HOMER tools

User's manual

Single-phase power generator

2800

CE

OBSAH:

1. INTRODUCTION

Dear consumer,
Company ALFA IN a.s. thanks you for purchasing our product and believe that you will be satisfied with our machine. Congratulations on choosing a “HOBBY” machine for independent power generator based on the gasoline engine. This equipment is designed for common applications, and it is made from the highest quality components under strict quality management system.

Advantage of gasoline power generators:

1. single-cylinder air-cooled, four-stroke OHV engine
2. powerful maintenance free alternators
3. fixed mounting of motor - generator in one constructional part
4. solid, ergonomically designed tubular frame
5. robust manual starter
6. low noise and fuel consumption
7. use a commercially available fuel
8. single-phase operation (1x 230V)
9. 12VDC voltage for charging batteries
10. long-term protection against current overload (thermal fuse)
11. service background

2. SAFETY WARNING

To ensure safe operation, please carefully read the following provisions. The following safety precautions must always be observed when handling the equipment device and its operation. Ignoring WARNING may lead to injury or property damage. Ignoring of NOTES, CAUTION may lead to equipment damage, reducing its performance or worsening operating performance.

Photos are for illustration only.

WARNING - is used to indicate the risk, that if the warning is ignored causes or may cause minor or sever injury or death to operating and bystanders person and damage to property.

NOTES - are used to notify of important information for the installation, operation and maintenance of equipment.

WARNING ! RISK OF FIRE AND EXPLOSION !
Flammable and explosive gasoline can cause fires or serious burns.

Gasoline is extremely flammable and its vapors can explode if ignited. Fuel must be only store in approved containers, in well ventilated and unoccupied buildings, away from open flame, hot surfaces, electrical wiring or sparks. Refuel when the engine is hot or running, since spilled fuel may be ignited by contact with hot surfaces or sparks from electrical shock. Never use gasoline or flammable sharp as a cleaning medium.

Risk of explosion gases produced during charging (models with electric start)
Charge the battery only in a well-ventilated area away from sources of ignition (open flame, hot surfaces, sparks). Keep the battery out of the reach of children. During maintenance battery, remove all jewelry. Before disconnecting the negative terminal, make sure that the engine key switch is in the OFF position (in the ON position would have occurred the spark when disconnecting that could cause an explosion if hydrogen gas generated during charging the battery or gasoline vapors are present).

WARNING ! RISK OF ROTATING PARTS!
Rotating parts may cause severe injury.
Do not touch or keep a safe distance of the hands, feet, hair and other body parts, clothing, tools and working materials from moving parts to prevent injury.

Never operate the equipment with any cover, shrouds, or guards.

WARNING ! RISK OF BURNS!
Do not touch the equipment when it is in operation or when it just stopped.
Parts of the machine may be hot during operation (especially the exhaust, engine block, body generator, cover of muffler, frame machines for exhaust). Do not touch these areas while the engine is running or immediately after stopping prevent severe burns. Never operate the equipment with any cover, shrouds, or guards.

WARNING ! RISK OF CHEMICAL BURNS!
Electrolyte of battery for devices equipped with an electric starter contains sulfuric acid. Prevent skin contact with electrolyte.

WARNING ! RISK OF ELECTRIC SHOCK!
Do not touch electrical wires equipment when it is in operation.
Electrical appliances connect and disconnect from the generator if generator is always switched off. Do not tamper with electrical wiring devices. Do not operate the equipment if it is damaged or is suspected of internal damage (eq. after flooding equipment, mechanical damage). Risk of electrical shock.

WARNING ! RISK OF POISONING EXHAUST GASES!
Exhaust gases contain substances which, when inhaled, can cause serious intoxication or death and substances considered carcinogenic and teratogenic. Prevent inhaling exhaust gases, and never run the engine in closed or poorly ventilated areas.

WARNING ! RISK OF RANDOM STARTS!
Radom start of motor can cause severe injury. Before attempting any maintenance, disconnect the spark plug cable and devices equipped with an electric starter negative terminal of the battery. Before disconnecting, make sure that the starter box is in the OFF position (in the ON position would spark created when disconnecting to ignite or explode if spilled fuel).

WARNING ! RISK OF INJURY OF CHILDREN AND INCOMPETENT PERSONS!
Keep out of reach of children or incompetent persons. Operate equipment by qualified person according to this manual knowledgeable. Do not operate the equipment children under 15 years.

Winding of the alternator is not connected to the ground - it is also isolated system power supply. This ensures the safety of the device with respect to the possibility of injury to the operator an electric shock. It is strongly prohibited to earth some of working conductor in generator circuit except when electrical

circuit is equipped with residual current device tripping sensitivity 30 mA. These installations must be carried only by a specialist with electro qualifications.

Residual current circuit protector will provide safe operation and protect the operator in the event of damage to the insulation alternator. Residual current circuit breaker disconnects the electrical circuit in the event of a discrepancy between the electrical force-output alternator and parts of the circuit connected to ground at the output of the circuit breaker.

Must not be combined PE and N !

3. OPERATING CONDITIONS

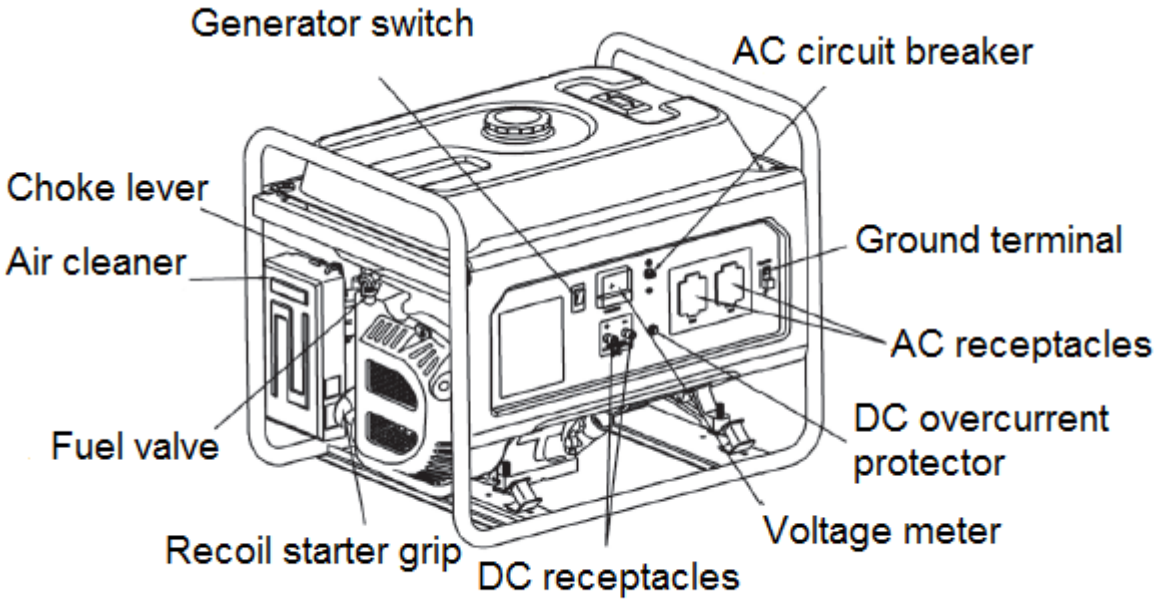
1. **COMPLIANCE WITH NATIONAL SAFETY STANDARDS.** The device is manufactured in compliance with European safety standards. May not be complied national standards.
2. Devices operate at maximum heeling 15 degrees to the horizontal.
3. The machine must be protected from humidity and rain, chemically aggressive environments, mechanical damage, excessive overloading - exceeding the tech. parameters rough treatment.
4. **Each user must know its maximum rated power generator, which must not be exceeded.** Generator is equipped with a thermal fuse, which serves as a protection against prolonged overloads. If the power is interrupted during the use, it can be caused by breaking the fuse due to constant overloading. In this case, wait a short period of time, remove the cause of overloading and then switch on the fuse again by pressing the button located near the outlets. Thermal fuses have values corresponding to the values of each type of generator. If the replacement is necessary, use original spare parts. **Thermal fuse can not secure single very strong overloading exceeding several times the rated power generator. It can result in severe damage to the alternator, for which the manufacturer does not bear any responsibility.**
5. When connecting electrical machines and appliances to the generator it is essential to observe the technical parameters of electric powered and connected devices. If in doubt consult your dealer or the manufacturer of power generators.
6. Coefficient determines the approximate multiple increase "label" the power of powered devices, which may occur short-term during the operation, especially during start-up equipment. Most equipment has a coefficient of 1 except for the following (the list is not complete, it is indicative only).

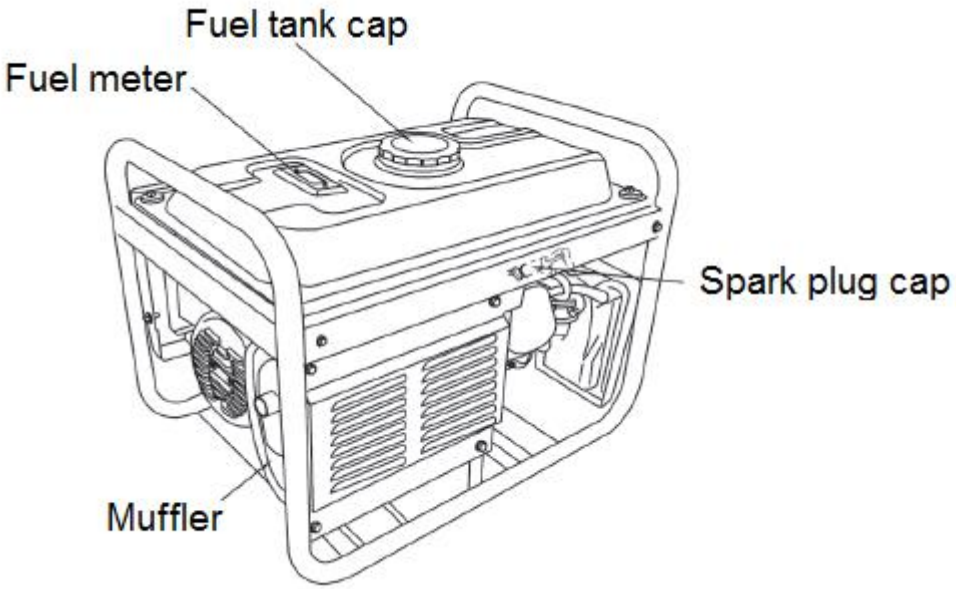
The connected powered device	**Coefficient**
Pressure washers	3
Fridge	3,5 -5

Concrete mixers, angle grinders, circular saws	2,5
Machine tools and electric grinders	2
Submersible pumps	3
Washing machines	4
Compressors	3,5-5
Drilling and milling machines	3
Halogen lamps and fluorescent lamps	1,5
Crushers, grass trimmers, brush cutters, fence cutters, mowers and chain saws	2

7. It is necessary to observe all the provisions of the used motor, which are listed in the user manual or the user manual engine.
8. All interventions in el. equipment, as well as repairs must be performed only by authorized personnel.

4. DESCRIPTION AND EQUIPMENT ARRANGEMENT

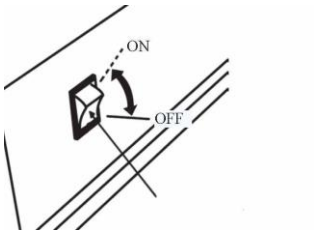




Picture 1 Main parts of the machine

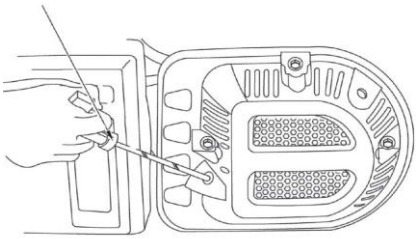
Control elements

Generator switch



To turn on the power generator switch the ignition switch to ON.
To turn off the power generator switch the ignition switch to OFF.

Starter

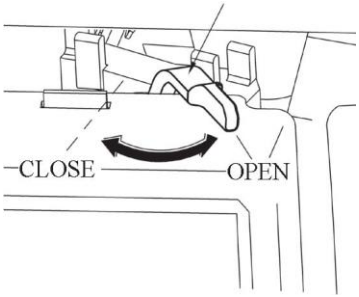


Pull slowly the starter grip until resistance shows. Then smoothly, but fast enough pull the starter handle (so as to avoid excessive stress on the starter rope guide pulley and starter)**.**

Fuel valve

Before switching on the power generator switch lock into position.
After switching off the power generator switch closure to the OFF position.

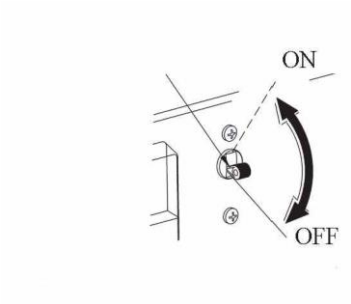
Choke



The choke lever is used to provide an enriched fuel

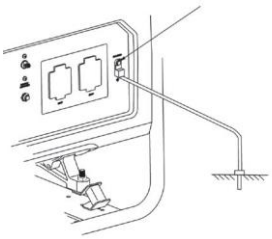
mixture when starting a cold engine. Turn the choke lever to the “CLOSE” position. Slowly put the choke lever to “OPEN” position after the engine is started.

AC Cirkuit Breaker



The overload current will automatically switch OFF circuit breaker to avoid short circuiting of the load or overload. If the circuit breaker is switched OFF automatically, check load before switching the circuit breaker ON again.

Ground Terminal



This ground terminal is dedicated to reliably grounding the whole generator.

Oil Alert System

The oil alert system is especially designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. When the oil level in the crankcase fall down below the safe limit, the oil alert system will automatically shut down the engine(though the generator switch still remains in the ON position), so that the engine can’t be damaged due to the insufficient amount of the oil.

5. SPECIFICATION

HOMER tools		2800
Alternator	Power [kVA]	8,0
	Voltage [V]	230
	Current [A]	34,7
	Frequency [Hz]	50
	Voltage regulation	AVR
Motor	Type	R200
	Volume (cm3)	196
	Power [kW/HP]	4 / 5,4
	Cooling	air
	Starting	manual
	Noise (A) [dB]	96
	Consumption [l/h]	cca 1,3
	Fuel tank capacity [l]	15
	Oil	10W 40 (-18°C - 50°C), 5W 40(-40°C - 0°C)
	Fuel	unleaded > 91
Accesories	IP Protection	IP23
	Thermal protection (230V)	yes
	Oil sensor	yes
	Voltage 12V	8,3A
	Thermal current protection	yes
	Voltmeter	yes
	Exhaust muffler	yes
	Dimensions [mm]	593x465x455
	Weight [kg]	49,5

6. OPERATION

Procedure for the first start

1. Read this instruction manual carefully.
2. Remove information labels from the device.
3. Remove residues of the transport packing.
4. **Fill engine oil into the engine according to the manual (about 0,5l). Recommended oil:10W40 (-18°C - 50°C), 5W 40(-40°C - 0°C).**
5. Check the engine oil level, or top up.
6. Fill the fuel tank (13-14 l).
7. Check visually the mask air intake cooling to the engine and the alternator and the surface of the device, make sure that the equipment is not damaged.
8. Make sure all safety devices and guards are installed and securely tightened.
9. Check if the powered device is off and unplugged.

Procedure before any further start

1. Check oil level, top up, if the level is below the MIN, do not overfill above MAX.
2. Check the fuel level, or top up.
3. Check visually the mask air intake cooling to the engine and the alternator and the surface of the device, make sure that the equipment is not damaged.
4. Make sure all safety devices and guards are installed and securely tightened.
5. Check, if the powered device is off and unplugged.

Use of generator to power appliances

1. Start the generator according to the instructions below.
2. Connect the appliances to the plugs, make sure not to exceed the maximum rated load of the outputs.
3. Make sure that the thermal fuse is ON.

Starting

1. Remove all the loads from the output side.
2. Turn fuel valve to the ON position.
3. Turn the AC circuit breaker to the OFF position.
4. Place the choke control to the CLOSE position. For a warm engine choke is not required.
5. Move the switch of the ignition switch to the ON position**.**

6. Pull slowly the starter grip until resistance shows. Then smoothly, but fast enough pull the starter handle (so as to avoid excessive stress on the starter rope guide pulley and starter)**.** Repeat until the device does not start.
7. After starting the device handle you return to its initial position.
8. After a few seconds you turn the choke to the OPEN position - work equipment picks up speed, and its operation is fluent.

Decommissioning

1. Unload motor by disconnecting all load.
2. Let the engine run for 30 to 60 seconds flat.
3. Turn the engine switch to the OFF position.
4. Fuel valve switch from ON to OFF position.

7. MAINTENANCE

Good maintenance is essential for safe, economical, and trouble-free operation.

VAROVÁNÍ!
Exhaust gas contains poisonous carbon monoxide. Shut off the engine before performing any maintenance. If the engine must be run, make sure the area is well ventilated.

Periodic maintenance and adjustment are necessary for keeping the generator in good operating condition. Perform the service and inspection at the intervals shown in the Maintenance schedule below:

For engine maintenance - detailed service procedures are listed in the user manual or the user manual engine.

Maintenance, excluding maintenance described in this manual should be made by an authorized service partner.
The generator does not require any servicing or maintenance by the customer.

Maintenance - schedule

WARNING! RISK OF RANDOM START!
Random start of engine by maintenance can cause severe injury. Disconnect the spark plug cable before attempting any maintenance.

Activity	Periodicity
Check, if necessary Top up the fuel tank	daily or before every start

Checking the oil level	daily or before every start
Check air filter [1]	daily or before every start
Control of air sampling openings and cooling surfaces [1]	daily or before every start
Cleaning foam air filter	Every 3 months or 50 hours.
Changing the oil	First: month or 20 hours of operation. After that: every 6 months or 100 hours of operation.
Check the wear of the spark plugs and cable	every 100 hours of operation
General inspection of equipment [2]	every year or every 300 hours of operation

[1] Periods shorten up to ½ when the equipment is operated in extremely dusty or dirty environments
[2] Let make an authorized service partner

Check oil level / top up oil

Oil	10W 40 (-18°C - 50°C), 5W 40(-40°C - 0°C)

1. Make sure, that the device has not running, the starter position is OFF, it is in a horizontal position and is chilly, allow the oil to drain into the oil pan.
2. Clean the area around the oil cap throat to prevent possible oil contamination when opening the oil cap throat.
3. Remove the oil cap stopper
4. The oil level should be up to the upper edge of the throat, but it would not leak.
5. In the event that the oil level does not reach the upper edge of the throat. Top up oil (by oil throat) so that the oil level reached to the upper edge of the throat.

Checking maintenance and replacement of the air filter and air system

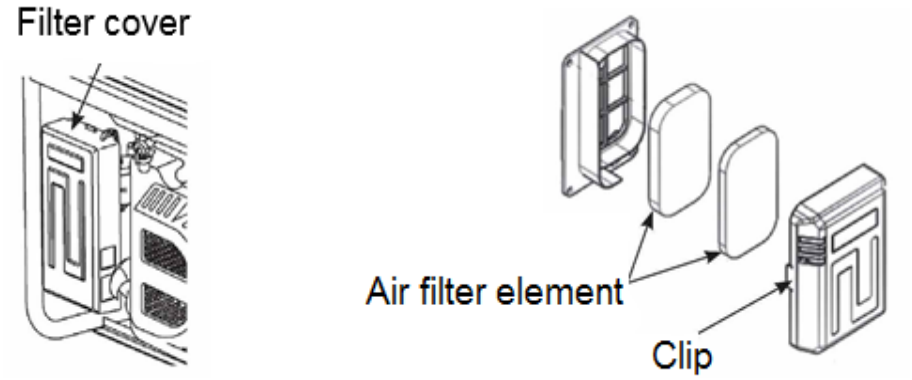
Daily or before starting, check the air filter. Check the dirt and debris around the air cleaner. Keep this area clean. Also check for loose or damaged. Replace all bent or damaged air cleaner components.

NOTE: Operating the engine with loose or damaged air cleaner components could allow unfiltered air into the engine causing premature wear or damage.

Maintenance foam air filter

Wash and re-oil the filter every 50 hours of operation (more often if the equipment is operated in dusty or dirty conditions). Foam filter, keep the following manner:

1. Release the cover screw and remove the air filter cover
2. Remove the foam filter from the air filter
3. Wash the foam filter in hot water (by hand) with soap, detergent or other detergent. Thoroughly wash the filter so it does not contain any detergent. Squeeze excess water (do not wring) and let the filter to air dry.
4. Let soak up the filter with clean engine oil. Squeeze out excess oil.
5. Replace the air filter cover



Picture 2 Air filter

Air inlet for cooling areas

To ensure correct cooling, make sure the grass screen, cooling fins, and other external surfaces of the engine are kept clean at all.
Every 100 hours of operation (more often if operating in dusty or dirty conditions), remove the blower cover and other covers and clean them as well as other exterior surfaces if necessary. Make sure the vent caps are reinstalled and securely fastened.

NOTE Operating the engine with clogged or dirty grates and covers and / or cooling shrouds removed, can lead to damage to the engine by overheating.:

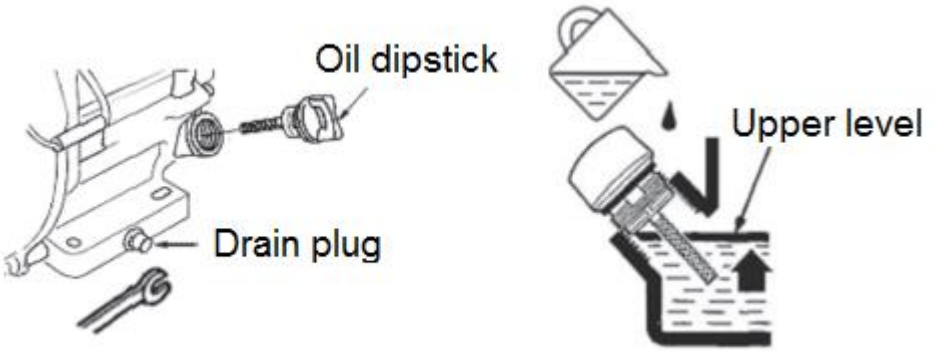
Change oil

Drain the oil while the engine is warm to ensure complete and rapid draining. Make sure that when filling, checking or changing the oil is equipment in horizontal position.

1. Remove the oil dipstick and drain plug to drain the oil.
2. Reinstall the drain plug, then tighten the plug securely.
3. Refill oil and check the oil level.

NOTE: Always use the recommended types of oil - to prevent excessive engine wear or damage. To avoid excessive wear or damage to the engine, you must always observe for correct oil level in the crankcase. Never operate the engine with low oil state

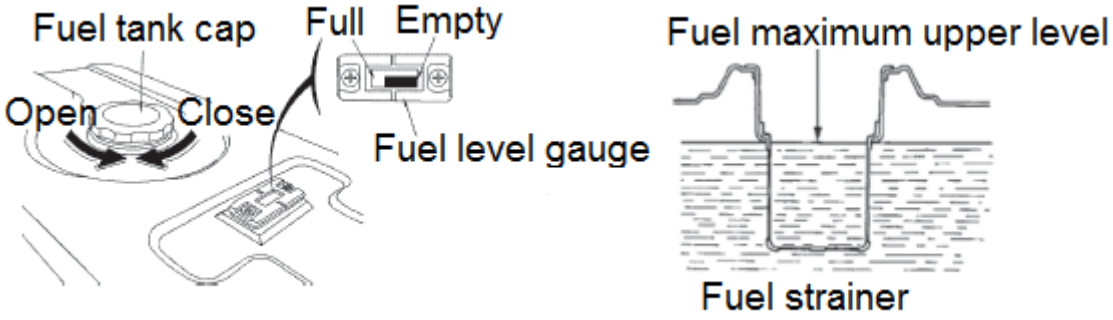
NOTE: When handling oil, follow the applicable legislation in the environmental field.



Picture 3 Change oil

Refuelling

1. Check the fuel level gauge.
2. Replenish the tank if the fuel level is low. Do not let fuel level rise above the shoulder of the fuel strainer.
3. Refit and screw the fuel tank cap tight after refuelling.



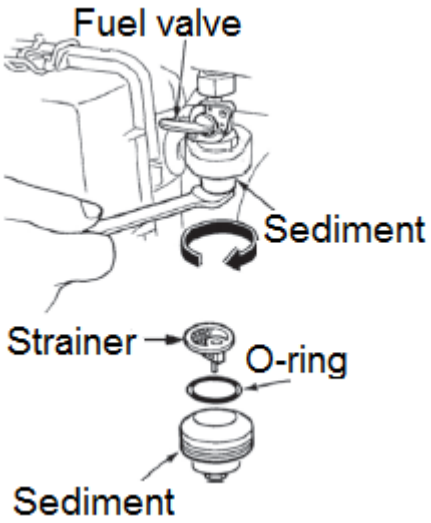
Picture 4 Refueling

WARNING!

1. Refuel in a well-ventilated area with the engine stopped. Never smoke or allow flames or sparks in the area where the engine is refuelled or where gasoline is stored.
2. Do not overfill the fuel tank.
3. Avoid repeated or prolonged contact with skin or breathing in of fuel vapor.

4. Never use the oil/gasoline mixture or gasoline containing impurity.
5. Use gasoline with octane rating ≥90 .
6. We recommend unleaded gasoline because it produces fewer engine carbon deposits and spark plug deposits and extends exhaust system's life.
7. Never use stale or contaminated gasoline or oil/gasoline mixture. Avoid getting dirt or water into the fuel tank.

Fuel sediment cup cleaning



1. Turn the fuel valve to the OFF position. Remove the sediment cup, o-ring and strainer according to the arrow direction.
2. Clean the sediment cup, and o-ring, and strainer in non-flammable or high flash point solvent.
3. Reinstall the O-ring, and strainer and screw back the sediment cup.
4. Turn the fuel valve ON and check for leaks.

Checking / replacing the spark plugs and ignition

This device is equipped with reliable electronic ignition system. Maintenance other than periodically checking / replacing the spark plugs is neither necessary nor possible. In case of problems with the ignition, which can not be solved by replacing the spark plugs, contact your nearest service partner.

Standard spark plug is a F6TC. They are also applicable to other manufactures equivalent candles. Control, respectively replace the spark plug as follows:

1. Before removing the spark plugs clean the area to prevent dirt and debris out of the engine.
2. Disconnect the cable to the spark plug. Remove the plug and check its condition. In the case of wear replace the spark plug.

NOTE: Do not clean the spark plug abrasive grit. Some grit could remain in the spark plug and enter the engine and cause excessive wear or damage.

3. Check the gap using a feeler gauge. Adjust the gap by carefully bending the ground electrode. The gap should be set to 0.7 – 0.8 mm.
4. Replace the spark plug back and tighten the 13/16 inch wrench to candle so that the sealing washer is compressed. When installing a new spark plug tighten a half turn after addition depositing in order bottoming washer. When reassembling the original spark plugs after

landing tighten the 1/8 - 1/4 turn in addition in order to compress the washer.

WARNING !
Tighten too loosely spark plug can overheat and damage motor. Excessive tightened the spark plug can damage the threads in the cylinder head.

5. Connect the cable to the spark plug.

If necessary, additional service actions, contact your service partner.

8. STORAGE OF EQUIPMENT

The equipment can be stored in standard stock under standard storage conditions. Temperature +5-40 ° C, humidity <95%, it is suitable to store the machine on a dry surface.
Do not store the equipment until it is cool.
Store equipment after draining the oil and fuel.

9. TRANSPORT OF EQUIPMENT

The device can be transported only on a horizontal position, to prevent leakage of fluids. Fuel valve of the engine moved to the OFF position.
Do not transport the equipment until it is cool.
Transport the equipment after draining the oil and fuel.

10. FAULTS AND NONSTANDARD STATE

In the case, that the effect of any failure or nonstandard state, first check the simplest causes in the table below. In the event, that a fault or state is not in the table, or not be removed by removing the causes, contact your service partner. Do not attempt to repair the equipment not subject to routine inspection and maintenance.

Possible reason / Problem	No fuel	Wrong fuel	Fuel valve is not in the ON position	Dirt in the fuel system	Dirt on grilles	Wrong oil level	Overload equipment	Dirty air filter	Worn out spark plug	Cold engine	Overload alternator	Demagne-condition alternator rotor
Not start	x	x	x	x		x	x	x	x			
Hard to start		x	x	x		x	x	x	x	x		
Suddenly stops	x		x	x	x	x	x	x				
Loses power		x	x	x	x	x	x	x	x			
Powered irregularly		x	x	x	x		x	x	x	x		
Strange		x	x		x		x		x	x		

noises												
Blackouts, irregular ignition		x	x	x	x			x	x	x		
Wounds from the exhaust			x	x			x	x	x	x		
Overheating				x	x	x	x	x				
High fuel consumption							x	x	x			
Dark smoke from exhaust						x				x		
The output is not a current											x	x
Repeated failures alternator protection											x	

11. WARRANTY AND POST-WARRANTY REPAIRS

Warranty and post-warranty repairs provided by the manufacturer or an authorized service location.

12. WARRANTY

We guarantee our customers that the original equipment marks Homer is and will be free from manufacturing defects in materials and workmanship for two years from the date of purchase, provided that it is operated in accordance with this user manual and other documentation provided with the product under appropriate operating conditions and in normal handling. Under this warranty will be provided free of charge any service support, except for service after being damaged by improper handling or operation in improper operating conditions and spare parts, except normal consumables associated with the product (filters, spark plugs, fuel, oil, etc.). All warranty repairs must be carried out either by the manufacturer or a certified service partner. Repair of other entities, as well as intervention in its own facilities outside the periodic maintenance leads to a breach of warranty and void your warranty. All rules regarding the warranty for the operation subject to the final consumer, and not mentioned above is further governed by the Civil Code, as amended and other relevantly related regulations.

13. SERVICE BOOK

Activity \ Periodicity	before every start	every 50 hours of operation	every 100 hours of operation	every 100 hours of operation	every year or every 300 hours of operation
Check, if necessary top up the fuel tank	x				
Checking the oil level	x				
Check air filter [1]	x				
Control of holes for air intake and cooling surfaces [1]	x				
Cleaning foam air filter		x			
Replacing the air filter [1]			x		
Changing the oil			x		
Removing the covers cooling and cleaning [1]			x		
Check the wear of the spark plugs and cable				x	
General inspection of equipment [2]					x

RECORDS OF SERVICE CHECK

Activity / Date:	Check, if necessary top up the fuel tank	Checking the oil level	Check air filter	Control of holes for air intake and cooling surfaces	Cleaning foam air filter	Replacing the air filter	Changing the oil	Removing the covers cooling and cleaning	Check the wear of the spark plugs and cable	General inspection of equipment	Signature technician, firm, stamp