankcase Cover Assembly	52-53
Crankshaft Assembly	54-55
Piston Assembly	56-57
Camshaft Assembly	58-59
Recoil Starter Assembly	60-61
Fan Cover Assembly	62-63
Carburetor Assembly	64-65
Air Cleaner Assembly	66-67
Muffler Assembly	68-69
Flywheel Assembly	70-71
Ignition Coil Assembly	72-73
Governor/Control Assembly	74-75
Labels	76-77
Terms and Conditions Of Sale — Parts	78

PARTS ORDERING PROCEDURES

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

Effective:
January 1st, 2006



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:

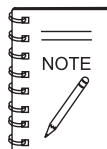
Contact your local Multiquip Dealer for parts or call 800-427-1244 for help in locating a dealer near you.



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

When ordering parts, please supply:

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



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!



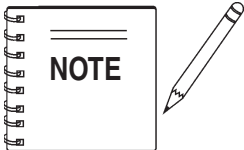
www.multiquip.com



GA-2.5H — SAFETY MESSAGE ALERT SYMBOLS

FOR YOUR SAFETY AND THE SAFETY OF OTHERS!

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.



This Owner's Manual has been developed to provide complete instructions for the safe and efficient operation of the **MQ Model GA-2.5H Portable Generator**. Refer to the engine manufacturers instructions for data relative to its safe operation.

Before using this generator, ensure that the operating individual has read and understands all instructions in this manual.

SAFETY MESSAGE ALERT SYMBOLS

The three (3) 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 three words: **DANGER**,

DANGER

You **WILL** be **KILLED** or **SERIOUSLY INJURED** if you **DO NOT** follow these directions.

WARNING

You **CAN** be **KILLED** or **SERIOUSLY INJURED** if you **DO NOT** follow these directions.

CAUTION

You **CAN** be **INJURED** if you **DO NOT** follow these directions.

HAZARD SYMBOLS

Potential hazards associated with the operation of a **MQ GA-2.5H Portable Generator** will be referenced with Hazard Symbols which appear throughout this manual, and will be referenced in conjunction with Safety Message Alert Symbols.

WARNING Lethal Exhaust Gas Hazards

Engine exhaust gases contain poisonous carbon monoxide. This gas is colorless and odorless, and can cause death if inhaled. **NEVER** operate this equipment in a confined area or enclosed structure that does not provide ample free flow air.



WARNING Explosive Fuel Hazards

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.

WARNING Burn Hazards

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



WARNING Respiratory Hazards

ALWAYS wear approved **respiratory** protection when required.



GA-2.5H — SAFETY MESSAGE ALERT SYMBOLS

CAUTION

Rotating Parts Hazards

NEVER operate equipment with covers, or guards removed. Keep fingers, hands, hair and clothing away from all moving parts to prevent injury.



CAUTION

Equipment Damage Hazards

Other important messages are provided throughout this manual to help prevent damage to your portable generator, other property, or the surrounding environment.

CAUTION

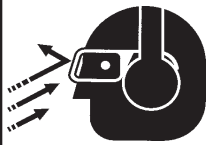
Accidental Starting Hazards

ALWAYS place the power source, circuit breakers or **ON/OFF** switch in the **OFF** position, when the generator is not in use, unless connected to transfer switch.



CAUTION

Eye and Hearing Hazards



ALWAYS wear approved eye and hearing protection.

GA-3.6H— RULES FOR SAFE OPERATION

DANGER

Read this manual!

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 MQ GA-2.5H Portable 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.



■ **NEVER** operate this equipment when not feeling well due to fatigue, illness or taking medicine.



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



■ **ALWAYS** wear proper respiratory (mask), hearing and eye protection equipment when operating the generator.



■ Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.

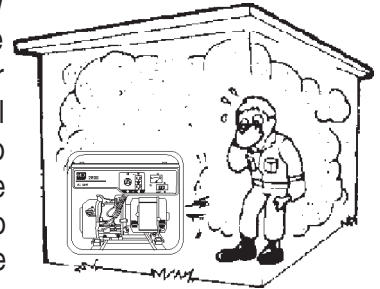
■ Manufacturer does not assume responsibility for any accident due to equipment modifications.

■ **NEVER** use accessories or attachments, which are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.

■ **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing engine or generator.



■ The engine section of 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 or engine and may cause injury to people. Remember the generator's engine gives off **DEADLY** carbon monoxide gas.

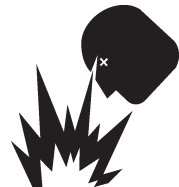


■ **ALWAYS** refuel in a well-ventilated area, away from sparks and open flames.

■ **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.



■ **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**.



■ **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.

GA-2.5H — RULES FOR SAFE OPERATION

- **ALWAYS** be sure the operator is familiar with proper safety precautions and operation techniques before using generator.
- **NEVER** leave the generator unattended, turn off engine when unattended.
- Unauthorized equipment modifications will void all warranties.
- **ALWAYS** ensure generator is on level ground before use.
- **DO NOT** place hands or fingers inside generator engine compartment when engine is running.
- **NEVER** run engine without air cleaner. Severe engine damage may occur.
- **NEVER** change or adjust the engine speed which has been set at the factory prior to shipping.

Power Cord Safety

- **NEVER** let power cables or cords *lay in water*.
- **NEVER** *stand in water* while AC power from the generator is being transfer to a load.
- **NEVER** use a defective or frayed power cable. Check the cable for cuts in the insulation.
- **NEVER** use a extension cord that is frayed or damaged where the insulation has been cut.
- **ALWAYS** make certain that proper power or extension cord has been selected for the job See Table 3.

Grounding Safety

- **ALWAYS** make sure that electrical circuits are properly **grounded** per the **National Electrical Code** (NEC) and local codes before operating generator. Severe **injury** or **death!** by electrocution can result from operating an ungrounded generator.
- **ALWAYS** make sure generator is properly grounded to a suitable earth ground (**GROUND ROD**). See installation in this manual.
- **NEVER** use **gas piping** as an electrical ground.

Maintenance Safety

- **NEVER** lubricate components or attempt service on a running machine.
- **High Temperatures** – Always stop engine and allow the engine to cool before adding fuel, oil or performing service and maintenance functions. Contact with **hot!** components can cause serious burns.
- Keep the machinery in proper running condition.
- Fix damage to the machine immediately and replace any broken parts immediately.
- **ALWAYS** replace any worn or damaged warning decals.
- **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 un-authorized personnel.
- The electrical voltage required to operate the generator can cause severe injury or even death through physical contact with live circuits. Turn all circuit breakers **OFF** before performing maintenance on the generator.
- 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.
- Removing the engine oil drain plug while the engine is hot will result in hot oil to gush out of the oil drain plug, therefore causing severe scalding to any persons in the general area of the generator.



DANGER-ELECTROCUTION HAZARDS

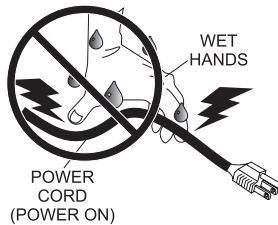
During operation of this generator, there exists the possibility of **electrocution, electrical shock or burn**, which can cause **severe bodily harm** or even **DEATH!**



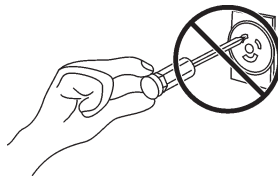
To avoid these hazards:

NEVER use **damaged** or **worn** cables when connecting equipment to the generator. Make sure power connecting cables are securely connected to the generator's output receptacles, incorrect connections may cause damage to the generator and electrical shock.

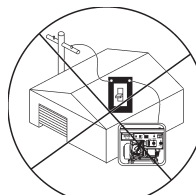
NEVER grab or touch a live power cord with wet hands, the possibility exist of electrical shock, electrocution, and even **death!**



NEVER insert any objects into the output receptacles during operation. This is extremely dangerous. **ALWAYS** turn-off the generator and place all circuit breakers in the "OFF" position when contact with the output receptacles is required. There exist the possibility of **electrocution, electrical shock or burn, which can cause severe bodily harm or even death!**



Backfeed to a utility system can cause **electrocution** and or property damage. **NEVER** connect the generator to a building's electrical system without a transfer switch or other approved device. All installations should be performed by a **licensed electrician** in accordance with all applicable laws and electrical codes. Failure to do so could result in electrical shock or burn causing serious injury or even death!



Emergencies

- **ALWAYS** know the location of the nearest **fire extinguisher**.



- **ALWAYS** know the location of the nearest **first aid kit**.



- In emergencies **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.

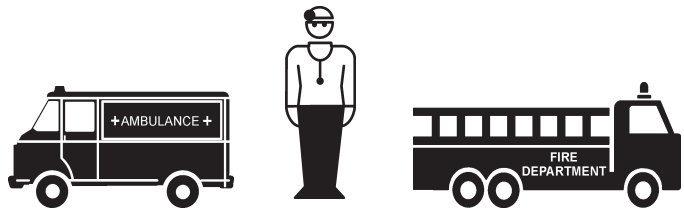


Table 1. Specifications (Generator)

AC Generator	Model	GA-2.5H
	Type	Brushless Revolving Field Type
	Excitation	Solid State, Statically Excited System
	Speed	3,600 RPM
	Cooling System	Self-Ventilation
	Fuel Capacity	3.17 gallons (12 liters)
60 Cycle AC Power Source	Continuous Output	2.2 kW
	Stanby Output	2.5 kW
	Rated Voltage	120V
	Current Max/Continuous (120V)	20.8/18.3 amps
	Phase	Single Phase (3-wire)
	Frequency	60 Hz
	Power Factor	1
Dimensions Approximate (L x W x H)		20.0 x 16.1 X 18.5 in. (510 X 410 X 470 mm)
Dry Net Weight		110 lbs. (50 kg.)
Weight (With Fuel)		132 lbs. (60 kg.)

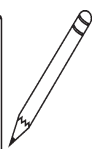
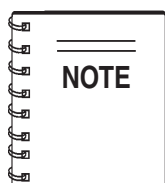
Effects of Altitude and Heat

The maximum output of the engines listed above are 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's 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

Table 2. Specifications (Engine)

Table 2. Specifications (Engine)		
Engine/Electric Motor	Model	HONDA GX-160K1EMA2
	Type	Air-cooled 4 stroke, Single Cylinder, OHV, Horizontal Shaft Gasoline Engine
	Bore X Stroke	2.7 in. x 1.8 in. (68 mm x 45 mm)
	Displacement	163 cc (9.9 cu-in)
	Max Output	5.5 H.P./3600 R.P.M.
	Fuel Tank Capacity	Approx. 0.95 U.S. gallons (3.6 liters)
	Fuel	Unleaded Automobile Gasoline
	Lube Oil Capacity	0.63 qts. (.60 liters)
	Speed Control Method	Centrifugal Fly-weight Type
	Starting Method	Recoil Start
Dimension (L x W x H)		12.0 X 14.4 X 13.2 in. (304 X 362 X 335 mm)
Dry Net Weight		33.1 lbs. (15 Kg.)



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

GA-2.5H — DIMENSIONS

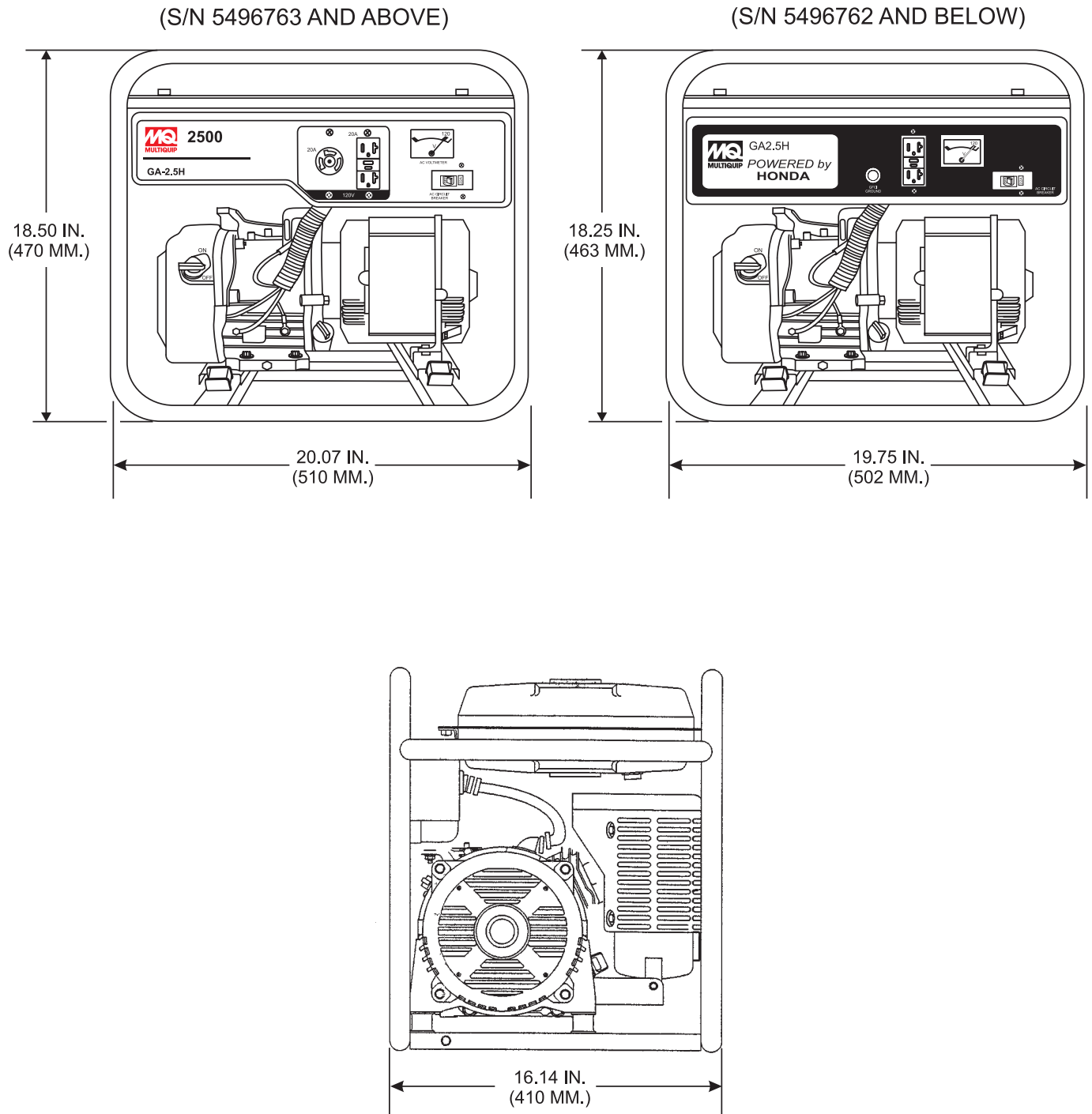


Figure 1. Dimensions

WARNING

Before connecting this generators 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-2.5H FAMILIARIZATION

Generator

The Multiquip GA-2.5H generator has been designed as a portable dual purpose power source for 60 Hz (single phase) lighting facilities, power tools, submersible pumps and other industrial and construction machinery.

These generators are 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 generators to protect against damage. See Figures 2A and 2B for the basic controls and indicators for the GA-2.5H generator.

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 is provided with the following:

- 120V twist-lock receptacle, single phase. (S/N 5496763 and above)
- 120V GFCI single phase duplex output receptacle
- 20 amp main circuit breaker
- AC Voltmeter
- Ground Terminal (S/N 5496762 and below)

Excitation System

The GA-2.5H generator uses a magnet attached to a flywheel to produce AC voltage from a lamp coil beneath the flywheel. As the magnetic 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.

Alternator

The alternator, a brushless revolving-field type, is permanently aligned to the engine through rigid coupling.

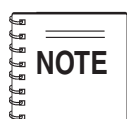
Engine

This generator is powered by a 5.5 HP, air-cooled, 4-stroke **HONDA** gasoline engine. Reference Table 2, for engine specifications.

Single Phase Load — 60 Hz

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



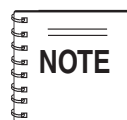
If wattage is not given on the equipment's name plate, approximate wattage may be determined by multiplying nameplate voltage by the nameplate amperage.

WATTS = VOLTAGE x AMPERAGE

The power factor of this generators is 1.0 See Table 3 below when connecting loads.

Table 3. Power Factor By Load

Type Of Load	Power Factor
Single-phase induction motors	0.4 - 0.75
Electric heaters, incandescent lamps	1.0
Fluorescent lamps, mercury lamps	0.4 - 0.9
Electronic devices, communication equipment	1.0
Common power tools	0.8



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

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

- 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.
- 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.
- 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. **Always** use an adequate size **extension cable** which can carry the required load. See Table 4.

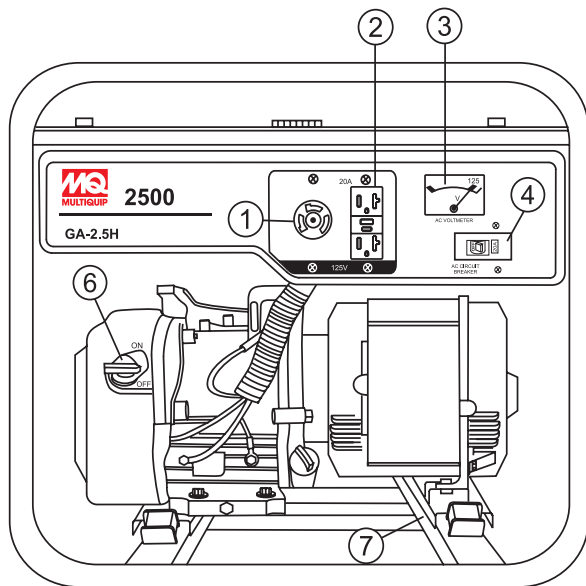
Extension Cables

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 generators and point of use (load) is held to a minimum.** Use the cable selection chart (Table 4) as a guide for selecting proper cable size.

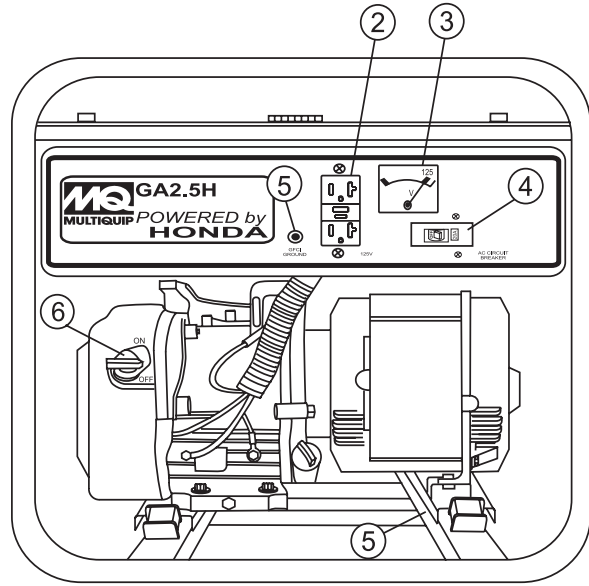


The idle control device is operated at a minimum load capacity of 100W. If the load capacity is less than 100W, place the idle control switch in the **OFF** position.

GA-2.5H — CONTROLS AND INDICATORS



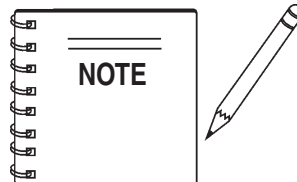
S/N 5496763 AND ABOVE



S/N 5496762 AND BELOW

Figure 2A. Generator Components

- 120V Output Receptacle** – This NEMA L5- 20R twist-lock receptacle will provide 120V, 20 amps, 60 Hz. Applies to units with S/N 5496763 and above.
- GFCI Receptacle** – This 5-20R duplex receptacle will provide 120V at all times.
- 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 **MQ** service dealer.
- Circuit Breaker** – To protect the generator from an overload, a 2- pole 20 amp circuit breaker is provided on the control box. Make sure to place the circuit breaker to the "OFF" position prior to starting the engine.
- GFCI Ground** – This ground connection point should be connect to a good earth ground (ground rod). Applies to units with S/N 5496762 and below.
- ON-OFF Switch** – place engine ON/OFF switch in the "ON" position for normal operation. To turn- off the generator place switch in the "OFF" position.
- Chassis Ground** – This ground connection point should be connect to a good earth ground (ground rod). Applies to units with S/N 5496763 and above.



This **HONDA** engine is equipped with a low oil shutdown capability. A built in sensor will automatically turn off the engine should the oil level fall below a safe operating condition. Make sure the generator is placed on level ground. Placing the generator on level ground will ensure that the low oil sensor will function properly.

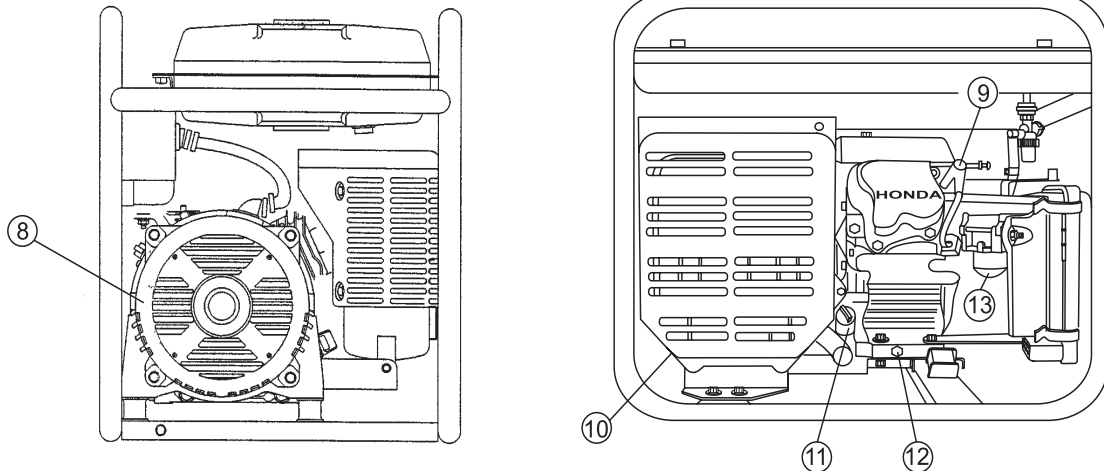
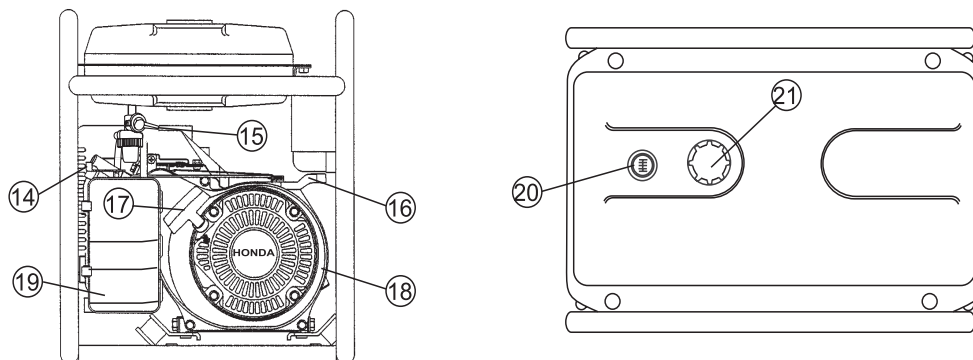


Figure 2B. Generator Components



8. **Generator Housing** – Contains the rotor, rectifier field coil assembly, armature, bearings and other components that make up generator assembly.
9. **Spark Plug** – Provides spark to the ignition system. Set spark plug gap to 0.6 - 0.7 mm (0.024 - 0.028 inch). Clean spark plug once a week.
10. **Muffler/Heat Shield** – Used to reduce noise and emissions. **NEVER** touch this **heat shield** when the generator is in use. Always allow time for the generator to cool down before performing maintenance.
11. **Oil Dipstick/ Filler Cap**– Remove the filler cap dipstick when checking the engine oil level. Add engine oil through
12. **Oil Drain Plug** – Remove this plug to drain engine oil from the crankcase.
13. **Carburetor Fuel Cup** – Inspect the fuel cup weekly for water and dirt. Clean as referenced in the maintenance section of this manual.
14. **Choke Lever** – Used for starting the engine. **Close** the choke lever when starting a cold engine or in cold weather conditions. The choke enriches the fuel mixture. **Open** the choke lever if starting a warm engine or in warm weather conditions.
15. **Fuel Cock Lever** – Turn this lever **downward** to **start** (down) the flow of fuel to the carburetor. Turn **upward** to **stop** (up) the flow of fuel.
16. **Throttle Lever** – Used to adjust engine RPM speed. This unit is set at the factory and is not adjustable.
17. **Recoil Starter (Pull Rope)** – Used for manual-starting of the engine. Pull the starter grip until resistance is felt, then pull briskly and smoothly.
18. **Engine** – This generator uses a 5.5 HP **HONDA** air-cooled, 4-stroke, single cylinder, overhead camshaft gasoline engine. Engine uses unleaded gasoline.
19. **Air Cleaner** – Every 50 hours: Prevents dirt and other debris from entering the fuel system. Remove wing-nut on top of air filter canister to gain access to filter element. **NEVER** run the engine without an air cleaner.
20. **Fuel Gauge** – Read this gauge to determine when fuel is **low**.
21. **Fuel Gauge/Tank** – Remove this cap to add unleaded gasoline to the fuel tank. **Replenish** with **clean unleaded** gasoline. Make sure cap is tightened securely. **DO NOT** over fill. Fuel tank capacity is 3.2 gallons (12 liters).

MQ GA-2.5H — GENERATOR REFUELING

DANGER

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. If generator is placed in a truck bed with a plastic liner, **REMOVE** generator from truck bed and place on ground (Figure 3) to refuel. This possibility exist of **fire** or **explosion** due to static electricity.

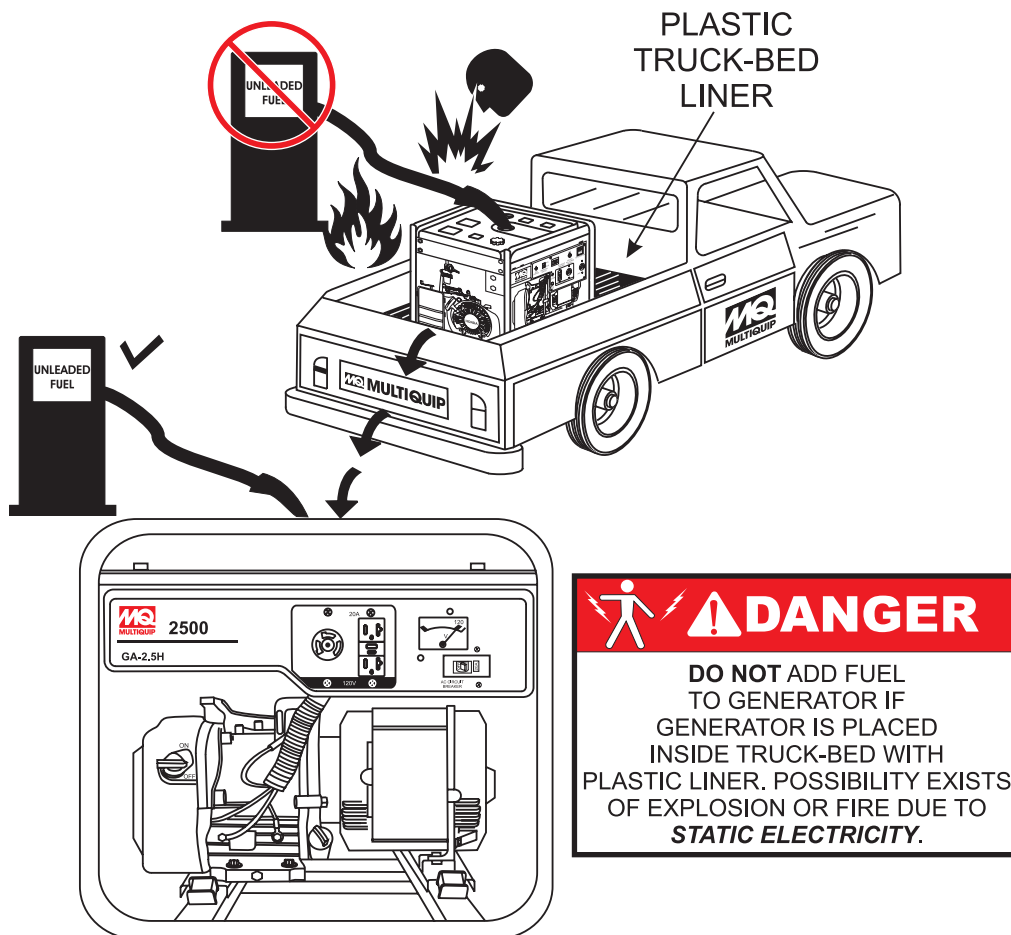




Figure 3. Generator Refueling

Outdoor Installation

Install the generator in a area that is free of **debris**, **bystanders**, and **overhead obstructions**. Make sure 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 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 to engine and alternator parts.

 CAUTION	
Pay close attention to ventilation when operating the generator inside tunnels and caves. The engine exhaust contains noxious elements.	

Mounting

The generator should always be mounted on a flat level surface to isolate vibration of the generator when it is running. **DO NOT** place the generator on slopes, the possibility exists that the generator could slide.

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.

Generator Grounding

To guard against electrical shock and possible damage to the equipment, it is important to provide a good **EARTH** ground. Always use the ground terminal on the generator to ground the generator.

Article 250 (Grounding) of the National Electrical Code (NEC) provides guide lines for proper grounding and specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

NEC articles 250-64(b) and 250-66 set the following grounding requirements:

1. Use one of the following wire types to connect the generator to earth ground.
 - a. Copper - 10 AWG (5.3 mm²) or larger.
 - b. Aluminum - 8 AWG (8.4 mm²) or larger.
2. When grounding the generator (Figure 3) connect the ground cable between the lock washer and the nut on the generator and tighten the nut fully. Connect the other end of the ground cable to earth ground.
3. NEC article 250-52(c) specifies that the earth ground rod should be buried a minimum of 8 ft. into the ground.

Connecting the Ground

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

At the generator, connect the terminal of the ground cable between the lock washer and the nut (Figure 4) and tighten the nut fully. Connect the other end of the ground cable to a suitable earth ground (ground rod).

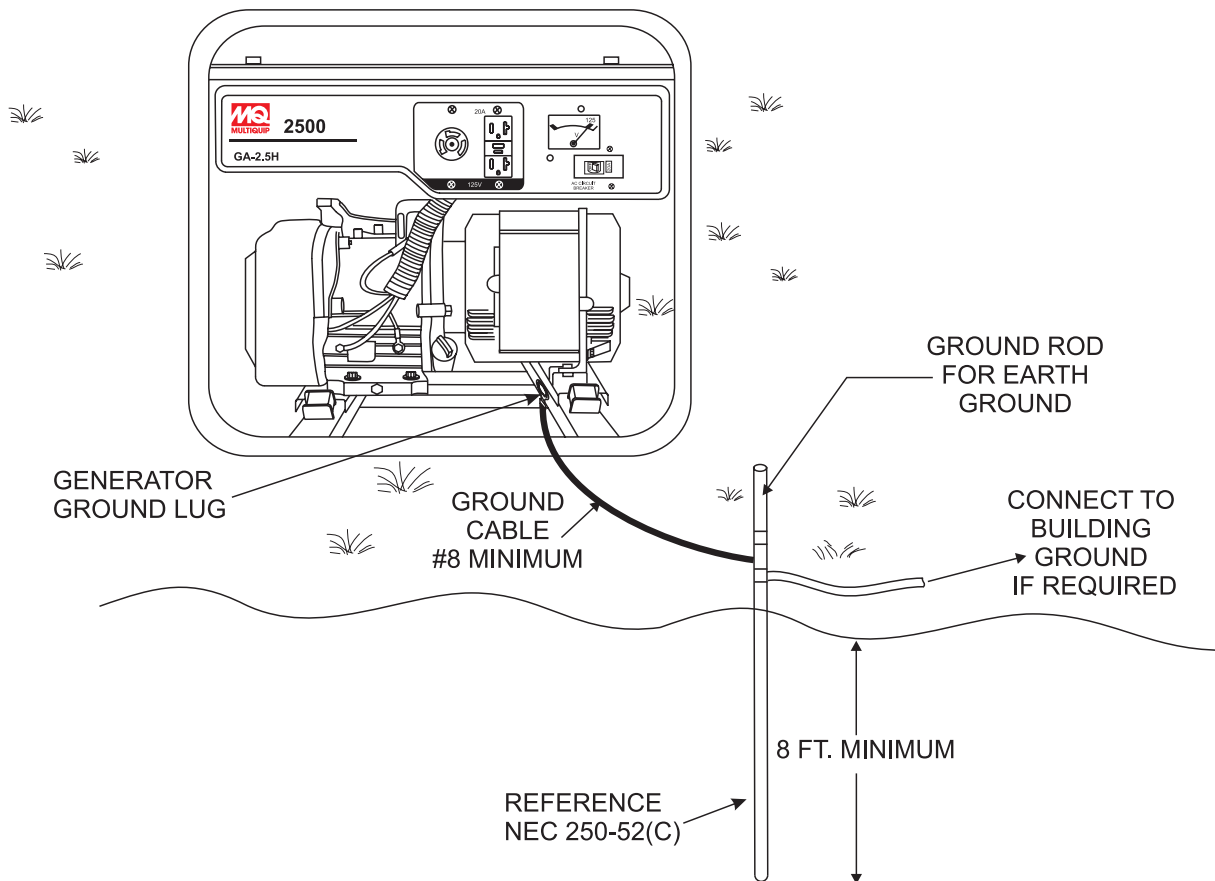


Figure 4. Generator Grounding

General Inspection Prior to Operation

Ground Power Tools

When using power tools or electrical equipment requiring AC power from the generator, make sure connecting (power tool) cable (Figure 5) has a ground as shown in Figure.

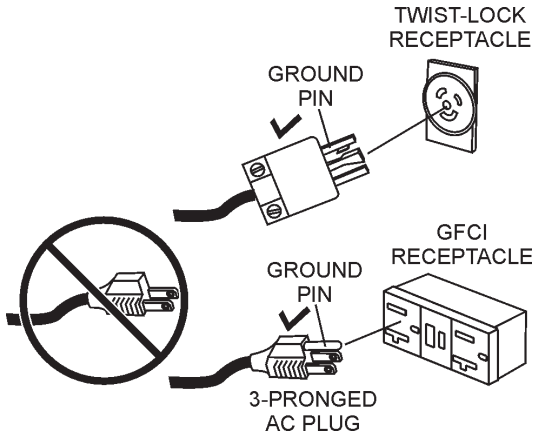
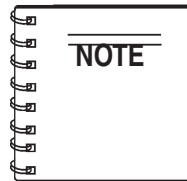


Figure 5. Ground Cables/Plugs

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 4) as a guide for selecting proper cable size.



Never! use power tools or equipment that do not have a ground capability, the possibility exists **of electrocution, electrical shock or burn**, which can cause **severe bodily harm** or even **DEATH!**

Main Circuit Breaker

To protect the generator from an overload always place the main circuit breaker in the "OFF" position prior to starting the engine.

Table 4. Cable Selection (60 Hz, Single Phase Operation)

Current in Amperes	Load In Watts At 120 Volts	Maximum Allowable Cable Length			
		#10 Wire	#12 Wire	#14 Wire	#16 Wire
2.5	300	1000 ft.	600 ft.	375 ft.	250 ft.
5	600	500 ft.	300 ft.	200 ft.	125 ft.
7.5	900	350 ft.	200 ft.	125 ft.	100 ft.
10	1200	250 ft.	150 ft.	100 ft.	
15	1800	150 ft.	100 ft.	65 ft.	
20	2400	125 ft.	75 ft.	50 ft.	

CAUTION: Equipment damage can result from low voltage.

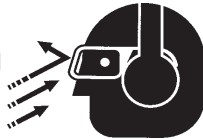
GA-2.5H — PRE-INSPECTION (ENGINE)

CAUTION

NEVER operate the generator 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 generator.



Before Starting

1. Read safety instructions at the beginning of manual.
2. Clean the generator, removing dirt and dust, particularly the engine cooling air inlet, carburetor and air cleaner.
3. Check the air filter for dirt and dust. If air filter is dirty, replace air filter with a new one as required.
4. Check carburetor for external dirt and dust. Clean with dry compressed air.
5. Check fastening nuts and bolts for tightness.



Engine Oil Check

1. To check the engine oil level, place the generator on secure level ground with the engine stopped.
2. Remove the filler dipstick from the engine oil filler hole (Figure 6) and wipe clean.

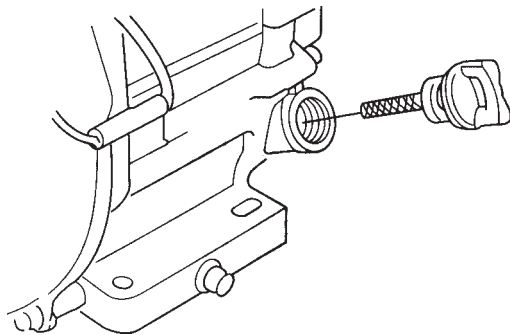


Figure 6. Engine Oil Dipstick (Removal)

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 7), fill to the edge of the oil filler hole with the recommended oil type (Table 5). Maximum oil capacity is .63 quarts (0.6 liters)

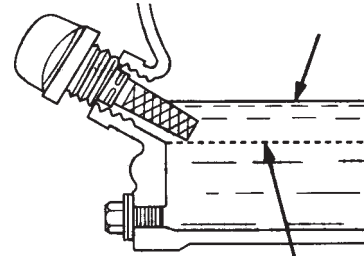


Figure 7. Engine Oil Dipstick (Oil Level)

Table 5. 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

DANGER EXPLOSIVE FUEL

Motor fuels are highly flammable and can be dangerous if mishandled. **DO NOT** smoke while refueling. **DO NOT** attempt to refuel the generator if the engine is *hot!*, *running* or *in the dark*.



Fuel Check

1. Close the fuel cock before filling the fuel tank.
2. Remove the fuel cap located on top of fuel tank.
3. Read the fuel gauge located on top of the fuel tank (Figure 8) to determine if the fuel level is low. If fuel is low, replenish with *clean unleaded fuel*.

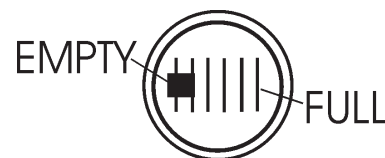


Figure 8. Fuel Gauge

4. When refueling, be sure to use a strainer for filtration. **DO NOT** top-off fuel. **DO NOT** fill the tank beyond capacity. Wipe up any spilled fuel *immediately!*

GA-2.5H — INITIAL START-UP (ENGINE)

CAUTION

DO NOT attempt to operate this generator until the Safety, General Information and Inspection sections of this manual have been **read and thoroughly understood**.



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

Before Starting the Engine

1. Be sure to **disconnect all electrical loads** from the generator prior to starting the engine.
2. **NEVER start** the engine with the **main circuit breaker** in the "ON" position. Place the main circuit breaker (Figure 9) in the **OFF** position.

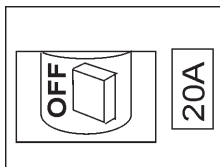


Figure 9. Main Breaker (OFF Position)

Starting the Engine

1. Place the engine **fuel valve lever** (Figure 10) to the "ON" position."

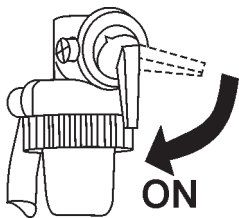


Figure 10. Engine Fuel Valve Lever (ON Position)

2. Place the **choke lever** (Figure 11) in the "CLOSED" position if starting a **cold** engine.

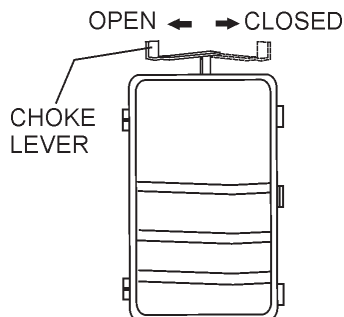


Figure 11. Choke Lever

3. Place the **choke lever** (Figure 11) in the "OPEN" position if starting a **warm engine** or the **temperature is warm**.
4. Place the **engine ON/OFF switch** (Figure 12) in the "ON" position.

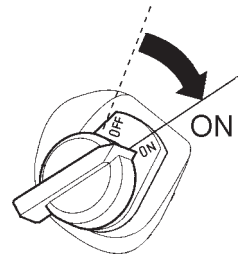


Figure 12. Engine ON/OFF Switch (ON)

5. Grasp the starter grip (Figure 13) and slowly pull it out. The resistance becomes the hardest at a certain position, corresponding to the compression point. Pull the starter grip briskly and smoothly for starting.

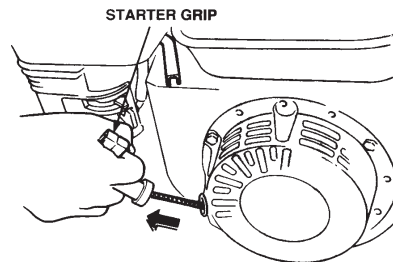


Figure 13. Starter Grip

CAUTION

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

GA-2.5H — INITIAL START-UP ENGINE/OPERATION

- If the engine has started, slowly return the choke lever (Figure 11) to the **"OPEN"** position. If the engine has not started repeat steps 1 through 5.
- Before the generator is placed into operation, run the engine for 3-5 minutes. Check for abnormal smells, fuel leaks, and noises that would associate with lose components.
- Refer to the AC voltmeter (Figure 14) on the control panel. The voltage indicated on the voltmeter should be 120 VAC with no load applied.

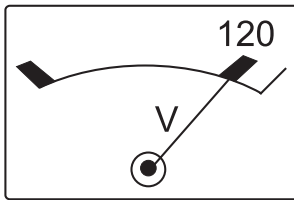


Figure 14. AC Voltmeter (120 VAC)

- If desired, verify with a voltmeter (Figure 15) that 120 VAC is present at the GFCI duplex receptacle and the 120V twist-lock receptacle.

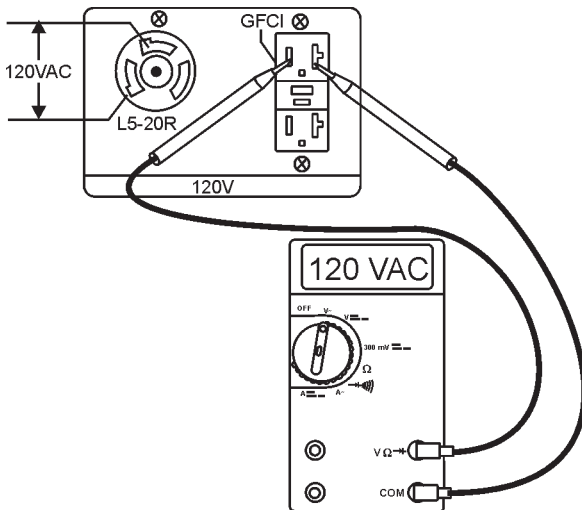


Figure 15. 120 VAC GFCI Receptacle

Connecting the Load

- Connect the load to the output receptacles.
- Place the main circuit breaker (Figure 16) in the **ON** position.

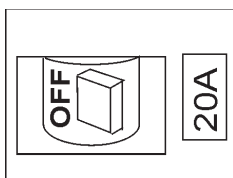


Figure 16. Main Circuit Breaker (ON)

Stopping The Engine

Normal Shutdown

- Place the **main circuit breaker** (Figure 9) in the **OFF** position.
- Remove the load from the generator, and let the engine run at idle for 3-5 minutes with the idle control switch in the **ON** position (Up)
- Place the **engine ON/OFF switch** (Figure 17) in the **"OFF"** position.

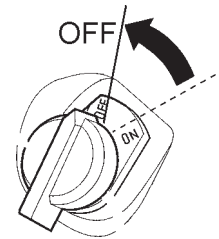


Figure 17. Engine ON/OFF Switch (OFF)

- Place the engine **fuel valve lever** (Figure 18) to the **"OFF"** position.

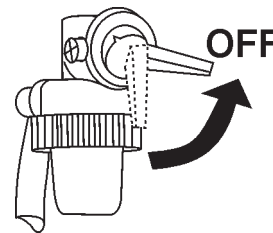


Figure 18. Engine Fuel Valve Lever (OFF Position)

Emergency Showdown

- Place the **engine ON/OFF switch** (Figure 17) in the **"OFF"** position.

MQ GA-2.5H — 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, or add STA-BIL to the fuel.
- 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.

MQ GA-2.5H — MAINTENANCE (ENGINE)

Use Table 6 as a general maintenance guideline when servicing your engine. For more detail engine maintenance information, refer to the engine owner's manual supplied with your engine.

Table 6. Engine Maintenance Schedule

DESCRIPTION (3)	OPERATION	BEFORE	FIRST MONTH OR 10 HRS.	EVERY 3 MONTHS OR 25 HRS.	EVERY 6 MONTHS OR 50 HRS.	EVERY YEAR OR 100 HRS.	EVERY 2 YEARS OR 200 HRS.
Engine Oil	CHECK	X					
	CHANGE		X				
Air Cleaner	CHECK	X					
	CHANGE			X (1)			
All Nuts & Bolts	Re-tighten If Necessary	X					
Spark Plug	CHECK-CLEAN				X		
	REPLACE						X
Cooling Fins	CHECK				X		
Spark Arrester	CLEAN					X	
Fuel Tank	CLEAN					X	
Fuel Filter	CHECK					X	
Idle Speed	CHECK-ADJUST					X (2)	
Valve Clearance	CHECK-ADJUST						X (2)
Fuel lines	CHECK	Every 2 years (replace if necessary) (2)					

(1) Service more frequently when used in **DUSTY** areas.

(2) These items should be serviced by your service dealer, unless you have the proper tools and are mechanically proficient. Refer to the HONDA Shop Manual for service procedures.

(3) For commercial use, log hours of operation to determine proper maintenance intervals.

MQ GA-2.5H — MAINTENANCE (ENGINE)

Maintenance

Perform the scheduled maintenance procedures as defined by Table 6 and below:

DAILY

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

WEEKLY

- Remove the fuel filter cap and clean the inside of the fuel tank.
- Remove or clean the filter at the bottom of the tank.
- Remove and clean the spark plug (Figure 19), then adjust the spark gap to 0.024 ~0.028 inch (0.6~0.7 mm). This unit has electronic ignition, which requires no adjustments.

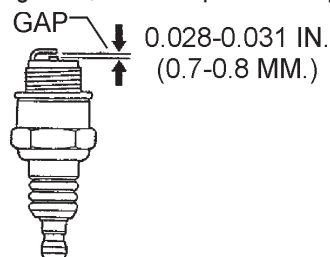


Figure 19. Spark Plug Gap

ENGINE OIL

- Drain the engine oil when the oil is **warm** as shown in Figure 20.
- Remove the oil drain bolt and sealing washer and allow the oil to drain into a suitable container.
- Replace engine oil with recommended type oil as listed in Table 5. For engine oil capacity, see Table 2 (engine specifications). **DO NOT** overfill.
- Install drain bolt with sealing washer and tighten securely.

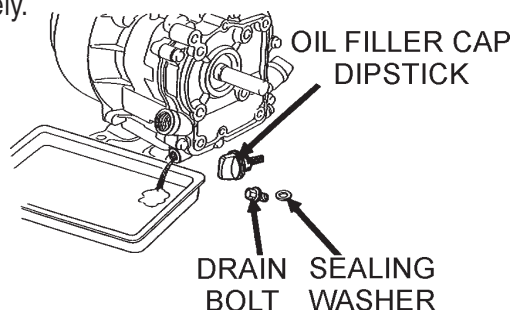


Figure 20. Engine Oil (Draining)

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.

! DANGER

DO NOT use gasoline as a cleaning solvent, because that would create a risk of fire or explosion.



ENGINE AIR CLEANER

- Remove the air cleaner cover and foam filter element as shown in Figure 21.
- Tap the paper filter element (Figure 21) several times on a hard surface to remove dirt, or blow compressed air [not exceeding 30 psi (207 kPa, 2.1 kgf/cm²)] through the filter element from the air cleaner case side. **NEVER** brush off dirt. Brushing will force dirt into the fibers. Replace the paper filter element if it is excessively dirty.

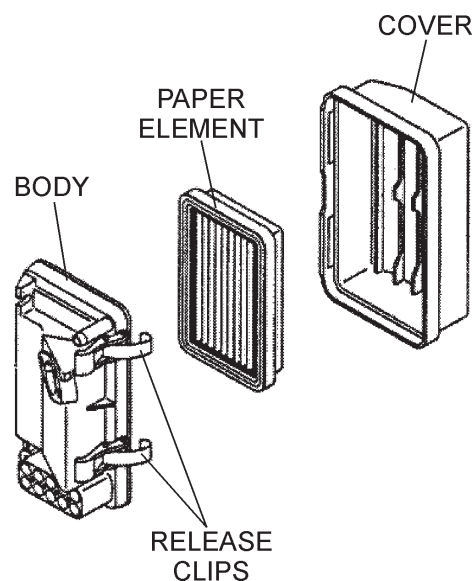
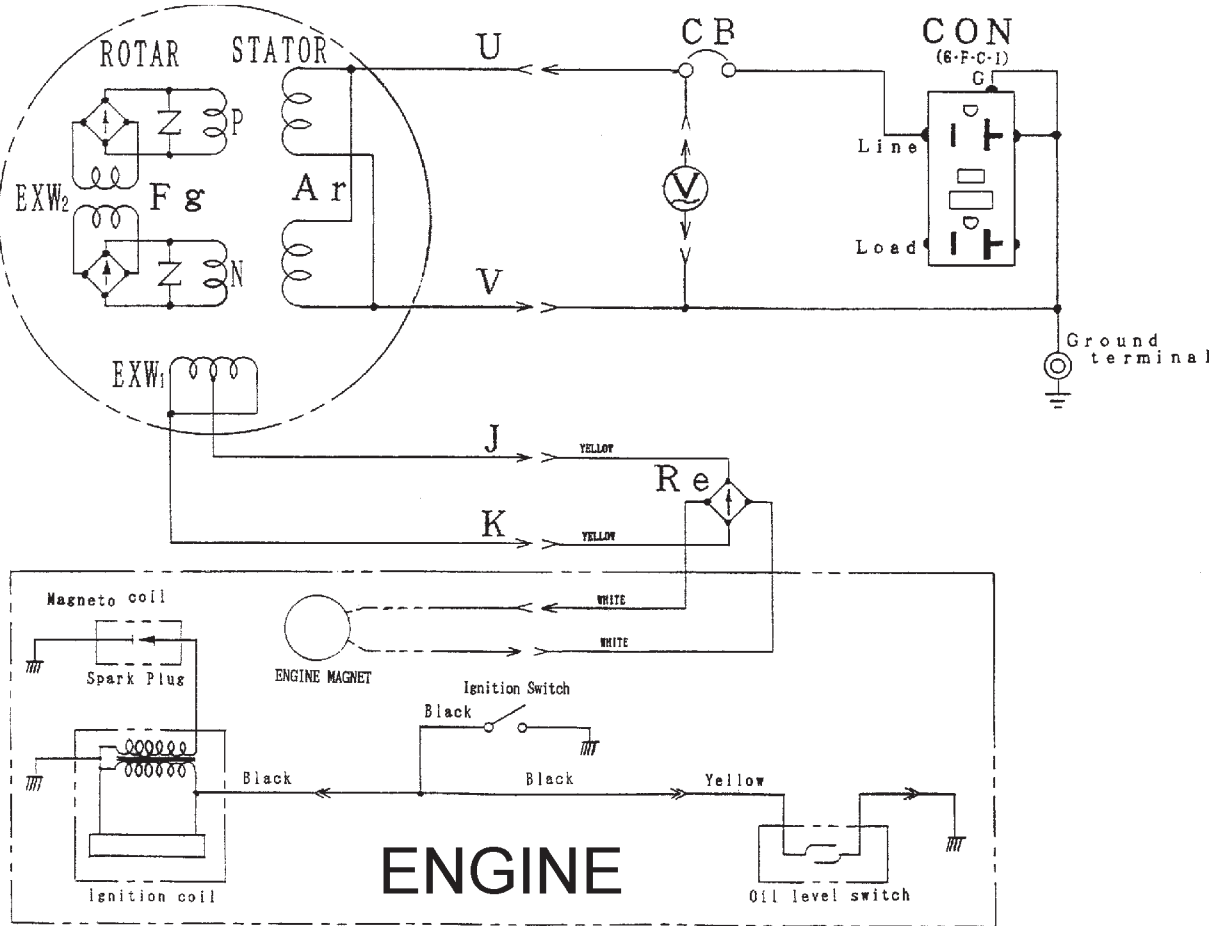


Figure 21. Engine Air Cleaner

GA-2.5H — WIRING DIAGRAM (S/N 5496762 AND BELOW)

GENERATOR



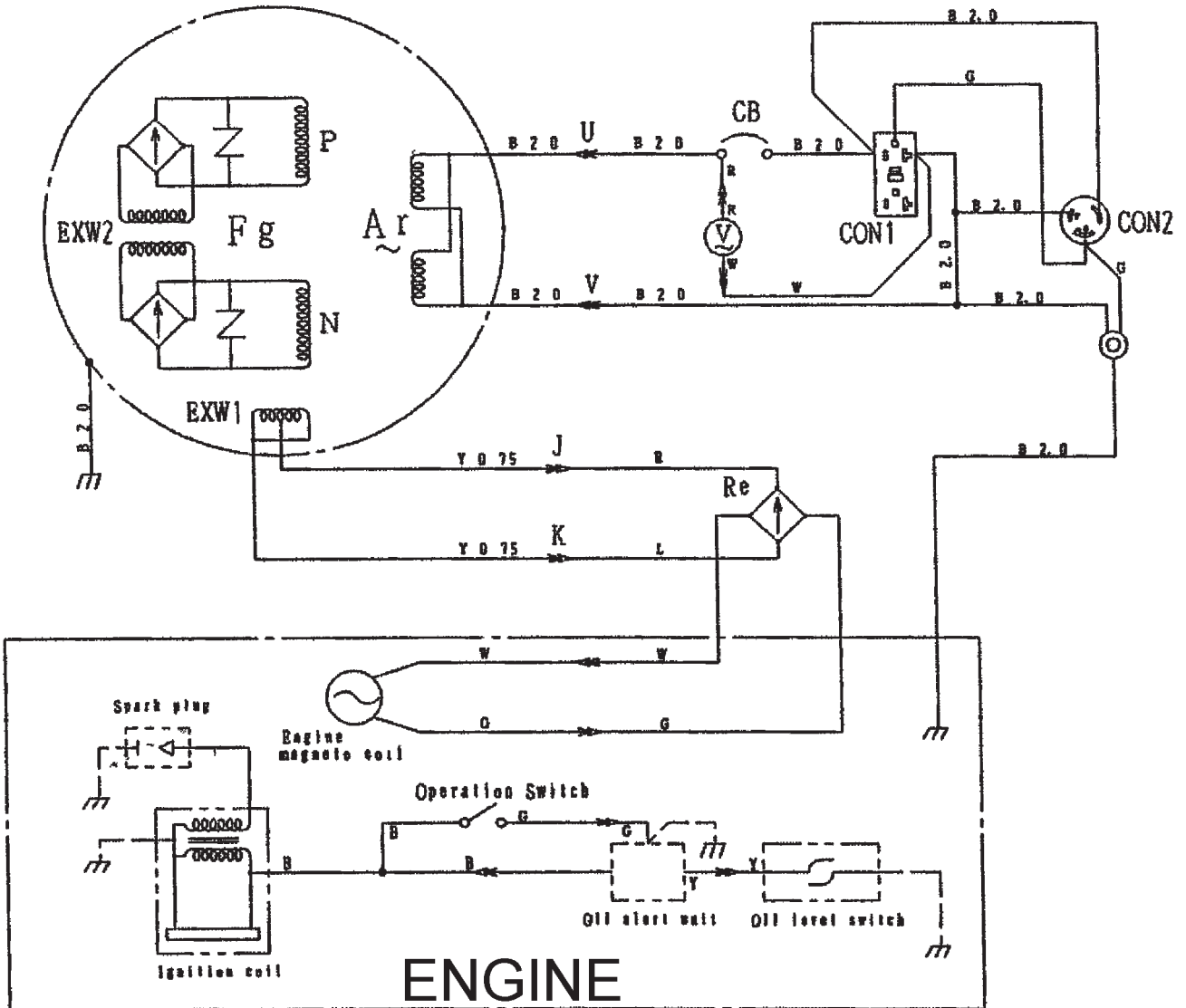
COLOR CODE			
WIRE COLOR		WIRE COLOR	
B	BLACK	R	RED
L	BLUE	W	WHITE
BR	BROWN	Y	YELLOW
G	GREEN	LB	LIGHT BLUE
GR	GRAY	LG	LIGHT GREEN
V	VIOLET	O	ORANGE
P	PINK		

SYMBOL	DESIGNATION
Ar	ARMATURE WINDING
Fg	FIELD WINDING
EXW1~2	EXCITATION WINDING
CB	CIRCUIT BREAKER 20A
V	AC VOLTMETER 120V
Re	RECTIFIER
CON	RECEPTACLE 5-20R 20A, 125V

Figure 22. Generator/Engine Wiring Diagram (S/N 5496762 and below)

GA-2.5H — WIRING DIAGRAM (S/N 5496763 AND ABOVE)

GENERATOR



COLOR CODE			
WIRE COLOR		WIRE COLOR	
B	BLACK	R	RED
L	BLUE	W	WHITE
BR	BROWN	Y	YELLOW
G	GREEN	LB	LIGHT BLUE
GR	GRAY	LG	LIGHT GREEN
V	VIOLET	O	ORANGE
P	PINK		

SYMBOL	DESIGNATION
Ar	ARMATURE WINDING
Fg	FIELD WINDING
EXW1-2	EXCITATION WINDING
CB	CIRCUIT BREAKER 20A
V	AC VOLTMETER 120V
Re	RECTIFIER
CON 1	RECEPTACLE 5-20R 20A, 125V
CON 2	RECEPTACLE L5-20R 20A, 125V

Figure 23. Generator/Engine Wiring Diagram (S/N 5496763 and above)

GA-2.5H — 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 7) 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 7. 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?	Tranistor 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. Clean or replace carburetor. Check carburetor float.

GA-2.5H — TROUBLESHOOTING (ENGINE)

TABLE 7. ENGINE TROUBLESHOOTING (CONTINUED)

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Insufficient power output "compression" and overheats	Malfunction in blower?	Check or replace blower.
	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. Check muffler, replace if necessary.
	Wrong spark plug?	Replace spark plug with manufactures suggested type spark plug.
Exhaust color is continously "WHITE"	Lubricating oil is wrong viscosity?	Replace lubricating oil with correct viscosity.
	Worn rings?	Replace rings
Exhaust color is continously "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 "engine runs too rich?"	Adjust carburetor.

GA-2.5H — 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 8) 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 8. 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.
	Breaker malfunction?	Check or replace CB1.
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.
Does not accelerate from low to high "LOAD ACTIVE"	Control box internal wiring defective?	Check control box wiring.
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-2.5H — EXPLANATION OF CODE IN REMARKS COLUMN

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

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 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.



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 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.

GA-2.5H 1 TO 5 UNITS WITH HONDA GX160K1EMA2 ENGINE

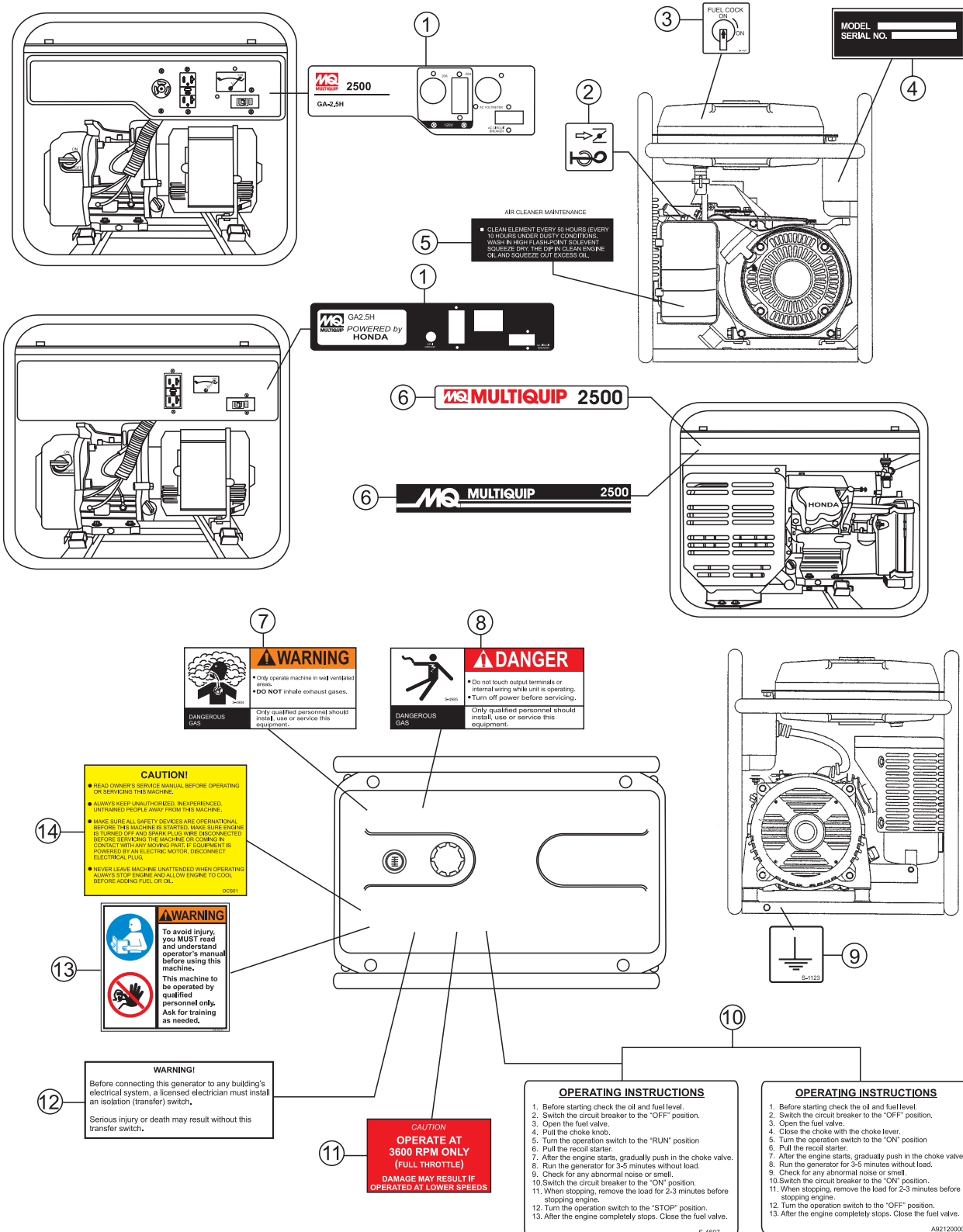
1 to 5 Units

Qty.	P/N	Description
5	9807956846	SPARK PLUG
1	15510ZE1033	OIL LEVEL SWITCH
1	15600ZE1003	DIPSTICK
1	36100ZE1015	STOP SWITCH
5	17211ZBZ000	ELEMENT AIR
5	28462ZH8003	ROPE, RECOIL STARTER
2	0601804887	CIRCUIT BREAKER
2	0601812597	RECEPTACLE S/N 5496762 AND BELOW
2	0601812598	RECEPTACLE S/N 5496763 AND ABOVE
2	0601823204	RECTIFIER
2	0810107103	FILTER FUEL (TANK) S/N 5496762 AND BELOW
2	A9924800004	FILTER FUEL (TANK) S/N 5496763 AND ABOVE
1	16950898632	FUEL COCK
5	16952883005	FUEL FILTER
1	A9924800014	CAP, FUEL TANK

GA-2.5H — NAMEPLATE AND DECALS.

Machine Safety Decals

The GA-2.5H portable generator is equipped with a number of safety decals (see below). 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



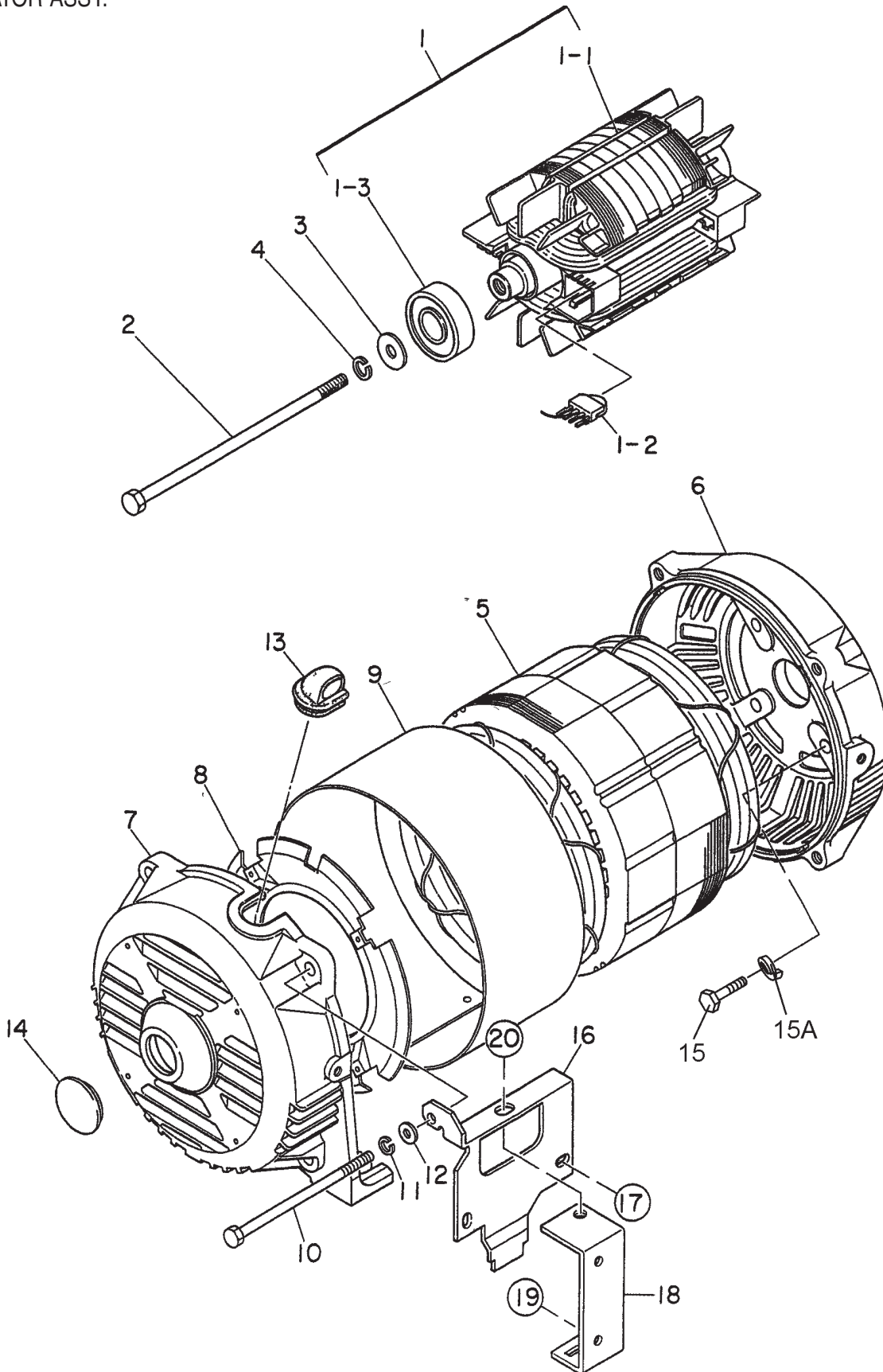
GA-2.5H — NAMEPLATE AND DECALS.

NAME PLATE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	7930505002	DECAL; CONTROL PANEL	1	S/N 5496762 AND BELOW
1	A2511201002	DECAL; CONTROL PANEL	1	S/N 5496763 AND ABOVE
2	87528ZB2630	DECAL; CHOKE	1	S/N 5496763 AND ABOVE
3	1980680004	DECAL; FUEL COCK	1	S-3704
4		NAMEPLATE	1	CONTACT MQ PARTS
5	87533ZC0630	DECAL; AIR CLEANER	1	
6	7980615403	DECAL; MQ MULTIQUIP 2500	1	S/N 5496762 AND BELOW
6	A2561000003	DECAL; MQ MULTIQUIP 2500	1	S/N 5496763 AND ABOVE
7	8700611804	DECAL; WARNING DANGEROUS GAS	1	S-4984
8	8700611904	DECAL; DANGER ELECTRICAL SHOCK HAZ.....	1	S-4985
9	0800628504	DECAL; GROUND	1	S-1123
10	7900638204	DECAL; OPERATING INSTRUCTIONS, S-4607	1	S/N 5496762 AND BELOW
10	A9521200004	DECAL; OPERATING INSTRUCTIONS	1	S/N 5496763 AND ABOVE
11	7900636004	DECAL; CAUTION OPER. AT 3600 RPM ONLY	1	S-4461
12	0820610404	DECAL; WARNING, TRANSFER SWITCH.....	1	S-3627
13	35137	DECAL; WARNING, READ MANUAL	1	S/N 5496763 AND ABOVE
14	0820610804	DECAL; WARNING, READ MANUAL, DSC01.....	1	S/N 5496762 AND BELOW

MQ GA-2.5H — GENERATOR ASSY .

GENERATOR ASSY.



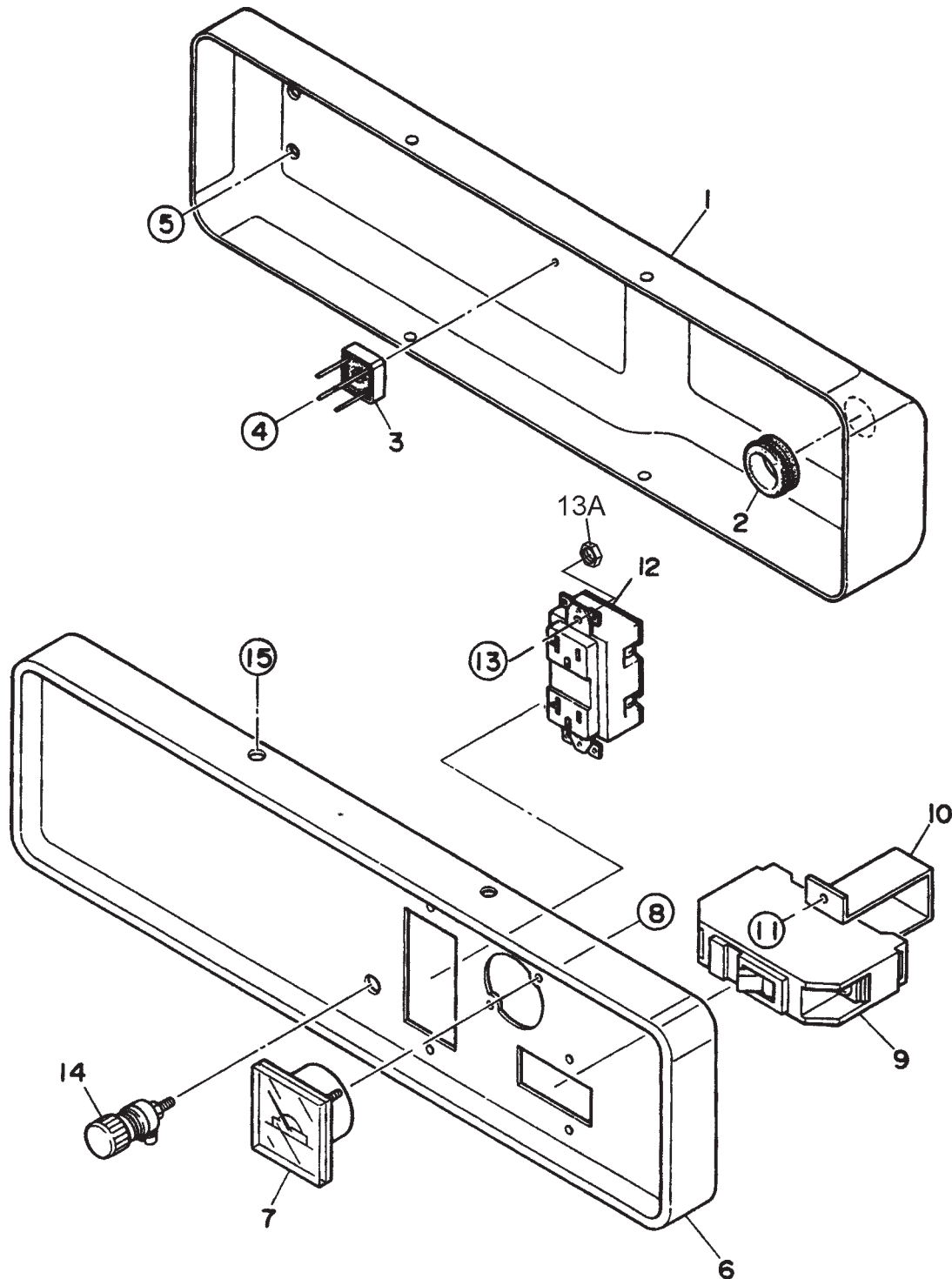
MQ GA-2.5H — GENERATOR ASSY .

GENERATOR ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	7931000203	ROTOR ASSY.	1	INCLUDES ITEMS W/*
1-1*		FIELD COIL ASSY.	1	NOT SOLD SEPERATELY
1-2	0601823213	RECTIFIER	2	D3SB 80
1-2	0601822638	SURGE ABSORBER	2	TNR 15G431K
1-3*	0603000040	BEARING	1	6204 2RU NY5C S30
2	7681017104	SET BOLT, ROTOR	1	
3	0801086004	SET WASHER, BEARING	1	
4	0040008000	SPRING WASHER	1	
5	7921341803	ARMATURE ASSY.	1	S/N 5497956 AND BELOW
5	A2135000203	ARMATURE ASSY.	1	S/N 5497957 AND ABOVE
6	7931315002	END BRACKET (C SIDE)	1	
7	7931315102	END BRACKET (B SIDE)	1	
8	7875021523	GUIDE PANEL, AIR	1	
9	7681331003	COVER	1	
10	7681344204	SET BOLT, STATOR	4	
11	0040006000	SPRING WASHER	4	
12	0041206000	PLAIN WASHER	4	
13	7871329514	GROMMET	1	
14	0601851760	CAP	1	
15	0013608025	HEX. HEAD BOLT	4	S/N 5497956 AND BELOW
15	0013608020	HEX. HEAD BOLT	4	S/N 5497957 AND ABOVE
15A	0040008000	SPRING WASHER	4	
16	7935420104	MUFFLER STAY	1	S/N 5497957 AND ABOVE
17	0017106016	HEX. HEAD BOLT	2	S/N 5497957 AND ABOVE
18	7935420004	MUFFLER STAY	1	S/N 5497957 AND ABOVE
19	0207206000	HEX NUT	2	
20	0017108020	HEX HEAD BOLT	1	

MQ GA-2.5H — CONTROL BOX ASSY. S/N 5496762 AND BELOW

CONTROL BOX ASSY. (S/N 5496762 AND BELOW)



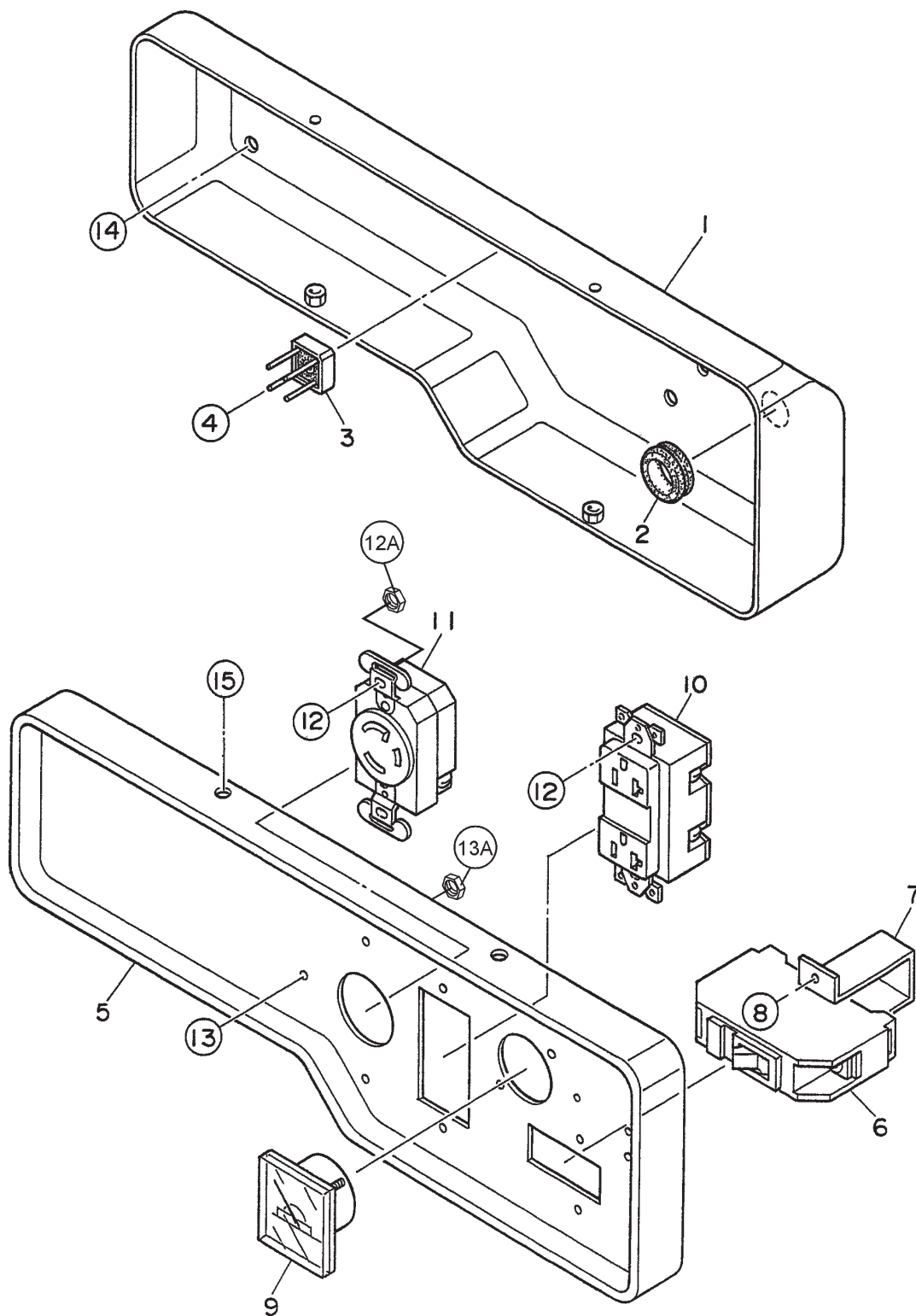
MQ GA-2.5H — CONTROL BOX ASSY. S/N 5496762 AND BELOW

CONTROL BOX ASSY. (S/N 5496762 AND BELOW)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	7931800203	CONTROL BOX	1	
2	0801354504	GROMMET	1	
3	0601823204	RECTIFIER	1	S5 VB60
4	0027103020	MACHINE SCREW	1	
5	011106015	HEX. HEAD BOLT	4	REPLACES 0017106015
6	7931810303	CONTROL PANEL	1	
7	0601800258	AC VOLTMETER	1	120/ 240V 8283
8	0038303000	HEX. NUT	2	
9	0601804887	CIRCUIT BREAKER	1	KM- 51 265V 20A
10	3011816004	BRACKET, CIRCUIT BREAKER	1	
11	0027104010	MACHINE SCREW	2	
12	0601812597	RECEPTACLE	1	5- 20R GF- 5352(G.F.C.I.)
13	0027104010	MACHINE SCREW	2	
13A	0038404000	HEX. NUT	2	OEMAA8
14	0601815103	GROUND TERMINAL	1	
15	0017105010	HEX. HEAD BOLT	4	

MQ GA-2.5H — CONTROL BOX ASSY. S/N 5496763 AND ABOVE

CONTROL BOX ASSY. (S/N 5496763 AND ABOVE)



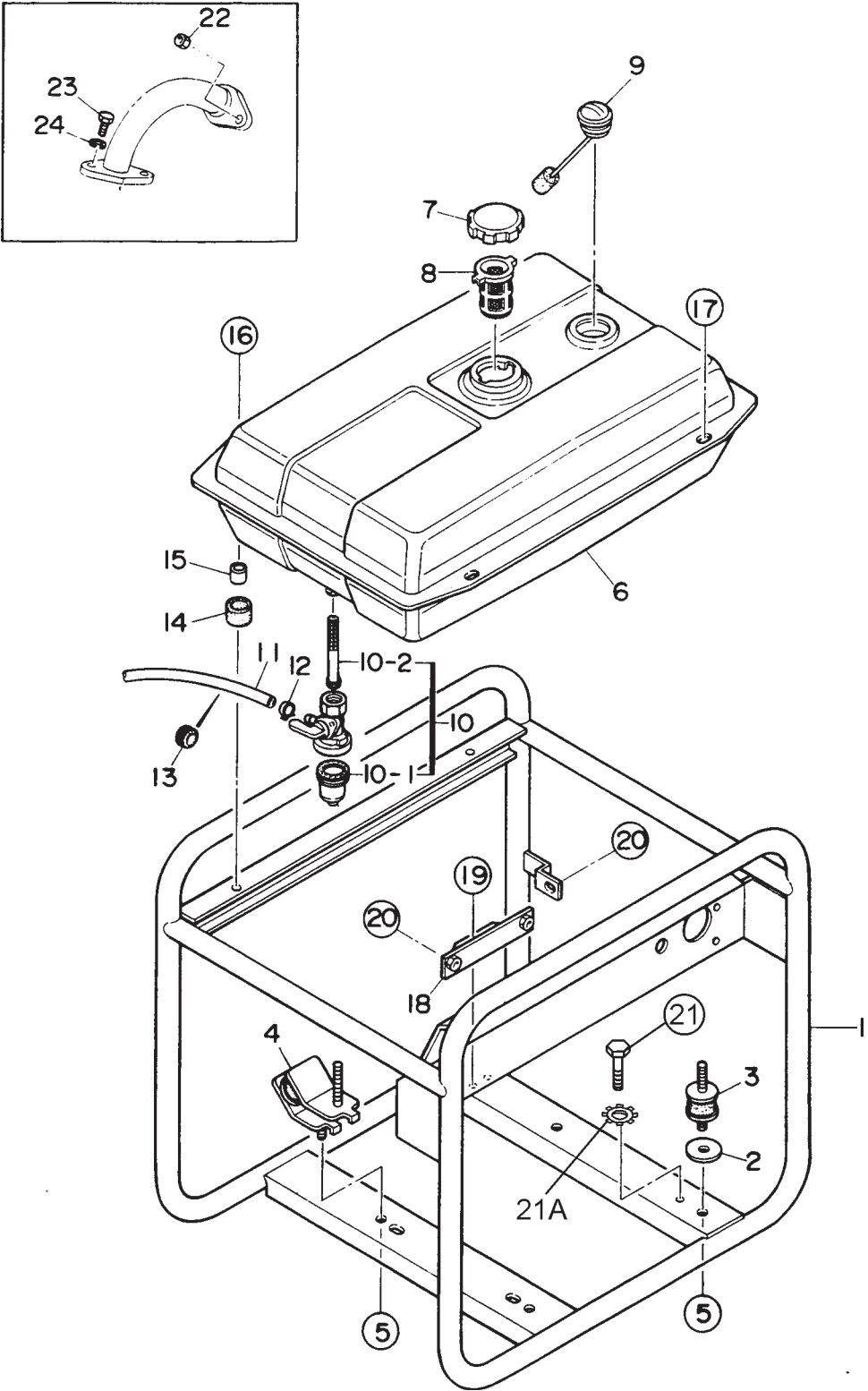
MQ GA-2.5H — CONTROL BOX ASSY. S/N 5496763 AND ABOVE

CONTROL BOX ASSY. (S/N 5496763 AND ABOVE)

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	A0101000103	CONTROL BOX	1	
2	0801354504	GROMMET	1	
3	0601823204	RECTIFIER	1	S5VB60
4	0027103012	MACHINE SCREW	1	
5	A2224000103	CONTROL PANEL	1	
6	0601804887	CIRCUIT BREAKER	1	KM-51 : 20A
7	3011816004	BRACKET, CIRCUIT BREAKER	1	
8	0021004010	MACHINE SCREW	2	
9	0601806819	AC VOLTMETER	1	DE450-011 : 0 ~ 120V
10	0601812598	RECEPTACLE	1	5-20R: 125V, 20A
11	0601812592	RECEPTACLE	1	L5-20R:125V, 20A
12	0021004010	MACHINE SCREW	4	
12A	0207004000	HEX NUT	4	
13	0021004015	MACHINE SCREW	4	
13A	0207004000	HEX NUT	1	
14	0017106016	HEX. HEAD BOLT	4	
15	0017105010	HEX. HEAD BOLT	4	

MQ GA-2.5H — PIPE FRAME ASSY. S/N 5496762 AND BELOW

PIPE FRAME ASSY. (S/N 5496762 AND BELOW)



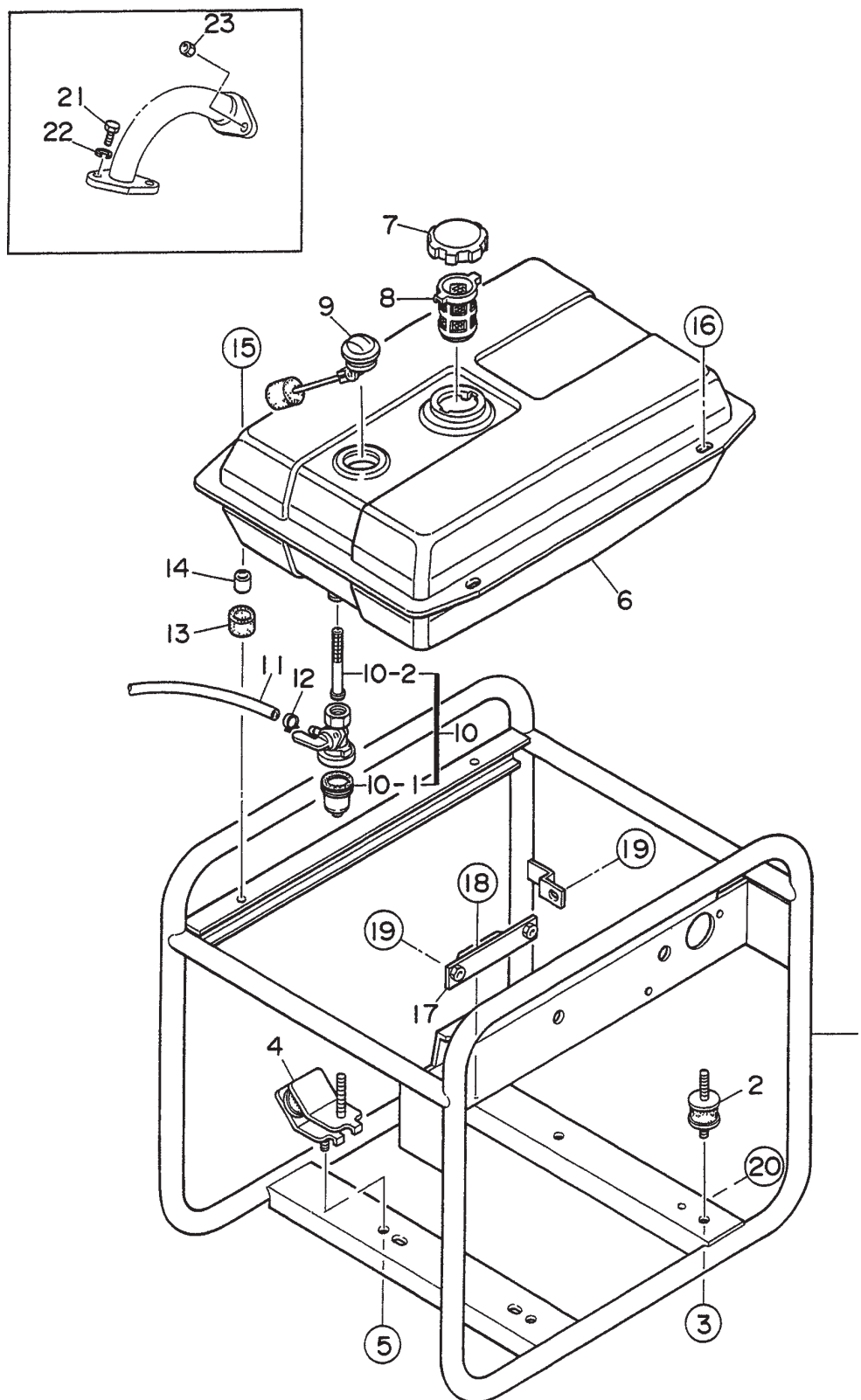
MQ GA-2.5H — PIPE FRAME ASSY. S/N 5496762 AND BELOW

PIPE FRAME ASSY. (S/N 5496762 AND BELOW)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	7935400302	PIPE FRAME	1	
2	0801886104	WASHER	2	
3	7935419204	RUBBER SUSPENSION	2	
4	7935419304	RUBBER SUSPENSION	2	
5	020108060	HEX. NUT	8	REPLACES 0207208000
6	7935510102	FUEL TANK	1	
7	0810106004	CAP, FUEL TANK	1	
8	0810107103	FUEL FILTER	1	
9	0602125031	FUEL GAUGE	1	CJ-13
10	16950898632	FUEL COCK	1	
10- 1	16081471831	CUP	1	
10- 2	16952883005	FILTER	1	
11	950014500160M	HOSE	1	
12	9500202080	HOSE BAND	2	
13	90854ZB2000	GROMMET	1	
14	7855525514	RUBBER WASHER	2	
15	7855525604	COLLAR	2	
16	011208030	HEX. HEAD BOLT	2	REPLACES 0017108030
17	011008020	HEX. HEAD BOLT	2	REPLACES 0017108020
18	7935421004	BRACKET, MUFFLER COVER	1	
19	0017106016	HEX. HEAD BOLT	2	
20	0017106016	HEX. HEAD BOLT	3	
21	0017106016	HEX. HEAD BAOLT	1	
21A	0040506000	TOOTH WASHER	1	
22	020108060	HEX. NUT	2	REPLACES 0031308000
23	011208025	HEX. HEAD BOLT	2	REPLACES 0011308025
24	0040008000	SPRING WASHER	2	

MQ GA-2.5H — PIPE FRAME ASSY. S/N 5496763 AND ABOVE

PIPE FRAME ASSY. (S/N 5496763 AND ABOVE)



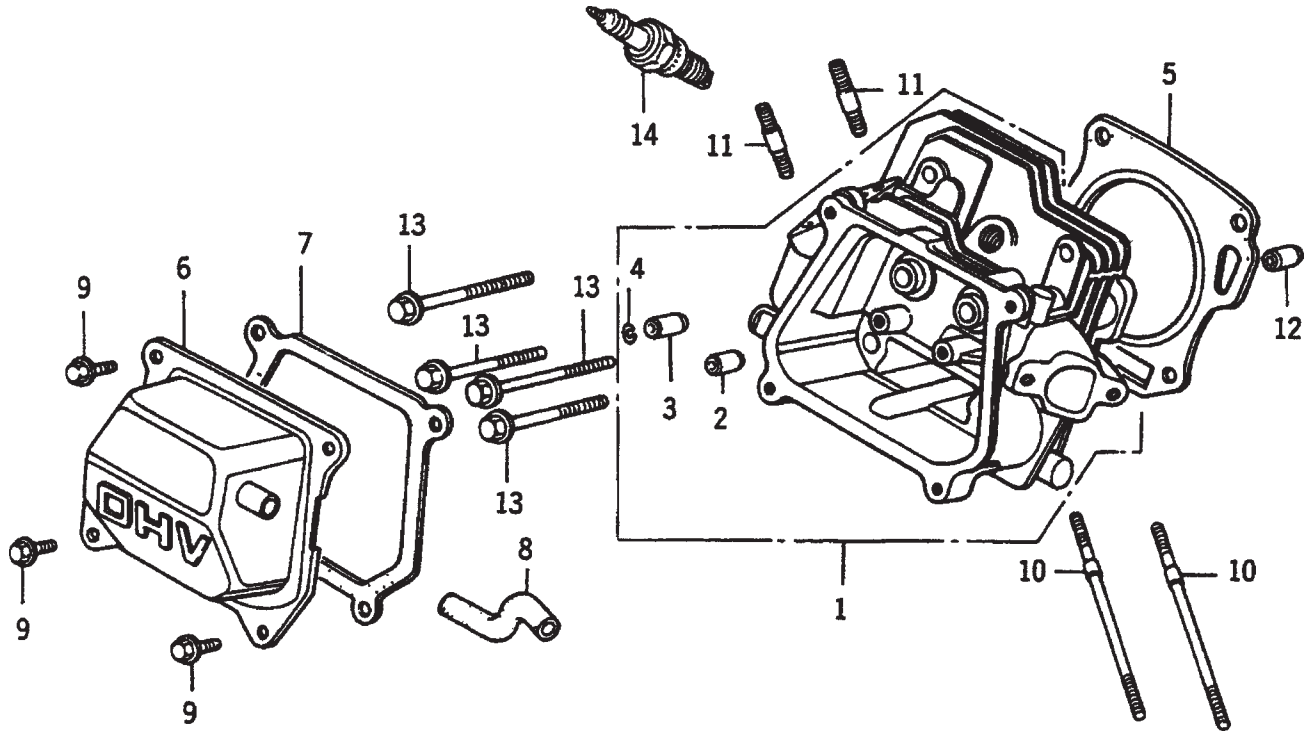
MQ GA-2.5H — PIPE FRAME ASSY. S/N 5496763 AND ABOVE

PIPE FRAME ASSY. (S/N 5496763 AND ABOVE)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	A2417000202	PIPE FRAME	1	
2	7935419204	RUBBER SUSPENSION	2	
3	020108060	HEX. NUT	4	REPLACES 0207208000
4	7935419304	RUBBER SUSPENSION	2	
5	020108060	HEX. NUT	4	REPLACES 0207208000
6	A2364000002	FUEL TANK	1	
7	A9924800014	CAP, FUEL TANK	1	
8	A9924800004	FUEL FILTER	1	
9	0602125034	FUEL GAUGE	1	CJ-58A
10	16950898632	FUEL COCK	1	
10- 1	16081471831	CUP, FUEL STRAINER	1	
10- 2	16952883005	FILTER N/C	1	
11	950014518040	HOSE	1	
12	9500202080	HOSE BAND	2	
13	7855525514	RUBBER CUSHION	2	
14	7855525604	COLLAR	2	
15	011208030	HEX. HEAD BOLT	2	REPLACES 0017108030
16	011008020	HEX. HEAD BOLT	2	REPLACES 0017108020
17	7935421004	BRACKET, MUFFLER COVER	1	
18	0017106016	HEX. HEAD BOLT	2	
19	0017106016	HEX. HEAD BOLT	3	
20	0019206016	HEX. HEAD BOLT	1	
21	0011308020	HEX. HEAD BOLT	2	
22	0040008000	WASHER, LOCK	2	
23	020108060	HEX. NUT	2	REPLACES 0031308000

HONDA GX160K1EMA2 ENGINE — CYLINDER HEAD ASSY.

CYLINDER HEAD ASSY.



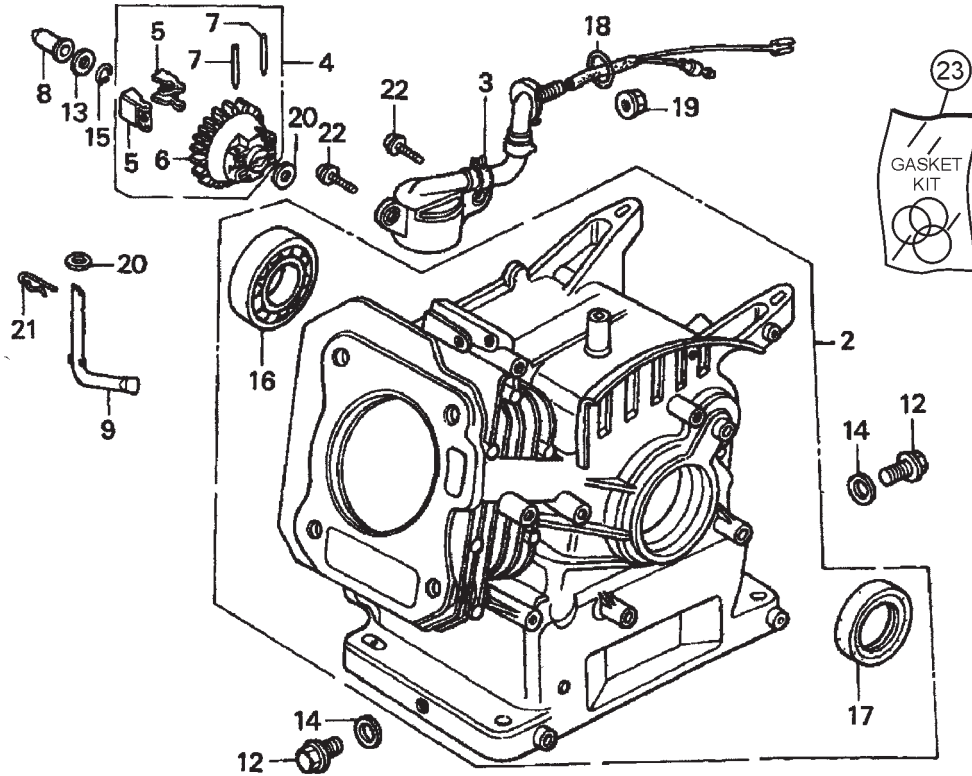
HONDA GX160K1EMA2 ENGINE — CYLINDER HEAD ASSY.

CYLINDER HEAD ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12210ZH8020	HEAD COMP., CYLINDER	1	INCLUDES ITEMS W/*
2*	12204ZE1306	GUIDE, IN. VALVE (OVER SIZE)	1	
3*	12205ZE1315	GUIDE, IN. VALVE	1	
4*	12216ZE5300	CLIP, VALVE GUIDE	1	
5	12251ZF1800	GASKET, CYLINDER HEAD	1	
6	12310ZE1010	COVER COMP, HEAD	1	
7	12391ZE1000	PACKING, HEAD COVER	1	
8	15721732000	TUBE, BREATHER	1	
9	90013883000	BOLT, FLANGE 6X12	4	
10	90043ZB2003	BOLT, STUD 6X94	2	
11	90047ZE1000	BOLT, STUD 8X32	2	
12	9430110160	PIN, DOWEL 10X1	2	
13	957230806000	BOLT, FLANGE 8X60	4	
14	9807956846	PLUG, SPARK (BPR6ES NGK)	1	
14	9807956855	PLUB, SPARK (W20EPR-U ND)	1	

HONDA GX160K1EMA2 ENGINE — CYLINDER BARREL ASSY.

CYLINDER BARREL ASSY.



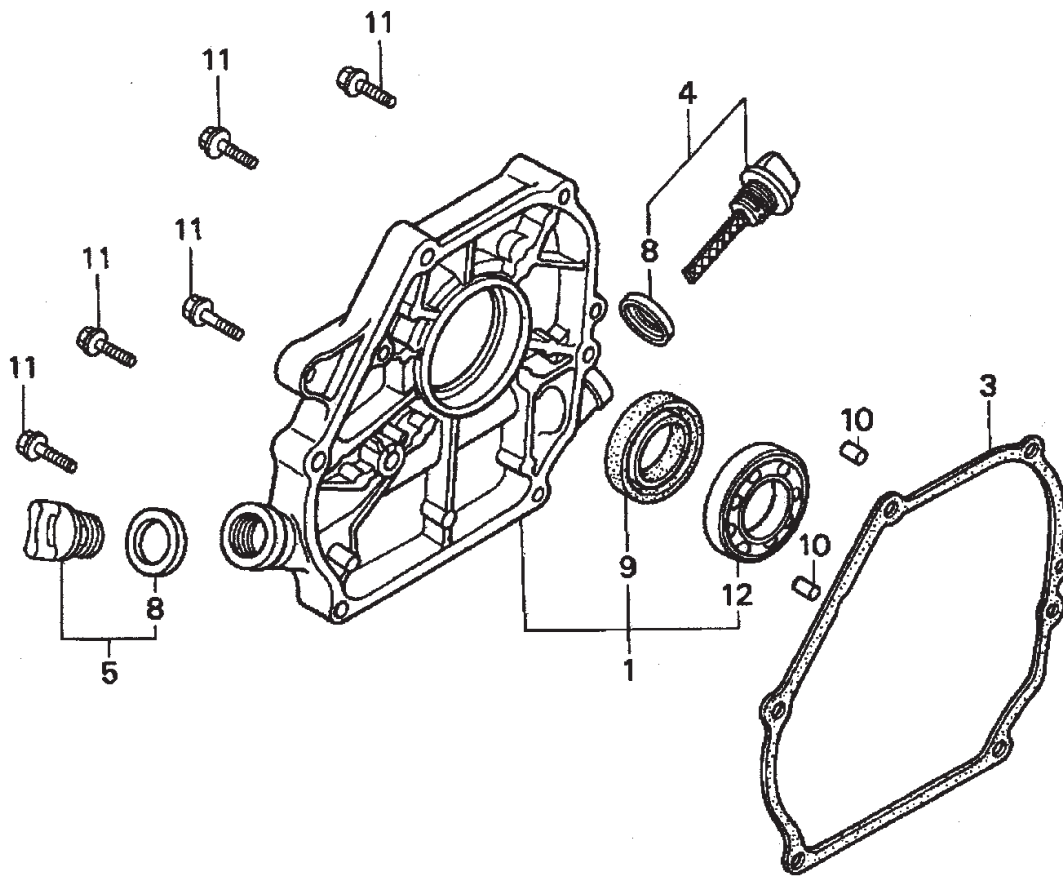
HONDA GX160K1EMA2 ENGINE — CYLINDER BARREL ASSY.

CYLINDER BARREL ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
2	12000ZH8406	BARREL ASSY, CYLINDER	1	INCLUDES ITEMS W/#
3	15510ZE1033	SWITCH ASSY, OIL LEVEL	1	
4	16510ZE1000	GOVERNOR ASSY.	1	USE UP TO S/N 4913229
			INCLUDES ITEMS W/*
4	16506ZL0000	GOVERNOR ASSY.	1	USE FROM S/N 4913230
			INCLUDES ITEMS W/*
5*	16511ZE1000	WEIGHT, GOVERNOR	2	
6*	16512ZE1000	HOLDER, GOVERNOR WEIGHT	1	
7*	16513ZE1000	PIN, GOVERNOR WEIGHT	2	
8	16531ZE1000	SLIDER, GOVERNOR	1	
9	16541ZE1000	SHAFT, GOVERNOR ARM	1	
12	90131ZE1000	BOLT, DRAIN PLUG	2	
13	90451ZE1000	WASHER, THRUST 6MM	1	
14	90601ZE1000	WASHER, DRAIN PLUG 10.2MM	2	
15	90602ZE1000	CLIP, GOVERNOR HOLDER	1	
16#	91001ZF1003	BEARING, RADIAL BALL(6205TMB)	1	
17#	91201Z0T801	OIL SEAL 25X41X6	1	
18	91353671004	O-RING, 13.5X1.5	1	
19	9405010000	NUT, FLANGE, 10MM	1	
20	9410106800	WASHER, PLAIN, 6MM	2	
21	9425108000	PIN, LOCK, 8MM	1	
22	957010601200	BOLT, FLANGE, 6X12	2	
23	06111ZH8405	GASKET KIT	1	

HONDA GX160K1EMA2 ENGINE — CRANKCASE COVER ASSY.

CRANKCASE COVER ASSY.



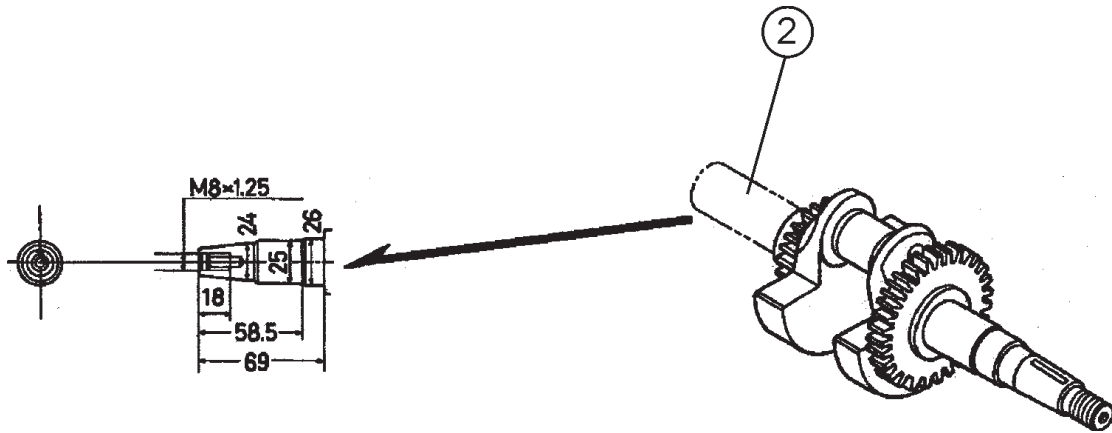
HONDA GX160K1EMA2 ENGINE — CRANKCASE COVER ASSY.

CRANKCASE COVER ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11300ZE1634	COVER ASSY, CRANKCASE	1	INCLUDES ITEMS W/*
3	11381ZH8801	GASKET, CASE COVER	1	
4	15600ZE1003	CAP ASSY, OIL FILLER	1	INCLUDES ITEMS W/#
5	15600ZG4003	CAP, OIL FILLER	1	
8#	15625ZE1003	GASKET, OIL FILLER CAP	1	
9*	91201ZOT801	OIL SEAL, 25X41X6	1	
10	9430108140	PIN, DOWEL 8X14	2	
11	957010803200	BOLT, LANGE 8X32	6	
12*	961006205000	BEARING, RADIAL BALL, 6205	1	

HONDA GX160K1EMA2 ENGINE — CRANKSHAFT ASSY.

CRANKSHAFT ASSY.



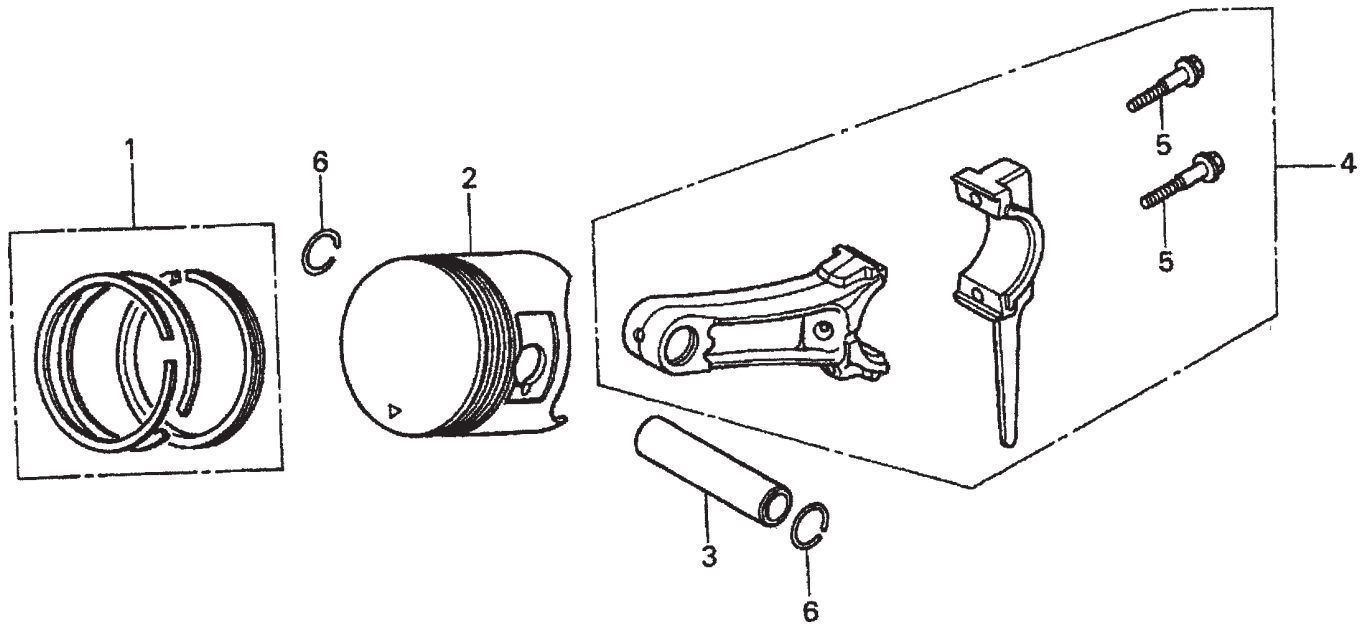
HONDA GX160K1EMA2 ENGINE — CRANKSHAFT ASSY.

CRANKSHAFT ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	13310ZB2000	CRANKSHAFT (VE-TYPE)	1	

HONDA GX160K1EMA2 ENGINE — PISTON ASSY.

PISTON ASSY.



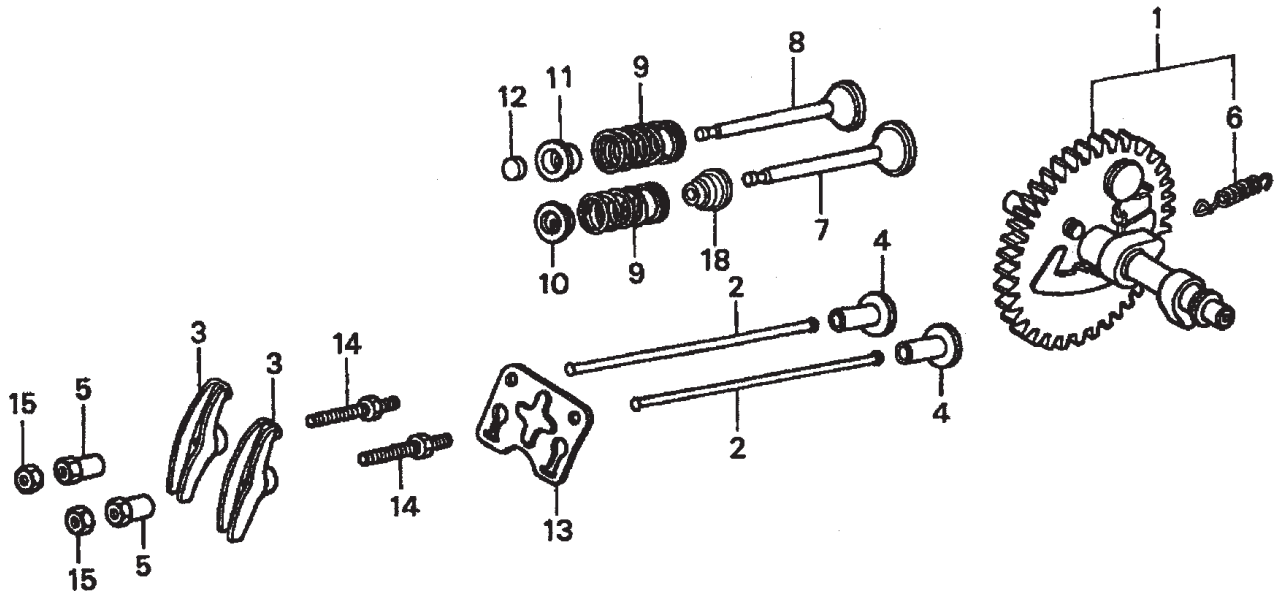
HONDA GX160K1EMA2 ENGINE — PISTON ASSY.

PISTON ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	13010ZF1023	RING SET, PISTON (STD)	1	
1	13011ZF1023	RING SET, PISTON (0.25)	1	
1	13012ZF1023	RING SET, PISTON (0.50)	1	
1	13013ZF1023	RING SET, PISTON (0.75)	1	
2	13101ZH8010	PISTON (STD)	1	
2	13101ZH8010	PISTON (0.25)	1	
2	13103ZH8000	PISTON (0.50)	1	
2	13102ZH8010	PISTON (0.75)	1	
3	13111ZE1000	PIN, PISTON	1	
4	132000ZE1010	ROD ASSY, CONNECTING	1	
5	90001ZE1000	BOLT, CONNECTING ROD	2	
6	90551ZE1000	CLIP, PISTON PIN, 18MM	2	

HONDA GX160K1EMA2 ENGINE — CAMSHAFT ASSY.

CAMSHAFT ASSY.



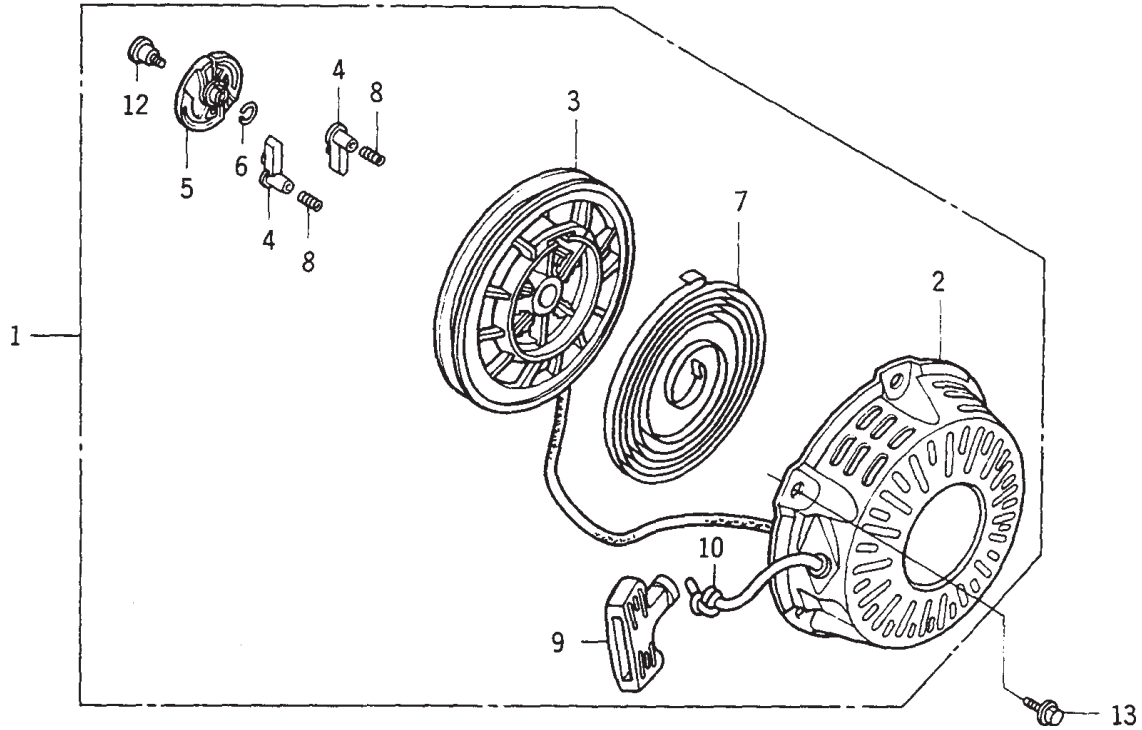
HONDA GX160K1EMA2 ENGINE — CAMSHAFT ASSY.

CAMSHAFT ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	14100ZE1812	CAM SHAFT ASSY.....	1	UP TO S/N 4913229
1	14100ZL0000	CAM SHAFT ASSY.....	1	FROM S/N 4913230
2	14410ZE1010	ROD, PUSH	2	
3	14431ZE1000	ARM, VALVE ROCKER	2	
4	14441ZE1000	LIFTER, VALVE	2	
5	14451ZE1013	PIVOT, ROCKER ARM	2	
6	14568ZE1000	SPRING, WEIGHT RETURN	1	
7	14711ZF1000	VALVE, IN	1	
8	14721ZF1000	VALVE, EX	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 ADJUSTING	2	
18	12209ZH8003	VALVE STEM	1	

HONDA GX160K1EMA2 ENGINE — RECOIL STARTER ASSY.

RECOIL STARTER ASSY.



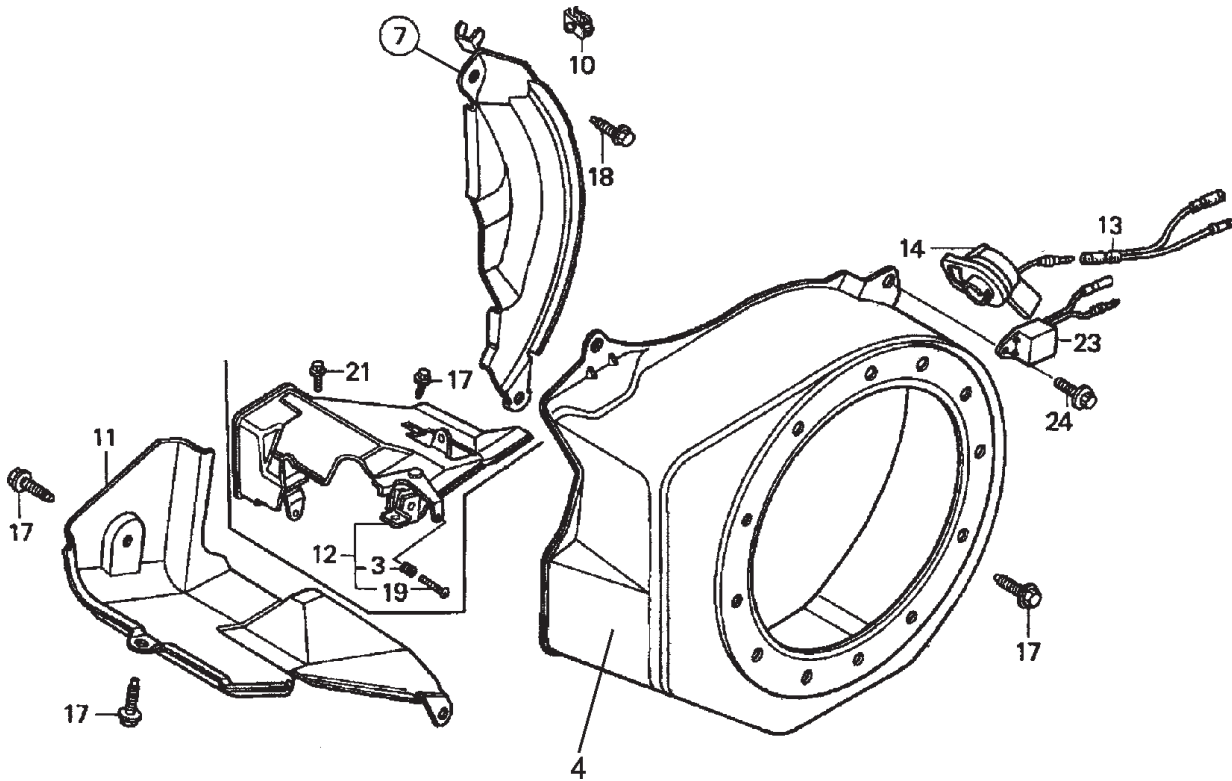
HONDA GX160K1EMA2 ENGINE — RECOIL STARTER ASSY.

RECOIL STARTER ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	28400ZH8013ZB	STARTER ASSY, RECOIL "NH1" BLACK	1	
2	28410ZH8003ZB	CASE, RECOIL STARTER "NH1" BLACK	1	
3	28420ZH8013	REEL, RECOIL STARTER	1	
4	28422ZH8013	RATCHET, STARTER	2	
5	28433ZH8003	GUIDE, RATCHET	1	
6	28441ZH8003	SPRING, FRICTION	1	
7	28442ZH8003	SPRING, RECOIL STARTER	1	
8	28443ZH8003	SPRING, RETURN	2	
9	28461ZH8003	KNOB, RECOIL STARTER	1	
10	28462ZH8003	ROPE, RECOIL STARTER	1	
12	90003ZH8003	SCREW, SETTING	1	
13	90008ZE2003	BOLT, FLANGE 6X10	3	

HONDA GX160K1EMA2 ENGINE — FAN COVER ASSY.

FAN COVER ASSY.



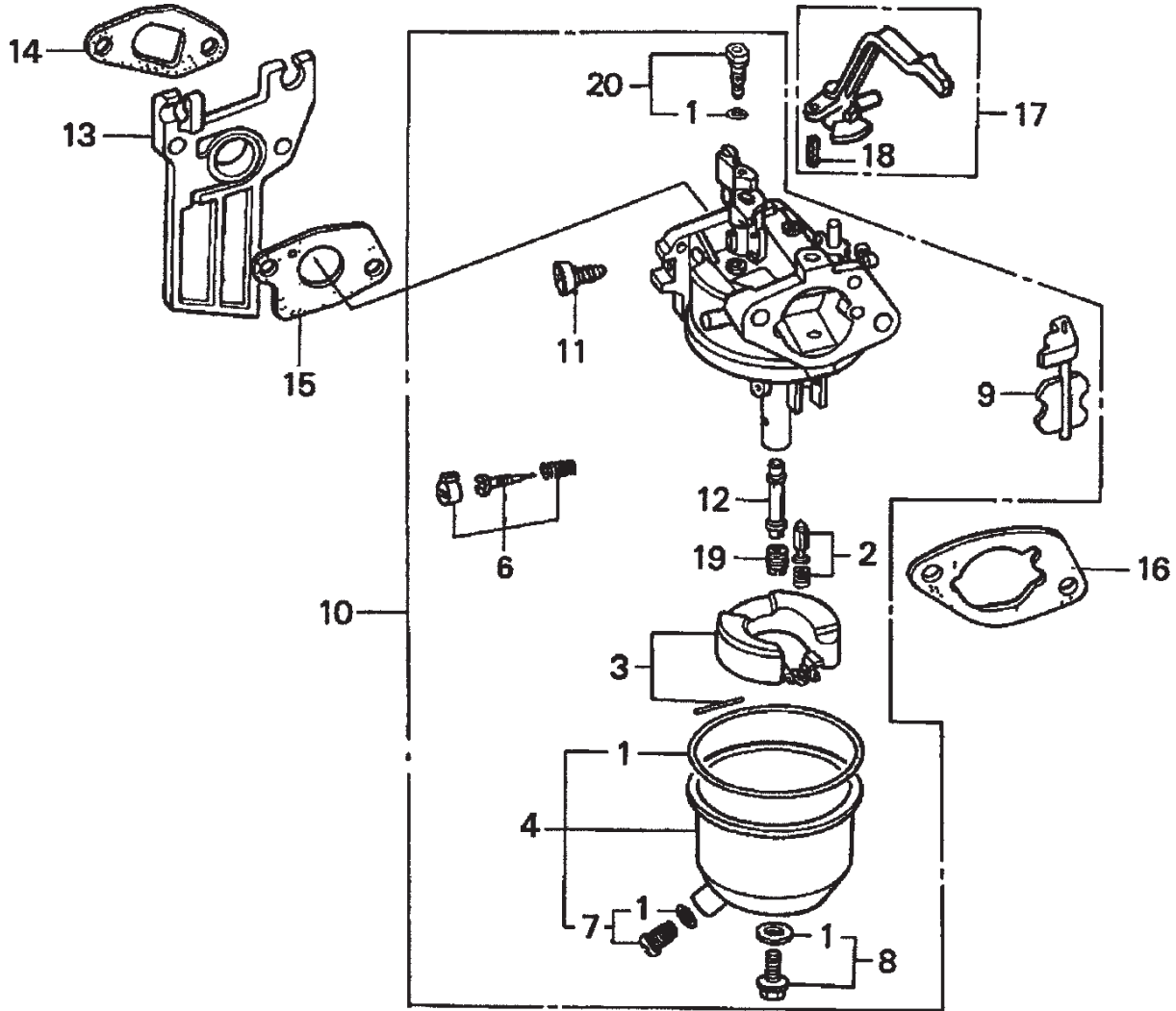
HONDA GX160K1EMA2 ENGINE — FAN COVER ASSY.

FAN COVER ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
3*	16584883300	SPRING, CONTROL ADJUSTING	1	
4	19610ZE1000ZC	COVER, FAN "NH1" BLACK	1	
7	19611ZH8820	PLATE, SIDE ALERT & LAMP	1	USE FROM S/N 475372719
7	19612ZH8821	PLATE, SIDE LAMP	1	USE FROM S/N 4795906~5372718
7	19612ZH8830	PLATE, SIDE ALERT & LAMP	1	USE UP TO S/N 4795905
10	19613ZE1010	CLAMP, CORD	1	USE UP TO S/N 4367320
10	90601ZH7013	CLAMP, CORD	1	USE FROM S/N 4367321
11	19630ZB2000	SHROUD COMP., LOWER	1	
12	19640ZB2010	SHROUD ASSY., UPPER	1	USE UP TO S/N 5048024
			INCLUDES ITEMS W/*
12	19640ZH8R60	SHROUD ASSY., UPPER	1	USE FROM S/N 5048025
			INCLUDES ITEMS W/*
13	32197ZH8003	SUB HARNESS	1	USE UP TO S/N 4367320
14	36100ZE1015	ENGINE, STOP SWITCH	1	USE UP TO S/N 4368640
14	36100ZH7003	ENGINE, STOP SWITCH	1	USE FROM S/N 4368641
17	90013883000	BOLT, FANGE 6X12	8	
18	90022888010	BOLT, FLANGE 6X20	1	
19*	93500050350A	SCREW, PAN 5X35	1	USE UP TO S/N 5048024
19*	93500050400G	SCREW, PAN 5X40	1	USE FROM S/N 5048025
21	957010600800	BOLT, FLANGE 6X8	1	
23	34150ZH7003	ALERT UNIT, OIL	1	USE FROM S/N 5372719
24	957010600800	BOLT, FLANGE 6X8	1	USE FROM S/N 5372719

HONDA GX160K1EMA2 ENGINE — CARBURETOR ASSY.

CARBURETOR ASSY.



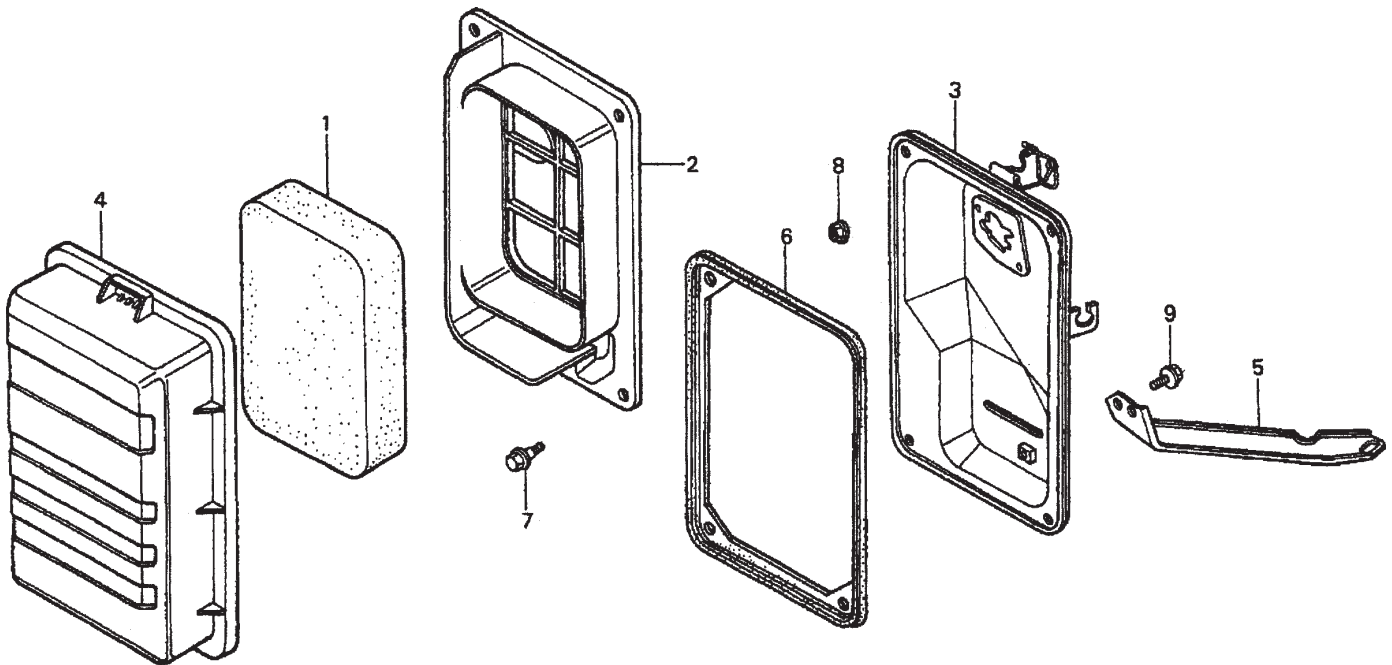
HONDA GX160K1EMA2 ENGINE — CARBURETOR ASSY.

CARBURETOR ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1#%+	16010ZB1015	GASKET SET	1	
2*	16011ZE0005	VALVE SET, FLOAT	1	
3*	16013ZE0005	FLOAT SET	1	
4*	16015ZE0831	CHAMBER SET, FLOAT	1	USE FROM S/N BE67A A
4*	16015ZE1811	CHAMBER SET, FLOAT	1	USE FROM S/N BE51A A
6*	16016ZH7W01	SCREW SET	1	
7	16024ZE1811	SCREW SET, DRAIN	1	INCLUDES ITEMS W/%
8	16028ZE0005	SCREW SET, B	1	INCLUDES ITEMS W/+
9*	16044ZE0005	CHOKE SET	1	
10	16100ZH8E81	CARBURETOR ASSY,(BE67A B)	1	INCLUDES ITEMS W/*
11*	16124ZE0005	SCREW, THROTTLE STOP	1	
12*	16166ZH8E80	NOZZLE, MAIN	1	
13	16211ZE1000	INSULATOR, CARBURETOR	1	
14	16212ZH8800	GASKET, INSULATOR	1	
15	16221ZH8801	GASKET, CARBURETOR	1	
16	16269ZE1800	GASKET, AIR CLEANER	1	
17	16610ZB2000	LEVER COMP., CHOKE	1	INCLUDES ITEMS W/ <
18 <	9430520122	PIN, SPRING 2X12	1	
19	99101ZH80700	JET, MAIN, #70, OPTION	1	
19	99101ZH80720	JET, MAIN, #72, OPTION	1	
19*	99101ZH80750	JET, MAIN, #75,	1	
20*	99204ZE00350	JET SET, PILOT, #35	1	INCLUDES ITEMS W/#

HONDA GX160K1EMA2 ENGINE — AIR CLEANER ASSY.

AIR CLEANER ASSY.



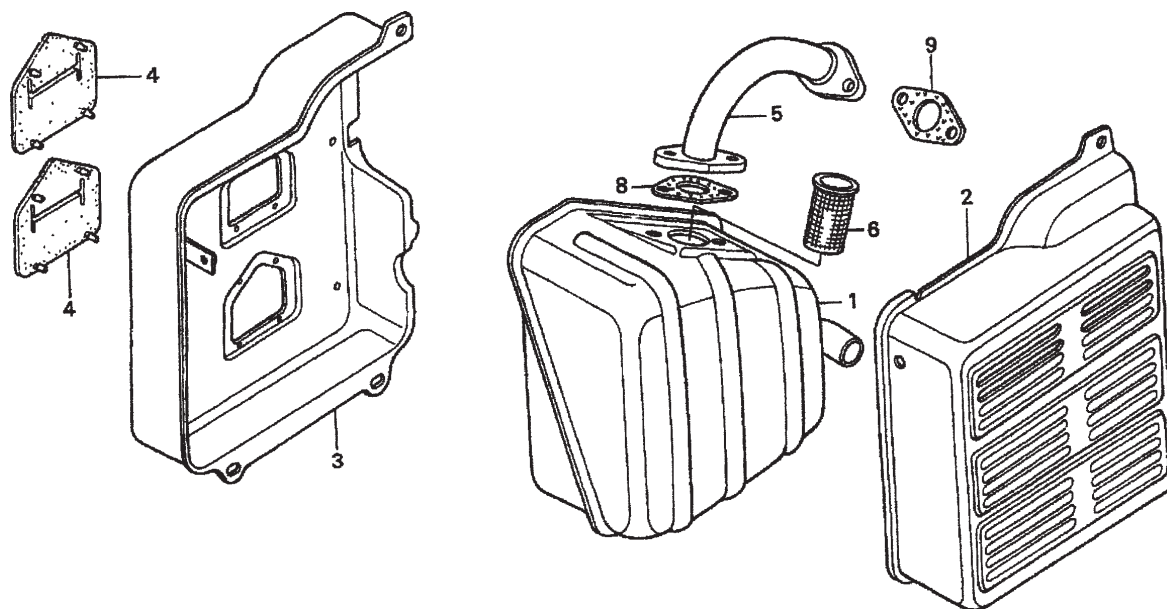
HONDA GX160K1EMA2 ENGINE — AIR CLEANER ASSY.

AIR CLEANER ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	17211ZB2000	ELEMENT, AIR CLEANER	1	
2	17212ZB2000	SEPARATOR, AIR CLEANER	1	
3	17220ZB2000	CASE COMP., AIR CLEANER	1	
4	17231ZB2000	COVER AIR CLEANER	1	
5	17239ZB2000	STAY AIR CLEANER	1	
6	17252ZB2000	SEAL, AIR CLEANER	1	
7	90115459770	BOLT, SETTING	4	
8	9405006080	BOLT, FLANGE, 6MM	2	
9	957010601000	BOLT, FLANGE, 6X10	1	

HONDA GX160K1EMA2 ENGINE — MUFFLER ASSY.

MUFFLER ASSY.

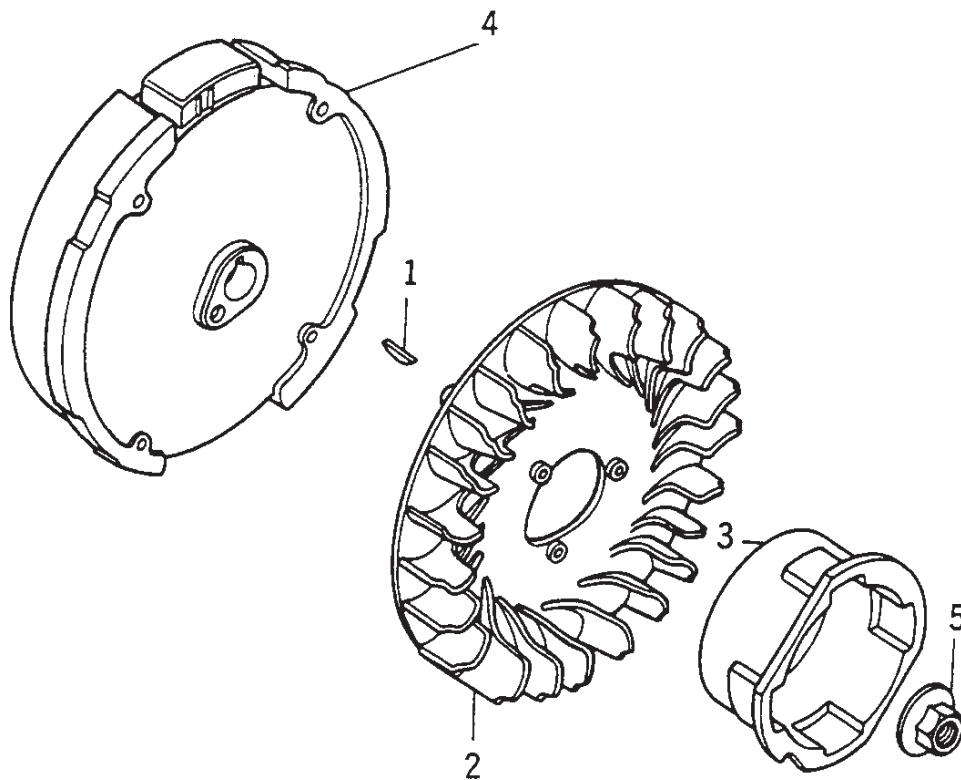


HONDA GX160K1EMA2 ENGINE — MUFFLER ASSY.

MUFFLER ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	18310ZB3C00	MUFFLER COMP.	1	
2	18320ZB2000	PROTECTOR, MUFFLER OUTER	1	
3	18325ZH8T90	PROTECTOR, MUFFLER INNER	1	
4	18329ZB2000	SEAL, MUFFLER PROTECTOR	2	
5	18330ZH8T90	PIPE COMP., EX	1	
6	18355898630	ARRESTER, SPARK	1	
8	18381ZE1800	GASKET, MUFFLER	1	
9	18381ZH8800	GASKET, MUFFLER	1	

HONDA GX160K1EMA2 ENGINE — FLYWHEEL ASSY.



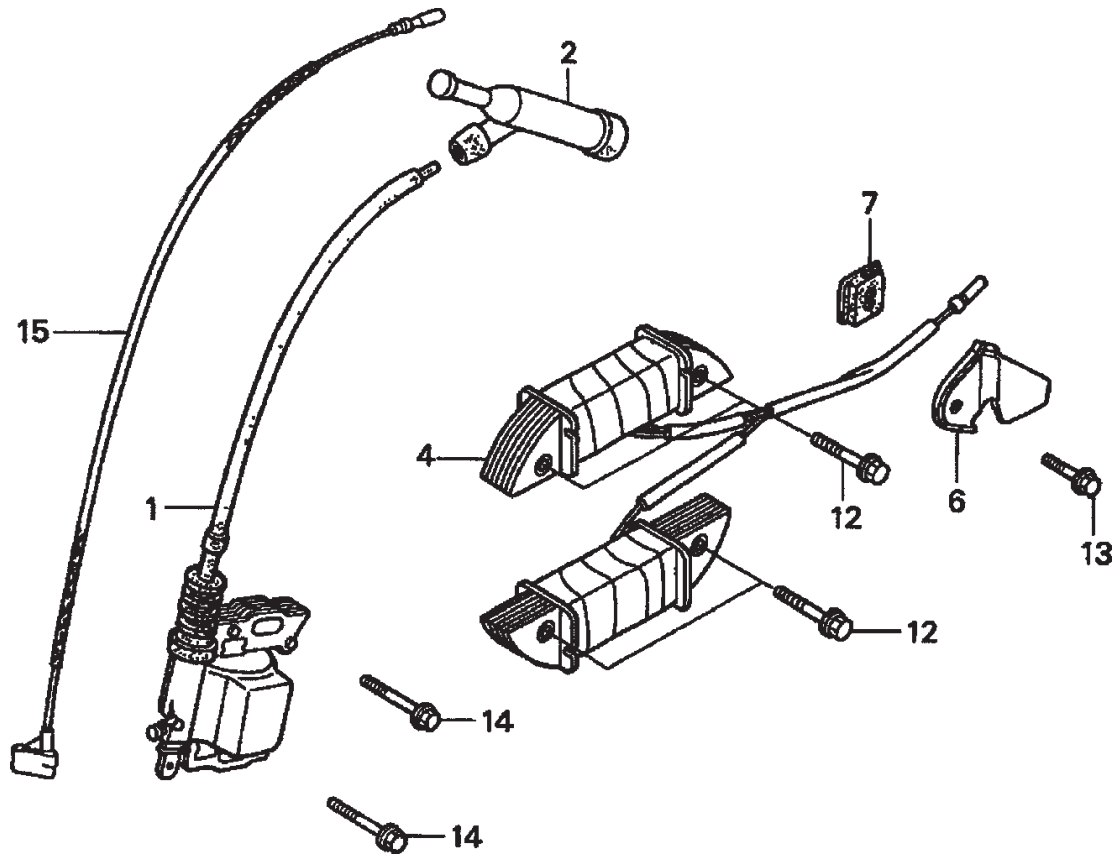
HONDA GX160K1EMA2 ENGINE — FLYWHEEL ASSY.

FLYWHEEL ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	13331357000	KEY, SPECIAL WOOD RUFF, 25X18	1	
2	19511ZE1000	FAN, COOLING	1	
3	28451ZH8003	PULLEY, STARTER	1	
4	31100ZE1811	FLYWHEEL (LAMP)	1	
5	90201878003	NUT, SPECIAL, 14MM	1	

HONDA GX160K1EMA2 ENGINE — IGNITION COIL ASSY.

IGNITION COIL ASSY.



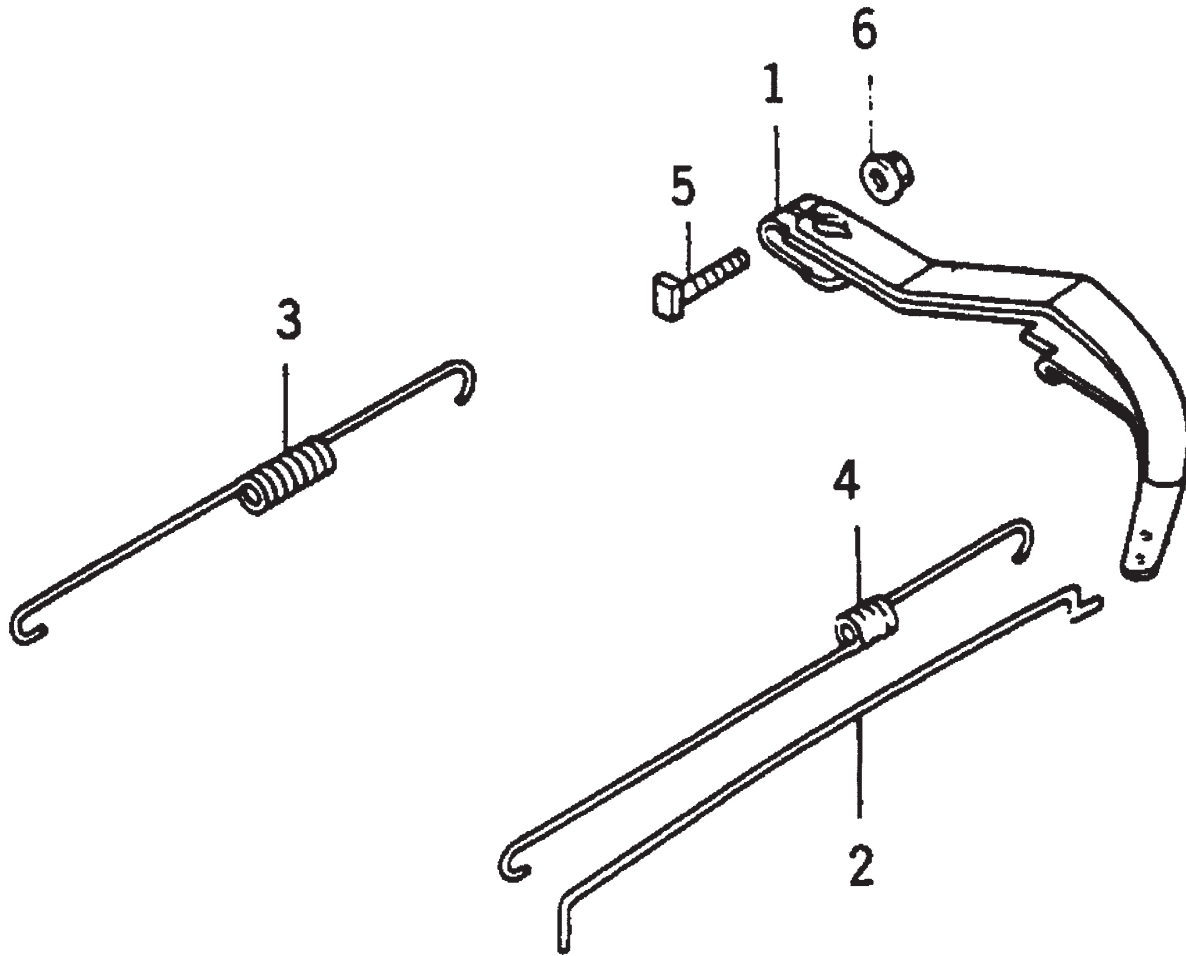
HONDA GX160K1EMA2 ENGINE — IGNITION COIL ASSY.

IGNITION COIL ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	30500ZE1043	COIL ASSY., IGNITION	1	
2	30700ZE1013	CAP ASSY., NOISE SUPPRESSOR	1	
4	31510ZE1811	COIL ASSY., LAMP (12V25W)	1	
6	31511ZE1000	CLAMP, WIRE	1	
7	31512ZE1000	GROMMET, WIRE	1	
12	90015883000	BOLT, FLANGE, 6X28	2	
13	90019883000	BOLT, FLANGE, 5X10	1	
14	90121952000	BOLT, FLANGE, 6X25	2	
15	36101ZE1010	WIRE, STOP SWITCH		

HONDA GX160K1EMA2 ENGINE — GOVERNOR/CONTROL ASSY.

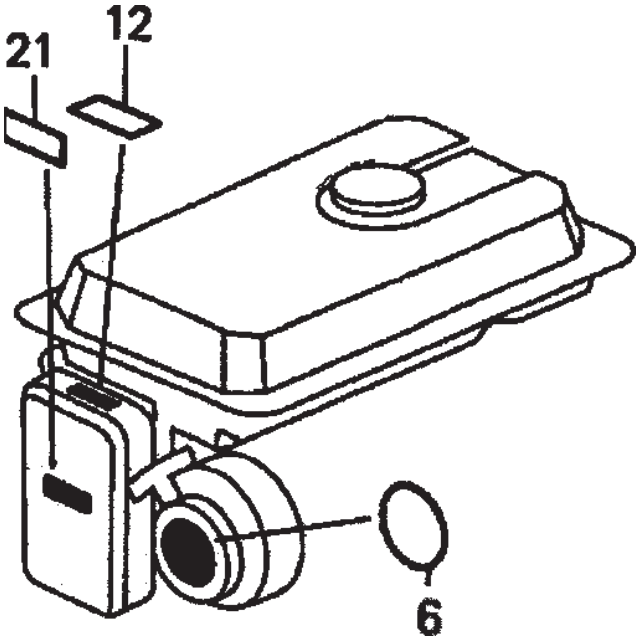
GOVERNOR/CONTROL ASSY.



HONDA GX160K1EMA2 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	16551ZE0010	ARM, GOVERNOR	1	USE UP TO S/N 4913229
1	16551ZL0010	ARM, GOVERNOR	1	USE FROM S/N 4913230
2	16555ZE1000	ROD, GOVERNOR	1	
3	16561ZH8D00	SPRING, GOVERNOR	1	USE UP TO S/N 4913229
3	16561ZL0U30	SPRING, GOVERNOR	1	USE FROM S/N 4913230~5048024
3	16561ZL0000	SPRING, GOVERNOR	1	USE FROM S/N 5048025
4	16562ZE1020	SPRING, THROTTLE RETURN	1	
5	90015ZE5010	BOLT, GOVERNOR ARM	1	
6	9405006000	NUT, FLANGE, 6MM	1	



HONDA GX160K1EMA2 ENGINE — LABELS ASSY.

IGNITION COIL ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	87521ZH8020	EMBLEM, 5.5 HP	1	
12	87528ZB2630	DECAL, CHOKE	1	
21	87533ZC0630	DECAL, AIR CLEANER	1	

TERMS AND CONDITIONS OF SALE — PARTS

PAYMENT TERMS

Terms of payment for parts are net 30 days.

FREIGHT POLICY

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

MINIMUM ORDER

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

RETURNED GOODS POLICY

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

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

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

PRICING AND REBATES

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

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

SPECIAL EXPEDITING SERVICE

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

LIMITATIONS OF SELLER'S LIABILITY

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

LIMITATION OF WARRANTIES

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

Effective: February 22, 2006

OPERATION AND PARTS MANUAL

HERE'S HOW TO GET HELP

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

UNITED STATES

Multiquip Corporate Office

18910 Wilmington Ave. Tel. (800) 421-1244
Carson, CA 90746 Fax (800) 537-3927
Contact: mq@multiquip.com

Mayco Parts

800-306-2926 Fax: 800-672-7877
310-537-3700 Fax: 310-637-3284

Service Department

800-421-1244 Fax: 310-537-4259
310-537-3700

MQ Parts Department

800-427-1244 Fax: 800-672-7877
310-537-3700 Fax: 310-637-3284

Warranty Department

800-421-1244, Ext. 279 Fax: 310-537-1173
310-537-3700, Ext. 279

Technical Assistance

800-478-1244 Fax: 310-631-5032

MEXICO

MQ Cipsa

Carr. Fed. Mexico-Puebla KM 126.5 Tel: (52) 222-225-9900
Momoxpan, Cholula, Puebla 72760 Mexico Fax: (52) 222-285-0420
Contact: pmastretta@cipsa.com.mx

CANADA

Multiquip

4110 Industriel Boul. Tel: (450) 625-2244
Laval, Quebec, Canada H7L 6V3 Fax: (450) 625-8664
Contact: jmartin@multiquip.com

UNITED KINGDOM

Multiquip (UK) Limited Head Office

Hanover Mill, Fitzroy Street, Tel: 0161 339 2223
Ashton-under-Lyne, Fax: 0161 339 3226
Lancashire OL7 0TL
Contact: sales@multiquip.co.uk

BRAZIL

Multiquip

Av. Evandro Lins e Silva, 840 - grupo 505 Tel: 011-55-21-3433-9055
Barra de Tijuca - Rio de Janeiro Fax: 011-55-21-3433-9055
Contact: cnavarro@multiquip.com.br, srentes@multiquip.com.br

© COPYRIGHT 2008, MULTIQUIP INC.

Multiquip Inc, the MQ logo are registered trademarks of Multiquip Inc. and may not be used, reproduced, or altered without written permission. All other trademarks are the property of their respective owners and used with permission.

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:

