

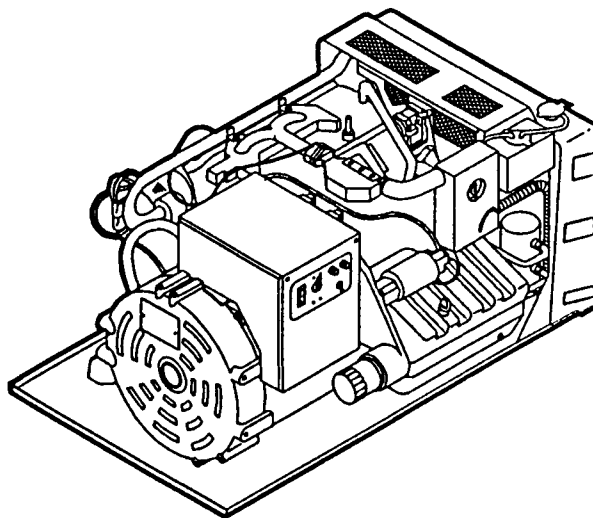


Kwyatt
(Say it like it  sounds ...QUIET)

GENERATOR SET

SERVICE OFFICE
The Dometic Corp.
509 So. Poplar St.
LaGrange, IN 46761

MODEL Kwyatt 4 & 7



OPERATING INSTRUCTIONS

MODEL
KWYATT
4.101 & 7.101

Please read this Operator's Manual carefully so that you may enjoy trouble-free, safe operation of your generator set.

TABLE OF CONTENTS

External View of Generator Set	3
Caution Tips to Prevent Troubles	4-6
Table of Generator Set Specifications	7
After-Sales Service	8
Generator Set Control System	8
Starting Engine	8-9
Main Switch, Start/Stop Switch; Starting; Check after Starting, Stopping; Instruments and Consuming Power; Intake Air Switching Lever	
Periodical Maintenance Service	9-10
Pre-Work Inspection.	11
Checking Procedure	12-14
Engine Oil Level; Deterioration & Leakage; Governor Oil Level & Deterioration; Coolant Level & Dirty Condition; Coolant Leakage from Cooling System; Easiness of Engine Starting; Abnormal Noise from Engine; Exhaust Gas Conditions; Fuel Level; Fuel Leakage; Cleaning of Spark Arrester; Clogged Radiator Core; and Installation Condition of Radiator Cap.	
General Service	14-19
Caution Tips for Service; Engine Oil Replenishment; Engine Oil Change; Governor Oil Replenishment; Governor Oil Change; Coolant Replenishment; Coolant Change; Tightening of Battery Terminals & Cleaning; Battery Water Replenishment, Air Cleaner Element Cleaning & Replenishment, Oil Filter Element Replacement, Fuel Filter Replacement, and Cleaning Inside of Radiator	
Protective Storage Measures for Long Periods of Time	19
Service Data	19

FIG. 1
EXTERNAL VIEW

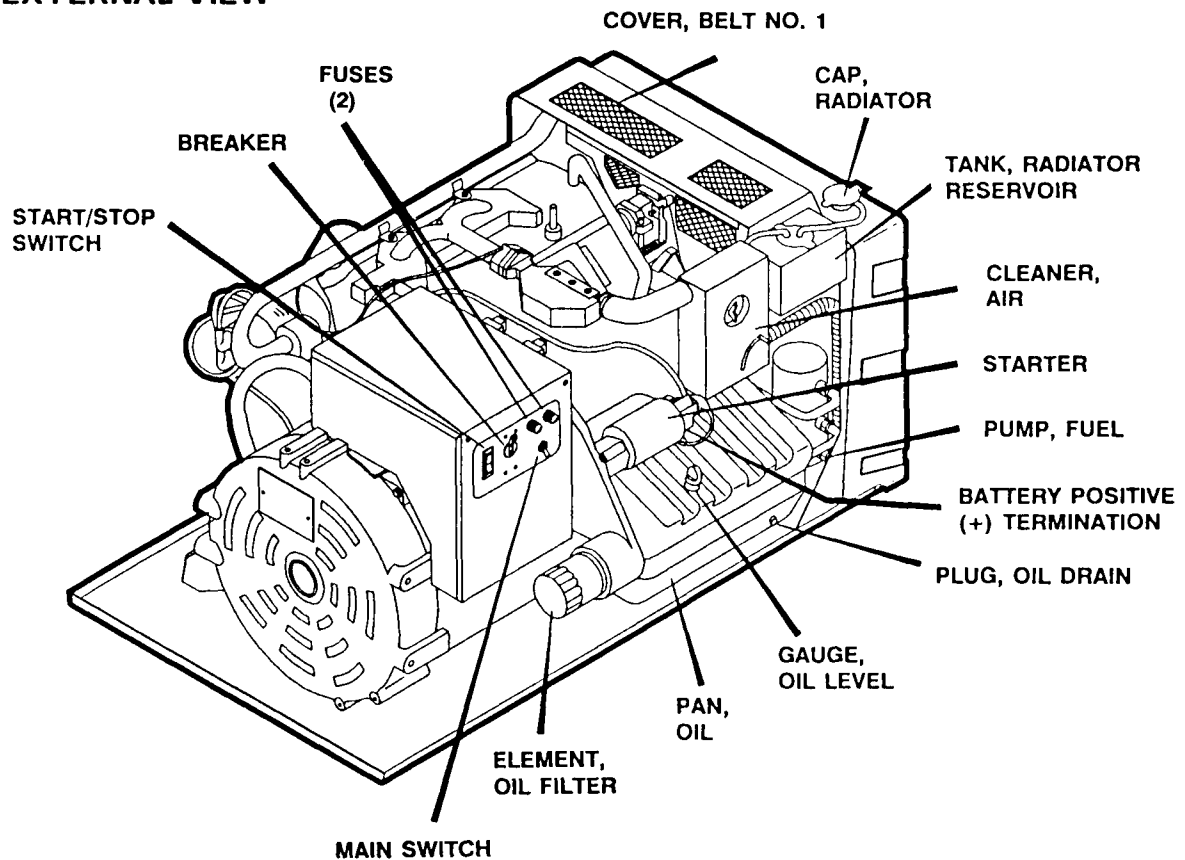
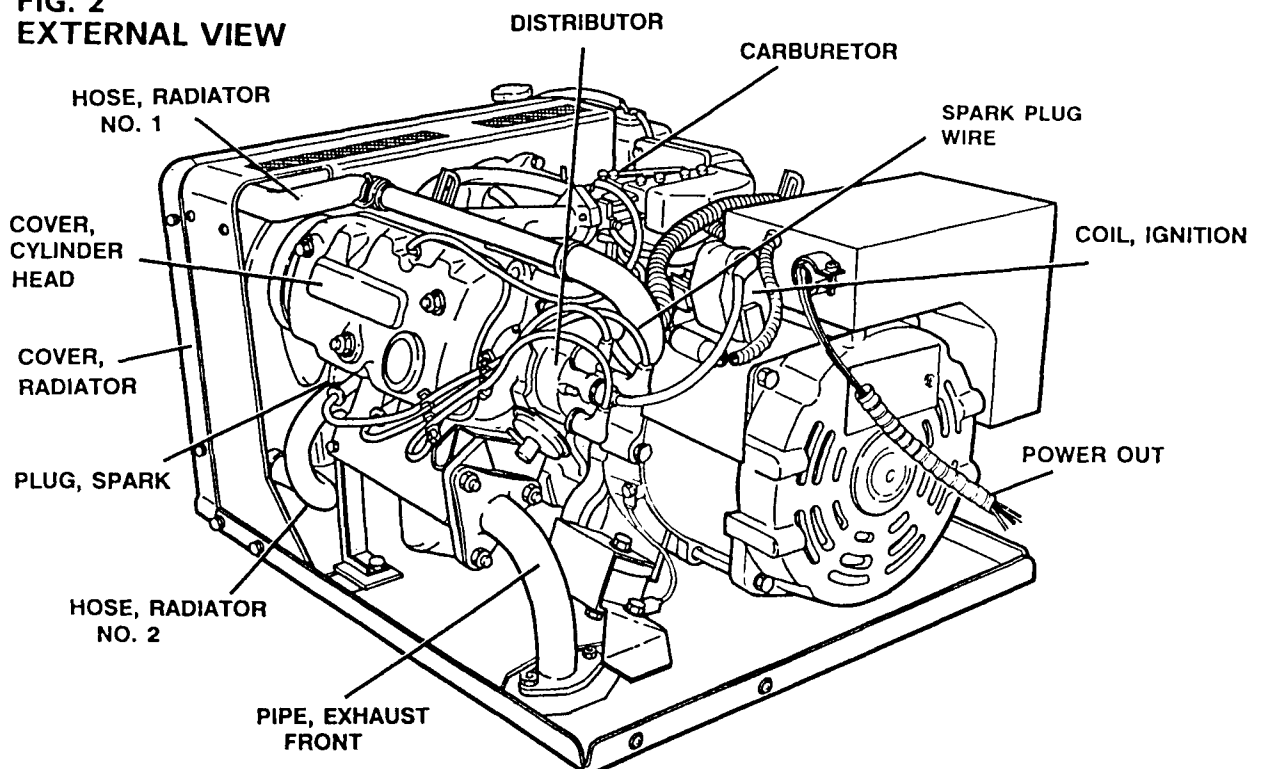


FIG. 2
EXTERNAL VIEW



TO THE NEW OWNER

We heartily express our gratitude to you for purchasing a Dometic generator set.

This Operators Manual describes the correct handling procedure and general servicing method of the generator set.

Please read this manual carefully before operating your generator set. Be sure to observe all items of:

WARNING

and

CAUTION

Even during the operation, consult this manual as required.

The contents and specifications of this manual may be partly revised due to the continuing improvements in the design without advance notice and without incurring any obligation to us.

SAFETY PRECAUTIONS

The following symbols in this manual warn that you or your equipment is placed under potentially dangerous conditions according to its use.

Bearing such potential danger in mind, in accordance with the warning, it is important for you to take necessary precautionary measures so as to ensure safety.

WARNING

This symbol is used to remind you of a potential hazard or unsafe practice which can result in serious personal injury or death.

CAUTION

This symbol is used to remind you of a potential hazard or unsafe practice which can result in personal injury or equipment damage.

Fuels, electrical equipment, exhaust gases, batteries and moving parts have potential hazards that could result in serious personal injury. Care must be taken as to the following items:

Gasoline is DANGEROUS

Use extreme caution around gasoline because a potential for explosion or fire exists at all times.

- Never use open flame or sparks near gasoline.
- Never fill the fuel tank near the generator set while the engine is running.
- Install flexible section, e.g. flexible tubes or hoses (SAE J30b-1973) to the fuel line between the generator set and the fuel tank, where vibrations must be absorbed.
- Gasoline is more dangerous when it is in a vaporous state, mixed with air at a certain ratio, than when it is in a liquid state.

Securely close the lid of a gasoline container. Wipe off any spilt gasoline immediately and thoroughly. Never start the engine when the area is wet with gasoline.

- Always have a fire extinguisher nearby. Ensure that the extinguisher is properly maintained and be familiar with its proper use so you can use it effectively in an emergency. Extinguishers rated ABC by the NFPA are suitable for oils, electrical and general use. Consult the local fire department for the correct type of extinguisher for various applications.

Careless Handling of Electricity is Dangerous

Current flow is invisible. Careless handling can cause an electric shock. Pay utmost attention to the handling of electricity.

- Do not use the generator set at those places exposed to rain or snow.
- Do not apply water or oil directly to the generator set during cleaning.
- Do not touch switches with wet, oily or dirty hands.
- Be sure to turn off start/stop switch and disconnect negative (-) battery cable. If it is not disconnected, and someone turned the start/stop switch on during servicing, death or severe injury may result by electrical shock or damage from moving parts.
- Turn off the main switch located on the control panel of the generator, before performing installation or service. This protects the unit from damage and protects a person from injury.
- When handling electrical equipment, never wear jewelry, damp clothing or wet shoes. Also, be very careful not to allow skin surfaces to be damp. Since these articles constitute good conductors of electricity, they are very dangerous to you.
- Do not connect the generator set to household wiring. This could cause problems for the household appliances. It can also produce extreme hazards to anyone working outdoors on utility lines to restore power.
- With regard to electricity, be sure to follow all state and local electrical codes.

All installations and repairs must be performed by a qualified licensed electrician.

Exhaust Gases are Toxic

Exhaust gases include toxic components such as carbon monoxide. Therefore, inhaling exhaust gases can lead to losing consciousness or death. Carbon monoxide is a colorless and odorless gas. It will cause the following toxic symptoms to a person inhaling it:

Dizziness, headache, vomiting, muscular twitching, weakness, sleepiness and throbbing in temples.

If you feel one of the toxic symptoms above, immediately go out to the fresh air. Stop the generator set. DO NOT operate it until it has been checked and necessary repairs have been made.

- Take adequate measures to properly discharge exhaust gases to the atmosphere.
- Do not operate the generator set where ventilation is poor, close to buildings, other RV's, etc.
- At regular intervals, check the exhaust system for leaks.
- Do not operate the generator set with its exhaust port directed to houses, passersby, or livestock.

Keep Fires away from Battery

Fire near the battery is extremely dangerous. Flammable gases which vaporize from the battery may be ignited or exploded.

- Do not allow the battery to be shorted or sparked.
- Do not inspect the battery electrolyte level with open flame of a lighter or match. These vapors can explode.

Do Not Touch Battery Electrolyte

- Battery acid contacting skin will cause severe burning; and contact to clothing will cause damage to the clothing.
- If the battery electrolyte gets in your eyes, or on your skin, immediately flush that area with lots of water. Consult a doctor.

Potential Danger Exists when Engine Is Running

- Be sure to operate the generator set with the protective cover installed correctly.
- Do not bring your hands close to the rotating parts. Do not wear ties, loose-bodied jackets, shirts and sleeves during the operation, for they may be caught in the rotating parts.

Always Keep Clean around Generator Set

- Do not leave tools, cloth, etc., around the generator set. If they are left around the set, they could be thrown during operation and strike someone; or they could be caught in the rotating parts, causing unit malfunction. Fires may occur when flammable objects contact the hot exhaust pipes.
- Clearly wipe off deposits of grease and oil, etc. Remove all foreign materials to help maintain a space necessary for the generator set and keep it dry at all times. Failure to observe this note may cause overheating or fires.

Never Open the Radiator Cap when Water Temperature Is still high.

- Failure to observe the caution will cause pressurized vapor or hot water to blow up, resulting in scalding yourself.

Other Handling Instructions

- Never modify the generator set.
- Do not use the generator set for applications except for recreational vehicles.
- Do not operate or work on the generator set when you are mentally or physically fatigued.

CAUTION TIPS TO PREVENT TROUBLE

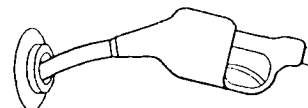
GASOLINE AS FUEL

Selection of Fuel

Gasoline comes in two kinds: unleaded gasoline and leaded gasoline. Use unleaded gasoline. The use of leaded gasoline or other fuel additives on the market (not specified by the gasoline manufacturer) may adversely affect the engine, causing engine malfunction or dropped performance.

WARNING

When refueling, make sure to stop the engine. **NEVER** permit any fire to be brought near the refueling site.



UNLEADED GASOLINE

CAUTION

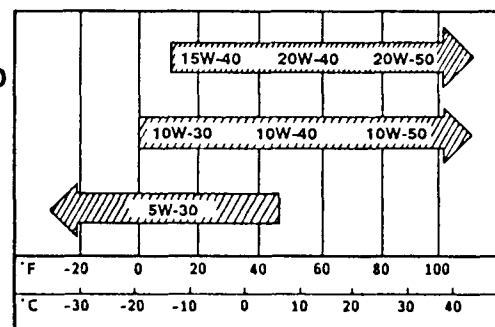
Any fuel mixed with water or dirt or poor grade fuel will cause engine trouble or hard starting. Utmost care must be exercised when handling fuel.

GASOLINE ENGINE OIL

Selection of Engine Oil

Select an engine oil best suited for your local climate from among those engine oils for automotive use that have adequate quality equivalent to the designated SF of API classification.

RECOMMENDED VISCOSITY (SAE)



The quality of gasoline engine oil bears close relationship to the engine performance and life. The use of a poor grade oil or an oil having viscosity not suited to your climate may cause hard starting and/or premature wear due to inadequate lubrication of various components, even leading to engine seizure.

CAUTION

1. When the engine is put into operation for a long period of time, engine oil properties are bound to deteriorate as the engine oil is exposed to highly heated components, or worn metal particles, carbon, water or dust gets into the engine oil. It is, therefore, necessary to change the engine oil at regular intervals.
2. Too low oil level not only will quicken oil deterioration, but will cause engine seizure. So replenish engine oil as soon as possible.
3. Mixing oils of different brands might deteriorate oil properties. Therefore, avoid mixing engine oils of different brands.

LONG LIFE COOLANT

(Year round coolant) and Antifreeze Solution

Selection of Long Life Coolant & Antifreeze Solution

When the cooling water is frozen, there is a possibility that the cylinder head or cylinder block, or possibly the radiator, may be broken.

Long life coolant or antifreeze is mixed with the cooling water to prevent freezing.

These solutions come in two kinds: Antifreeze is used only during a winter season mainly for the purpose of preventing freezing. Long life coolant is used throughout the year for the purpose of preventing corrosion of the cooling system, besides the prevention of freezing. Select "long life coolant or antifreeze for aluminum engines". Use a mixture that is best suited for your local conditions and temperature.

It is advisable to use long life coolant having the following features:

Long life type coolant in which special rust prohibitive agents, anticorrosion agents, etc. have been added (in larger amounts than in antifreeze) to a highly pure ethylene glycol.

1. The components of coolant of this type will hardly evaporate. Simple replenishment of water will maintain the original intended performance.
2. "Long life coolant for aluminum engines" can protect aluminum alloys that do not have strong rust/corrosion-withstanding properties. Also, it can protect cast iron.
3. Long life coolant prevents wear of the water pump or water leakage.

CAUTION

1. Be sure to use tap water to dilute long life coolant or antifreeze.
2. Keep the concentration of long life coolant or antifreeze at a level matched with the lowest temperature in your local region.
3. Mixing of long life coolant or antifreeze of different brands might deteriorate its properties. Therefore, avoid mixing solutions of different brands.
4. Using 100% of undiluted solution does not always ensure the safety of your engine. In a very cold climate, 100% antifreeze or long life coolant can freeze and cause damage.
5. The use of a poor grade antifreeze may cause damage to the engine and radiator. The use of long life coolant or antifreeze for cast iron engines may cause damage to aluminum, copper, etc.
6. Long life coolant or antifreeze is poisonous. Be sure to keep it in the original container and always store it in a place where children can not reach.

LEAD BATTERY ELECTROLYTE

A mixing solution of sulfuric acid and distilled water is used as the battery electrolyte. Normally, the battery electrolyte is a diluted sulfuric acid having such a concentration that its specific gravity becomes 1.26 at a solution temperature of 20°C (68°F) in a fully charged state.

When over-charged, the water component of the battery electrolyte is prone to evaporate.

If the battery is operated continually with the electrolyte level too low, it will no longer be possible to store electricity. Add water to compensate for the evaporated water.

WARNING

- Never permit any fire to be brought near the battery.

CAUTION

- **USE DISTILLED WATER OR DRINKING WATER in water replenishment for the battery electrolyte.**
- In each cell, add water up to the "UPPER" level.

Generator Set Specifications:

Specifications	Kwyatt 4.101	Kwyatt 7.101
Height	15.2 in. (385mm)	15.3 in. (388mm)
Length	32.2 in. (818mm)	34.4 in. (875mm)
Width	22.4 in. (570mm)	23.2 in. (589mm)
Weight (without oil, water, muffler)	276 lbs. (125Kg)	313 lbs. (142 Kg)
Required Air Inlet Opening Area	155 in. ² (0.1m ²)	
Ground	Negative (–) ground	
Battery Voltage	12 Volts	

Generator Specifications:

Specifications	Kwyatt 4.101	Kwyatt 7.101
AC Output	4000 watts	7000 watts
Voltage	120 volts	120/240 volts
Current	33.4 A	58.4 A/29.2 each leg
Frequency	60 Hz.	
No. of Poles	4	
No. of Phases	1	
Power Factor	100%	
Battery Charging	6 Amps @ 12VDC	
DC Voltage Control	Regulating Voltage 14.5 volts	

Engine Specifications:

Specifications	Kwyatt 4.101	Kwyatt 7.101
Engine	Daihatsu, Model EB	Daihatsu, Model ED
Type	4-cycle, 3-cylinder water cooled, camshaft	
Fuel	Unleaded Gasoline	
Displacement	33.38 in ³ (547cc)	51.62 in ³ (846cc)
Bore & Stroke	2.44 x 2.33 in. (62.0 x 60.5 mm)	2.62 x 3.19 in. (66.6 x 81.0 mm)
Compression Ratio	10.0 : 1	9.5 : 1
Governed Speed	1800 rpm	
Direction of Rotation	Clockwise as viewed from crankshaft pulley side (right)	
Firing Order	1 - 2 - 3	
Fuel Pump	Electric, 12 volts DC, negative ground	
Lubrication System	Pressurized by Oil Pump	
Oil Capacity	2.5 quarts (2.8 liters)	
Oil	API-SF, Use proper viscosity for climate Conditions General SAE 5W-30 or 10W-30	
Oil Filter	Use Dometic Part #3102117 Only	
Air Filter	Use Dometic Part #3101191 Only	
Coolant Capacity (Include Reservoir)	1.11 gal. (4.2 L)	1.27 gal. (4.8 L)
Governor	Mechanical	
Governor Oil Capacity	2.5 in ³ (40cc)	
Governor Oil	Use same oil as engine lubrication	
Starter	Electric, 12 volts DC, negative ground	
Spark Plug	NGK, Type BP-2E	

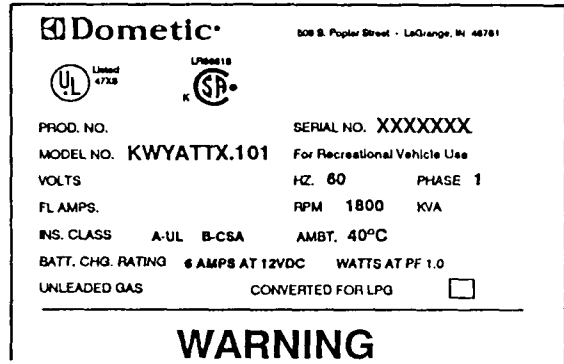
Control:

Specifications	Kwyatt 4.101	Kwyatt 7.101
Control	Remote Start (Equipped with two connectors) and control panel on generator set	

AFTER-SALES SERVICE

The Dometic Corporation has a thoroughly established service network in all states so that you may enjoy a safe, long, pleasant, trouble-free operation of your generator set. We are always ready to meet your needs.

When you contact The Dometic Corporation for service or parts, please supply complete information regarding the generator set's model and serial numbers (specification number), as shown on the Dometic nameplate, and the date of delivery. Thus, we can offer correct service or parts delivery for your specific generator set.



WARNING

GENERATOR SET CONTROL SYSTEM

WATER TEMPERATURE CONTROL

When the cooling water temperature rises above 107°C (224°F) the engine stops automatically, thus preventing engine overheating.

OIL PRESSURE CONTROL

When the engine oil pressure drops below 0.3 kg/cm² (4.29 PSI), the engine stops automatically, thus preventing engine seizure.

REVOLUTION SPEED CONTROL

When the engine revolution speed exceeds 2500 rpm, the engine stops automatically, thus preventing generator set malfunction.

CURRENT CONTROL

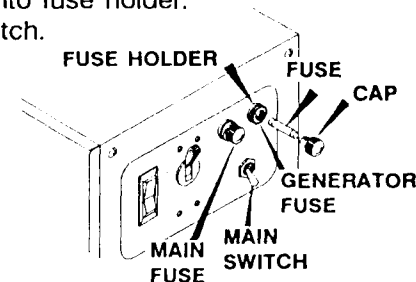
1. **MAIN FUSE (Left Hand):** (See FIG. 1)
When current in excess of 15 amps flow in wires of control circuit, this fuse will open. This prevents the control circuit from being damaged. When this fuse opens, the engine will not run and the starter will not operate.
2. **GENERATOR FUSE (Right Hand):** (See FIG. 1)
When current in excess of 15 amps flows on DC generator windings, this fuse will open. This prevents damage to the windings. When this fuse opens, the engine will not run, but the starter will engage when start/stop switch is pressed to the start position.
NOTE: If either main or generator fuse is open,

you may replace it once with fuse of equal value. If either fuse opens a second time, **DO NOT REPLACE IT** - call your nearest Dometic service center for service.

Replacing Fuse:

- A. Turn OFF main switch.
- B. Unscrew fuse cap and remove fuse.
- C. Install new fuse rated at 125V - 15A into cap.
- D. Screw cap back into fuse holder.
- E. Turn ON main switch.

FIG. 1



CIRCUIT BREAKER

When excessive current flows on power line, or switch is turned off manually, the breaker will open the circuit. When it closes (switch on), power is supplied to the appliances. **NOTE:** If the breaker opens, you can reset it once. If breaker opens twice, please call the nearest Dometic service center without resetting.

WARNING

Never touch the switches with wet, oily or dirty hands. Not highly purified water, oil (especially engine oil) or wet dust may conduct electricity.

REMOTE CONTROL

Terminal for remote control wiring is provided. If remote control panel is provided, remote start/remote stop is available.

STARTING ENGINE

WARNING

- Do not operate the generator when you park in tall, grassy places, bushes, etc. There is a fire hazard in these places.
- Do not operate the generator set where ventilation is poor, for instance close to houses or obstructions where the exhaust gases may be hard to dissipate. **Exhaust gases may cause serious personal injury or death.**

MAIN SWITCH: (See FIG. 1)

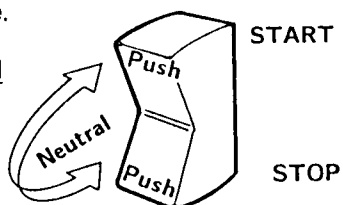
Turns power ON or OFF to the engine control circuit.

ON position: Must be in this position for the engine to start and run.

OFF position: Used to shut power OFF to control circuit of engine. Always turn switch to OFF position when servicing generator set or engine.

NOTE: In the event the engine does not stop when start/stop switch is depressed, turn main switch to OFF position to stop engine.

START/STOP SWITCH



START: Position to be used for starting engine. When you release your finger, the switch returns to the original position.

STOP: Position to be used for stopping the engine. When you release your finger, the switch returns to the original position.

STARTING

1. Before starting the engine, be sure to turn off the circuit breaker, or disconnect appliances from power line, as far as you can. The generator may be hard to start if load is connected.
2. Press the start/stop switch of the generator control or remote control to the [START] position. The starter operates, and then the engine will start.
3. After the engine has started, release your finger from the start/stop switch. The start/stop switch will automatically return to the original position.

CAUTION

- If the engine fails to start in your first attempt, wait for about 30 seconds. Then proceed to start the engine, following the starting procedure.
- The operating duration of the starter should be limited to 10 seconds for each cranking.

CHECK AFTER STARTING

1. After the engine had started, warm up the engine under unloaded state for five minutes. Perform the engine warm-up for a slightly longer duration during a cold climate.
2. Check various parts of the engine while warming up the engine. (Pre-work inspection)
 - A. Check the engine for abnormal noise.
 - B. Check the exhaust gases for improper conditions.

CAUTION

- Be sure to avoid applying heavy loads without warming up the engine.

- The load should be limited within the rated value specified in the nameplate. Overload may cause grave problems for the generator set.

STOPPING

First, disconnect loads, and then press the START/STOP switch to the [STOP] position, the engine will stop. Failure to follow this procedure may shorten the generator set life.

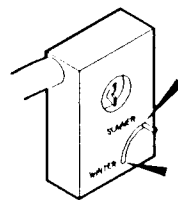
INSTRUMENTS AND POWER CONSUMPTION

INSTRUMENT	GENERAL WATTAGE
Space Heater	1000 - 1500
Air Conditioner	1400 - 2600
Converter	300 - 500
Refrigerator	600 - 1000
Coffee Percolator	500 - 700
Microwave Oven	700 - 1500
Ice maker	800 - 1000
Mixer	800 - 1200
Electric Frying Pan	1000 - 1400
Electric Boiler	800 - 1500
Illumination Lamp	1000 - 2000
Electric Blanket	50 - 200
Electric Iron	600 - 1200
Hair Dryer	700 - 1400
Television Set	100 - 500
Radio Receiver	50 - 200

INTAKE AIR SWITCHING LEVER

This device prevents engine stall due to carburetor icing.

For cold season, set the lever to WINTER position. For other seasons, set the lever to SUMMER position.



PERIODICAL MAINTENANCE SERVICE

The following table informs the owner (operator) of necessary maintenance service to keep the generator set in good condition.

- To maintain the generator set at its peaked efficiency, it is imperative to conduct maintenance service at regular intervals and to remedy any defect immediately.

ENGINE MAINTENANCE SERVICE SCHEDULE

Maintenance Service Items	*See Note Below	Pre-Work Inspection	Minimum Every 25 hrs.	Every 125 hrs.	Every 250 hrs.	Every 500 hrs.	Every 1000 hr.	Remarks
Engine oil level, deterioration & leakage		●	●					
Engine oil change					●			or every 6 months
Oil filter change					●			or every 6 months
Governor oil level & deterioration		●			●			or every 6 months
Governor oil change							●	or every 2 years
Coolant level		●	●					
Coolant leakage		●	●					
Coolant change						●		or every 1 year
Radiator core clogging	*					●		or every 1 year
Clean radiator interior							●	or every 2 years
Radiator cap condition					●			or every 6 months
Fuel level		●						as necessary
Fuel leakage		●	●					
Fuel filter replacement						●		or every 1 year
Air filter cleaning				●				or every 3 months
Air filter replacement						●		or every 1 year
Damaged, worn or loose belts	*						●	or every 2 years
Spark plug replacement	*					●		or every 1 year
Distributor cap condition	*					●		or every 1 year
Ignition timing	*					●		or every 1 year
Valve clearance	*						●	or every 2 years
Battery electrolyte level			●					
Specific gravity of battery electrolyte	*					●		or every 1 year
Tightness and corrosion of battery terminals				●				or every 3 months
Easy engine starting	*							
Abnormal engine noise		●	●					
Abnormal generator noise		●	●					
Muffler condition		●	●					
Spark arrestor cleaning				●				or every 3 months
Exhaust pipe condition		●		●				or every 3 months
Exhaust gas condition		●			●			or every 6 months
Check generator brush wear	*						●	or every 2 years

WARNING

For asterisk (*) marked maintenance service items, **NEVER DO IT BY YOURSELF** unless you are an experienced, licensed service person and have the Dometic service manuals. Inadequate service may incur hazards or troubles.

NOTE:

Asterisk marked items contain two cases:

1. Though service procedures themselves are simple and easy, there are hazards for personal injury or death, due to accidental fall down or tilt of generator set, etc.
2. Service equipment and tools in combination with professional service techniques are needed.

- Before you perform periodical maintenance service, make sure that the engine temperature has dropped to a normal level after stopping the engine.
- Prior to maintenance service for the electrical system, be sure to turn off the START/STOP switch and to disconnect the negative (-) terminal of the battery so that no spark or short may occur.

This engine maintenance service schedule applies to an engine which will not be subjected to extreme operating conditions and which will be operated approximately 500 hours a year.

Hence, if your engine is operated under more severe operating conditions, you should perform maintenance service at shortened intervals accordingly.

With regard to those maintenance service items where both the number of operating hours and elapsed time are given, perform maintenance service, whichever comes first.

PRE-WORK INSPECTION

WARNING

Do not operate or work on the generator set when you are mentally or physically fatigued.

The pre-work inspection is general maintenance which is carried out once a day before the engine is operated.

To prevent engine trouble because of careless mistakes, e.g. engine stall from lack of fuel and engine overheating from lack of cooling water, make certain to perform this inspection so that you may enjoy safe, trouble-free operation.

INSPECTION ITEM	THINGS TO CHECK
Before starting engine (with engine cold)	
Lubrication system	Check that engine oil level is proper. Check that engine oil is not dirty. Check that governor oil level is proper. Check that governor oil is not dirty. Check that engine exhibits no oil leakage.
Cooling System	Check that cooling water level is proper and not dirty. Check that cooling system exhibits no cooling water leakage. Check that reservoir tank cap is installed securely.
Fuel System	Check that fuel level is sufficient. Check that engine exhibits no fuel leakage.
After starting engine	
The Engine proper	Check that engine starts easily. Check that engine emits no abnormal noise. Check that exhaust gases are in good condition.

CHECKING PROCEDURE

This section describes the checking procedure for those items of the pre-work inspection and general maintenance service. Be sure to see that periodical maintenance service is carried out without fail.

WARNING

Before you perform the following service, make sure that the engine has cooled after stopping the engine.

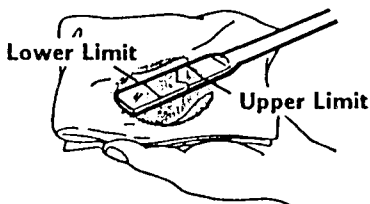
CAUTION

Turn off the main switch located on the control panel of the generator before performing installation or service. This protects the unit from damage and protects a person from injury.

ENGINE OIL LEVEL, DETERIORATION AND LEAKAGE

(Minimum of every 25 operating hours)

1. Ensure that the engine oil level is between the upper limit and the lower limit on the oil level gauge. Check the oil level as follows: Pull out the oil level gauge. Wipe off the oil sticking on the gauge and fully insert the gauge into position. Again pull it out to see the oil level.



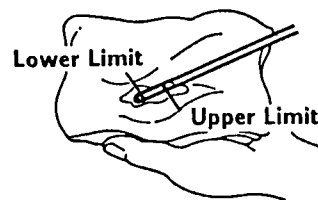
CAUTION

- The engine oil level check should be conducted on level ground, floor, etc. before the engine is started.
 - If the engine has started, stop the engine. Wait at least three minutes before you check the oil level.
2. Also, check the oil for deterioration by touching the oil sticking on the oil level gauge with your finger or by allowing the oil to stick to cloth.
 3. Check to see if engine oil is leaking from the cylinder head cover, oil pan and so forth. Check to be certain that there is no trace of oil leakage beneath the engine or vehicle.

GOVERNOR OIL LEVEL AND DETERIORATION

(Every 250 operating hours or every 6 months)

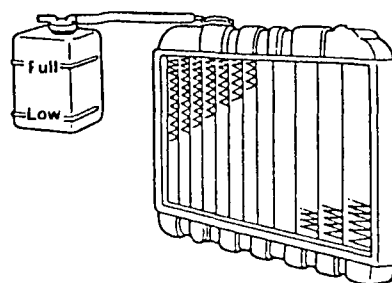
1. Ensure that the governor oil level is between the upper limit and the lower limit on the oil level gauge.



COOLANT LEVEL AND DIRTY CONDITIONS

(Every 25 operating hours minimum)

Ensure that the cooling water level of the radiator reservoir tank is between the upper limit (FULL) and the lower (LOW) limit on the side of reservoir tank.



If no cooling water is found in the reservoir tank, be sure to fill the radiator with cooling water.

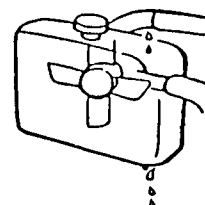
WARNING

Never open the radiator cap when the water temperature is still high. Failure to observe this warning will cause pressurized vapor or hot water to blow up, resulting in scalding yourself.

COOLANT LEAKAGE FROM COOLING SYSTEM

(Every 25 operating hours minimum)

Check to see if any water leakage is present at the radiator, radiator hoses, water pump and so forth. Check the ground, floor, etc. for trace of water leakage.



EASINESS OF ENGINE STARTING

1. Check to see if the engine can start readily. Also, check that the engine runs smoothly.
 2. If the engine fails to start on the first attempt, wait two or three minutes to allow the battery to recover its function before you attempt to start the engine again.
 3. If engine will not start in spite of two or three retires, check the following items:
 - Out of fuel
 - Low oil level *
 - Water temperature too high *
- (* Control system operates to prevent starting)

ABNORMAL NOISE FROM ENGINE

(Every 25 operating hours minimum)

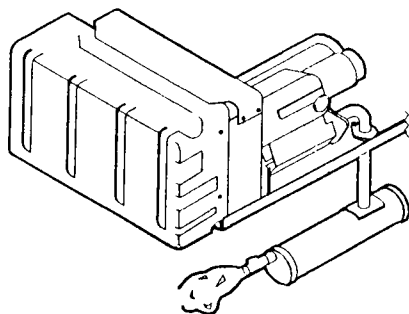
1. Check to see if the engine starts smoothly without emitting any abnormal noise.
2. If the engine emits abnormal noise, immediately stop the engine to check possible causes.

EXHAUST GAS CONDITIONS

(Every 125 operating hours or every 3 months)

1. The engine combustion conditions can be judged by the color of exhaust gases after the engine has been warmed up. If the gases are:

Colorless or a light blue	= Good combustion
Black	= Poor combustion
White	= Oil being burned



2. Check to see if exhaust gas is leaking from the midway point of the exhaust system.

WARNING

- If the exhaust gas is leaking or if the color of exhaust gas remains black or white even after the engine is running for a little while, stop the engine. DO NOT use the engine until it is repaired completely.
- DO NOT operate the generator set where ventilation is poor and the exhaust gases are hard to dissipate because of recessed ground obstructions.

FUEL LEVEL

Before starting, ensure that the fuel level is sufficient for operation.

WARNING

- Never fill the fuel tank near the generator set.
- Make sure the lid of any gasoline container is closed tightly at all times. A mixture of gasoline vapor with air having a certain ratio becomes highly dangerous.

FUEL LEAKAGE

(Every 25 operating hours minimum)

Check to see if any fuel leakage is present at the fuel filter, carburetor, fuel hoses, etc. Be sure no trace of fuel leakage is present beneath the engine or vehicle.

WARNING

- If any fuel leak point is discovered, never start the engine until it is repaired completely. Call for nearest Dometic service center immediately. Also, wipe off any leaking gasoline and wait until the engine becomes completely dry. Then proceed to start the engine.
- Under no circumstances should open fire, such as a lit candle or lighter, be brought near the engine to check for fuel leaks.
- Have a fire extinguisher nearby.

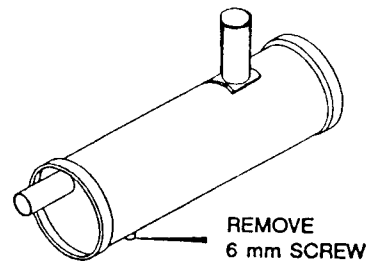
CLEANING OF SPARK ARRESTOR

(Every 125 operating hours or every 3 months)

The spark arrestor is incorporated in the muffler to prevent fire or burning due to sparks. If it is restricted by carbon deposit, the engine output may drop under some circumstances. Clean the spark arrestor at regular intervals.

Cleaning Procedure:

After confirming that exhaust muffler has cooled, remove the 6 mm screw in the bottom of muffler. Run set under load for 5 minutes. Install screw.

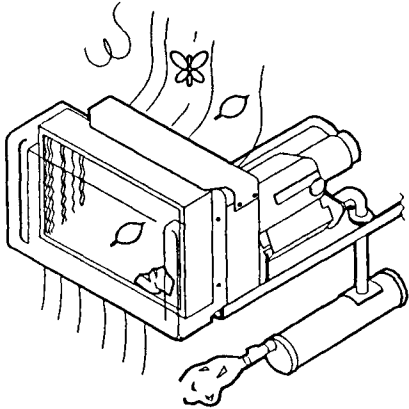


CLOGGED RADIATOR CORE

(Every 500 Operating Hours or Once a Year)

If any mud, paper, dead leaves or insects are stuck on the radiator core or the belt cover, ventilation will be restricted and reduced cooling will result. Deformation or clogging of radiator core, or scales, etc., will restrict coolant flow.

Contact a Dometic service center to check the unit periodically.



INSTALLATION CONDITION OF RADIATOR CAP

(Every 250 Operating Hours or Every 6 months)

1. When installing the radiator cap, check to see if the turning effort of the radiator cap is correct.



2. Ensure that the negative pressure valve of the radiator cap opens when it is pulled out by your fingers. Also, ensure that the valve closes when you release your fingers.



3. Ensure that the seal packing section exhibits no damage.



WARNING

- Never open the radiator cap when the water temperature is still high.

GENERAL SERVICE

When you perform the pre-work inspection and periodical maintenance service, it will become necessary to perform general service of cleaning, adjustment, replacement, etc. This section describes the servicing procedure for those most common items of general service.

WARNING

Before you perform the following service:

1. Be sure to turn off START/STOP switch and to disconnect negative (-) battery cable. If it is not disconnected, and someone turned the START/STOP switch on during servicing, **death or severe injury may result by electrical shock or damage** from sudden movement of parts.
2. Make sure that the engine has cooled after stopping the engine.

CAUTION

Turn off the main switch located on the control panel of the generator, before performing installation or service. This protects the unit from damage and protects a person from injury.

CAUTION TIPS FOR SERVICE:

When you perform general service, care must be taken to follow the points given below:

- First, select a place which assures safe operation.
- Prior to the service, be sure to stop the engine.
- Use tools best suited for the parts.
- This generator set is designed in the millimeter system except some fittings, i.e. oil pump, etc. Please use tools for the millimeter system.
- Start the operation only after the engine has cooled.
- Be very careful not to drop small parts, e.g. bolts and nuts, into the generator set.
- When parts are removed, first clean the adjacent area thoroughly to remove any mud or dirt.
- Before the operation for the electric circuit is started, be certain to disconnect the negative (-) terminal of the battery.
- It is advisable to use genuine parts, recommended lubricants and recommended antifreeze (coolant).

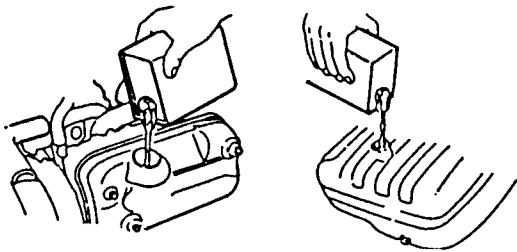
ENGINE OIL REPLENISHMENT

(Every 25 operating hours minimum)

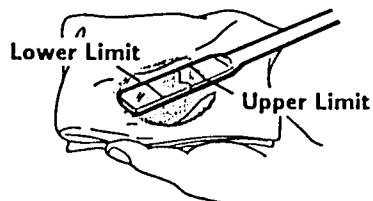
If you continually operate the generator set while the engine oil level is low, it will cause premature wear.

Engine seizure is prevented by the control circuit; please replenish the engine oil at an earlier time.

1. Remove the oil filler cap or the oil level gauge to replenish engine oil.



2. After the engine oil has been replenished, ensure that the oil level is within the specified range, using the oil level gauge.



3. Install the oil filler cap or the oil level gauge securely.

CAUTION

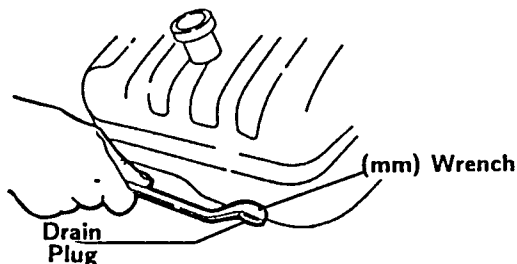
- Perform the operation at a level place.
- Select an engine oil best suited to your local climate from among those engine oils equivalent to designation SF of API service classification (SAE 5W-30, 10W-30, 10W-40, 10W-50, 15W-40, 20W-40, 20W-50).
- As for the oil level, care must be taken not to exceed the upper limit.

ENGINE OIL CHANGE

(Every 250 Operating Hours or Every 6 Months)

The use of deteriorated engine oil will cause premature wear, overheating, hard starting or even engine seizure. Be sure to change the engine oil periodically.

1. If the engine is cold, run the engine for about three minutes so that the engine may drain easily. After warming up, stop the engine. It may be necessary to warm-up longer in a cold climate.
2. Next, remove the oil filler cap or the oil level gauge. Remove the oil pan drain plug to drain the engine oil.

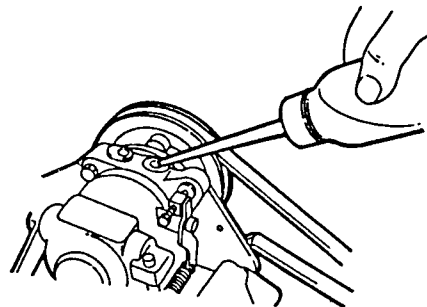


3. After the engine oil has been drained, install the drain plug securely.
4. Fill engine oil to the specified level, while checking the oil level using the level gauge.
5. Install the oil filler cap or the oil level gauge securely.
6. Start the engine and run it for about five minutes. Stop the engine and wait at least three minutes. Ensure that the oil level is within the specified range, using the oil level gauge.

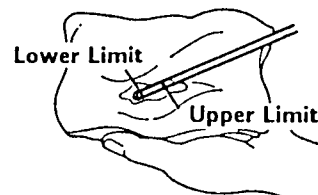
GOVERNOR OIL REPLENISHMENT

(Every 250 operating hours or every 6 months)

1. Remove the level gauge. Replenish governor oil.



2. After the oil has been replenished, ensure that the oil level is near the upper limit, using the oil level gauge.



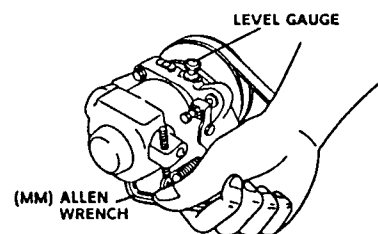
CAUTION

As for the governor oil, use the same oil as the engine oil.

GOVERNOR OIL CHANGE

(Every 1000 Operating Hours or Every 2 years)

1. Remove the level gauge and oil drain plug to drain the governor oil.
2. After the oil has drained, install the drain plug securely.
3. Fill oil to the upper level, while checking the oil level using the level gauge.
4. Install the level gauge securely.



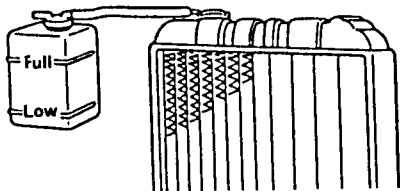
COOLANT REPLENISHMENT

(Every 25 Operating Hours Minimum)

If you continually operate the generator set while the coolant level is low, it will cause overheating or even engine seizure. Be sure to replenish the tap water (not long life coolant or antifreeze).

NOTE: If long life coolant was thrown away inadvertently, the coolant system must be filled with long life coolant or antifreeze of the same concentration.

1. Remove the reservoir tank cap. Replenish tap water up to the "FULL" mark.



Normally, do not remove the radiator cap. But if the reservoir tank contains no coolant, it is necessary to remove the radiator cap and to fill the radiator with tap water.

2. After tap water has been replenished, install the caps securely.

WARNING

- If the radiator cap is opened too early when the coolant temperature is still high, pressurized vapor or hot water will blow out, resulting in personal injury. After the coolant temperature has dropped, slowly open the radiator cap by wrapping the cap with a cloth.
- Be careful of **HOT WATER BLOWING OUT** of breather of reservoir tank.

CAUTION

- Use tap water to dilute long life coolant or antifreeze.
- With regard to coolant - it is advisable to use a "long life coolant".
- Long life coolant or antifreeze must be prepared in a concentration matched with the lowest temperature in your area.
- Use "long life coolant or antifreeze for aluminum engines".

COOLANT CHANGE

(Every 500 Operating Hours or Once a Year)

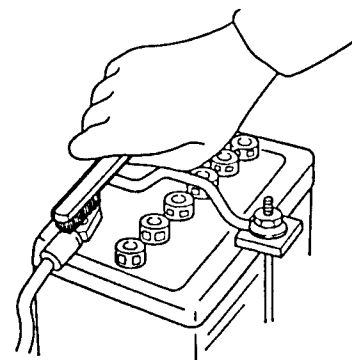
If dirty coolant is used continually, rust formation or corrosion will be accelerated. As a result, it will incur water leakage or overheating. Change coolant periodically.

1. Remove the radiator cap. Drain coolant by opening the drain cock. At the same time, drain the coolant from the reservoir tank.
2. Close the drain cock securely.
3. Loosen the breather plug of the intake manifold.
4. Put the specified amount of undiluted long life coolant (or antifreeze) in the radiator and reservoir tank. When filling radiator, do it slowly taking a sufficient length of time. (Specified amount : See "Service Data").
5. After confirming that coolant has started flowing from the breather plug, tighten the breather plug.
6. Fill the radiator with tap water until the radiator is full. Then fill the reservoir tank with tap water up to "FULL" line.
7. After filling the cooling system with tap water, close the radiator cap tightly, also install the reservoir tank cap securely.
8. Start the engine. After warming up, stop the engine. After the engine has cooled, remove the radiator cap. Check to see if the coolant level of the radiator drops. If the coolant level is low, add tap water. Also, check to see if the coolant level of the reservoir tank drops. If the coolant level is low, add tap water.
9. After adding water, tighten the caps securely.

TIGHTENING OF BATTERY TERMINALS & CLEANING **(Check Every 125 Operating Hours)**

To assure smooth flow of electricity, check the terminal conditions periodically.

1. Tighten the terminals if they are loose.
2. Clean the terminals if they are dirty or corroded.
3. If the terminals exhibit white powder due to corrosion, wipe off the terminals using warm water.
4. If the terminal section exhibits excessive corrosion, remove the cable terminal by means of a terminal puller. Polish the terminals using a wire brush in combination with abrasive paper.
5. After cleaning and tightening, coat the terminal section with a thin film of grease.



WARNING

- Be sure to stop the engine before the above operation is performed.
- When disconnecting the battery terminals, remove the negative (-) cable terminal first. Conversely, when installing the battery cable terminal, attach the positive (+) terminal first.
- To avoid hazards caused by shorts, utmost caution must be taken when handling tools while doing the work.
- Never allow any fire to be brought near the battery.

Failure to follow the above instructions may result in **severe injury or death** due to shock or fire.

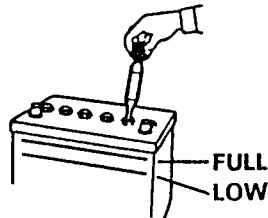
BATTERY WATER REPLENISHMENT

(Check Every 125 Operating Hours Minimum)

If the battery is used with a low water level as a result of vaporizing or electrolyzing, water sulfating will take place on the plates resulting in shortened battery life.

NOTE: For inspection intervals of "Maintenance Free" batteries, consult a Dometic Service Center or battery shop.

If the battery electrolyte level is low, remove the cell plug. Replenish distilled water up to the UPPER level for each cell.



WARNING

- Be sure to stop the engine before the operation is performed.
- Never allow any fire to be brought near the battery.
- The battery electrolyte has strong corrosive properties, presenting potential hazards that could result in dermatitis on skin or corrosion on metals. **Extreme caution must be exercised to ensure that no battery electrolyte touches skin, clothes, equipment, etc.**
- If the battery electrolyte gets in your eyes, immediately flush your eyes with lots of water. Consult a doctor.
- Carefully read the caution plate affixed to the battery so that you may handle the battery correctly.

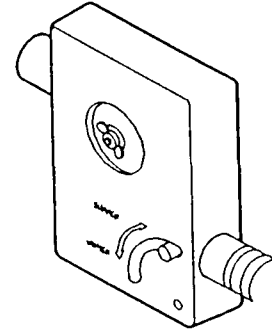
AIR CLEANER ELEMENT CLEANING & REPLACEMENT

(Clean Every 125 Operating Hours)

(Replace Every 500 Operating Hours)

Using a restricted air cleaner element will reduce engine output, increase fuel consumption or premature engine wear. In dusty conditions, clean and replace the air cleaner element more frequently.

1. Remove the air cleaner element by removing the wing nut at the center of the air cleaner case cover.



2. Clean the air cleaner element, being very careful not to damage the filter paper during the cleaning. Lightly tap the filter paper with the handle of a screwdriver or blow out the element from the inside of the element, using compressed air.

Element Cleaning Intervals: Every 125 Operating Hours or Every 3 months.



- When replacing the element, thoroughly clean the inside of the case.

Element Replacement Intervals: Every 500 Operating Hours or once a year.

- Replace the gasket if it is damaged.

WARNING

- Be very careful not to inhale dirt or dust.

CAUTION

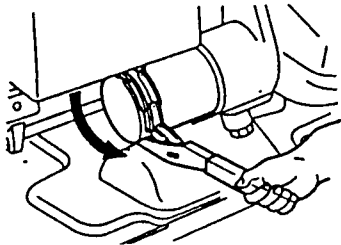
- Some air cleaner elements sold in the market do not satisfy requirements concerning the engine performance or durability. It is, therefore, advisable to use reliable Dometic elements.

OIL FILTER ELEMENT REPLACEMENT

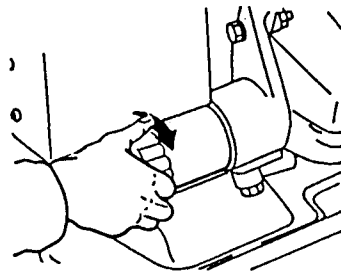
(Every 250 Operating Hours or Every 6 Months)

Using a dirty oil filter elements will weaken the purifying action of the engine oil and accelerate engine wear. Replace the oil filter element periodically.

1. Remove the oil filter element, using a tool.



2. When installing a new oil filter element, first apply engine oil to the "O" ring. Tighten filter with hand(s) about 3/4 turn after gasket contacts mounting surface of engine.



After installing the oil filter element, run the engine for 3 minutes. Ensure that the oil filter element installing section exhibits no oil leakage.

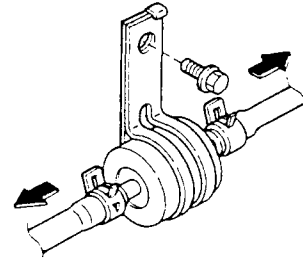
4. Stop the engine. After a lapse of at least three minutes, check the oil level. Replenish engine oil, as required.

FUEL FILTER REPLACEMENT

(Every 500 Operating Hours or once a Year)

Restricted fuel filter will hamper smooth flow of the fuel, thereby causing reduced engine output or engine stall. Replace filter periodically.

1. Replace the filter by disconnecting the fuel filter hose. Prior to this operation, take precautionary measure, such as placing a cloth under the filter, so that the flowing fuel from the fuel filter may not splash.



2. Insert the fuel hose into position. Install the clamp.
3. Start the engine. Check to see if the fuel hose attaching section exhibits any fuel leakage.

WARNING

- Pay utmost caution not to spill fuel during the operation.
- Thoroughly wipe off any spilled fuel.
- Under no circumstances should any fire be brought near the engine.

CAUTION

- Some fuel filters sold in the market do not satisfy requirements concerning the engine performance or durability. It is, therefore, advisable to use reliable Dometic filter.

CLEANING INSIDE OF THE RADIATOR

(Every 1000 Operating Hours or every 2 Years)

Drain any deposition matter or water scale from the radiator periodically to keep the cooling effect.

1. Remove the radiator cap. Drain the coolant by opening the drain cock. At the same time, drain the coolant from the reservoir tank.
2. Close the drain cock securely.
3. Loosen the breather plug of the intake manifold.
4. Pour tap water into water filling port of the radiator. The water should be poured slowly - taking your time.
5. After confirming that water has started flowing from the breather plug, tighten the breather plug.

6. After filling the radiator, fill the reservoir tank with water up to the "FULL" mark.
7. After filling water, install the radiator cap and reservoir tank cap securely.
8. Start the engine. After warming up, stop the engine.
9. Wait until the cooling water temperature drops. Remove the radiator cap and open the drain cock to drain the cooling water.
10. Next, fill the radiator with tap water and drain the cooling water again. Repeat this operation three or four times. Finally, fill the radiator with long life coolant or antifreeze according to the procedure written in the "Coolant Change" section.

WARNING

- Never open the radiator cap when the coolant (water) temperature is still high.

CAUTION

-As for flushing water, use tap water.

WARNING

- Exhaust gases are toxic. Do not operate the generator set in a building.
- Before you perform the following service, make sure that the engine was stopped and coolant has cooled.

STORING

When you do not operate your recreational vehicle for a long period of time, perform the following operations to protect generator set from harmful effects of rust, humidity and freezing.

1. Start the engine outdoors where ventilation is good. Stop the engine after warming it up thoroughly.
2. Drain the old engine oil. Fill with new engine oil.
3. Drain the oil coolant. Fill the cooling system with new coolant according to the procedure written in section "coolant Change". (Protection of cooling system against freezing and corrosion).
4. To keep the vacant space in the fuel tank at a minimum level, fill the fuel tank with fuel after stopping the engine during a cold season. (Protection of fuel system against freezing and rust formation).
5. Start the engine outdoors where ventilation is good at regular intervals of about once a week. Stop the engine after warming it up thoroughly so that each part may be lubricated by engine oil.

CAUTION

Store the generator set in a dry building.

SERVICE DATA

ITEM		SPECIFIED VALUE	REMARKS
Engine oil Capacity	Total oil Capacity	2.85 ~ 2.96 qt. (2.7 ~ 2.8 l)	Select an engine oil best suited to your local climate from among those engine oils equivalent to designation SF of API service classification (SAE 5W-30, 10W-30, 10W-40, 10W-50, 15W-40, 20W-40, and 20W-50)
	Change oil Capacity	2.54 qt. (2.4 l)	
Filling amount of antifreeze			Mixing solution of 50% long life coolant and 50% of tap water is recommended for most temperatures and provide good protection for corrosion and scale. Higher concentration decreases cooling efficiency. Use higher concentration only when additional protection against freezing if needed. Lower concentration than 40%, under some circumstances, may result in poor protection against corrosion.
Coolant Capacity	KWYATT 4	1.11 gal. (4.2 l)	This value is for solution. Also, reservoir tank capacity is contained to this value
	KWYATT 7	1.27 gal. (4.8 l)	