

Operator's Manual  
**Backpack Vibrator**

# BV50A-H



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**Original instructions**

This Operator's Manual presents the original instructions. The original language of this Operator's Manual is American English.

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## CALIFORNIA Proposition 65 Warning



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### **WARNING**

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

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### **WARNING**

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

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### **WARNING**

Cancer and Reproductive Harm -  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

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### **WARNING**

Batteries, battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. WASH HANDS AFTER HANDLING.

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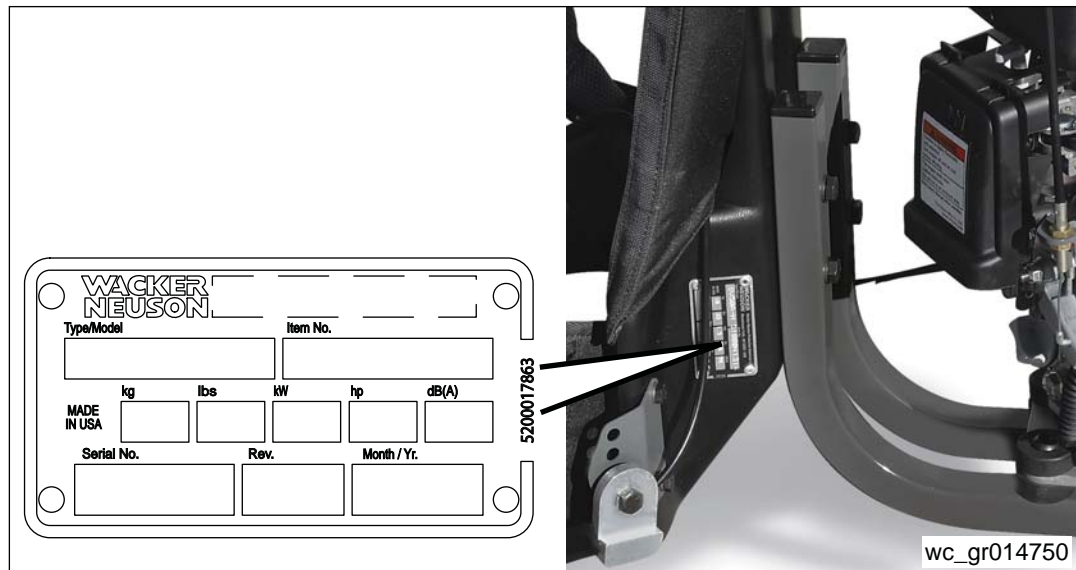
# CALIFORNIA Proposition 65 Warning

Notes

Foreword

SAVE THESE INSTRUCTIONS—This manual contains important instructions for the machine models below. These instructions have been written expressly by Wacker Neuson Production Americas LLC and must be followed during installation, operation, and maintenance of the machines.

Machine	Item Number
BV50A-H	5100041314



**Machine identification**

A nameplate listing the model number, item number, revision number, and serial number is attached to this machine. The location of the nameplate is shown above.

**Serial number (S/N)**

For future reference, record the serial number in the space provided below. You will need the serial number when requesting parts or service for this machine.

Serial Number:

**Machine documentation**

- From this point forward in this documentation, Wacker Neuson Production Americas LLC will be referred to as Wacker Neuson.
- Keep a copy of the Operator’s Manual with the machine at all times.
- For spare parts information, please see your Wacker Neuson Dealer, or visit the Wacker Neuson website at <http://www.wackerneuson.com/>.
- When ordering parts or requesting service information, be prepared to provide the machine model number, item number, revision number, and serial number.

## Expectations for information in this manual

- This manual provides information and procedures to safely operate and maintain the above Wacker Neuson model(s). For your own safety and to reduce the risk of injury, carefully read, understand, and observe all instructions described in this manual.
- Wacker Neuson expressly reserves the right to make technical modifications, even without notice, which improve the performance or safety standards of its machines.
- The information contained in this manual is based on machines manufactured up until the time of publication. Wacker Neuson reserves the right to change any portion of this information without notice.
- The illustrations, parts, and procedures in this manual refer to Wacker Neuson factory-installed components. Your machine may vary depending on the requirements of your specific region.

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## CALIFORNIA Proposition 65 Warning

Combustion exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

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## Laws pertaining to spark arresters

**AVISO:** State Health Safety Codes and Public Resources Codes specify that in certain locations spark arresters be used on internal combustion engines that use hydrocarbon fuels. A spark arrester is a device designed to prevent accidental discharge of sparks or flames from the engine exhaust. Spark arresters are qualified and rated by the United States Forest Service for this purpose. In order to comply with local laws regarding spark arresters, consult the engine distributor or the local Health and Safety Administrator.

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## Manufacturer's approval

This manual contains references to *approved* parts, attachments, and modifications. The following definitions apply:

- **Approved parts or attachments** are those either manufactured or provided by Wacker Neuson.
- **Approved modifications** are those performed by an authorized Wacker Neuson service center according to written instructions published by Wacker Neuson.
- **Unapproved parts, attachments, and modifications** are those that do not meet the approved criteria.

Unapproved parts, attachments, or modifications may have the following consequences:

- Serious injury hazards to the operator and persons in the work area
- Permanent damage to the machine which will not be covered under warranty

Contact your Wacker Neuson dealer immediately if you have questions about approved or unapproved parts, attachments, or modifications.

**CALIFORNIA Proposition 65 Warning 3**

**Foreword 5**

**1 Safety Information 9**

1.1 Signal Words Used in this Manual ..... 9

1.2 Machine Description and Intended Use ..... 10

1.3 Safety Guidelines for Operating the Machine ..... 11

1.4 Service Safety ..... 12

1.5 Operator Safety while Using Internal Combustion Engines ..... 14

**2 Labels 16**

2.1 Label Locations ..... 16

2.2 Label Meanings ..... 17

**3 Operation 18**

3.1 Preparing the Machine for First Use ..... 18

3.2 Recommended Fuel ..... 18

3.3 Refueling the Machine ..... 19

3.4 Before Starting ..... 19

3.5 Starting, Operating, and Stopping the Machine ..... 20

3.6 Emergency Shutdown Procedure ..... 22

**4 Engine Maintenance: Honda GX50 23**

**5 Troubleshooting 25**

**6 Technical Data 26**

6.1 Engine ..... 26

6.2 Power Unit ..... 27

6.3 Sound Measurements ..... 27

6.4 Vibration Measurements ..... 27

**7 Emission Control Systems Information and Warranty—Gasoline 28**

7.1 Emission Control Systems Warranty Statement ..... 28



## 1 Safety Information

### 1.1 Signal Words Used in this Manual

This manual contains DANGER, WARNING, CAUTION, *NOTICE*, and NOTE signal words which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.



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This is the safety alert symbol. It is used to alert you to potential personal hazards.

- ▶ Obey all safety messages that follow this symbol.
- 



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#### **DANGER**

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

- ▶ To avoid death or serious injury from this type of hazard, obey all safety messages that follow this signal word.
- 



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#### **WARNING**

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

- ▶ To avoid possible death or serious injury from this type of hazard, obey all safety messages that follow this signal word.
- 



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#### **CAUTION**

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

- ▶ To avoid possible minor or moderate injury from this type of hazard, obey all safety messages that follow this signal word.
- 

**NOTICE:** Used without the safety alert symbol, NOTICE indicates a situation which, if not avoided, could result in property damage.

**Note:** A Note contains additional information important to a procedure.

## 1.2 Machine Description and Intended Use

This machine is a backpack-mounted fuel engine power source used to operate the HMS series concrete vibrator. The Wacker Neuson backpack vibrator consists of the fuel engine power unit, a flexshaft, and a vibrating head driven by the backpack power unit, which is worn by the operator. The engine is designed to be started, throttled for operation, and shut down by the operator while they wear the backpack.

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This machine is intended to be used for consolidation of freshly poured, uncured concrete immediately as the concrete is placed in flat, vertical, or other typically used concrete forms.

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This machine has been designed and built strictly for the intended use described above. Using the machine for any other purpose could permanently damage the machine or seriously injure the operator or other persons in the area. Machine damage caused by misuse is not covered under warranty.

The following are some examples of misuse:

- Using the machine to consolidate inappropriate materials such as acidic, alkaline, or other non-liquid media
  - Operating the machine outside of factory specifications, especially over the RPM limit
  - Using the machine with the vibrator head coming into contact with or being inserted into parts of the body
  - Operating the machine in a manner inconsistent with all warnings found on the machine and in the Operator's Manual
- 

This machine has been designed and built in accordance with the latest global safety standards. It has been carefully engineered to eliminate hazards as far as practicable and to increase operator safety through protective guards and labeling. However, some risks may remain even after protective measures have been taken. They are called residual risks. On this machine, they may include exposure to:

- Heat, noise, exhaust, and carbon monoxide from the engine
- Chemical burns from the curing concrete
- Fire hazards from improper refueling techniques
- Fuel and its fumes, fuel spillage from improper lifting technique

To protect yourself and others, make sure you thoroughly read and understand the safety information presented in this manual before operating the machine.

### 1.3 Safety Guidelines for Operating the Machine

#### Operator training

Before operating the machine:

- Read and understand the operating instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and safety devices.
- Contact Wacker Neuson for additional training if necessary.

When operating this machine:

- Do not allow improperly trained people to operate the machine. People operating the machine must be familiar with the potential risks and hazards associated with it.
- 

#### Application area

Be aware of the application area.

- Keep unauthorized personnel, children, and pets away from the machine.
  - Remain aware of changing positions and the movement of other equipment and personnel in the application area/job site.
  - Identify whether special hazards exist in the application area, such as toxic gases or unstable ground conditions, and take appropriate action to eliminate the special hazards before using the machine.
  - Do not operate the machine in areas that contain flammable objects, fuels, or products that produce flammable vapors.
- 

#### Safety devices, controls, and attachments

Only operate the machine when:

- All safety devices and guards are in place and in working order.
- All controls operate correctly.
- The machine is set up correctly according to the instructions in the Operator's Manual.
- The machine is clean.
- The machine's labels are legible.

To ensure safe operation of the machine:

- Do not operate the machine if any safety devices or guards are missing or inoperative.
- Do not modify or defeat the safety devices.
- Only use accessories or attachments that are approved by Wacker Neuson.

**Safe operating practices**

When operating this machine:

- Remain aware of the machine's moving parts. Keep hands, feet, and loose clothing away from the machine's moving parts.
  - Do not operate a machine in need of repair.
  - Do not consume the operating fluids used in this machine. Depending on your machine model, these operating fluids may include water, wetting agents, fuel (gasoline, diesel, kerosene, propane, or natural gas), oil, coolant, hydraulic oil, heat transfer fluid (propylene glycol with additives), battery acid, or grease.
- 

**Personal Protective Equipment (PPE)**

Wear the following Personal Protective Equipment (PPE) while operating this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

## 1.4 Service Safety

**Service training**

Before servicing or maintaining the machine:

- Read and understand the instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and protective devices.
- Only trained personnel shall troubleshoot or repair problems occurring with the machine.
- Contact Wacker Neuson for additional training if necessary.

When servicing or maintaining this machine:

- Do not allow untrained or improperly trained people to service or maintain the machine. Personnel servicing or maintaining the machine must be familiar with the associated potential risks and hazards.
- 

**Precautions**

Follow the precautions below when servicing or maintaining the machine.

- Read and understand the service procedures before performing any service to the machine.
  - All adjustments and repairs must be completed before operation. Do not operate the machine with a known problem or deficiency.
  - All repairs and adjustments shall be completed by a qualified technician.
  - Turn off the machine before performing maintenance or making repairs.
- 

**Machine modifications**

When servicing or maintaining the machine:

- Use only accessories/attachments that are approved by Wacker Neuson.
- Do not defeat safety devices.
- Do not modify the machine without the express written approval of Wacker Neuson. This specifically includes making adjustments to allow the machine to operate above its factory RPM limits.

**Replacing parts and labels**

- Replace worn or damaged components.
  - Replace all missing and hard-to-read labels.
  - When replacing electrical components, use components that are identical in rating and performance to the original components.
  - When replacement parts are required for this machine, use only Wacker Neuson replacement parts or those parts equivalent to the original in all types of specifications, such as physical dimensions, type, strength, and material.
- 

**Cleaning**

When cleaning and servicing the machine:

- Keep machine clean and free of debris such as leaves, paper, cartons, etc.
- Keep labels legible.

When cleaning the machine:

- Do not clean the machine while it is running.
  - Never use gasoline or other types of fuels or flammable solvents to clean the machine. Fumes from fuels and solvents can become explosive.
- 

**Personal Protective Equipment (PPE)**

Wear the following Personal Protective Equipment (PPE) while servicing or maintaining this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

In addition, before servicing or maintaining the machine:

- Tie back long hair.
  - Remove all jewelry (including rings).
- 

**After use**

- Stop the engine when the machine is not being operated.
- Close the fuel valve on engines equipped with one when the machine is not being operated.
- Ensure that the machine will not tip over, roll, slide, or fall when not being operated.
- Store the machine properly when it is not being used. The machine should be stored in a clean location out of the reach of children.

## 1.5 Operator Safety while Using Internal Combustion Engines

**WARNING**

Internal combustion engines present special hazards during operation and fueling. Failure to follow the warnings and safety standards could result in severe injury or death.

- ▶ Read and follow the warning instructions in the engine owner's manual and the safety guidelines below.

**DANGER**

Exhaust gas from the engine contains carbon monoxide, a deadly poison. Exposure to carbon monoxide can kill you in minutes.

- ▶ NEVER operate the machine inside an enclosed area, such as a tunnel, unless adequate ventilation is provided through items such as exhaust fans or hoses.

**Operating safety**

When running the engine:

- Keep the area around the exhaust pipe free of flammable materials.
- Check the fuel lines and the fuel tank for leaks and cracks before starting the engine. Do not run the machine if fuel leaks are present or the fuel lines are loose.
- Do not smoke while operating the machine.
- Do not run the engine near sparks or open flames.
- Do not touch the engine or muffler while the engine is running or immediately after it has been turned off.
- Do not operate a machine when its fuel cap is loose or missing.
- Do not start the engine if fuel has spilled or a fuel odor is present. Move the machine away from the spill and wipe the machine dry before starting.
- Do not use the machine in areas with risk of explosion or fire.

**Refueling safety**

When refueling the engine:

- Clean up any spilled fuel immediately.
- Refill the fuel tank in a well-ventilated area.
- Reinstall the fuel tank cap after refueling.
- Use suitable tools for refueling (for example, a fuel hose or funnel).
- Do not smoke.
- Do not refuel a hot or running engine.
- Do not refuel the engine near sparks or open flames.

**Notes**




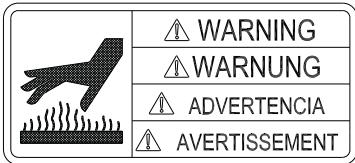

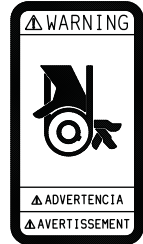
2 Labels

2.1 Label Locations



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2.2 Label Meanings

<p>A</p>	 <p>117034</p>	<p><b>DANGER</b> Asphyxiation hazard.</p> <ul style="list-style-type: none"> <li>■ Engines emit carbon monoxide.</li> <li>■ Do not run the machine indoors or in an enclosed area.</li> <li>■ Only use OUTSIDE and far away from windows, doors, and vents.</li> <li>■ Read the Operator's Manual.</li> <li>■ No sparks, flames, or burning objects near the machine.</li> <li>■ Stop the engine before refueling.</li> <li>■ Use only clean gasoline.</li> </ul>
<p>B</p>	 <p>115415</p>	<p><b>WARNING</b> Hot surface</p>
<p>C</p>	 <p>118085</p>	<p><b>WARNING</b> Always wear hearing and eye protection when operating this machine.</p>
<p>D</p>	 <p>110033</p>	<p><b>WARNING</b> Hand injury if caught in moving belt. Always replace beltguard.</p>

### 3 Operation

#### 3.1 Preparing the Machine for First Use

1. Make sure all loose packaging materials have been removed from the machine.
2. Check the machine and its components for damage. If there is visible damage, do not operate the machine. Contact your Wacker Neuson dealer immediately for assistance.
3. Take inventory of all items included with the machine and verify that all loose components and fasteners are accounted for.
4. Attach component parts not already attached.
5. Add fluids as needed and applicable, such as fuel and engine oil.
6. Move the machine to its operating location.

#### 3.2 Recommended Fuel

This engine is certified to operate on automotive unleaded gasoline. Use only fresh, clean gasoline. Gasoline containing water or dirt will damage the fuel system.

##### Use of oxygenated fuels

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Some conventional gasolines are blended with alcohol. These gasolines are collectively referred to as oxygenated fuels. If you use an oxygenated fuel, be sure it is unleaded and meets the minimum octane rating requirement.

Before using an oxygenated fuel, confirm the fuel's contents. Some states and provinces require this information to be posted on the fuel pump.

The following is the Wacker Neuson approved percentage of oxygenates:

**ETHANOL** - (ethyl or grain alcohol) 10% by volume. You may use gasoline containing up to 10% ethanol by volume (commonly referred to as E10). Gasoline containing more than 10% ethanol (such as E15, E20, or E85) may not be used because it could damage the engine.

If you notice any undesirable operating symptoms, try another service station, or switch to another brand of gasoline.

Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates mentioned above are not covered under warranty.

### 3.3 Refueling the Machine

- Requirements**
- Machine shut down
  - Engine cool
  - Fresh, clean fuel supply

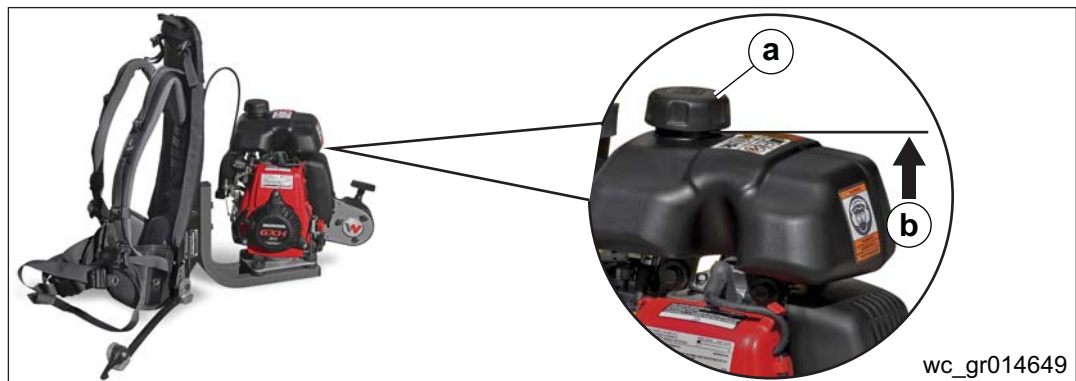


#### WARNING

Fire and burn hazard. Fuel and its vapors are extremely flammable.

- ▶ Keep all sources of ignition away from the machine while refueling.
- ▶ Do not refuel if the machine is positioned in a truck fitted with a plastic bed liner. Static electricity can ignite the fuel or fuel vapors.
- ▶ Refuel only when the machine is outdoors.
- ▶ Clean up spilled fuel immediately.

1. Remove the fuel cap **(a)**.



2. Fill the fuel tank up to the base of the neck **(b)**.



#### CAUTION

Fire and health hazard. Fuel expands when heated. Expanding fuel in an over-filled tank can lead to spills and leaks.

- ▶ Do not overfill the fuel tank.

3. Reinstall the fuel cap.

### 3.4 Before Starting

1. Read safety instructions at the beginning of this manual.
2. Make sure the fuel tank is full.
3. Check engine oil level.
4. Check the air filter.

### 3.5 Starting, Operating, and Stopping the Machine

- Requirements**
- Machine is in serviceable condition and has been properly maintained.
  - There is fuel in the tank.

**Before starting**

**Note:** *If an assistant is not available, it may be necessary to start the engine before the operator places the machine on his/her back.*

1. Pull up on the plunger-style quick-disconnect coupler **(a)** and turn it clockwise to hold the plunger in the open position.
2. Insert the flexshaft **(b)** and turn the quick-disconnect coupler counterclockwise until the plunger engages and locks the flexshaft in position.



3. Lift the shoulder harness **(c)** and place it over the operator's shoulders.
4. Wrap the support belt **(d)** around the operator's waist and secure it with the quick release buckle **(e)**.
5. Fasten the chest quick release buckle **(f)**.
6. Tighten all straps to a comfortable fit; the belt should fit snugly but should not cut or bind.

**Note:** *Make sure the backpack (or tote) contacts the operator's back.*

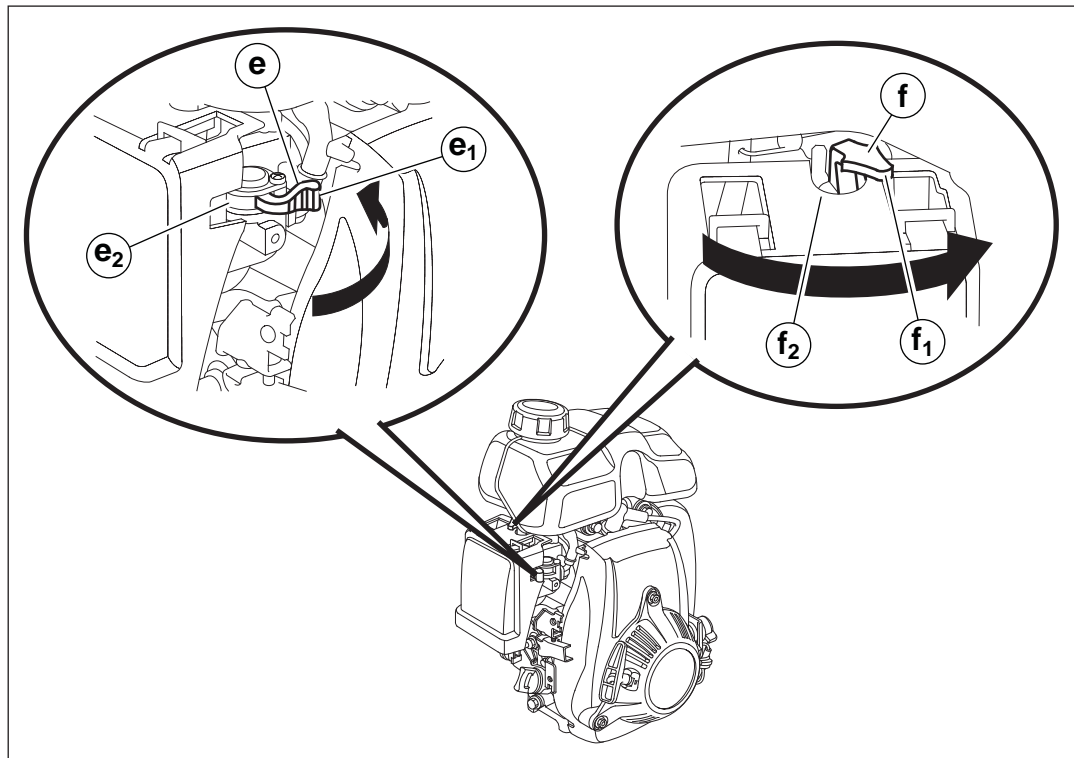
7. Test the throttle lever **(g)** and cable to ensure freedom of movement.

*This procedure continues on the next page.*

Continued from the previous page.

Starting the machine

1. Set the fuel valve lever (**e**) to the ON position (**e<sub>1</sub>**).



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2. If the engine is cold, set the choke lever (**f**) to the CLOSED position (**f<sub>1</sub>**). If the engine is hot, set the choke to the OPEN position (**f<sub>2</sub>**).
3. Set the engine switch (**g**) to the ON position.



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4. Pull the starter grip (**h**) lightly until you feel resistance, then pull briskly. Repeat until the engine starts.

**NOTICE:** Do not allow the starter grip to snap against the engine. Return the starter grip gently to prevent potential damage to the engine.

*This procedure continues on the next page.*

*Continued from the previous page.*

5. If the choke lever was moved to the CLOSED position, gradually move it to the OPEN position as the engine warms up.
6. Allow the engine to warm up for approximately five to seven minutes before using the machine.

#### Operating the machine

1. Open the throttle fully to operate the machine.

**NOTICE:** Avoid slamming the nose of the vibrator head against solid objects. Head-on impacts may cause damage to the machine.

2. Place the vibrator head into the concrete.

**NOTICE:** Do not submerge the vibrator head and flexshaft above the coupler assembly.

#### Operating tips

- Do not turn the vibrator off while it is submerged in the concrete.
- During use, insert the head quickly into the mix and then pull it out slowly. Rapid removal is the main cause of poor concrete consolidation. For best results, submerge head completely and try to establish a symmetrical pattern for inserting and removing the head.
- When moving around the job site, do not drag the vibrator head and flexshaft on the ground.
- Avoid touching forms and rebars when inserting the vibrator head into the mix. This can transmit vibration to other areas of the mix which may already be setting.
- When the vibrator is out of the concrete for extended periods of time, set the engine to idle speed or turn the machine off.

#### Stopping the machine

1. Remove the vibrator from the concrete.
2. Reduce engine RPM to idle by using the throttle.

**NOTICE:** Avoid slamming the machine on the ground when removing the shoulder harness. Hard impacts may cause damage to the machine.

3. Disconnect the quick release buckles and remove the shoulder harness.
4. Set the engine switch **(g)** to the OFF position.
5. Set the fuel valve lever to the OFF position **(e<sub>2</sub>)**.
6. Disconnect the flexshaft and rinse the vibrator head and flexshaft thoroughly with clean water when finished using the vibrator.

### 3.6 Emergency Shutdown Procedure

**Procedure** If a breakdown or accident occurs while the machine is operating, follow the procedure below:

1. Set the engine switch to the OFF position.
2. Contact the rental yard or machine owner for further instructions.

## 4 Engine Maintenance: Honda GX50

The viscosity of the engine oil is an important factor when determining the correct engine oil to use in your machine. Use an engine oil of appropriate viscosity based on the expected outside air temperature. See the table below.



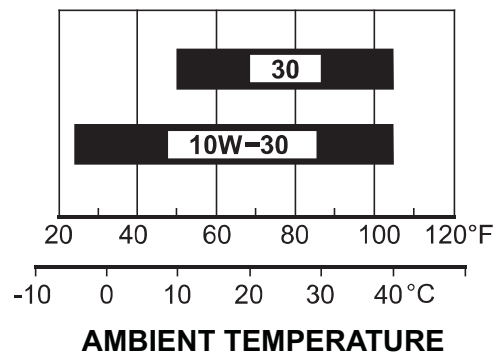
### WARNING

Most used liquids from this machine such as oil, gasoline, grease, etc., contain small amounts of materials that can cause cancer and other health problems if inhaled, ingested, or left in contact with skin for prolonged periods of time.

- ▶ Take steps to avoid inhaling or ingesting used liquids.
- ▶ Wash skin thoroughly after exposure to used liquids.

### Recommended Oil

Use 4-stroke motor oil that meets or exceeds the requirements for API service category SJ or later (or equivalent). Always check the API service label on the oil container to be sure it includes the letters SJ or later (or equivalent).



SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.

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The engine maintenance schedule(s) in this chapter are reproduced from the engine owner's manual. For additional information, see the engine owner's manual.

## MAINTENANCE SCHEDULE

<b>REGULAR SERVICE PERIOD (1)</b> Perform at every indicated month or operating hour interval, whichever comes first.		Each use	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 300 hrs.	Refer to Page
ITEM								
Engine oil	Check level	○						8
	Change		○		○(3)			
Air cleaner	Check	○						9
	Clean			○(2)				
Spark plug	Check-adjust					○		9
	Replace						○	
Spark arrester (applicable types)	Clean					○		10
Fuel tank and filter	Clean					○(4)		*
Idle speed	Check-adjust					○(4)		*
Valve clearance	Check-adjust						○(4)	*
Combustion chamber	Clean	After every 300 hrs. (4)						*
Fuel tube	Check	Every 2 years (Replace if necessary) (4)						*

\* See shop manual.

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

(2) Service more frequently when used in dusty areas.

(3) Change engine oil every 25 hours when used under heavy load or in high ambient temperatures.

(4) These items should be serviced by your Honda servicing dealer, unless you have proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.

Failure to follow this maintenance schedule could result in non-warrantable failures.

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## 5 Troubleshooting

Problem / Symptom	Cause	Remedy
Engine does not start.	<ul style="list-style-type: none"> <li>■ No fuel in tank</li> <li>■ Old fuel</li> </ul>	<ul style="list-style-type: none"> <li>■ Add fuel.</li> <li>■ Drain fuel tank, change fuel filter, and fill with fresh fuel.</li> </ul>
Engine does not run, is hard to start, or runs erratically.	<ul style="list-style-type: none"> <li>■ Dirty or clogged air cleaner</li> <li>■ Spark plug fouled</li> </ul>	<ul style="list-style-type: none"> <li>■ Service air cleaner.</li> <li>■ Clean or replace spark plug.</li> </ul>
Engine runs but vibrating action is erratic.	<ul style="list-style-type: none"> <li>■ Oil or grease on clutch</li> <li>■ Engine operating speed too high</li> </ul>	<ul style="list-style-type: none"> <li>■ Remove oil/grease from clutch.</li> <li>■ Adjust engine operating speed.</li> </ul>
Engine stops by itself.	<ul style="list-style-type: none"> <li>■ No fuel in tank</li> <li>■ Engine oil pressure/oil level low</li> </ul>	<ul style="list-style-type: none"> <li>■ Add fuel.</li> <li>■ Add engine oil.</li> </ul>
Vibrator does not develop full speed.	<ul style="list-style-type: none"> <li>■ Dirty or clogged air cleaner</li> <li>■ Throttle defective or out of adjustment</li> </ul>	<ul style="list-style-type: none"> <li>■ Service air cleaner.</li> <li>■ Adjust throttle.</li> </ul>

6 Technical Data

6.1 Engine

Machine		BV50A-H
<b>Engine</b>		
Engine type		4-stroke, overhead valve, single cylinder
Engine make		Honda
Engine model		GXH50
Maximum rated power @ rated speed <sup>1</sup>	kW (hp)	1.6 (2.1) @ 7000 rpm
Displacement	cm <sup>3</sup> (in. <sup>3</sup> )	49 (3)
Spark plug	type	NGK CR5HSB or Denso U16FSR-UB
Electrode gap	mm (in.)	0.60–0.70 (0.024–0.028)
Engine speed - idle	rpm	2500 ± 200
Air cleaner	type	Foam Element
Engine lubrication	oil grade	SAE 10W-30, API SJ or SL
Engine oil capacity	ml (oz.)	250 (8.45)
Fuel	type	Regular Unleaded
Fuel tank capacity	L (gal)	0.8 (0.211)
Gearcase lubrication	type ml (oz.)	Mobile Glygoyle 460 34 (1.15)

<sup>1</sup> Net power rating per SAE J1349. Actual power output may vary due to conditions of specific use.

## 6.2 Power Unit

Machine		BV50A-H
<b>Power Unit</b>		
Dimensions (l x w x h)	mm (in.)	584 x 355 x 635 (23 x 14 x 25)
Operating weight	kg (lb)	12.56 (27.7)
Speed (no load)	rpm	12,000

## 6.3 Sound Measurements

The required sound specification, Paragraph 1.7.4.f of 89/392/EEC Machinery Directive, is:

- The sound pressure level at operator's location ( $L_{pA}$ ) dB(A).
- The guaranteed sound power level ( $L_{WA}$ ) dB(A).

Machine	Sound Pressure at Operator's Location dB(A)	Guaranteed Sound Power dB(A)
BV50A-H	91.1	101.6

These sound values were determined according to ISO 3744 for the sound power level ( $L_{WA}$ ) and ISO 6081 for the sound pressure level ( $L_{pA}$ ) at the operator's location.

## 6.4 Vibration Measurements

Products are tested for hand/arm vibration (HAV) level in accordance with ISO 5349 Part 1 and ISO 8662 Part 1.

Machine	HAV m/sec <sup>2</sup>	HAV ft/sec <sup>2</sup>
BV 50A-H	4.6	15.1

### HAV Uncertainties

Hand-transmitted vibration was measured per ISO 5349-1. This measurement includes an uncertainty of 1.5 m/s<sup>2</sup>.

## **7 Emission Control Systems Information and Warranty—Gasoline**

The Emission Control Warranty and associated information is valid only for the U.S.A., its territories, and Canada.

### **7.1 Emission Control Systems Warranty Statement**

See the supplied engine owner's manual for the applicable exhaust and evaporative emission warranty statement.

<b>A</b>		refueling .....	19
Application area .....	11	serial number .....	5
<b>C</b>		starting .....	21
Choke lever .....	21, 22	starting, operating, and stopping ....	20
<b>E</b>		stopping .....	22
Emergency shutdown procedure .....	22	storing .....	13
Emission control systems information ..	28	Machine identification .....	5
Emission control systems warranty .....	28	Maintenance	
Engine		engine .....	23
safety .....	14	Maintenance schedule .....	24
technical data .....	26	<b>O</b>	
Engine maintenance .....	23	Operating tips .....	22
Engine oil .....	18, 19, 23, 24	Operation .....	18
capacity .....	26	<b>P</b>	
Engine switch .....	21, 22	Parts .....	5, 6
<b>F</b>		replacing .....	13
Flexshaft .....	10, 20, 22	Preparing the machine for first use .....	18
Foreword .....	5	<b>Q</b>	
Fuel valve .....	13	Quick-disconnect coupler .....	20
Fuel valve lever .....	21, 22	<b>R</b>	
<b>I</b>		Recommended fuel .....	18
Internal combustion engines		Refueling the machine .....	19
operating safety .....	14	Requirements	
refueling safety .....	14	starting, operating, and stopping ....	20
<b>L</b>		<b>S</b>	
Labels .....	11, 13, 16	Safety .....	9
locations .....	16	after use .....	13
meanings .....	17	before starting .....	19
replacing .....	13	devices, controls, and attachments	11
<b>M</b>		guidelines for operating the machine ..	11
Machine		operating practices .....	12
cleaning .....	13	operator training .....	11
description and intended use .....	10	PPE .....	12, 13
documentation .....	5	service .....	12
modifications .....	12	signal words .....	9
operating .....	22	while using internal combustion engines	14
preparing for first use .....	18	.....	14
		Safety information .....	9

Service .....	5
Service safety .....	12
machine modifications .....	12
parts replacements .....	13
training .....	12
Spark arresters .....	6
Starter grip .....	21
Starting, operating, and stopping the machine .....	20
Storage .....	13

**T**

Technical data .....	26
engine .....	26
power unit .....	27
sound measurements .....	27
vibration measurements .....	27
Throttle lever .....	20
Troubleshooting .....	25

**U**

Use of oxygenated fuels .....	18
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