MODEL GA6HR/GA6HRS
PORTABLE GENERATORS
(HONDA GX340RT2EDN2/GX340RT2EDE2
GASOLINE ENGINES)

Revision #2 (11/11/15)

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THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.
## SPECIFICATIONS (GENERATOR)

### Table 1. Specifications (Generator)

<table>
<thead>
<tr>
<th></th>
<th>GA6HR</th>
<th>GA6HRS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AC Generator</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>GA6HR</td>
<td>GA6HRS</td>
</tr>
<tr>
<td>Type</td>
<td>Brushless Revolving Field Type</td>
<td></td>
</tr>
<tr>
<td>Excitation</td>
<td>Solid State, Statically Excited System</td>
<td></td>
</tr>
<tr>
<td>Speed</td>
<td>3,600 RPM</td>
<td></td>
</tr>
<tr>
<td>Cooling System</td>
<td>Self-Ventilation</td>
<td></td>
</tr>
<tr>
<td>Fuel Capacity</td>
<td>5 gallons (19 liters)</td>
<td></td>
</tr>
<tr>
<td><strong>60 Hz AC Power Source</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous Power Output</td>
<td>5.0 kW</td>
<td></td>
</tr>
<tr>
<td>Max Power Output</td>
<td>6.0 kW</td>
<td></td>
</tr>
<tr>
<td>Rated Voltage</td>
<td>120/240V</td>
<td></td>
</tr>
<tr>
<td>Current Max/Continuous (120V)</td>
<td>50.0/41.6 amps</td>
<td></td>
</tr>
<tr>
<td>Current Max/Continuous (240V)</td>
<td>25.0/20.8 amps</td>
<td></td>
</tr>
<tr>
<td>Phase</td>
<td>Single Phase (4 wire)</td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>60 Hz</td>
<td></td>
</tr>
<tr>
<td>Power Factor</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions</strong> (L x W x H)</td>
<td>29.9 x 30.9 X 29.7 in. (760 X 785 X 755 mm)</td>
<td>29.9 x 30.9 X 29.7 in. (760 X 785 X 755 mm)</td>
</tr>
<tr>
<td><strong>Dry Net Weight</strong></td>
<td>220 lbs. (100 kg.)</td>
<td>238 lbs. (108 kg.)</td>
</tr>
<tr>
<td><strong>Battery (GA6HRS Only)</strong></td>
<td>Battery specifications for GA-6HRS : 12volts, 26Amp hours, 260 amps cold cranking ability : 7-1/2&quot; (L) X 5&quot;(W) X 7-1/4&quot;(H)</td>
<td></td>
</tr>
</tbody>
</table>

### NOTICE

In keeping with Multiquip's policy of constantly improving its products, the specifications quoted herein are subject to change without prior notice.
### Table 2. Specifications (Engine)

<table>
<thead>
<tr>
<th></th>
<th>HONDA GX340RT2EDN2</th>
<th>HONDA GX340RT2EDE2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>Honda GX340RT2EDN2</td>
<td>Honda GX340RT2EDE2</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Air-cooled 4 stroke, Single Cylinder, OHV, Horizontal Shaft Gasoline Engine</td>
<td></td>
</tr>
<tr>
<td><strong>Bore X Stroke</strong></td>
<td>3.46 in. x 2.52 in. (88 mm x 64 mm.)</td>
<td></td>
</tr>
<tr>
<td><strong>Displacement</strong></td>
<td>23.70 cu-in (389 cm³)</td>
<td></td>
</tr>
<tr>
<td><strong>Max Output</strong></td>
<td>11.0 H.P./3600 R.P.M.</td>
<td></td>
</tr>
<tr>
<td><strong>Fuel</strong></td>
<td>Unleaded Automobile Gasoline</td>
<td></td>
</tr>
<tr>
<td><strong>Lube Oil Capacity</strong></td>
<td>1.16 quarts (1.1 liters)</td>
<td></td>
</tr>
<tr>
<td><strong>Oil Alert System</strong></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>Speed Control Method</strong></td>
<td>Centrifugal Fly-weight Type</td>
<td></td>
</tr>
<tr>
<td><strong>Starting Method</strong></td>
<td>Recoil Start</td>
<td>Electric Start</td>
</tr>
<tr>
<td><strong>Dimensions (L x W x H)</strong></td>
<td>15.0 x 17.7 x 17.4 in. (380 x 450 x 443 mm)</td>
<td>15.0 x 17.7 x 17.4 in. (380 x 450 x 443 mm)</td>
</tr>
<tr>
<td><strong>Dry Net Weight</strong></td>
<td>68.4 lbs. (31 kg.)</td>
<td>68.4 lbs. (31 kg.)</td>
</tr>
</tbody>
</table>

### 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° F (15.5° C).

Generally, the engine’s output power will decrease 3-1/2% for each 1000 feet (305 meters) of altitude above sea level, and 1% for each 10° F (-12.2° C) above the standard temperature of 60° F (15.5° C).
Figure 2. Dimensions

**Table 3. Generator Dimensions**

<table>
<thead>
<tr>
<th>REFERENCE LETTER</th>
<th>DESCRIPTION</th>
<th>DIMENSIONS: IN. (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>HEIGHT (LIFTING BALE)</td>
<td>34.1 (865)</td>
</tr>
<tr>
<td>B</td>
<td>HEIGHT (FRAME)</td>
<td>29.7 (755)</td>
</tr>
<tr>
<td>C</td>
<td>LENGTH</td>
<td>29.9 (760)</td>
</tr>
<tr>
<td>D</td>
<td>WIDTH</td>
<td>30.9 (785)</td>
</tr>
</tbody>
</table>
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 (aluminum) minimum. If copper wire is used, #10 size wire minimum should be used.

At the generator, connect the terminal of the ground cable between the lock washer and the nut (Figure 3) and tighten the nut fully. Connect the other end of the ground cable to a suitable earth ground (ground rod).

Figure 3. Generator Grounding
OUTDOOR INSTALLATION

If possible install the generator in an 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.

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.

**WARNING**

Pay close attention to ventilation when operating the generator inside tunnels and caves. The engine exhaust contains noxious elements. Engine exhaust must be routed to a ventilated area.

INDOOR INSTALLATION

Exhaust gases from gas 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.

**PLACEMENT**

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

**DANGER**

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.

GENERATOR GROUNDING

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

Article 250 (Grounding) of the National Electrical Code (NEC) provides guidelines 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.

**NOTICE**

When connecting the generator to any building electrical system **ALWAYS** consult with a licensed electrician.
GENERAL INFORMATION

FAMILIARIZATION

Generator

The Multiquip GA6HR/GA6HRS generator is 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.

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. Reference Figure 4, Figure 5 and Figure 8 for the basic controls and indicators for the GA6HR/GA6HRS generators.

These portable generator are supplied with a electrical control box (panel). To reduce vibration caused by the engine, the control box is also placed on rubber isolators.

Control Panel

The control panel is provided with the following:

- 120V Twist-Lock Output Receptacle (L5-20R)
- 120V Twist-Lock Output Receptacle (L5-30R)
- 120/240V Twist-Lock Output Receptacle (L14-30R)
- 120 VAC GFCI Receptacle (2)
- GFCI Sensing Module
- 23 Amp Main Circuit Breaker.
- AC Voltmeter
- Idle Control Switch
- Full Power Switch
- Operation Switch
- Hour Meter
- Start Switch (GA6HRS only)

**DANGER**

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.
1. **GFCI Duplex Receptacles** – NEMA 5-20R, GFCI receptacle will provide 120V @ 20 amps.

2. **Hour Meter** – Indicates the number hours the generator has been in use.

3. **Lifting Ball Eye** – Attach a rope or chain to this lifting eye when lifting of the generator is required. Never stand underneath the generator when it is being lifted. Place lifting eye in down position when not in use.

4. **GFCI Sensing Module** – Intermittent power when a ground fault exist.

5. **Main Breaker** – This 2-pole, 23 amp circuit breaker protects the generator from short circuiting or overloading. When starting the generator always have the circuit breaker placed in the “OFF” position.

6. **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.

7. **Idle Control Switch** – The generator is provided with an automatic idle control device 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 2600 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.

8. **Operation Switch** – Place switch in the “ON” position (up) for normal operation. To turn-off the generator, place the operation switch in the “OFF” position (down)

9. **Start Switch** – Press this pushbutton switch to start the generator (GA6HRS only).

10. **120/240V Output Receptacle** – NEMA L14-30R twist-lock receptacle will provide 240V, 60 Hz @ 20.8 amps, or 120V @ 41.6 amps (X2) 60 Hz. Depending on the position of the full power switch.

11. **120V Output Receptacle** – NEMA L5-30R twist-lock receptacle will provide 120V, 30 amps, 60 Hz.

12. **120V Output Receptacle** – NEMA L5-20R twist-lock receptacle will provide 120V, 20 amps, 60 Hz.

13. **Battery** – This unit is equipped with a 12 VDC battery. Replace with only recommended type battery (GA6HRS only).

14. **Charcoal Canister** – A container filled with activated charcoal that traps gasoline vapors emitted by the fuel system.

15. **Ground** – This ground connection point should be connect to a good earth ground (ground rod).
16. **Full Power Switch** – The generator is provided with a full power switch. Figure 6 and Figure 7 show simplified wiring diagrams of the dual voltage system.

When the full power switch is in the 120 volt (up) position, you can access the full rated power of the generator at 120 volts from the GFCI duplex receptacle and the 120V twist-lock receptacle, or a combination of both receptacles as long as the total load does not exceed the generating set capacity.

When the switch is in the 240 volt (down) position, you can access half of the rated power of the generating set at 120 volts from the GFCI duplex receptacle and up to half of the rated power of the set at 120 volts from 120V twist-lock receptacle; or full rated power of the set at 240 volts from the 240V twist-lock receptacle.

**NOTICE**

When using a combination of receptacles, total load should not exceed the rated capacity of the generator.
17. **Fuel Gauge** – This gauge is located on top of the fuel tank. Read this gauge to determine when fuel is low.

18. **Fuel Tank Cap** – 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.

19. **Fuel Tank** – Capacity is 5 gallons (19 liters). Fill with unleaded gasoline.

20. **Recoil Starter (pull rope)** – Manual-starting method. Pull the starter grip until resistance is felt, then pull briskly and smoothly.

21. **Engine Oil Filler Cap** – Remove this cap/dipstick when the adding of engine oil is required. See Table 2 for recommended type engine oil.

22. **Engine Oil Drain Plug** – Remove this drain plug when draining of the oil from the engine crankcase is required. Fill with recommended type oil as listed in Table 4.

23. **Air Cleaner** – Prevents dirt and other debris from entering the fuel system. Remove wing-nut on top of air filter cannister to gain access to filter element. **NEVER** run the engine without an air cleaner.

24. **Muffler/Heat Shield** – Used to reduce noise and emissions. **NEVER** touch this heat shield when the generator/welder is in use. Always allow time for engine to cool before servicing.

25. **Spark Plug** – Provides spark to the ignition system. Set spark plug gap to 0.6 - 0.7 mm (0.028 - 0.031 inch) Clean spark plug once a week.

26. **Fuel Cock Lever** – Turn this lever downward to start (down) the flow of fuel into the carburetor. Turn upward to stop (up) the flow of fuel.

27. **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.

28. **Transport Handle (Option)** – When transporting of the generator is required, lift up on each handle and engage locking pin. Part of wheel kit assembly

29. **Support Stand (Option)** – Supports the generator, part of wheel kit assembly

30. **Foam-Filled Tires (Option)** – Provided for ease of transport. Replace with only recommended tires.

**NOTICE**

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 generators is placed on level ground. Placing the generators on level ground will ensure that the low oil sensor will function properly.
GENERAL INSPECTION PRIOR TO OPERATION

Ground Power Tools

When using power tools or electrical equipment requiring AC power from the generator, make sure power tool cord has a ground pin or is double insulated as shown in Figure 9.

![Figure 9. Ground Pin]

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

<table>
<thead>
<tr>
<th>Current In Amperes</th>
<th>Load In Watts</th>
<th>Maximum Allowable Cable Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>120 Volts</td>
<td>240 Volts</td>
</tr>
<tr>
<td>2.5</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>5</td>
<td>600</td>
<td>1200</td>
</tr>
<tr>
<td>7.5</td>
<td>900</td>
<td>1800</td>
</tr>
<tr>
<td>10</td>
<td>1200</td>
<td>2400</td>
</tr>
<tr>
<td>15</td>
<td>1800</td>
<td>3600</td>
</tr>
<tr>
<td>20</td>
<td>2400</td>
<td>4800</td>
</tr>
</tbody>
</table>

CAUTION: Equipment damage can result from low voltage.

NOTICE

Double-insulated power tools and small appliances have specially insulated housings that eliminate the need for a ground pin. These types of double-insulated power cords are designed so that no part of the device will be electrically live even if the internal insulation fails.

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.

DANGER

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!
Before Starting

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.

BATTERY SETUP (GA6HRS)

CAUTION

Use all safety precautions specified by the battery manufacturer when working with the battery. See Safety Information section of this manual for more details on battery safety.

1. Place the battery into the battery cradle and secured with mounting hardware.
2. Connect the positive cable to the positive terminal on the battery first, then connect the negative cable to the negative terminal.

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 10) and wipe clean.
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 11), fill to the edge of the oil filler hole with the recommended oil type (Table 5). Maximum oil capacity is 1.16 quarts (1.1 liters).

<table>
<thead>
<tr>
<th>Season</th>
<th>Temperature</th>
<th>Oil Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer</td>
<td>25°C or Higher</td>
<td>SAE 10W-30</td>
</tr>
<tr>
<td>Spring/Fall</td>
<td>25°C~10°C</td>
<td>SAE 10W-30/20</td>
</tr>
<tr>
<td>Winter</td>
<td>0°C or Lower</td>
<td>SAE 10W-10</td>
</tr>
</tbody>
</table>

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 12) to determine if the fuel level is low. If fuel is low, replenish with clean unleaded fuel.

DO NOT top-off fuel. DO NOT fill the tank beyond capacity. Wipe up any spilled fuel immediately!
This section is intended to assist the operator with the initial start-up of the portable generator. It is extremely important that this section be read carefully before attempting to use the generator in the field.

**Before Starting the Engine**

**NOTICE**

Both model generators are equipped with a GFCI sensing module. The purpose of this module is to sense a ground fault during operation of the generator and shut down the generator once the ground fault has been detected.

Multiquip recommends that the GFCI sensing module be tested before each use of the generator. Reference the maintenance section of this manual for the testing of the GFCI sensing module.

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. Always place circuit breaker (Figure 13) in the **OFF** position before starting.

![Figure 13. Main Circuit Breaker (OFF)](image)

**Starting the Engine (Recoil Start)**

1. Place the engine fuel valve lever (Figure 14) in the **ON** position.

![Figure 14. Engine Fuel Valve Lever (ON)](image)

2. Place the choke lever (Figure 15) in the **CLOSED** position if starting a cold engine.

![Figure 15. Choke Lever](image)

3. Place the choke lever (Figure 15) in the **OPEN** position if starting a warm engine or the temperature is warm.

4. Place the generator's operation switch (Figure 16) in the **ON** position.

![Figure 16. Operation Switch (ON)](image)

5. If your generator is a recoil start only (no battery), grasp the starter grip (Figure 17) 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.

   Proceed to step 6 if your unit is an electric start model (battery installed).

**NOTICE**

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

DO NOT release the starter rope after pulling. Allow it to rewind as soon as possible..
6. Press the generator's pushbutton start switch (Figure 18) and listen for the engine to start.

Figure 18. Start Switch (GA6HRS Only)

7. If the engine has started, slowly return the choke lever (Figure 15) to the OPEN position. If the engine has not started repeat steps 1 through 6.

8. 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 loose components.

9. Place idle control switch (Figure 19) in the OFF position. This will allow the engine speed to run at about 3600 RPM's.

Figure 19. Idle Control Switch (OFF)

**NOTICE**

Placing the idle control switch in the OFF position (Figure 19) allows the engine to operate at a maximum speed of about 3600 RPM's.

When the idle control switch (Figure 20) is placed in the up position (ON), the generator will run at idle speed (2200 RPM's) until a load is applied, at that time the engine speed will increase to 3600 RPM's as long as a load is being applied.

When the load is not in use, the engine speed will drop back to the idle mode after about 3 seconds.

Figure 20. Idle Control switch (ON)

10. Place main circuit breaker (Figure 21) in the ON position.

Figure 21. Main Circuit Breaker (ON)

11. Place the full power switch (Figure 22) in the 120V position (up).

Figure 22. Full Power Switch 120V Position (Up)

**NOTICE**

When the full power switch is in the 120V position, the 240V twist-lock receptacle cannot be used.

12. Read voltmeter on front panel of generator (Figure 23) and verify that 120 VAC is displayed. Using an external voltmeter as shown in Figure 23, verify that 120 VAC is present at the 120V twist-lock and GFCI duplex receptacles.
Figure 23. 120V Twist-Lock/GFCI Receptacles

13. Place the full power switch (Figure 24) in the 240/120V position (down).

Figure 24. Full Power Switch 240/120V Position (Down)

14. Read voltmeter on front panel of generator (Figure 25) and verify that 240 VAC is displayed. Using an external voltmeter as shown in Figure 25, verify that 240 VAC is present at the 120/240V, L14-30R twist-lock receptacle.

Figure 25. 120/240V L14-30R Receptacle

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

15. Connecting of loads (power tools, lighting etc.) to the generator receptacles can now be done.
Stopping the Engine (Normal Shutdown)

1. Place main circuit breaker (Figure 26) in the **OFF** position.

![Figure 26. Main Circuit Breaker (OFF)](image)

2. Place idle control switch (Figure 27) in the **OFF** position.

![Figure 27. Idle Control Switch (OFF)](image)

3. Let engine run at idle with no load for 2-3 minutes.

4. To shut-down the engine, place the generator’s operation switch (Figure 28) in the **OFF** position.

![Figure 28. Operation Switch (OFF)](image)

5. Place engine fuel valve lever (Figure 29) in the **OFF** position.

![Figure 29. Engine Fuel Valve Lever (OFF)](image)

6. Remove all loads from the generator.

Emergency Shutdown

1. Place operation switch (Figure 30) in the **OFF** position.

![Figure 30. Operation Switch (Emergency)](image)
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.
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

<table>
<thead>
<tr>
<th>DESCRIPTION (3)</th>
<th>OPERATION</th>
<th>BEFORE</th>
<th>FIRST MONTH OR 10 HRS.</th>
<th>EVERY 3 MONTHS OR 25 HRS.</th>
<th>EVERY 6 MONTHS OR 50 HRS.</th>
<th>EVERY YEAR OR 100 HRS.</th>
<th>EVERY 2 YEARS OR 200 HRS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Oil</td>
<td>CHECK</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CHANGE</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Cleaner</td>
<td>CHECK</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>Valve Clearance</td>
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</table>

(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.

(4) Charcoal canister is maintenance free (non-servicable). Replace only if damaged.
MAINTENANCE

Perform the scheduled maintenance procedures as defined by Table 6 on the previous page:

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.

Wiring

Inspect the entire generator for bad or worn electrical wiring or connections. If any wiring or connections are exposed (insulation missing) replace wiring immediately.

Piping and Hose Connection

Inspect all piping, oil hose, and fuel hose connections for wear and tightness. Tighten all hose clamps and check fuel or leaks. If any hose (fuel or oil) lines are defective replace them immediately.

Fuel Strainer

1. Thoroughly clean the area around the fuel cap.
2. Remove the fuel cap from the fuel tank.
3. Next, remove, inspect and clean the fuel strainer (Figure 31) with solvent.

Spark Plug

1. Remove and clean the spark plug (Figure 32), 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.

ENGINE OIL

2. Drain the engine oil when the oil is warm as shown in Figure 33.
3. Remove the oil drain bolt and sealing washer and allow the oil to drain into a suitable container.
4. Replace engine oil with recommended type oil as listed in Table 4. For engine oil capacity, see Table 2 (engine specifications). DO NOT overfill.
5. Install drain bolt with sealing washer and tighten securely.

Fuel Strainer

![Figure 31. Fuel Strainer](image1)

Spark Plug

![Figure 32. Spark Plug Gap](image2)

ENGINE OIL

![Figure 33. Draining Engine Oil](image3)
ENGINE AIR CLEANER

**DANGER**

**DO NOT** use gasoline as a cleaning solvent, the possibility exists of fire or explosion which can cause damage to the equipment and severe bodily harm or even DEATH!

1. Remove the air cleaner cover and foam filter element as shown in Figure 34.

2. Clean foam element in warm, soapy water or nonflammable solvent. Rinse and dry thoroughly. Dip the element in clean engine oil and completely squeeze out the excess oil from the element before installing.

3. Clean foam element (Figure 35) in warm, soapy water or non-flammable solvent. Rinse and dry thoroughly. Dip the element in clean engine oil and completely squeeze out the excess oil from the element before installing.

4. Next, dip the element in clean engine oil and completely squeeze out the excess oil from the element before installing.

**Figure 34. Engine Air Cleaner**

**Figure 35. Cleaning Foam Element**

SPARK ARRESTER CLEANING

Clean the spark arrester every 6 months or 100 hours.

1. Remove the muffler protector retaining bolts (Figure 36), then remove muffler protector.

2. Next, remove tapping screw that secures spark arrester to muffler, then remove spark arrester.

3. Carefully remove carbon deposits from the spark arrester screen (Figure 37) with a wire brush.

4. If the spark arrester is damaged and has breaks or holes, replace with a new one.

5. Reinstall the spark arrester and muffler protector in reverse order of disassembly.

**Figure 36. Spark Arrester Removal**

**Figure 37. Cleaning The Spark Arrester**
BATTERY (GA6HRS)

This unit is of negative ground DO NOT connect in reverse. Always maintain battery fluid level between the specified marks. Battery life will be shortened, if the fluid levels are not properly maintained. Add only distilled water when replenishment is necessary.

Check to see whether the battery cables are loose. Poor contact may result in poor starting or malfunctions. Always keep the terminals firmly tightened. Coating the terminals with an approved battery terminal treatment compound will help prevent corrosion. Replace battery with only recommended type battery.

The battery is sufficiently charged if the specific gravity of the battery fluid is 1.28 (at 68° F). If the specific gravity should fall to 1.245 or lower, it indicates that the battery is dead and needs to be recharged or replaced.

Before charging the battery with an external electric source, be sure to disconnect the battery cables.

BATTERY CABLE INSTALLATION

ALWAYS be sure the battery cables are properly connected to the battery terminals (Figure 38). The red cable is connected to the positive terminal of the battery, and the black cable is connected to the negative terminal of the battery.

NOTICE

Inadequate battery cable connections may cause poor starting of the generator, and create other malfunctions.

Polarity

The polarity of the battery is extremely important. When an inverted circuit connection takes place, the circuit will be in short circuit instantaneously resulting in possible damage to the control box electronics and starter.

When connecting the battery cables to the battery terminals be sure to check the polarity.

TESTING THE GFCI MODULE

If tripping of the main circuit breaker persists after a load is replaced with a known good one (no short circuit), perform this test with no load.

1. Start the generator as outlined in the start up procedure in this manual.

2. Place the main circuit breaker (Figure 39) in the ON position.

NOTICE

ALWAYS disconnect the negative terminal first and reconnect negative terminal last.

If the battery cables are connected incorrectly, electrical damage to the generator will occur. Pay close attention to the polarity markings on the battery when connecting the battery cables.
3. On the GFCI module (Figure 40), verify that the **green** POWER LED is **ON**.

![Figure 40. GFCI Module (Green LED ON)]

4. Also verify that the AC voltmeter is registering a voltage reading as indicated by Figure 45.

![Figure 43. AC Voltmeter (Zero Volts)]

5. Next, press the **TEST** button on the GFCI module and verify that the **green** POWER LED turns **OFF** and the **red** FAULT LED turns **ON**.

![Figure 41. GFCI Module (Red/Fault LED ON)]

6. Also verify that the main circuit breaker switch trips to the **OFF** position.

![Figure 42. Circuit Breaker OFF (GFCI Test)]

7. Verify that the AC voltmeter (Figure 43) on the generator reads zero volts.

![Figure 45. AC Voltmeter (120/240V)]

8. To restore power, press the **RESET** button (Figure 44) on the GFCI module and verify that the **red** FAULT LED turns **OFF** and the **green** POWER LED should turn **ON**.

![Figure 44. GFCI Module (Green LED ON Reset)]

9. Verify that the AC voltmeter is registering a voltage reading as indicated by Figure 45.

**NOTICE**

It is recommended that the GFCI unit be tested when the generator is initially taken out of the box. Then, the generator should be tested daily at startup.

**CAUTION**

The GFCI module is designed to interrupt power when a ground fault exists to prevent injuries and shock hazards. **DO NOT** operate the generator if this test fails. Consult a qualified electrician for repair or replacement of the GFCI module.