

# HONDA PORTABLE GENERATOR



## MODEL E900

# OWNER'S MANUAL

*Thank you for purchasing the HONDA generator.*

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## **PREFACE**

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HONDA Portable Generator Model E 900 is a compact, light weight, highly efficient generator equipped with a HONDA General Purpose Engine G 28 which is noted for its high efficiency and high output performance.

In order to obtain the fullest satisfaction and the best performance from your HONDA generator, it is recommended that this manual be read thoroughly. Proper handling and performing the scheduled maintenance will keep the equipment in the best operating condition, assuring long satisfactory service, free from troubles.

If trouble should develop, consult the dealer from whom you bought the generator and he will provide you with prompt service

**E 900**

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## **SAFE OPERATION**

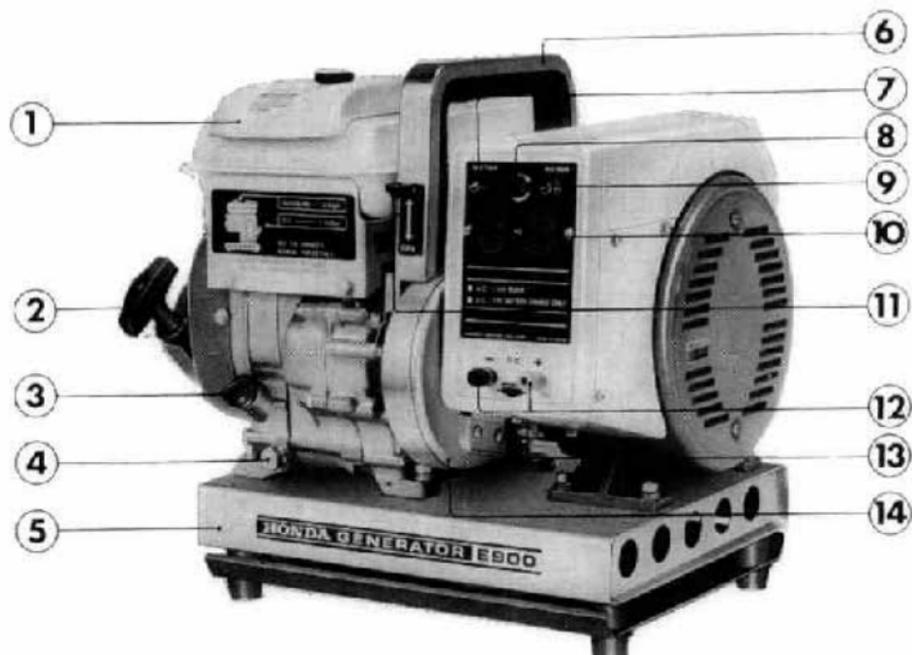
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- **Do not use the generator inside a room, tunnel or other confined areas without providing proper ventilation.**  
Not only will the engine become overheated, but carbon monoxide in accumulated exhaust gas can be harmful or fatal.  
It should preferably be placed outside and a long extension cord used to bring the power to the work area.
- **Do not attempt to refuel while the engine is running.**  
The fuel vapor may be ignited by sparks from the engine exhaust. Observe the rule: "keep inflammables away". When fuel is spilled, wipe it up completely before starting the engine. Always be extremely careful about fuel leakage.
- **Do not place inflammable objects near the exhaust outlet.**  
Temperature around the exhaust outlet becomes very hot, therefore, keep away combustible materials such as gasoline, matches, celluloid, explosive, etc.
- **Do not operate with wet hands.**  
Severe electrical shock may be experienced, the same as from home appliances.
- **Do not connect to household wiring.**  
Possible electrical leakage may damage the generator. Use the generator properly with complete understanding of the equipment capability.

- Operate the generator on a level surface  
When level surface is not available, up to 20° from level is permissible.  
Do not fill fuel tank more than 3.4 pints (1.6 ℓ).
- Do not operate in rain or where water may cause damage to the generator.
- When the appliance is grounded, also ground the generator.

## DESCRIPTION OF MAIN COMPONENT

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- ① Air cleaner    ② Recoil starter    ③ Engine oil filler cap    ④ Engine oil drain plug  
⑤ Engine bed    ⑥ Carrying handle    ⑦ DC fuse holder    ⑧ Pilot lamp    ⑨ AC fuse holder  
⑩ AC receptacle    ⑪ Engine switch lever    ⑫ DC output    ⑬ Grounding terminal    ⑭ Belt cover



- ① Control box   ② Cleaner cover   ③ Fuel tank cap   ④ Fuel tank  
⑤ Spark plug cap   ⑥ Carburetor cover   ⑦ Exhaust vent

## SPECIFICATIONS

### Dimension & Weight

Length×Width×Height	17.7×14.6×16.3 in (450×370×415 mm)
Dry weight	86.0 lbs (39 kg)
Curb weight	92.6 lbs (42 kg)

### Specifications

No. of phase & poles	Single phase, 4 poles
Excitation method	External excitation
Cooling method	Forced air cooled
Rotation	RH, viewing from the cooling cover

※ This specification is at when engine cold ambient temp. 68°F (20°C)

AC	Maximum output	900 V·A
	Rated output	800 V·A
	Rated voltage	$115^{+10}_{-5}$ V
	Rated amperage	6.7 A
	Rated frequency	60 Hz (c/s)
DC	Only for charging automotive batteries; 12V 70AH & up.	

## Engine

Model name	HONDA Engine G28EA
Cooling system and cycle	Forced air cooled, 4 cycle
Valve layout	Overhead cam
Total displacement	4.09 cu. in (67 cc)
Bore×stroke	1.93×1.40 in (49×35.6 mm)
Maximum horsepower	2.8 HP/6,000 rpm
Rated horsepower	2.0 HP/5,000 rpm
Compression ratio	8.3 : 1
Ignition system	Flywheel magneto
Spark plug	C-6HB (NGK) 12 mm
Lubrication system	Splash type
Engine oil capacity	0.7 qt. (0.7 ℓ)
Fuel	Gasoline
Fuel tank capacity	2.6 qt. (2.6 ℓ)

## **ACCESSORIES**

The following accessories are included with the generator and packed in the same shipping case.

- Tool kit, 1 set** : This set of tools is necessary to perform the periodic inspection.
- Spare fuses** : AC-10A, DC-15A
- Power plug** : This plug is used to draw the power from the generator.

## PREPARATION FOR STARTING (Engine oil, Air cleaner oil, Fuel)

Before starting the engine, check the following items.

Ⓐ Engine oil for proper level.

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Ⓑ Air cleaner oil for proper level.

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Ⓒ Sufficient fuel to perform the required work.

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- Adequate ventilation in the work area for safe operation.
- Ground generator, when appliance is grounded.



## Engine Oil

Use only high detergent, premium quality motor oil certified to meet or exceed US automobile manufacturer's requirements for service classification SD (previously service classification MS). Motor oils intended for service SD or MS will show this designation on the container.

The regular use of special oil additives is unnecessary and will only increase operating expenses.

Engine oil should be changed at the intervals prescribed in the Maintenance Schedule on page 22.

### **NOTE:**

**Engine oil is a major factor affecting the performance and service life of the engine.**

**Non-detergent and low quality oils are**

**specifically not recommended.**

### **Viscosity**

Viscosity selection should be based on the average atmospheric temperature in your riding area. Change to the proper viscosity oil whenever the average atmospheric temperature changes substantially.

Recommended oil viscosity:

General, all temperatures SAE 10W-40

Extreme, high temperatures  
SAE 20W-50

Alternate:

Above 59°F SAE 30 or 30W

32° to 59°F SAE 20 or 20W

Below 32°F SAE 10W

## Checking the Oil level

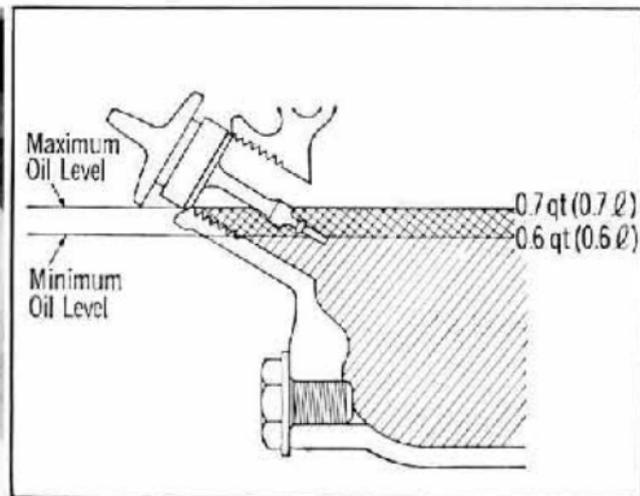
Check the engine oil level using the oil level gauge without screwing down the cap.

- ① Oil level gauge
- ② Oil drain plug



Upper limit ..... Lower lip of the oil  
filler opening.  
Lower limit ..... Ridge on the dipstick  
gauge.

Always check the oil with the engine  
in a level position.



## Air Cleaner Oil

Remove the air cleaner cover and fill oil pan up to the "OIL LEVEL" indicated on the pan. Use the same type oil as that used in the engine.

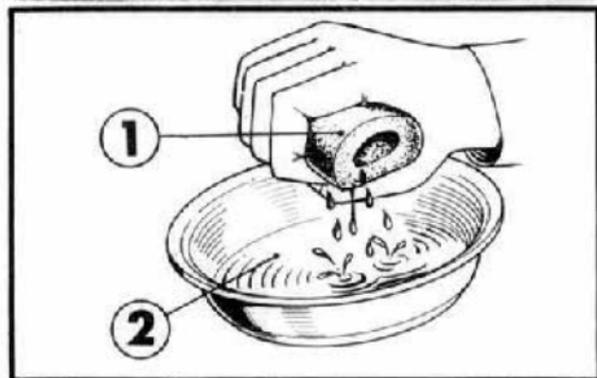
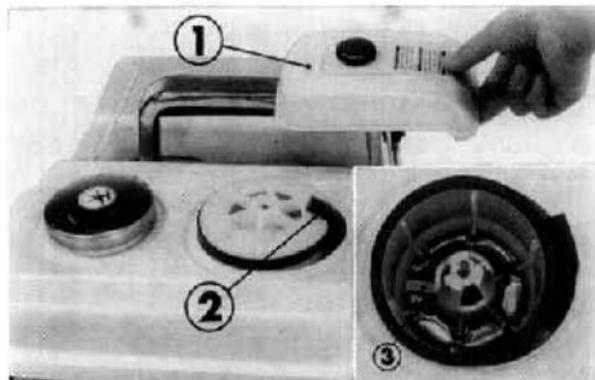
Soak the air cleaner element in an oil mixture (10 parts engine oil : 1 part gasoline) and squeeze out well before installing it into the air cleaner case.

A dry air cleaner element will not be effective in filtering out the dust from the inlet air.

Excessive oil residue should be avoided as it may cause engine to run unevenly.

## Breather tube

As an air pollution preventive, the breather tube is installed to direct the gas produced in the crankcase into the air cleaner case. Check breather tube to be certain it is not bent or collapsed, as this would restrict flow.



- ① Air cleaner element
- ② Oil mixture

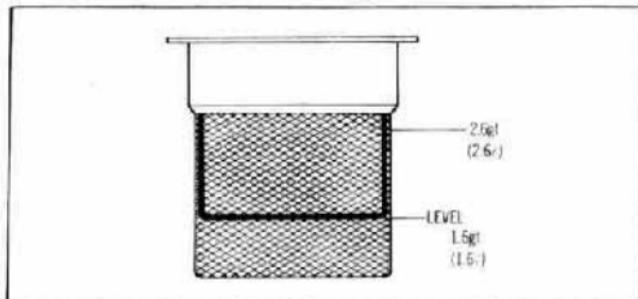
## Fuel

Use premium grade automobile gasoline.  
Fuel tank capacity: 2.6 qt (2.6 ℓ)  
Total operating hours with a full tank  
of fuel: approximately 3 hours

### CAUTION:

- Gasoline is flammable, and explosive under certain conditions. Always stop the engine
- and do not smoke or allow open flames or sparks near the engine when refueling.
- Do not use dirty or contaminated gasoline or gasoline-oil mixture. When refueling, use clean dispenser and exercise care so that dirt, dust and water do not enter the fuel tank.
- Do not fill tank without filter cup in place.
- When refueling, avoid gas overflowing into tank filler cap neck.
- When operated on 20° inclined surface, fill to level gauge on fuel fil-

ter. Capacity is 1.6ℓ (3.4 pints) when filled to this level.



## STARTING

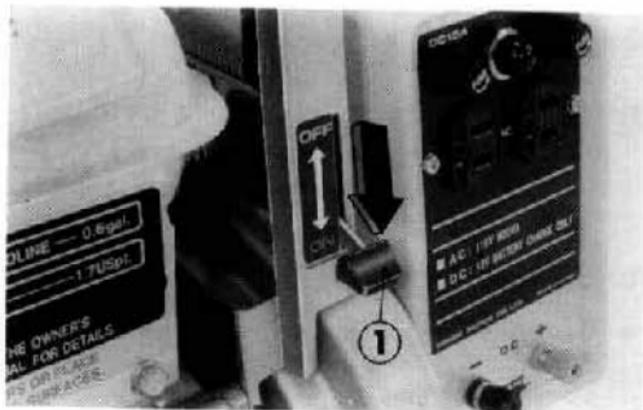
Before starting the engine, disconnect all of the appliances from the output receptacle of the generator.

### Starting Procedure

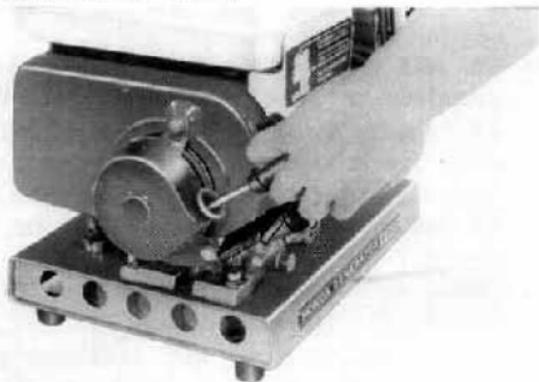
- ① Set the engine switch lever to the ON position.

The engine switch lever is connected to the fuel cock, therefore, moving the engine switch lever to the ON position will also open the fuel cock.

- ② Pull the recoil starter rope slowly until the cylinder compression is felt: from that point, pull the starter rope briskly and the engine will start
- ③ Wait until engine speed is steady before connecting appliances. Warm up period is about 3 to 5 minuits.



① Engine switch lever



## STOPPING ---

The engine will stop when the engine switch lever is moved to the OFF position.



## CONNECTING ELECTRICAL APPLIANCES

This generator will provide both AC and DC powers, however, they cannot be delivered at the same time.

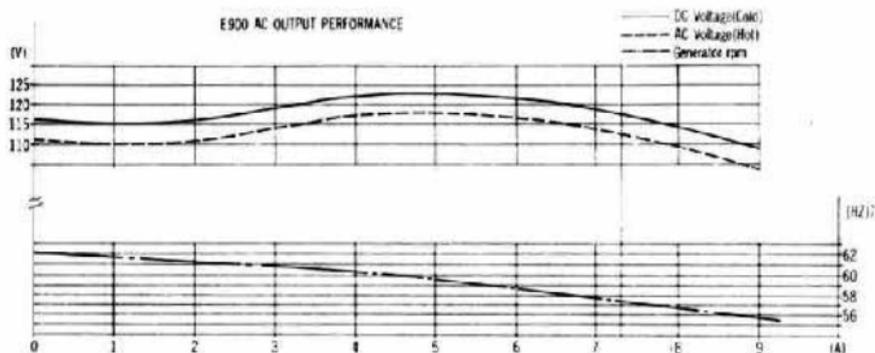
### When using AC power

Connect 800W or less for continuous duty. 800W to 900W may be drawn for 15 min. after the engine is started. AC out-put power and frequency curves are shown below.

Solid line of power curve is before

generator temperature reached Maximum, dotted line is after the temperature reached maximum.

These curves represent when ambient temperature is at 68°F (20°C). It may change with change in ambient temperature.



## When using DC power

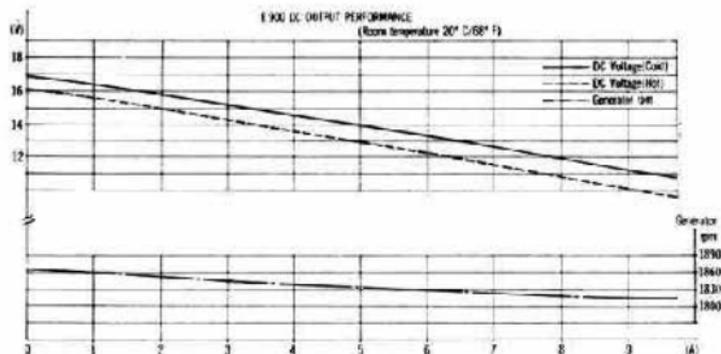
DC out-put is for 12V automotive battery only. Charge batteries with rating more than 70 AH.

Connect cables to positive terminal of generator to positive terminal of battery and negative terminal of battery.

The graph below shows DC out-put vs. Generator speed.

This curve is specifically suited for charging batteries.

Do not operate other DC equipment, damage may result.





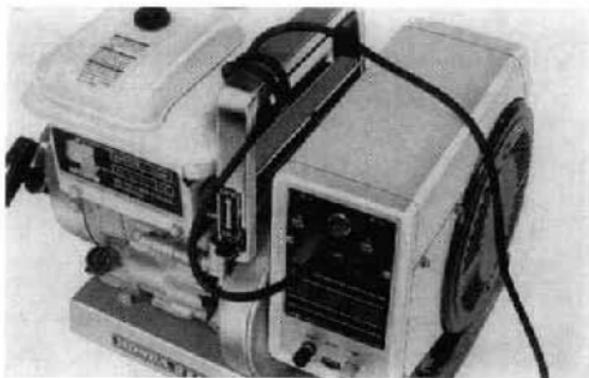
- ① DC output
- ② Pilot lamp

## Pilot Lamp

The pilot lamp will be ON when the DC power is operating normally. If the lamp does not come ON, check the DC fuse and the pilot lamp bulb, and replace whichever is defective.

## Using an Extension Cord

When using a long extension cord, loop the plug end of the cord once or twice around the carrying handle before plugging into the receptacle to prevent accidental unplugging by someone tripping over it.



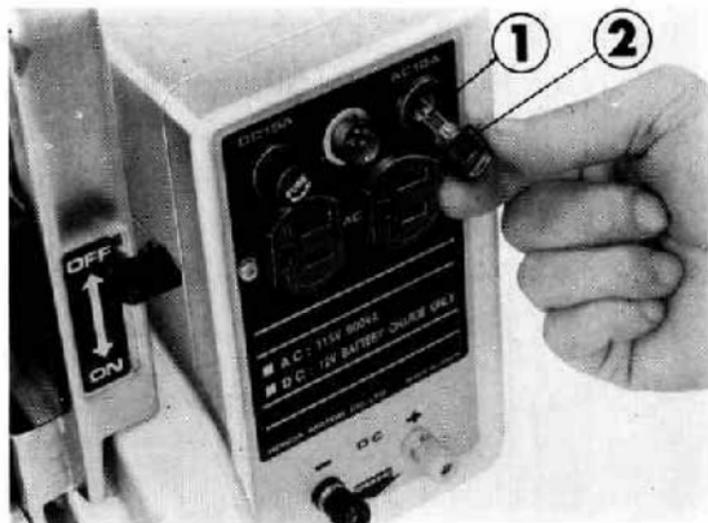
## Fuse Replacement

Fuses are located toward the top of the front panel.

To check or replace the fuse, unscrew the fuse holder cap and remove the fuse.

Fuse of the proper size must be used to protect both the generator and appliance.

**Fuse size:** AC: 10A  
DC: 15A



① Fuse      ② Fuse holder cap

## Voltage Adjustment

HONDA generator E900 has been set to generate the specified voltage. If for any reason the adjustment is necessary, follow the procedure outlined below.

## MAINTENANCE

### Periodic servicing chart

Maintenance is the most important factor in keeping the equipment in the best condition. Be sure to perform periodic service in accordance with the maintenance schedule below.

Always check engine oil level before starting generator.

	Months or operating hours, whichever occurs first			
Period	2 Weeks	1 Month	3 Month	6 Month
Items	operating hours 20 Hrs	50 Hrs	100 Hrs	200 Hrs
Change engine oil	○	●		
Service air cleaner	● When used in dusty area	●		
Clean fuel strainer			●	
Check and service spark plug			●	
Check drive belt			●	
Check ignition timing				●

## Change Engine Oil

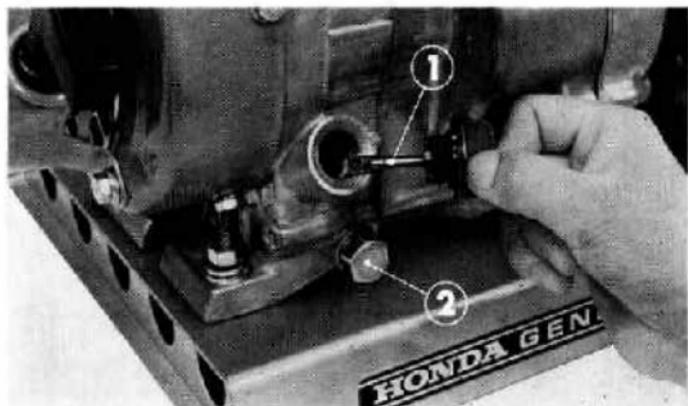
### Draining

When changing oil, drain the used oil from the crankcase while the engine is warm. This will ensure complete and rapid draining.

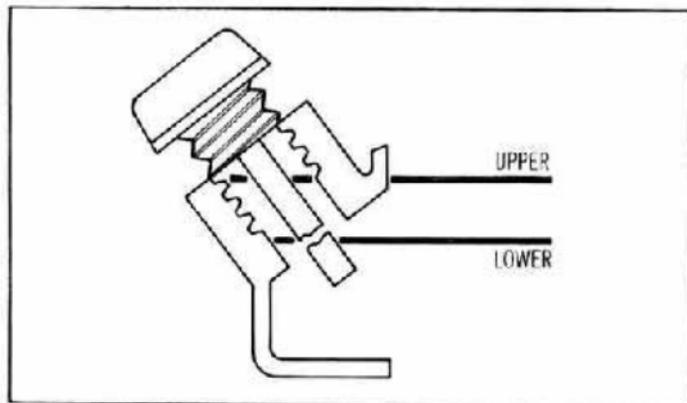
### Filling

After tightening the drain plug, add oil through the oil filler hole and check the level.

**Oil capacity : 0.7 qt (0.7 ℓ)**



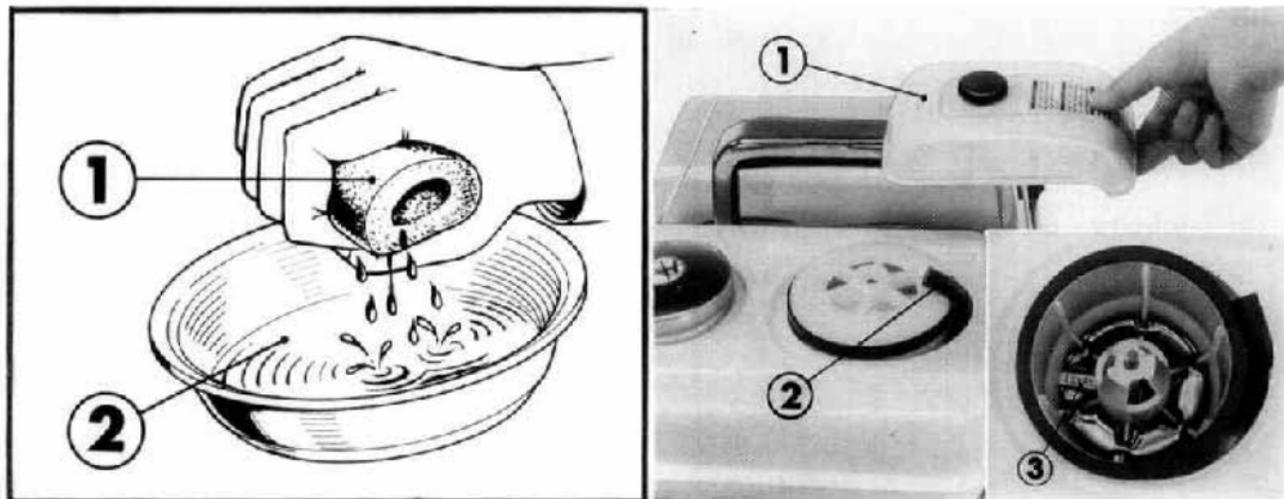
① Oil level gauge    ② Oil drain plug



## Service Air Cleaner

1. Take off the air cleaner cover and remove the air cleaner case.
2. Wash the air cleaner element with kerosene or solvent.
3. Replace the dirty oil with new oil and fill to the proper oil level.

**NOTE: Do not forget to install the rubber seal when reassembling.**



① Air cleaner element    ② Oil mixture (10/1 Oil/Gasoline)

## Cleaning Fuel Strainer

Fuel strainer is mounted on the bottom of the carburetor.

### Removal

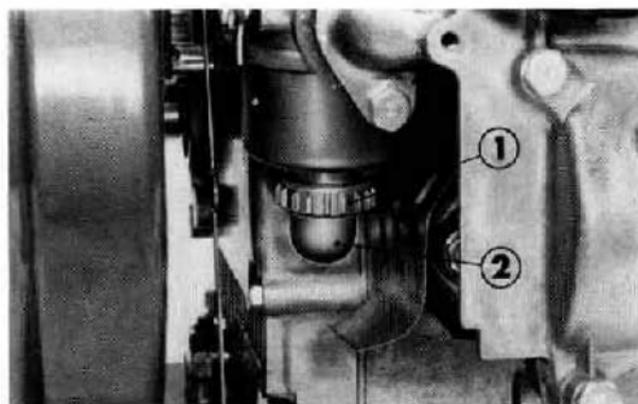
1. Unscrew the generator mounting nut, remove the drive belt and then the generator.
2. Set the engine switch lever (fuel cock) to the OFF position and then remove the carburetor cover.
3. Loosen the ring nut and remove the strainer cup.

### Cleaning

Water and sediment at the bottom of the strainer cup should be removed by wiping with a rag.

- After reassembling the fuel strainer, set the engine switch lever to the ON position and check for leaks.

Replace carburetor cover.



① Ring nut ② Strainer cup

## Check and Servicing Spark Plug

The standard spark plug for the E-900 generator is NGK C-6HB.

The spark plug can be removed for cleaning or replacement, using the spark plug wrench provided in the tool kit. Replace plug if electrodes appear worn.

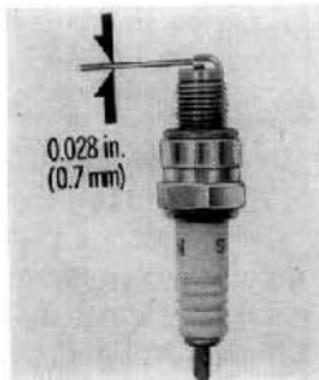
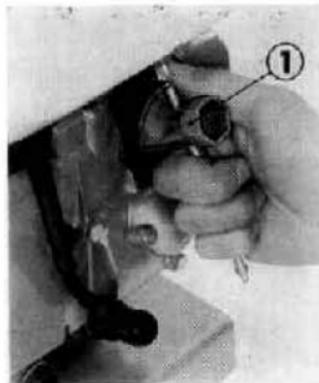
Check spark plug gap with clearance gauge between the electrodes. Adjust gap to 0.028 in. (0.7 mm) by carefully bending the side electrode ②.

Before installing the spark plug, clean any oil or dirt from the spark plug seat in the cylinder head.

Install spark plug by hand until finger tight. Then use the spark plug wrench to tighten the plug an additional 1/2 to 3/4 turn, or until the sealing gasket is compressed.

### **CAUTION:**

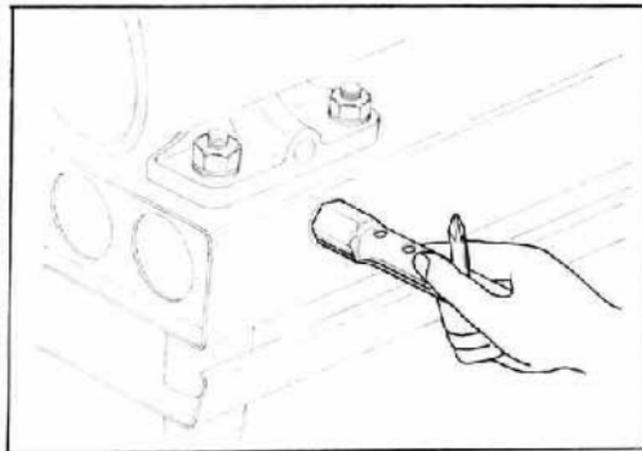
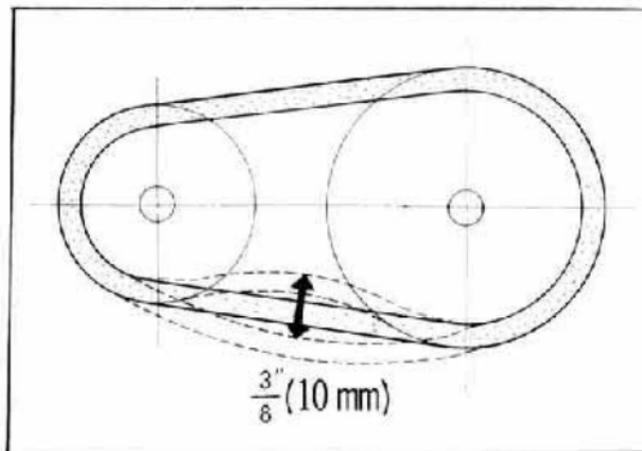
**The use of spark plugs of incorrect size or heat range can cause serious engine damage.**



## Check Drive Belt

When the belt becomes loose, it will cause slippage, resulting in power loss. Over-tensioning of the belt imposes excessive load on the bearing, resulting in abnormal bearing wear.

The vertical slack of the belt should be approximately 0.4 in (10 mm). If the belt has an improper tension, loosen four generator mounting nuts, and adjust the tension of the belt with the adjusting bolt. Tighten the four nuts firmly upon completion of the adjustment.



## Check Ignition Timing

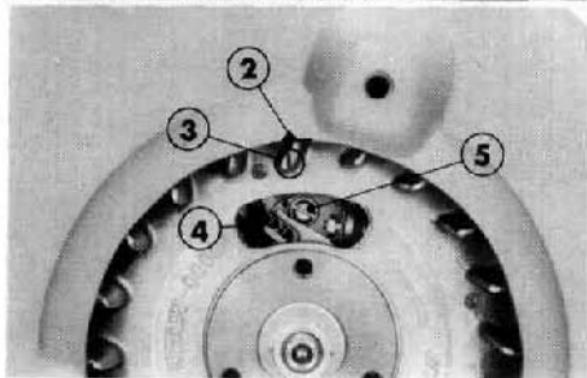
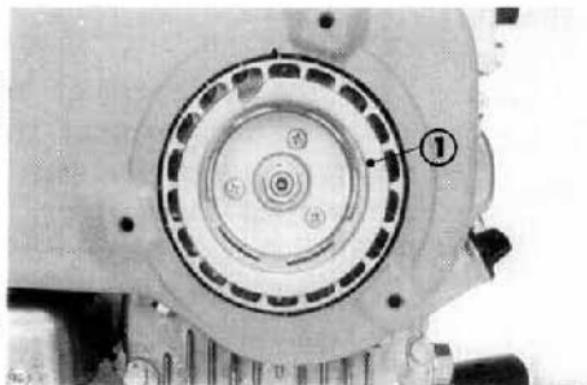
If the surface of the contact points are pitted or dirty, they should be cleaned carefully with a fine emery paper.

## Adjusting the ignition timing

Ignition timing which is either advanced or retarded will cause a drop in power output and starting difficulty.

## Adjusting procedure

1. Remove the starter case, starter pulley and point cover, this will expose the breaker contacts points.
2. The proper ignition timing is determined by observing the start of the contact point opening. The point should start to open when the marked cooling fin passes the cutout in the fan cover.
3. When ignition timing requires adjustment, loosen the contact point mounting bolt and then make the adjustment with the adjusting screw.



- ① Starter pulley ② Cutout ③ Marked fin  
④ Contact points ⑤ Adjusting screw

## Check Breaker Points

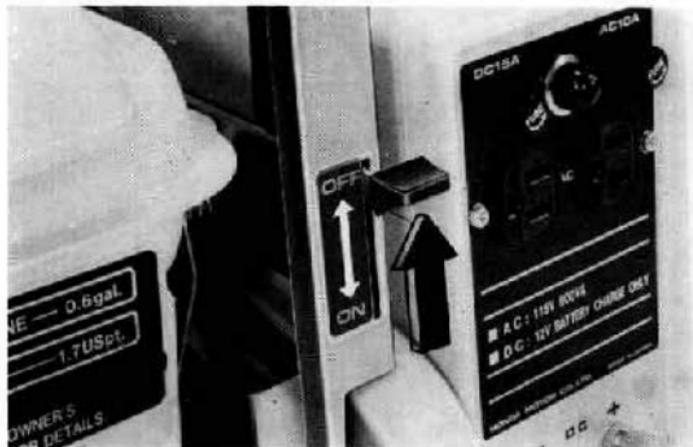
If the surface of the contact points is dirty or rusty, it should be cleaned up with fine sand paper or a file. Pitted points should be replaced.

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## TRANSPORTING

Observe the following when preparing the generator for transportation.

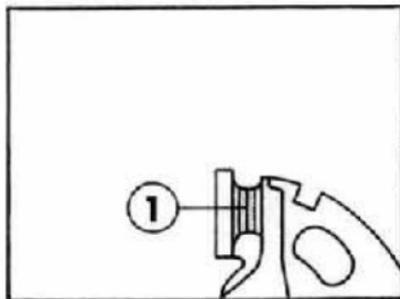
- Set the engine switch lever (fuel cock) to the OFF position.
- Check to make sure that the fuel tank cap is secured.
- Prevent the generator from being bumped or dropped.
- When transported on a vehicle, obtain the fuel.



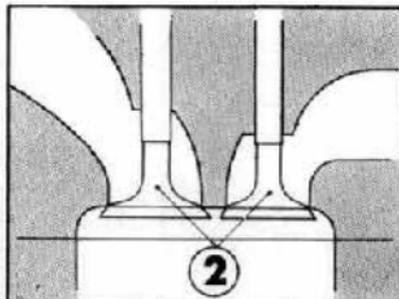
## EXTENDED STORAGE

When the generator is not to be used for a long time, observe the following.

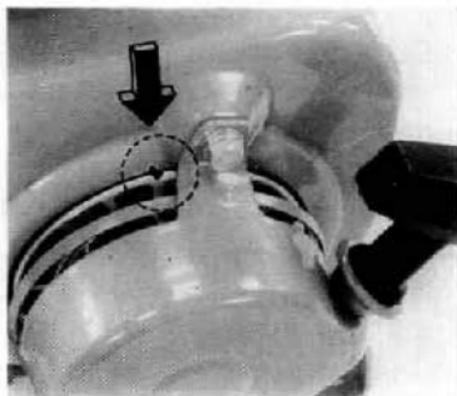
- Close the breaker points and valves. The valves should be closed to prevent the cylinder wall and valve seats from corroding; likewise, the breaker points should also be closed. Rotate the starter pulley until it becomes hard to turn (the piston is coming up on the compression stroke) and then align the mark on the starter pulley to the cutout on the fan cover; in this position both valves and breaker contact points will be closed.



① Contact points



② Valves



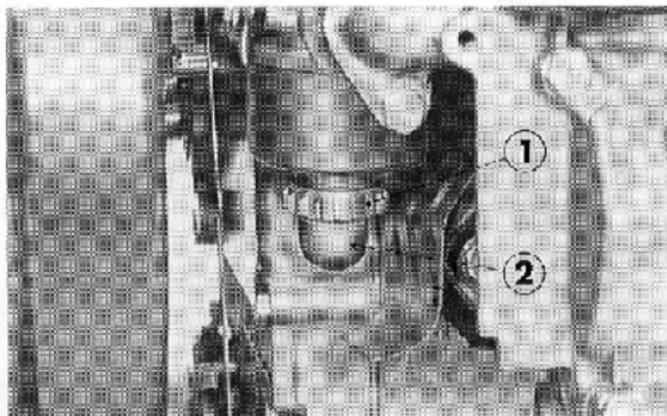
## Draining the Gasoline

Gasoline which is left in the engine for a long period will decompose and produce sediment which clogs the carburetor jets and valves, causing trouble when the engine is put back into operation. When the engine is not to be used for a long time, the fuel should be completely drained from the tank and carburetor.

1. Set the engine switch lever (fuel cock) to the OFF position. Unscrew the fuel strainer ring nut on bottom of the carburetor and drain all the fuel in the carburetor.
2. Follow by turning the engine switch (fuel cock) to ON, and the fuel in the tank will drain.

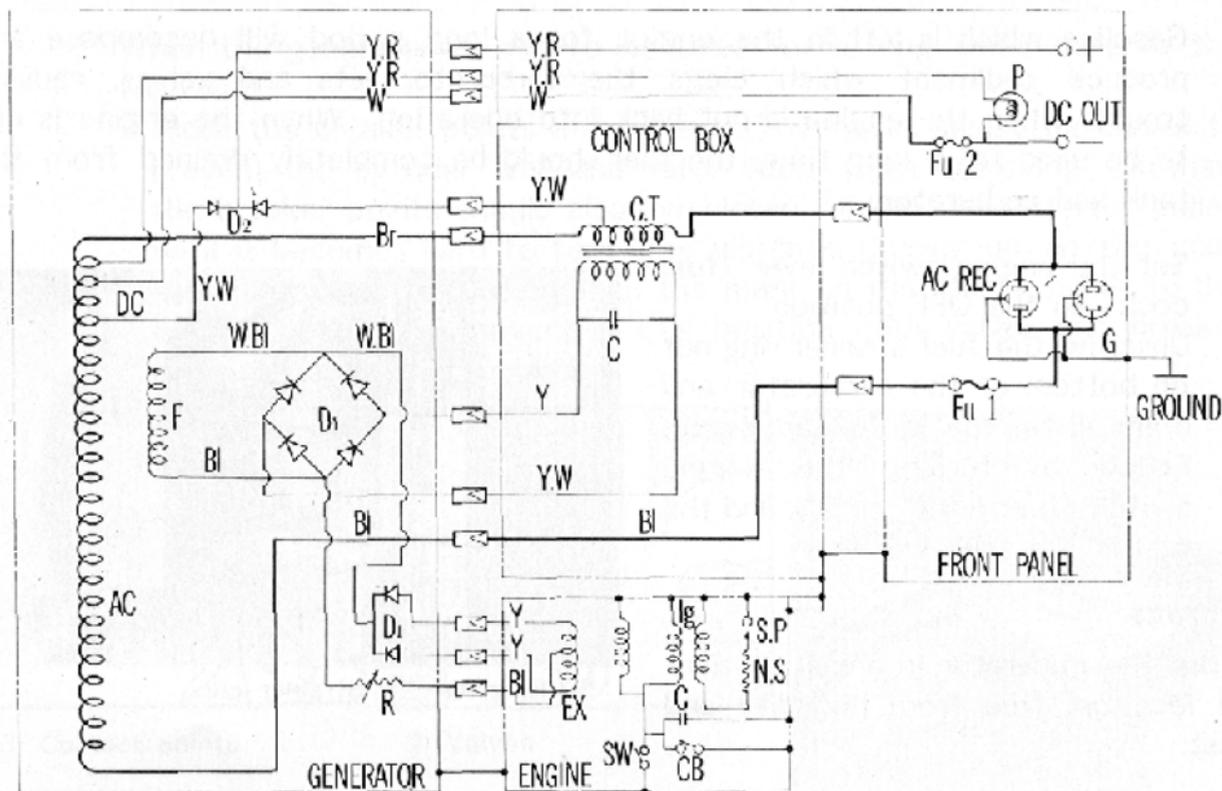
### Storage

Store the generator in a well ventilated location, free from humidity and dust.



① Ring nut ② Strainer cup

# WIRING DIAGRAM



AC	AC coil
DC	DC coil
F	Field coil
D <sub>1</sub>	Diode
D <sub>2</sub>	Diode
R	Adjustable resistor
CT	Current transformer
C	Condenser
EX	Excitor coil
Ig	Ignition coil

SP	Spark plug
NS	Noise suppressor
CB	Contact breaker
SW	Switch
P	Pilot lamp
Fu2	Fuse (DC)
Fu1	Fuse (AC)
DC OUT	DC output
AC REC	AC receptacle

Y	Yellow
W	White
Bl	Blue
Br	Brown
G	Green
Y.R	Yellow-Red
Y.W	Yellow-White
W.Bl	White-Blue

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## **Current customer service contact information:**

### **United States, Puerto Rico, and U.S. Virgin Islands:**

Honda Power Equipment dealership personnel are trained professionals. They should be able to answer any question you may have. If you encounter a problem that your dealer does not solve to your satisfaction, please discuss it with the dealership's management. The Service Manager or General Manager can help. Almost all problems are solved in this way.

If you are dissatisfied with the decision made by the dealership's management, contact the Honda Power Equipment Customer Relations Office. You can write:

American Honda Motor Co., Inc.  
Power Equipment Division  
Customer Relations Office  
4900 Marconi Drive  
Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400 M-F, 8:30 am - 5:00 pm EST

When you write or call, please provide the following information:

- Model and serial numbers
- Name of the dealer who sold the Honda power equipment to you
- Name and address of the dealer who services your equipment
- Date of purchase
- Your name, address, and telephone number
- A detailed description of the problem

**HONDA MOTOR CO., LTD.**

**428462**

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