Mikasa

POWER DRIVE UNIT

GE-5BE
GE-5LE
GE-5LH

INSTRUCTION MANUAL

en

Contents of "Declaration of Conformity"
Please refer the EC DECLARATION OF CONFORMITY in this manual as well.

http://www.mikasas.com

202-00208

Mikasa

1) DECLARATION OF CONFORMITY

2) Manufacturer's name and address.	Mikasa Sangyo Co., Ltd. 1-4-3, Kanda-Sarugakucho, Chiyoda-ku, Tokyo, Japan					
3) Name and address of the person who keeps the technical documentation.	Takahiro Kishino, engineer R&D Division, Mikasa Sangyo Co., Ltd. Shiraoka-city, Saitama, Japan					
4) Type: Drive Unit						
5) model	GE-5LH					
6) Equipment item number	114342, 114345, 114346, 114347, 114348					
7) Serial number	For serial number, please refer it on front page.					
8) power source cont. output <max. output>	Honda GX160 2.9kW <3.6kW>					
9) Measured sound power level(dB)	95					
10) Guaranteed sound power level(dB)	105					
11) Operator's sound pressure level(dB)	83					
12) Conformity assessment according to Annex:	VIII (Full Quality Assurance procedure)					
13) Name and address of the Notified Body	Société Nationale de Certification et d'Homologation (SNCH) 11, route de Luxembourg L-5230 Sandweiler LUXEMBOURG					
14) Related Directive	Directive **2000/14/EC** and, to be followed by Directive **2005/88/EC**, relating to the noise emission in the environment by equipment for use outdoors.					
15) Declaration	The equipment referred in this document, fulfills with all the requirements of Directive 2000/14/EC					
16) Other related Community Directives	**2006/42/EC, 2005/88/EC, 2004/108/EC, 2002/88/EC(2004/26/EC)** EN500-1, EN500-4					
17) EC Conformity Certificate No:	SNCH*2000/14*2005/88*0472*04					
18) Place and date of the declaration	Tokyo, Japan June, 2016 Signed by: Keiichi YOSHIDA Director, R&D Division Mikasa Sangyo Co., Ltd.					

Italian

1. DICHIARAZIONE “CE” DI CONFORMITÁ
2. Nome e indirizzo Fabbricante
3. Nome e indirizzo della persona che conserva la documentazione tecnica
4. Tipo: **Piastre vibranti**
5. Modèle
6. Codice macchina
7. Numeridi matricola
8. Potenza installata netta <resa massima>
9. Livello di potenza sonora misurato (dB)
10. Livello di potenza sonora garantito
11. Livello massimo di pressione sonora
12. Valutazione di conformità in accordo all'annesso VIII (procédure d'assurance de qualité totale)
13. Nome dell'organismo notificato
14. Rappresentante Autorizzato in Europa
15. Direttiva di riferimento
    Direttiva 2000/14/CE su l'emissione acustica ambientale delle macchine ed attrezzature destinate a funzionare all'aperto
16. Dichiarazione
    Le attrezzature riportate nel documento soddisfano i requisiti della Direttiva 2000/14/CE
17. Altre Direttive Comunitarie di riferimento
18. Certificato di Conformità CE No:
19. Luogo e data della dichiarazione

French

1. DECLARATION « CE » DE CONFORMITE
2. Non et adresse du Fabricant
3. Nom et adresse de la personne qui défient les documents techniques
4. Type du materiel: **Plaques vibrantes**
5. Modello
6. Numero equipement
7. Numéro de série
8. Puissance reseau <rendement maximal>
9. Niveau sonore mesure(dB)
10. Niveau sonore garanti(dB)
11. Niveau sonore maximum
12. Certification de conformite selon l'annexe VIII (procedura Garanzia di Qualità totale)
13. Nom et adresse de l'organisme notifié
14. Mandataire dans la Communaute Europeenne
15. Directive concernee
    Est egalement conforme aux dispositions de la directive <<emission sonores des equipements utilises a l'exterieur des batiments>> 2000/14/CE et aux legislations nationales la transposant.
16. Declaration
    L'équipement de référence satisfait aux exigences de la Directive 2000/14/EC
17. Autres directives communautaires concernees
18. Certificate deConformite CE numero:
19. Lieu et date de la déclaration

Spanish

1. DECLARACIÓN “CE” DE CONFORMIDAD
2. Nombre y dirección del fabricante
3. Nombre y dirección de la persona que guarda la documentación técnica.
4. Tipo: **Bandejas vibrantes**
5. Modelo
6. Número de referencia del equipo
7. Numeros de serie
8. Potencia neta instlada <rendimineto maximo>
9. Nivel sonoro medido del motor (dB)
10. Nivel sonoro garantizado del motor (dB)
11. Máximo nivel sonoro de presión (dB)
12. Evaluación de la Conformidad de acuerdo al Anexo VIII (Prcedimiento de total garantía asegurada)
13. Nombre y dirección de la Entidad Notificada
14. Representante autorizado
15. Directiva relacionada
    Directiva 2000/14/CE en relación a la emisión sonora en el ambiente por equipos que trabajan en espacios abiertos
16. Declaración
    El equipo referido en este documento , cumple con todos los requerimientos de la Directiva 2000/14/EC
17. Otras Directivas Comunitarias relacionadas
18. Certificado de Conformidad CE Nº
19. Lugar y fecha de la declaración

TABLE OF CONTENTS

1. PREFACE

This instruction manual describes the proper methods for using the power drive unit, as well as simple checks and maintenance. **Be sure to read this instruction manual before using the Power Drive Unit**, in order to get full use of the excellent performance of this machine, to improve your operation and to perform engineering work effectively.

After reading this manual, **store it in a handy location** for easy reference.

For details about the engine in this machine, see the separate instruction manual for the engine.

For inquiries about repair parts, parts lists, service manuals, and repair of the machine, please contact the shop where you purchased it, our sales office, or the Mikasa Parts Service Center. In addition, parts lists are available on the MIKASA website at:
http://www.mikasas.com/english/

The illustrations and Figures in this manual may be different from the machine you actually purchased due to design changes and other reasons for improvement.

2. MACHINERY OVERVIEW

Application

This product is an engine type motor for GH series pendulous type vibrator for concrete compaction using a flexible shaft and for WP series underwater pump that works by impeller rotation. This product is used for concrete casting and water pumping by connecting it to the work machine via its coupling part.

Warning about incorrect applications and techniques

Do not connect this product to work machines not specified for this product. If the part to be connected to a work machine is altered or this product is connected to a machine having a connection part that does not fit, the connection part will either get stuck or fall off during operation, resulting in damage of this product or the work machine. Also, do not operate with the engine revolution raised above the specified level, because that might accelerate damage of this product and the work machine and there is a potential risk of operator injury by dispersion of broken part pieces.

Structure & Power transmission

The engine is installed either directly on the base or via a vibration absorbing rubber. There are two types for the base that has an integrated frame, with one type being placed directly on the ground and the other placed on a rotary table for free rotation.
To the output shaft of the engine, a socket with a hexagonal hole is attached. This will be used as a guide when connecting this product to a work machine, and a coupling flange with a lever to prevent falling off is fixed on the engine. If the lever is turned to the direction opposite to the spring back force, such falling off prevention mechanism will be cancelled, enabling the work machine to be disconnected. Power is transmitted to the work machine when the rotation of the hexagonal hole of the socket attached to the engine output shaft turns the work machine's hexagonal joint inserted to the hexagonal hole.

3. WARNING SYMBOLS

The triangle shaped marks used in this manual and on the decals stuck on the main body indicate common hazards. Be sure to read and observe the cautions described.

⚠ Warning labels indicating hazards to humans and to equipment.

⚠ DANGER: Denotes an extreme hazard. It calls attention to a procedure, practice, condition or the like, which, if not correctly performed or adhered to, is likely to result in serious injury or death.

⚠ WARNING: Denotes a hazard. It calls attention to a procedure, practice, condition or the like, which, if not correctly performed or adhered to, could result in serious injury or death.

⚠ CAUTION: Denotes a hazard. It calls attention to a procedure, practice, condition or the like, which, if not correctly performed or adhered to, could result in injury to people and may damage or destroy the product.

Precautions (without a triangular mark): Failure to follow the instructions may result in damage to property.

4. SAFETY PRECAUTIONS

4.1 General Precautions

⚠ WARNING

- **DO NOT** work in the following conditions.
  - If you do not feel well due to overwork or illness.
  - If you are taking any medicine.
  - If you are under the influence of alcohol.

⚠ CAUTION

- Read this instruction manual carefully and handle the machine as described so that you can work safely.

- For details about the engine, refer the separate instruction manual for the engine. Make sure you thoroughly understand the construction and operation of the machine.
- To work safely, always wear protective clothing (helmet, safety glasses, safety shoes, ear plugs etc.) and appropriate work clothes.
  Always check the machine to make sure that it is normal before starting operation.

- The decals on the machine body (operating methods, warning decals, etc.) are very important to ensure safety. Keep the machine body clean so that they can be read at all times. If any decal cannot be read, replace it with a new one.
- It is very dangerous if children come into contact with the machine. Take the utmost care about how and where the machine is stored.
- Before performing any maintenance, be sure to turn the engine off.
- Mikasa does not accept any liability for accidents or problems caused as a result of not using genuine Mikasa parts, or if the machine has been modified.

4.2 Precautions When Adding Fuel

⚠ DANGER

- When adding fuel.
  - Be sure to work in a well ventilated location.
  - Be sure to turn the engine off and wait until it has cooled down.
  - Take the machine to a clear flat location without any combustibles nearby. Be careful not any fuel. If you do spill some gasoline, wipe it all up.

Do not allow any open flames nearby while adding fuel. (In particular, smoking while adding fuel is strictly prohibited.)

- Adding fuel until it comes too close to the top of the inlet may cause the fuel to overflow. That is dangerous. Follow the instructions in the engine manual about the specified fuel level.

- When through adding fuel, tighten the tank cap securely.

4.3 Precautions About Where To Use The Machine

⚠ DANGER

- **DO NOT** run the engine in an unventilated location, such as indoors or in a tunnel. The exhaust gas from the engine is carbon monoxide and is deadly.

- **DO NOT** operate the machine near open fires.

4.4 Precautions Before Starting Work

⚠ CAUTION

- Check each part to see if it is tightened properly. Vibration causes loosening of bolts, which results in unexpected serious malfunctions of the machine. Tighten the bolts securely.

4.5 Precautions During Work

⚠ DANGER

- Do not put dangerous substances (oil and grease, celluloid, explosives, etc.) and flammable substances (flammable paper and wood chips) near this engine generator.

⚠ CAUTION

- The main parts of the engine, the muffler, and muffler cover will be very hot during operation. Be careful not to touch them during operation or soon after operation.

- If a trouble is detected or abnormal noise is heard during the operation, turn off the switch immediately to stop the engine generator. Then contact the store or the renter of the machine to request for inspection or repair.

- Always stop the engine when you end your work and move away from the machine.

4.6 Transportation And Storage Precautions

⚠ DANGER

When transporting

- Before transporting the machine, stop the engine.
- **DO NOT** try to move it before the engine and machine body have cooled down enough.
- Drain any fuel before transporting the machine.
- Secure the machine body so that the machine cannot move or fall during transportation.

When storing the machine

- After the engine and machine body have cooled down enough, store the Power Drive Unit so that it is level.

4.7 Maintenance Precautions

⚠ WARNING

- Appropriate maintenance of the machine is required to ensure safety and keep the machine performing well. Always be aware of the machine's condition and keep it in good condition.

⚠ CAUTION

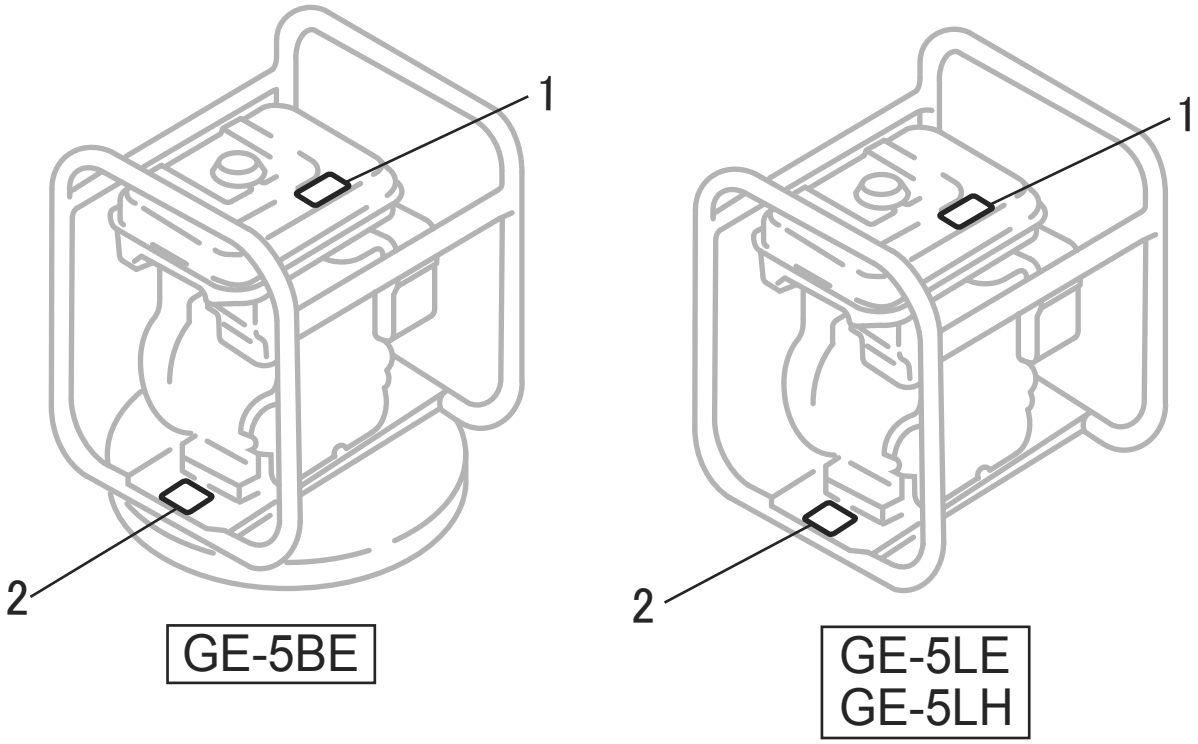
- After performing any maintenance, check the condition of the safety components and the general safety of the machine. In particular, check the nuts and bolts thoroughly.
- If you have to disassemble any components on the machine, be sure to refer the maintenance standard sheets and always work safely.
  Be sure to turn the engine off before checking or adjusting the machine.
- The muffler and muffler guard become very hot. Do not touch them until they will have cooled down.

- The lubrication oil and engine oil are very hot and can burn you. Do not start any maintenance on the machine while the oil remains hot.

⚠ DANGER

- To prevent fire, use nonflammable oil for cleaning of parts. After cleaning, wipe off the parts well to remove the oil completely.
- Danger of gas poisoning exists if used indoor or in an area with poor ventilation. Ventilate well especially when there is exhaust gas from the engine or fuel, wash oil, and paints are used.

4.8 Labeling Position And List

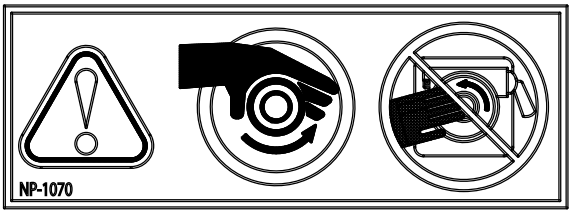


1: 9201-10700 DECAL CAUTION, FINGERTIP

2: PLATE, SERIAL NO. /GE-5BE
2: PLATE, SERIAL NO. /GE-5LE
2: PLATE, SERIAL NO. /GE-5LH

4.9 Descriptions Of Symbols Used On Warning Labels

9201-1070 0 DECAL CAUTION,FINGERTIP



Be careful not to get caught in the rotating parts.
During operation, be careful not to have your fingers, body, clothes, etc. come in contact with the rotating parts.

5. SPECIFICATIONS

5.1 Machine Specifications

Model		GE-5BE	GE-5LE	GE-5LH
Engine		Subaru EX17D	←	Honda GX160
Overall Length	mm	420	412	←
Overall Widt	mm	413	442	←
Overrall Height	mm	500	456	←
Operating Weight	kg	28.0	←	←
Set R.P.M	min^{-1}	3,200	←	←

(The specifications may be changed without notice)

5.2 Engine Specifications

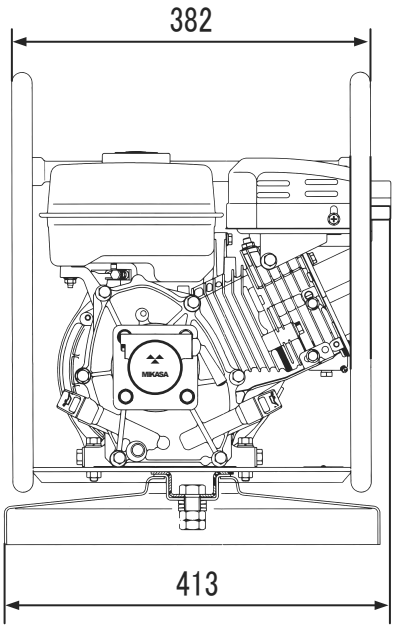
Manufacturer	Subaru	Honda
Model	EX17D	GX160
Type	Air cooled 4 cycle slant type single cylinder gasoline engine	
Displacement	169 cc	163 cm^3
Max Output	4.2kW/4000min^{-1} (5.7PS/4000rpm)	3.6kW/3600min^{-1} (4.9PS/3600rpm)
Ignition method	Noncontact type magnet ignition	Transistor type magnet ignition
Spark plug	NGK BR6HS	NGK BP6ES
Fuel	Unleaded Automobile Gasoline	
Fuel Tank Capacity	3.2 liters	3.1 liters
Weight	15kg (33lbs.)	15kg (33lbs.)

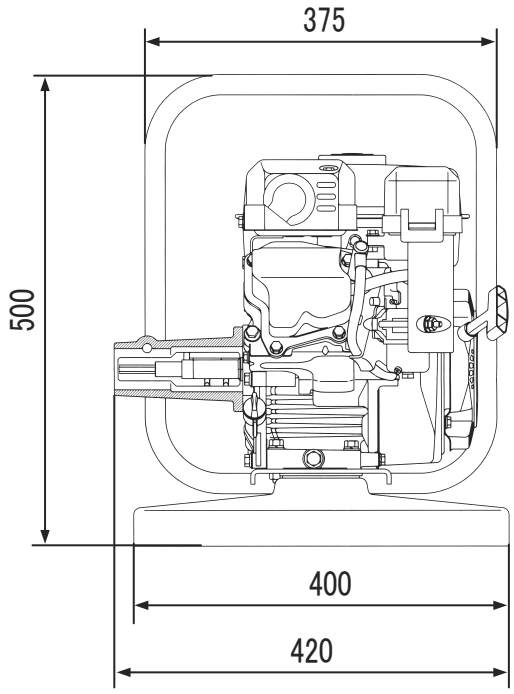
(The specifications may be changed without notice)

6. APPEARANCE

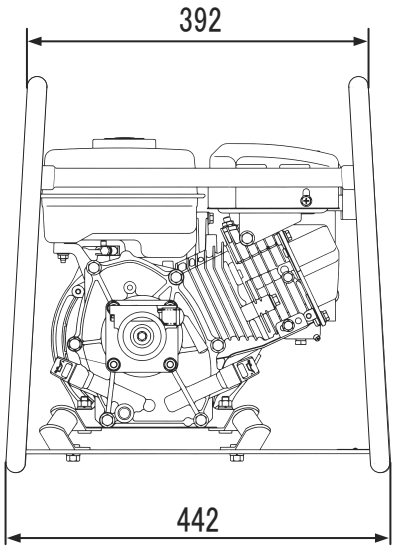
6.1 Outside Dimension

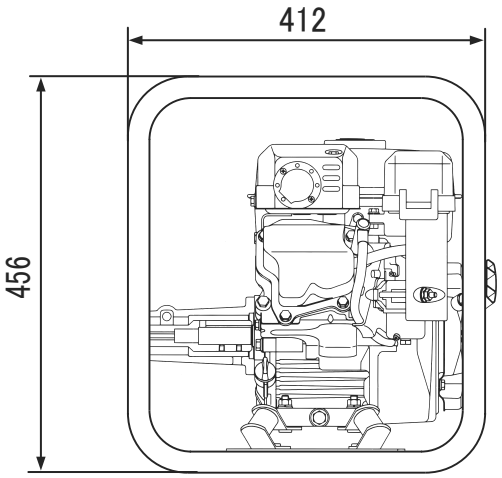
GE-5BE





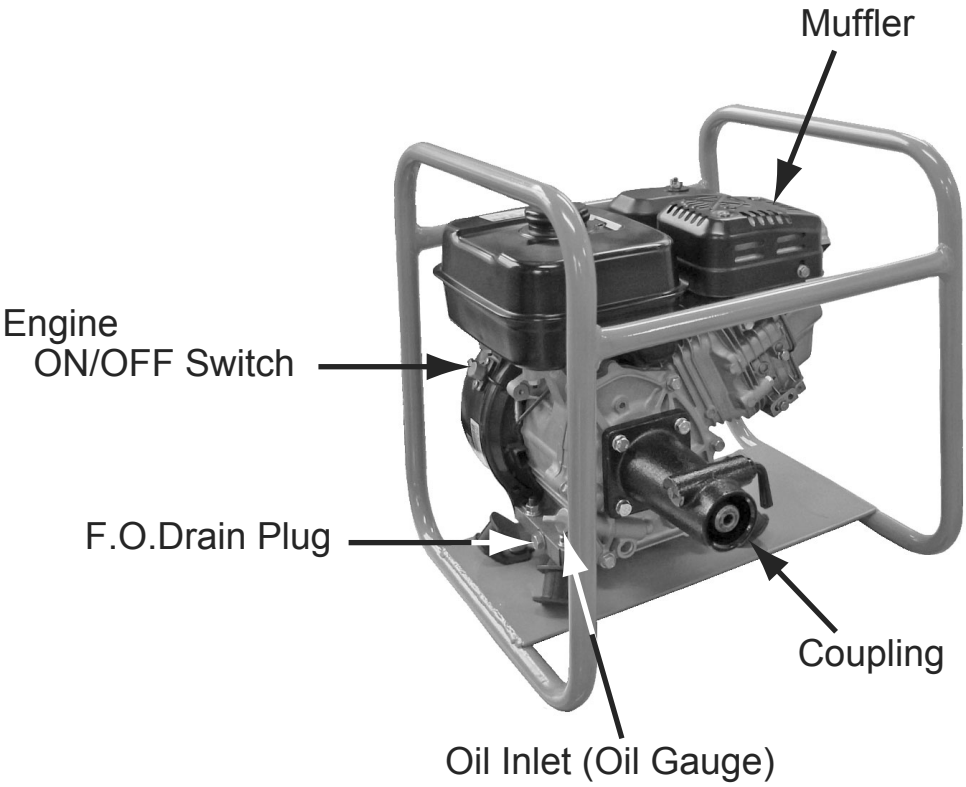
GE-5LE
GE-5LH ※ *The illustration is shown for model, "GE-5LE"*





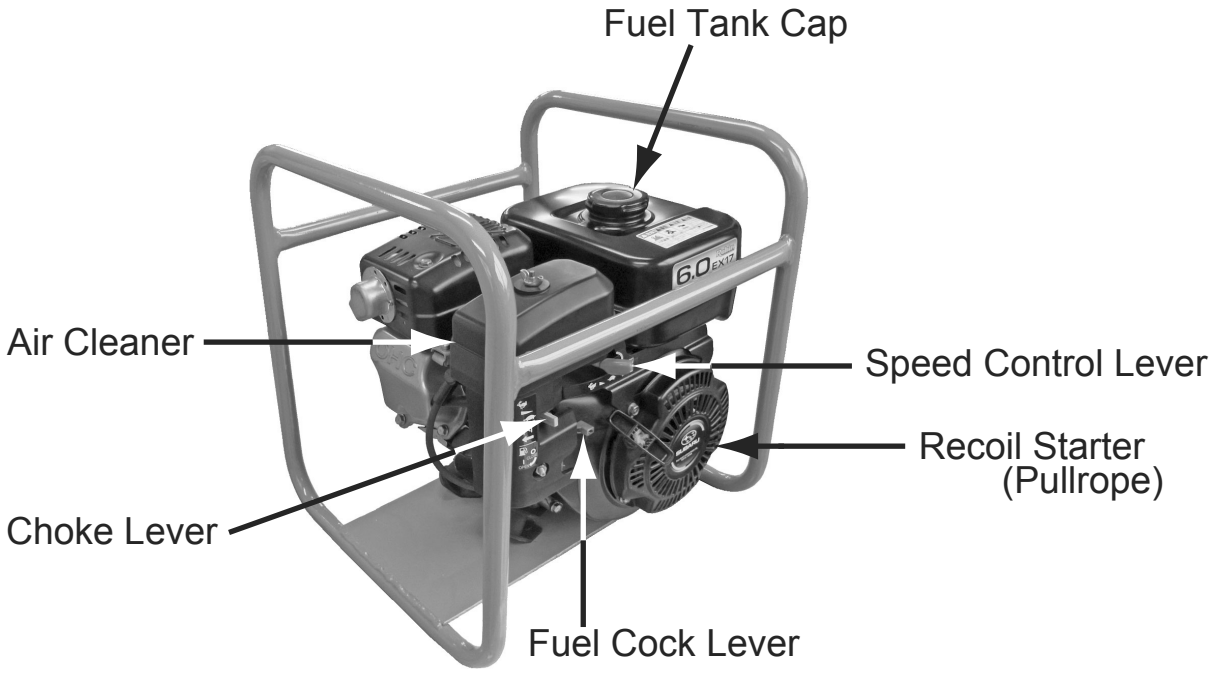
6.2 Components

GE-5BE



GE-5LE
GE-5LH

※ *The photo is shown for model, "GE-5LE"*



7. INSPECTION BEFORE OPERATION

7-1 Visual Inspection

Check each part for any looseness of bolts. Vibration causes bolts to loosen, which might result unexpected accident or malfunction.

7-2 Engine Oil

Set the engine on a level surface to check the oil level. If the oil level is low, add oil. Use the following engine oil.(Fig. 1)

Quality:
Gasoline engine oil, Grade SE or above
Viscosity:
SAE No. 30 at 20°C and above(summer)
SAE10W-30

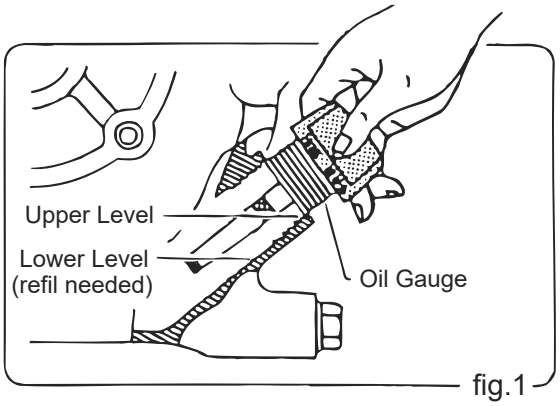


fig.1

7-3 Refueling

⚠ DANGER

-Do not expose to open flames while refueling.

-Do not fill to the rim because the fuel might spill.

-Wipe off well if a spill occurs.

Use clean automotive gasoline or automotive light oil appropriate for the engine. Let the fuel run through a filter when refueling.

7-4 Work Location

7-4-1 Road bed condition

⚠ CAUTION

Do not slant this product more than 10 degrees to any direction. Find a level surface with little unevenness where the machine can be stabilized. In case if this product falls over, accident such as fire might occur.

7-4-2 Environment for use

⚠ DANGER

The exhaust gas from the engine contains carbon monoxide harmful to humans. Do not run the engine indoors or inside a tunnel with poor ventilation. While this product is operated, not only the operator but also the people and livestock in the vicinity should not be exposed to the exhaust gas. There is a danger of exhaust gas poisoning that might result in fatal accident.

⚠ CAUTION

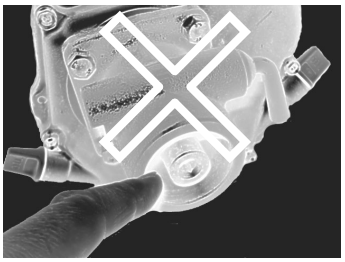
Do not operate this product in rain or in the loca tion where water might be splashed. There is a danger of spark induced fire.

8. OPERATION

8-1 Starting of engine

⚠ WARNING

When operating this product without attaching a flexible shaft, do not come close to the coupling part. Serious accident or injury might occur if fingers or clothes get caught.
Also, when attaching a flexible shaft to the engine board, make sure that the engine is stopped. Serious injury might occur if you work with this product without stopping the engine.



8-1-1

Connect a shaft to the engine .To do so, turn the lever on the side surface of the engine coupling part, insert the flexible shaft connector and hose coupling, then get the lever back into the original position. (Fig.2)

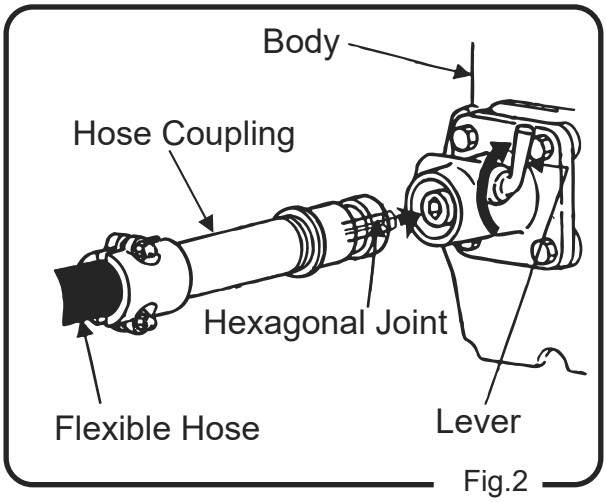


Fig.2

8-1-2

Open the fuel cock. (Fig.3)

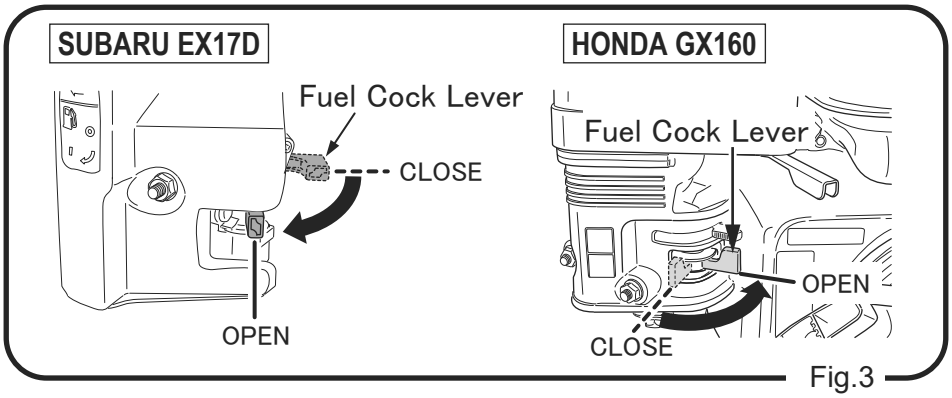


Fig.3

8-1-3

Turn the stop switch to ON side. (Fig.4)

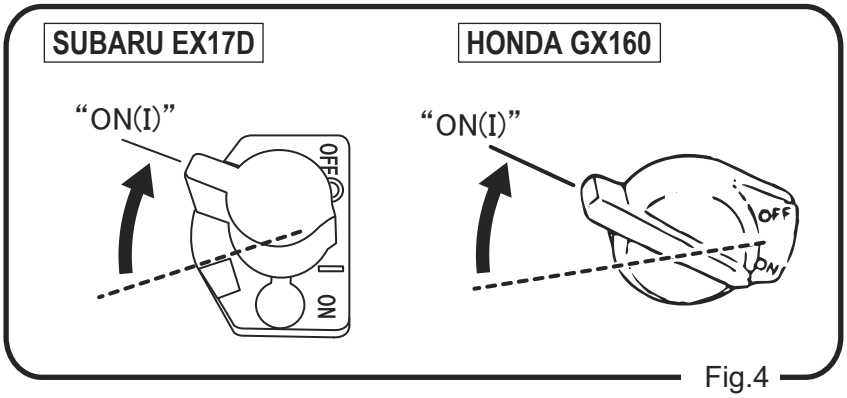


Fig.4

8-1-4

Move the speed control lever from low speed (L) to high speed (H) and set it at about 1/3 open position. (Fig.5)

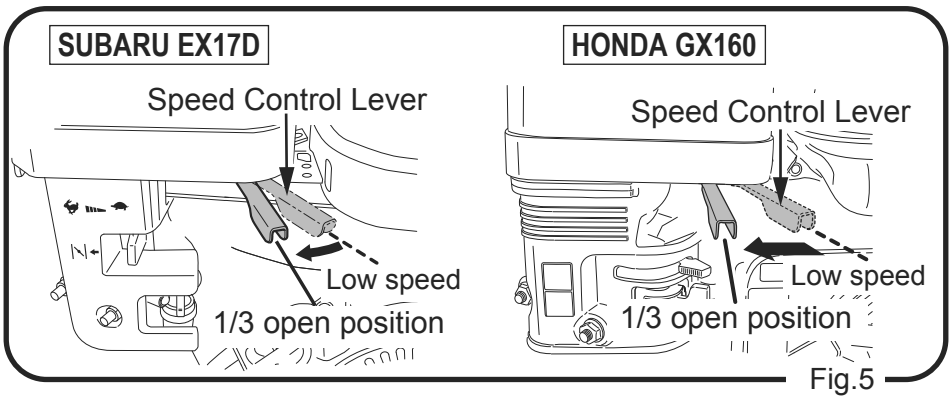


Fig.5

8-1-5

Close the choke lever.(Fig.6)

※**Choke position**

Under cold weather or when the engine is cold

- - - Full close.

Under warm weather or for restart immediately after operation is stopped

- - - Full open or half open.

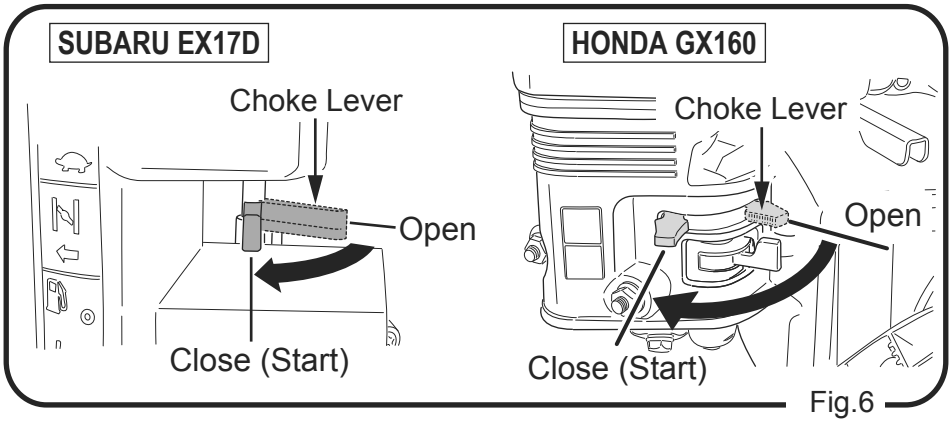


Fig.6

8-1-6

If you pull the start knob slowly, you will feel a pressure at one point (compression point). If you pull the start knob a little more, you will come to a point where pressure is reduced. Get the start knob back into the original position, then pull it again with force. (Fig.7)

Do not pull out the rope fully. Slowly get the start knob back from pull position without releasing it from your hand.

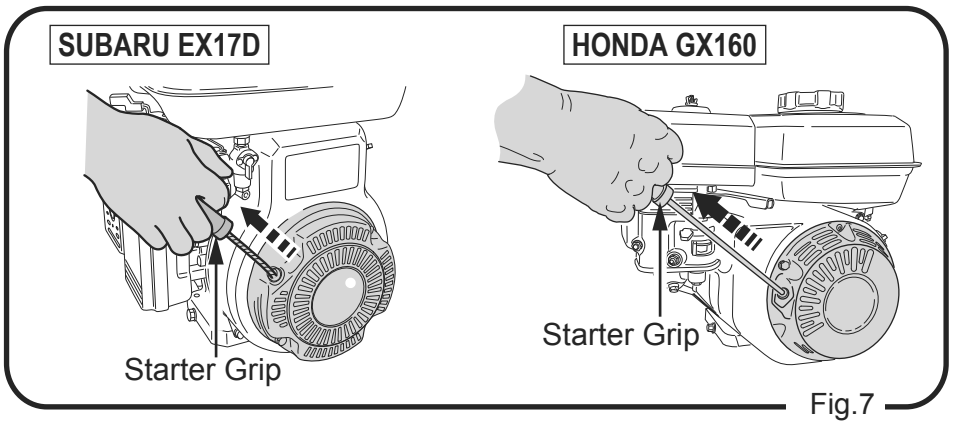


Fig.7

8-1-7

After the engine starts, open the choke lever. (Fig.8)

Open the choke lever little by little by checking the condition of the engine. It has to be fully opened eventually. The engine might stop if the choke lever is opened suddenly under cold weather or when the engine is cool. Please be careful.

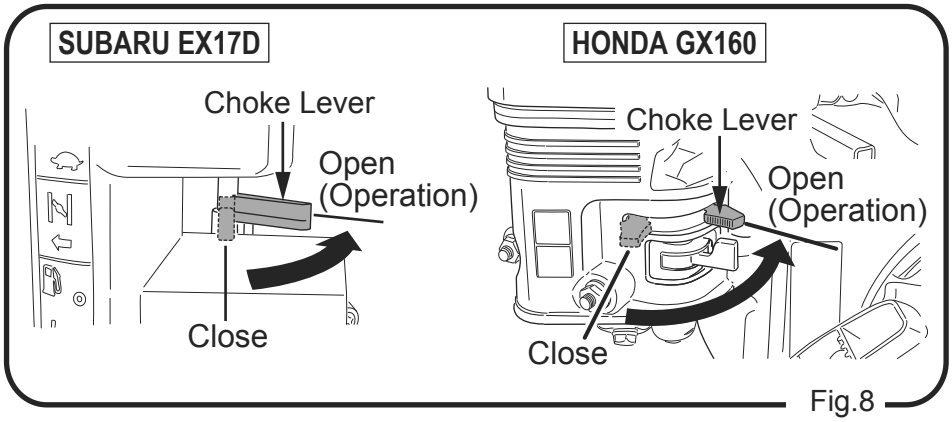


Fig.8

8-1-8

After the engine starts, warm up at low speed for 1 to 2 minutes without load. While warming up, check for gas leak or abnormal noise. When using a vibrator, attach a flexible shaft to the engine board after warming up. (Fig.9)

⚠ WARNING

When attaching a flexible shaft to the engine board, make sure that the engine is stopped. Serious injury might occur if you work with this product without stopping the engine.

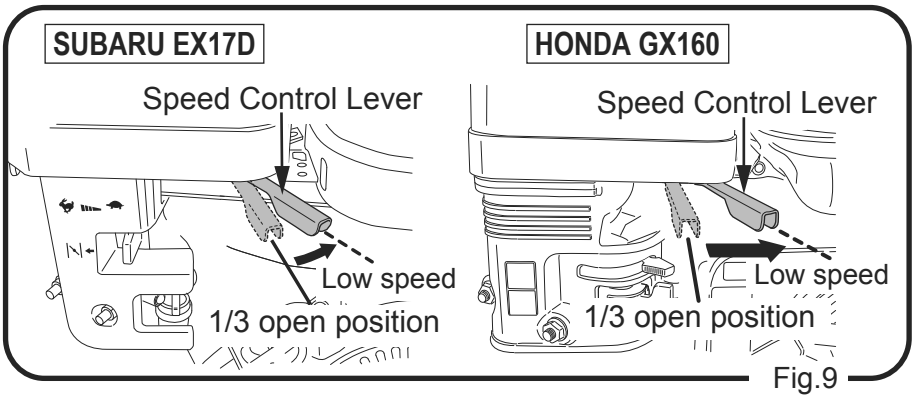


Fig.9

8-2 Work

8-2-1

Use the speed control lever to raise the engine revolution to the highest set level to start your work. (Fig.10)

⚠ CAUTION

The highest set revolution for the engine is adjusted to 3,200rpm. Do not turn the speed control lever bolt to increase the revolution above this level because failure might occur.

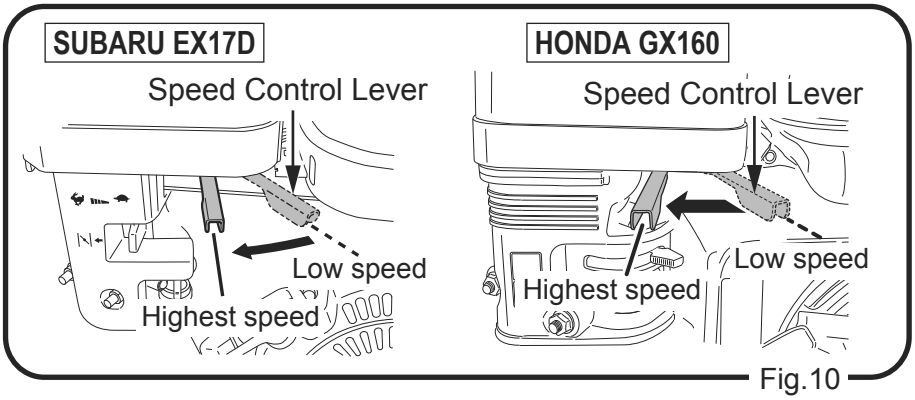


Fig.10

9. STOPPING THE MACHINE

9-1 Set the speed control lever to low speed. (Fig.11)

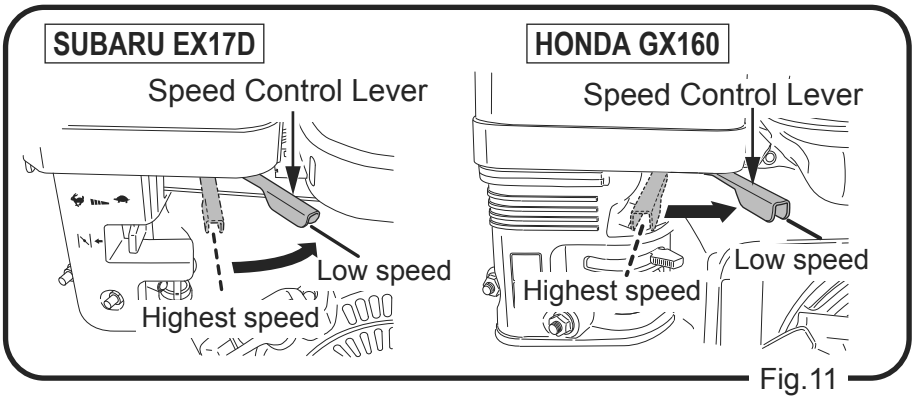


Fig.11

9-2 Turn the stop switch to OFF side. (Fig.12)

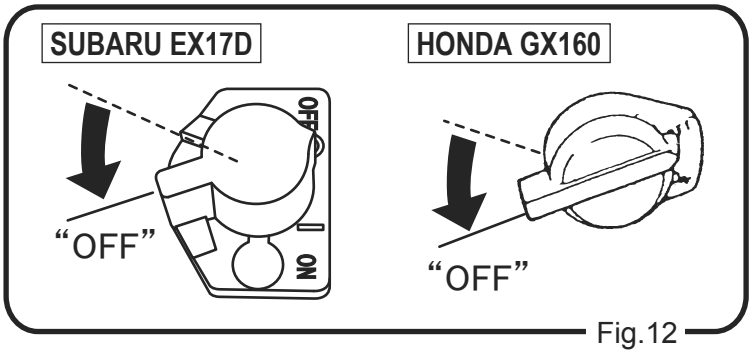


Fig.12

9-3 Shut the fuel cock. (Fig.13)

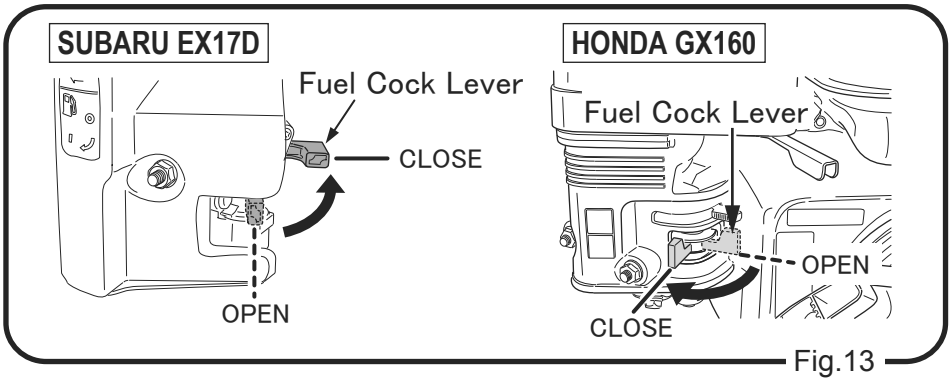


Fig.13

9-4 Pull the recoil starter start knob slowly. At the point when you feel pressure, get the knob back into the original position. This will prevent entry of outside air (humidity) into inside of the engine. (Fig.14)

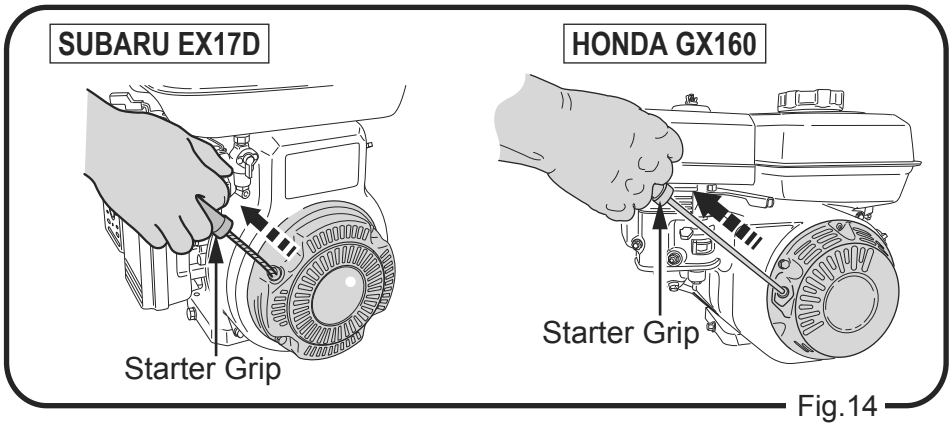


Fig.14

10. REGULAR CHECK AND STORAGE

10.1 Inspection And Maintenance Schedule Table

Check frequency	Check parts	Check items	Oils
Daily (before starting)	Appearance	Flaw, deformation	
	Fuel tank	Leakage	
	Fuel system	Leakage	
	Engine oil	Leakage, oil level, dirt	Engine oil
	Air cleaner	Dust on sponge	
	Guard frame	Breakage, flaw	
	Bolts and nuts	Looseness, missing	
Every 20 hours	Engine oil	Replace only after the first 20 hours	Engine oil
Every 50 hours	Air cleaner	Maintenance	
	Engine oil	Change	Engine oil
Every 2 years	Fuel pipes	Change	
Irregular	Air cleaner element	Change	

For details about the check and maintenance of the engine, please refer to the attached engine operation manual.

Caution:

The above table shows the check frequency for standard condition.

The check frequency may vary depending on the condition in which the machine is used.

10.2 Storage

1 Wash with water to remove any dust and dirt from all parts of the machine.

2 Store in a dry area away from direct sunlight after putting the cover over the machine to prevent dust and dirt buildup.
(When storing this machine for an extended period of time)

3 Drain the fuel from the fuel tank, fuel pipe, and carburetor completely.

4 Conduct fueling and replenishment/change of oil without omission. Remove the spark plug, put a few drops of engine oil into the cylinder, and rotate the engine manually for spreading the oil inside sufficiently.

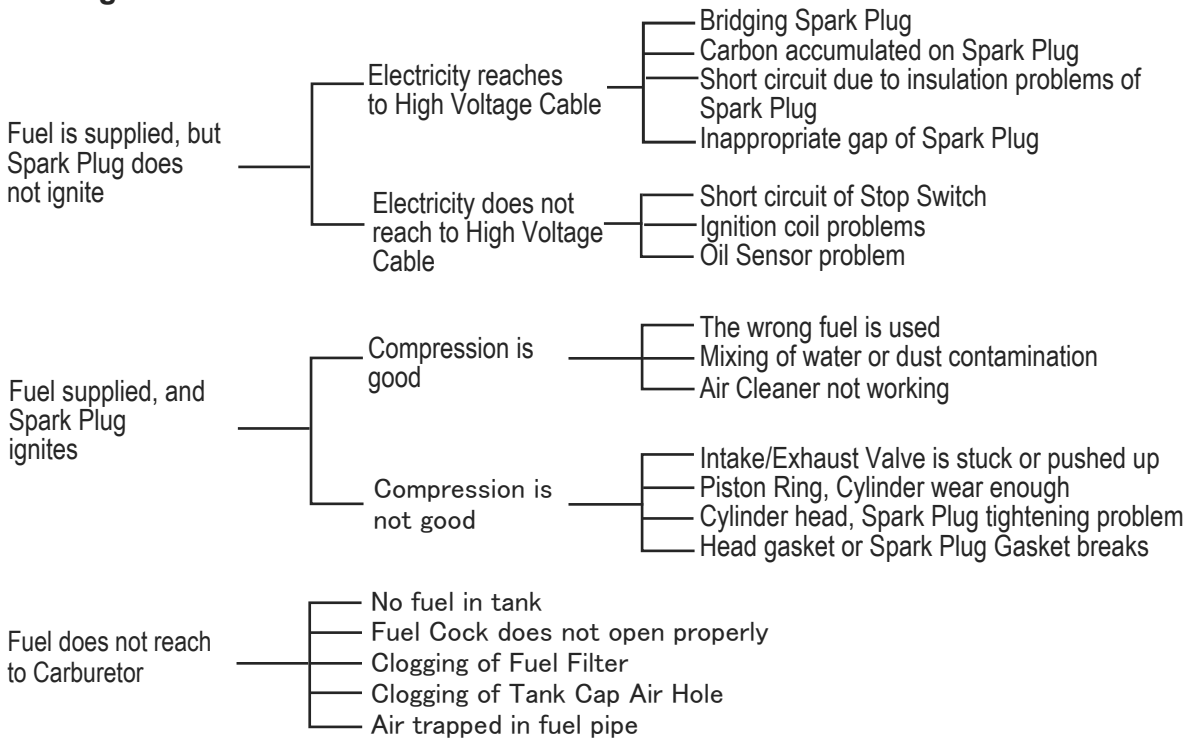
5 Securely cover the air cleaner and muffler air inlets and exhaust port.

6 Do not leave the machine outdoors. Keep it indoors.

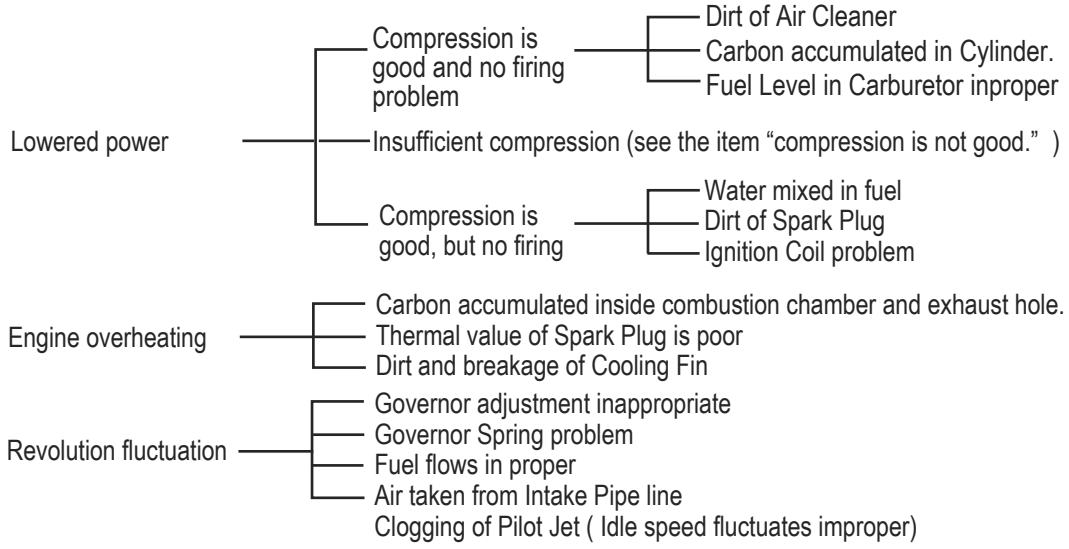
7 Do not store this machine by laying it on its side (or backward).

11. TROUBLESHOOTING

(1) Starting Problem



(2) Operation Problem



(3) Recoil Starter does not work well

- Clogging of dust from rotating part
- Weakening of Spiral Spring

Mikasa

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