



Hybrid Trifuel

DP9100

Owner's Manual

Dynamo Power Customer Service

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1-888-914-2210 Monday – Friday 9am – 3pm EST

Dynamo Power Product Support

productsupport@dynamopower.net or
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This manual provides information regarding the operation and maintenance of these products. We have made every effort to ensure the accuracy of the information in this manual. We reserve the right to change this product at any time without prior notice.

SAFETY INFORMATION

Read and understand this owner's manual before operating your generator. You can help prevent accidents by being familiar with your generator's controls, and by observing safe operating procedures.

Operator Responsibility

- Know how to stop the generator quickly in case of emergency.
- Understand the use of all generator controls, output receptacles, and connections.
- Be sure that anyone who operates the generator receives proper instruction.
- Do not let children operate the generator without parental supervision.

Carbon Monoxide Hazards

- Exhaust contains poisonous carbon monoxide, a colorless and odorless gas. Breathing exhaust can cause loss of consciousness and may lead to death.
- If you run the generator in an area that is confined, or even partially enclosed, the air you breathe could contain a dangerous amount of exhaust gas. To keep exhaust gas from accumulating, provide adequate ventilation.

Electric Shock Hazards

- The Generator produces enough electric power to cause a serious shock or electrocution if misused. Using a generator or electrical appliance in wet conditions, such as rain or snow, or near a pool or sprinkler system, or when your hands are wet, could result in electrocution. Keep the generator dry.
- If the generator is stored outdoors, unprotected from the weather, check all electrical components on the control panel, before each use. Moisture or ice can cause a malfunction or short circuit in electrical components which could result in electrocution.
- Do not connect to a building electrical system unless an isolation switch has been installed by a qualified electrician.
- The circuit maintenance and installation need to be done by professional, and meet the following standard;
 - 1) Article 551 of the National Electrical Code, ANSVNFPA70-1990, and
 - 2) The standard for Recreational Vehicles, ANSVNFPA501 C-1990.



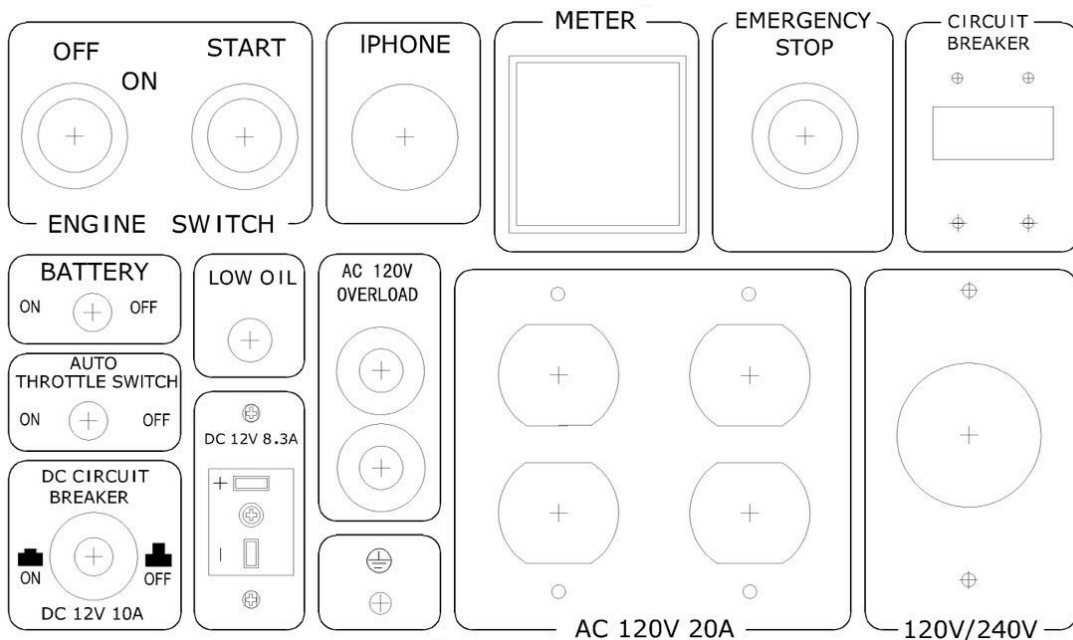
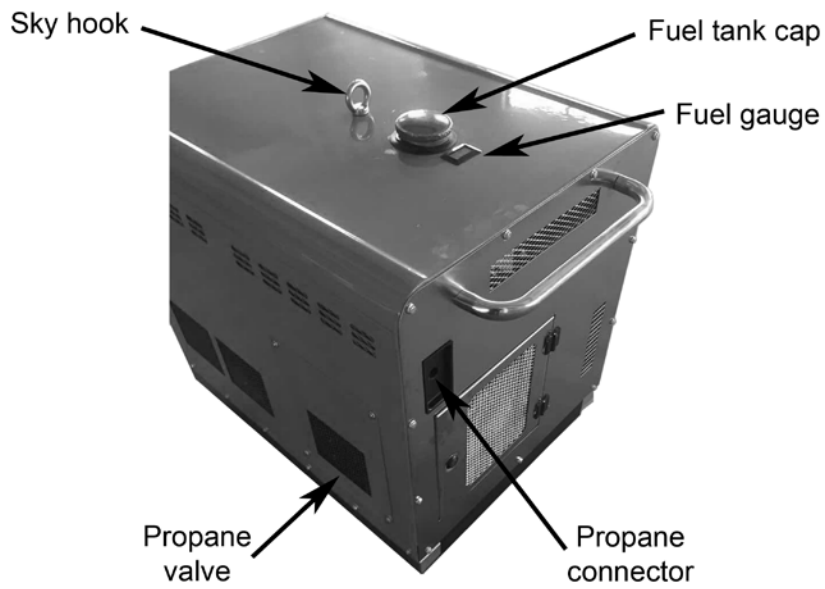
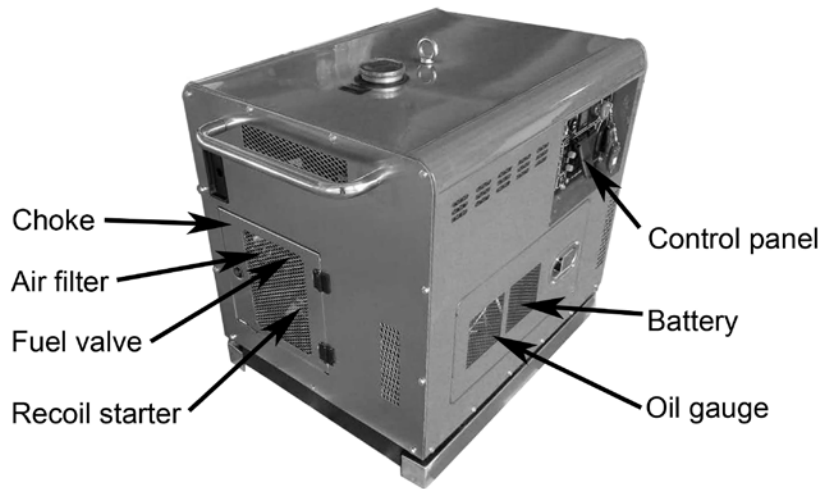
Fire and Burn Hazards

- The exhaust system gets hot enough to ignite some materials.
- Keep the generator at least 3 feet (1 meter) away from buildings and other equipment during operation. Do not enclose the generator in any structure. Keep flammable materials away from the generator.
- The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. Let the engine cool before storing the generator indoors.
- Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks where the generator is refueled or where gasoline is stored. Refuel in a well-ventilated area with the engine stopped.
- Fuel vapors are extremely flammable and may ignite after the engine has started. Make sure that any spilled fuel has been wiped up before starting the generator.

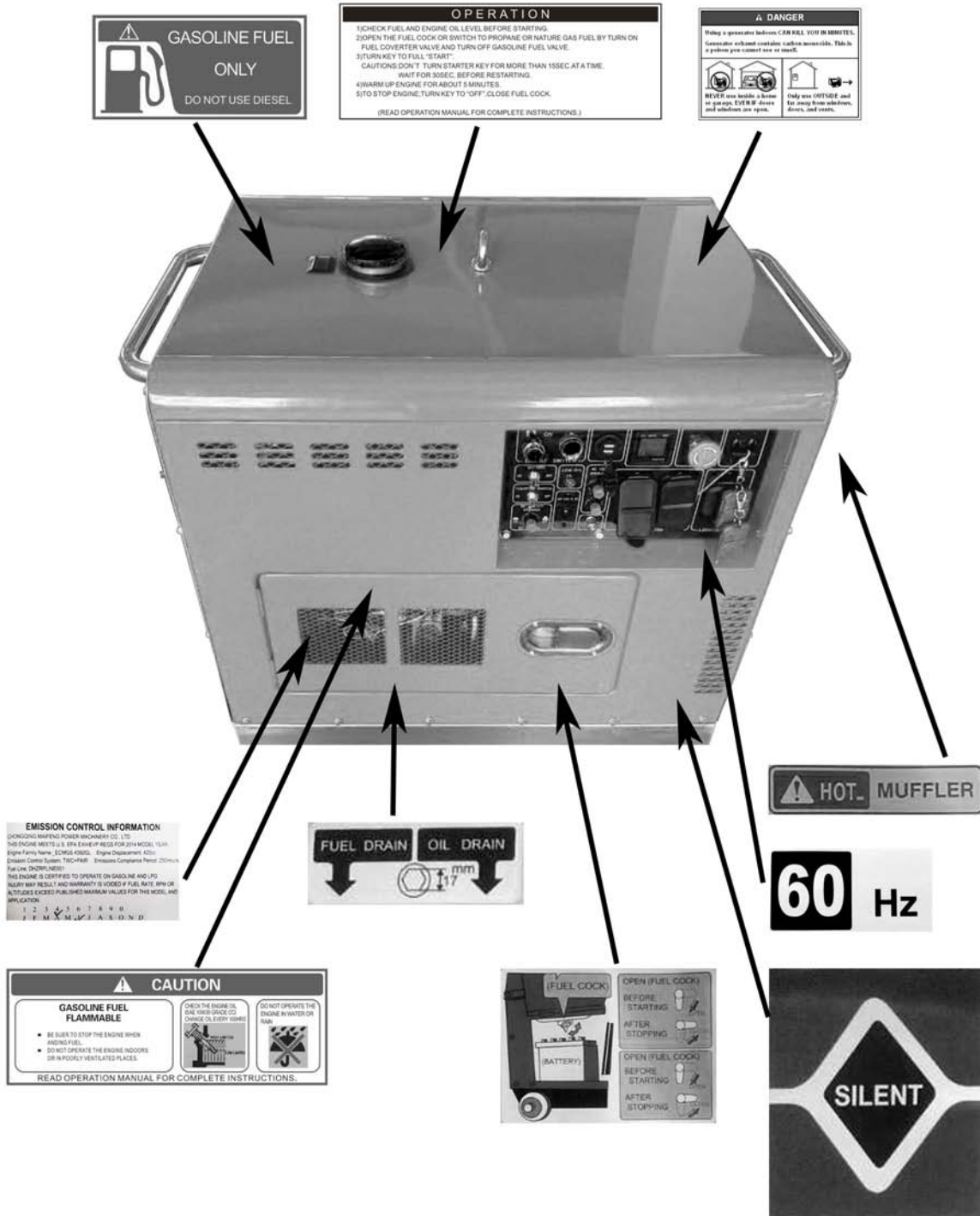
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COMPONENT IDENTIFICATION



SAFETY LABEL LOCATIONS



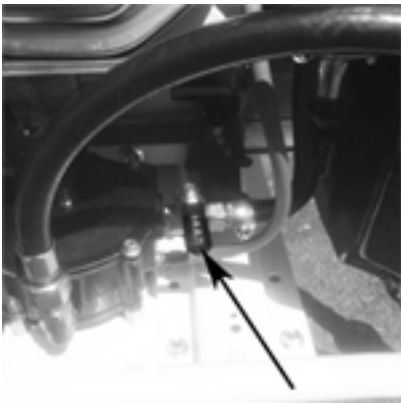
OPERATION

To start your generator with gasoline

1. Make sure no electrical devices are connected to the generator. Such devices can make it difficult for the engine to start.
2. Check the hose valve is connected to liquid propane gas supply and if so, shut it off.
3. Check generator is properly grounded.
4. Turn the fuel valve to "on" position.
5. Move choke lever to the "closed" position, or pull out choke lever.
6. Turn engine switch to "ON" position, PUSH "Start" button, not more than 15 seconds for every time, if succeed, release the button, if fail, have a second try in the same way. If the engine doesn't work when you push start button, please try to start with recoil starter.
7. Pull on the recoil starter handle slowly until a slight resistance is felt. Then pull quickly to start the engine. Return cord gently into the machine. Never allow the cord to snap back.
8. If engine fails to start, repeat step 6. NOTE: After repeated failed attempts to start the engine, please consult the troubleshooting guide before attempting again.
9. Once the engine has started, move the choke lever about half way towards the "open" position. Wait 30 seconds and then move the choke lever all the way to the "open" position.
10. Allow the generator to run for several minutes before attempting to connect any electrical devices.

To start your generator with liquid propane gas

1. Shut off the fuel valve.
2. Connect the hose valve to liquid propane gas supply,
3. Check there is no load in any receptacle.
4. For first use of generator, do not need operate the following item 5 and 6.
5. Start the engine (by recoil start, push button start).
6. Use up the remained fuel inside engine and it will shut down automatically.
7. Turn on the liquid propane gas valve.



8. Start engine and run at least one minute, then connect to electrical loads.

Stopping the generator

1. Disconnect all loads to the generator
2. Turn OFF AC circuit breaker
3. Turn OFF engine switch located on control panel
4. Turn gasoline line shut-off valve to OFF (horizontal position). Or turn propane tank valve off if generator running with liquid propane fuel, or turn OFF nature gas valve if generator running with nature gas.

CAUTION

1. Remained fuel inside engine may cause engine difficult to start or out of normal running after starting.
2. Before changing liquid propane gas supply shut off all connected electrical devices and generator.
3. Normal working pressure is 2kpa-1Mkpa.

MAINTENANCE & REPAIR

The Importance of maintenance

Good maintenance is essential for safe, economical, and trouble-free operation. It will also help reduce air pollution.

WARNING:

Improper maintenance, or failure to correct a problem before operation, can cause malfunction in with you can be seriously hurt or killed.

Always follow the inspection and maintenance recommendations and schedules in this owner's manual.

To help you properly care for your generator, the following pages include a maintenance schedule, routine inspection procedures, and simple maintenance procedures using basic hand tools. Other service tasks that are more difficult, or require special tools would best handled by professionals, normally performed by generators or other qualified mechanic. The maintenance schedule applies to normal operating conditions. If you operate your generator under severe conditions, such as sustained high-load or high-temperature operation, or use it in unusually wet or dusty conditions, consult your servicing needs and use.

Maintenance Safety

- Make sure the engine is off before you begin any maintenance or repairs.
- Let the generator and exhaust system cool before touching.
- Read the instructions before you begin, and make sure you have the tools and skills required.
- To reduce the possibility of fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts.

Emission Control System Information

Sources of Emissions

The combustion process produces carbon monoxide, oxides of nitrogen, and hydrocarbons. Control of hydrocarbons and oxides of nitrogen is very important because, under certain conditions, they react to form photochemical smog when subjected to sunlight. Carbon monoxide does not react in the same way, but it is toxic.

Engine utilizes lean carburetor setting and other systems to reduce the emissions of carbon monoxide, oxides of nitrogen, and hydrocarbons.

Tampering and Altering

Tampering with or altering the emission control system may increase emissions beyond the legal limit. Among those acts that constitute tampering are:

- Removal or alteration of any part of the intake, fuel, or exhaust systems.
- Altering or defeating the governor linkage or speed-adjusting mechanism to cause the engine to operate outside its design parameters.

Problems That May Affect Emissions

If you are aware of any of the following symptoms, have your engine inspected and repaired by your servicing dealer.

- Hard starting or stalling after starting.
- Rough idle.
- Misfiring or backfiring under load.
- Afterburning (backfiring).
- Black exhausts smoke or high fuel consumption.

Replacement Parts

The emission control systems on your generators were designed, built, and certified to conform to EPA or (and) California emission regulations. We recommend the use of generators parts whenever you have maintenance done. These original-design replacement parts are manufactured to the same standards as the original parts, so you can be confident of their performance.

Using replacement parts that are not original design and quality may impair the effectiveness of your emission control system.

A manufacturer of an aftermarket part assumes the responsibility that the part will not adversely affect emission performance. The manufacturer or rebuild of the part must certify that use of the part will not result in a failure of the engine to comply with emission regulations.

Maintenance Schedule

Remember that this schedule is based on the assumption that your machine will be used for its designed purpose. Sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, will require more frequent service.

REGULAR SERVICE PERIOD		Before each use	First month or 20 Hrs.	Every 3 months or 50 Hrs.	Every 6 months or 100 Hrs.	Every year or 300 Hrs
*	Engine oil	Check	○			
		Change		○	○	
*	Air cleaner	Check	○			
		Clean		○		
*	Sediment cup	Clean			○	
*	Spark plug	Clean-Adjust			○	
		Replace				○
*	Idle speed	Check-Adjust				○
*	Valve clearance	Check-Adjust				○
*	Combustion chamber	Clean	After every 500 Hrs.			
*	Fuel tank and filter	Clean			○	
*	Fuel tube	Check	Every 2 years(replace if necessary)			

Engine Oil Change

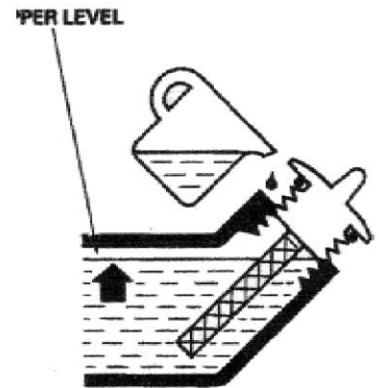
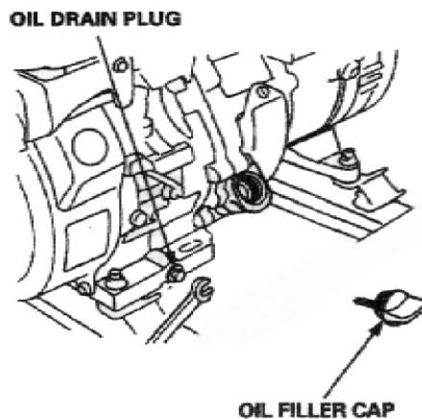
Drain the oil while the engine is warm to assure rapid and complete draining.

1. Remove the drain plug and sealing washer, remove the oil filler cap, and drain the oil.
2. Reinstall the drain plug and sealing washer. Tighten the plug securely.
3. Refill with the recommended 10W-30 engine oil and check the oil level.

Wash your hands with soap and water after handling used oil.

Oil capacity:

1.1 L / 37 fl. Oz / 0.29US gal



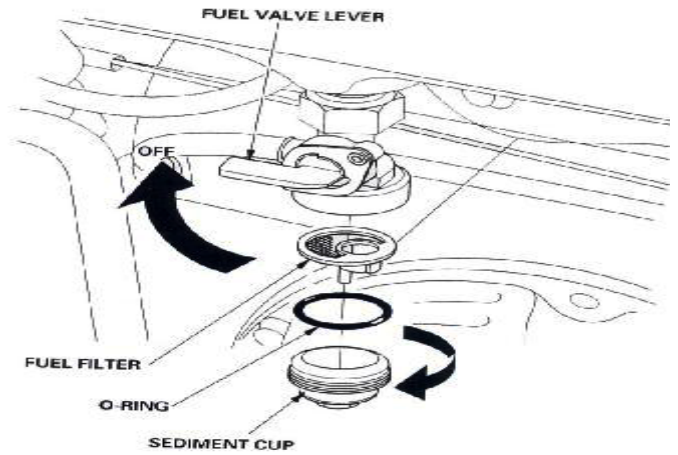
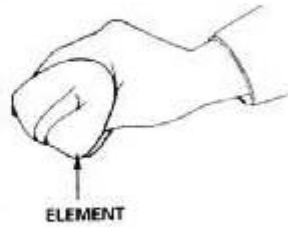
Air Cleaner Service

A dirty air cleaner will restrict air flow to the carburetor. To prevent carburetor malfunction, service the air cleaner frequently when operating generator in extremely dusty areas.

Warning:

Never run the generator without the air filter. Rapid engine wear will result.

1. Unsnap the air cleaner cover clips, remove the air cleaner cover, and remove the element.
2. Wash the air cleaner element in a solution of household detergent and warm water, then rinse thoroughly, or wash in nonflammable or high flashpoint solvent. Allow the air cleaner element to dry thoroughly.
3. Soak the air cleaner element in clean engine oil and squeeze out the excess oil. The engine will smoke during initial startup if too much oil is left in the air cleaner element.
4. Reinstall the air cleaner element and the cover.



Fuel Sediment Cup Cleaning

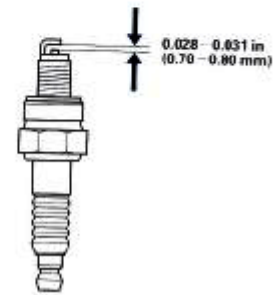
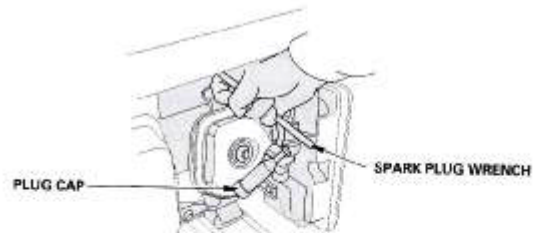
The sediment cup prevents dirt or water which may be in the fuel tank from entering the carburetor. If the engine has not been run for a long time, the sediment cup should be cleaned.

1. Turn the fuel valve lever to the OFF position. Remove the sediment cup, O-ring, and filter.
2. Clean the sediment cup, O-ring, and filter in nonflammable or high flash point solvent.
3. Reinstall the filter, O-ring, and sediment cup.
4. Turn the fuel valve lever ON and check for leaks.

Spark Plug Service

Recommended spark plugs: F7TC

The gap should be: 0.028 – 0.031in (0.70 – 0.80mm)



In order to service the spark plug, you will need a spark plug wrench (come with tool kit).

To ensure proper engine operation, the spark plug must be properly gapped and free of deposits. If the engine has been running, the muffler will be very hot. Be careful not to touch the muffler.

1. Remove the spark plug cap.
2. Clean any dirt from around the spark plug base.
3. Use a spark plug wrench to remove the spark plug.
4. Visually inspect the spark plug. Discard it if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.
5. Measure the plug gap with a feeler gauge. Correct as necessary by carefully bending the side electrode.

6. Check that the spark plug washer is in good condition, and thread the spark plug in by hand to prevent cross-threading.
7. After the spark plug is seated, tighten with a spark plug wrench to compress the washer.

If installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer. If reinstalling a used spark plug, tighten 1/8-1/4 turn after the spark plug seats to compress the washer.

Warning:

The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and could damage the engine. Never use spark plugs which have an improper heat range.

STORAGE

When transporting the generator, turn the engine switch and the fuel valve OFF. Keep the generator level to prevent fuel spillage. Fuel vapor or spilled fuel may ignite.

Warning:

Contact with a hot engine or exhaust system can cause serious burns or fires. Let the engine cool before transporting or storing the generator.

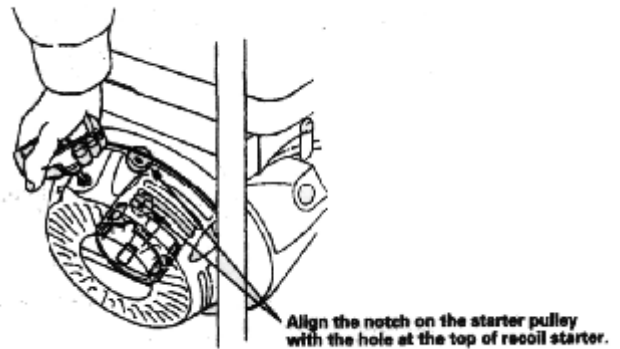
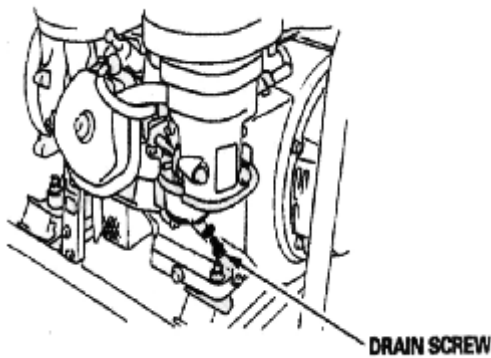
Take care not to drop or strike the generator when transporting. Do not place heavy objects on the generator.

Before storing the unit for an extended period:

1. Be sure the storage area is free of excessive humidity and dust.
2. Service according to the table below:

STORAGE TIME	RECOMMENDED SERVICE PROCEDURE TO PREVENT HARD STARTING
Less than 1 month	No preparation required
1 to 2 months	Fill with fresh gasoline and add gasoline conditioner*.
2 months to 1 year	Fill with fresh gasoline and add gasoline conditioner*. Drain the carburetor float bowl.
1 year or more	Fill with fresh gasoline and add gasoline conditioner*. Remove the spark plug. Put a tablespoon of engine oil into the cylinder. Turn the engine slowly with the pull rope to distribute the oil. Reinstall the spark plug. Change the engine oil. After removal from storage, drain the stored gasoline into a suitable container, and fill with fresh gasoline before starting.

*Use gasoline conditioners that are formulated to extend storage life.



Warning:

Gasoline is extremely flammable and is explosive under certain conditions. Perform task in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area during this procedure.

1. Drain the carburetor by loosening the screw.
2. Drain the gasoline into a suitable container.
3. Change the engine oil

4. Remove the spark plug, and pour about a tablespoon of clean engine oil into the cylinder. Crank the engine several revolutions to distribute the oil, and then reinstall the spark plug.
5. Slowly pull the starter grip until resistance is felt. At this point, the piston is coming up on its compression stroke and both the intake and exhaust valves are closed. Storing the engine in this position will help to protect it from internal corrosion.

SPECIFICATIONS

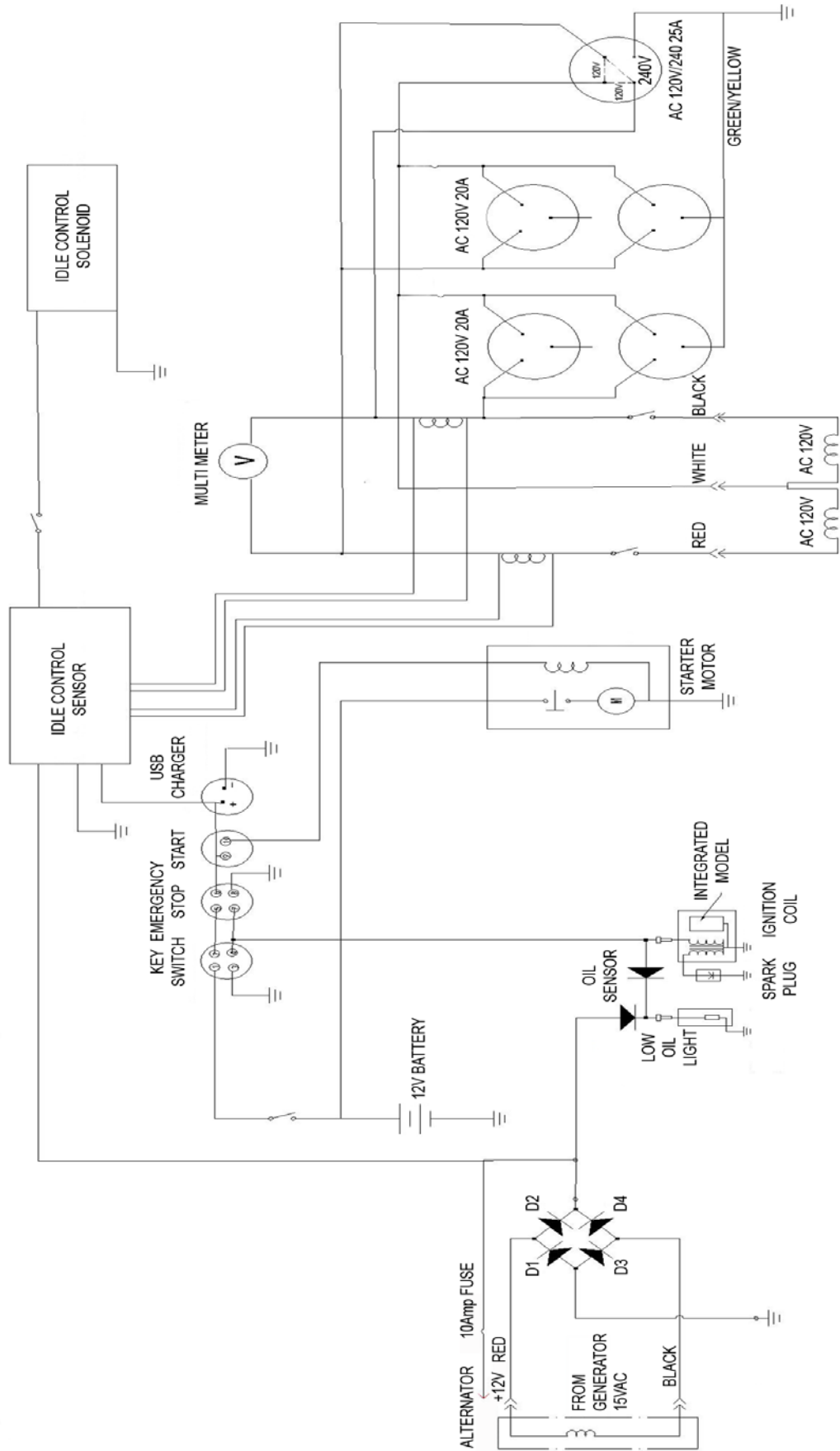
ENGINE	15 hp
CYLINDERS	Single Cylinder, OHV 4 Cycle
DISPLACEMENT	420 cc
IGNITION	Electric / TCI
COOLING	Air Cooled
FUEL TANK	6 Gal, Tri-fuel powered
LUBE OIL VOL.	1.1 L /37 fl. oz
GENERATOR	Electric Brushless
PHASE	Single
VOLTAGE	120V / 240V, 12V DC
DB(A)	7m 68
FREQ./RPM	60Hz/3600Rpm
CONT. OUTPUT	8 KW
MAX OUTPUT	9 KW
CONT. OPERATING HOURS	6
WEIGHT	310 lbs dry
(L x W x H)	

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine will not start	Out gas or LPG	Refill tank
	Low oil level	Add more 10W-30 oil
	Fouled spark plug	Replace it if necessary
	Fuel valve turn off	Turn on fuel valve
	Plugged fuel filter	Change fuel filter
No AC output	Tripped AC circuit breaker	Remove load, check for defects
Voltage low	Engine speed low	Increase speed
	AC overloaded	Remove some load
	Defective stator, rotor, or capacitor	Replace with good one
Generator overheating	Bad ventilation	Improve ventilation
	Overloaded	Remove some load

WIRING DIAGRAM

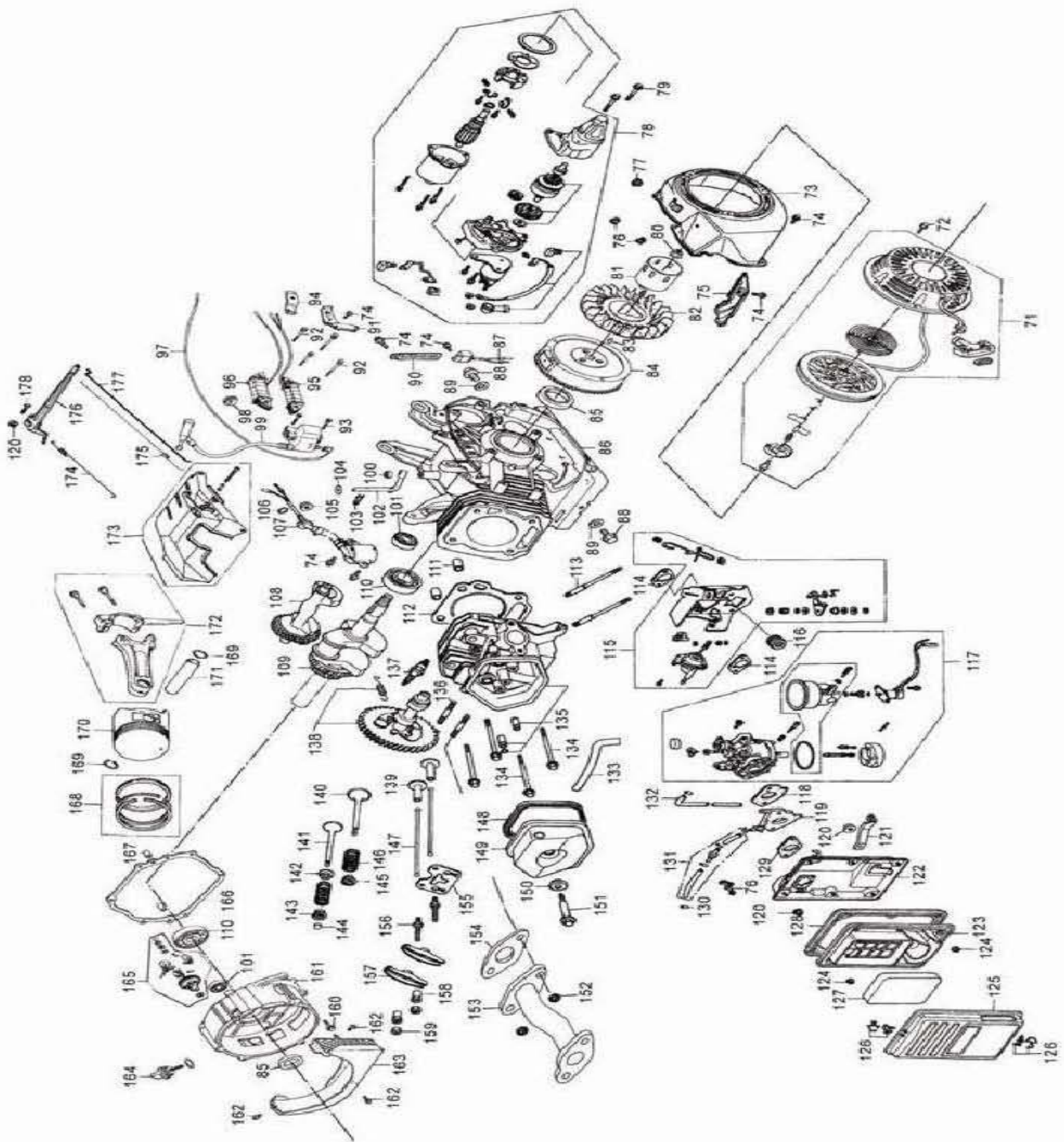
1	2	3	4	5	6	7	8	9	10
STOP			○	○		○			
RUN	○				○				
START									○

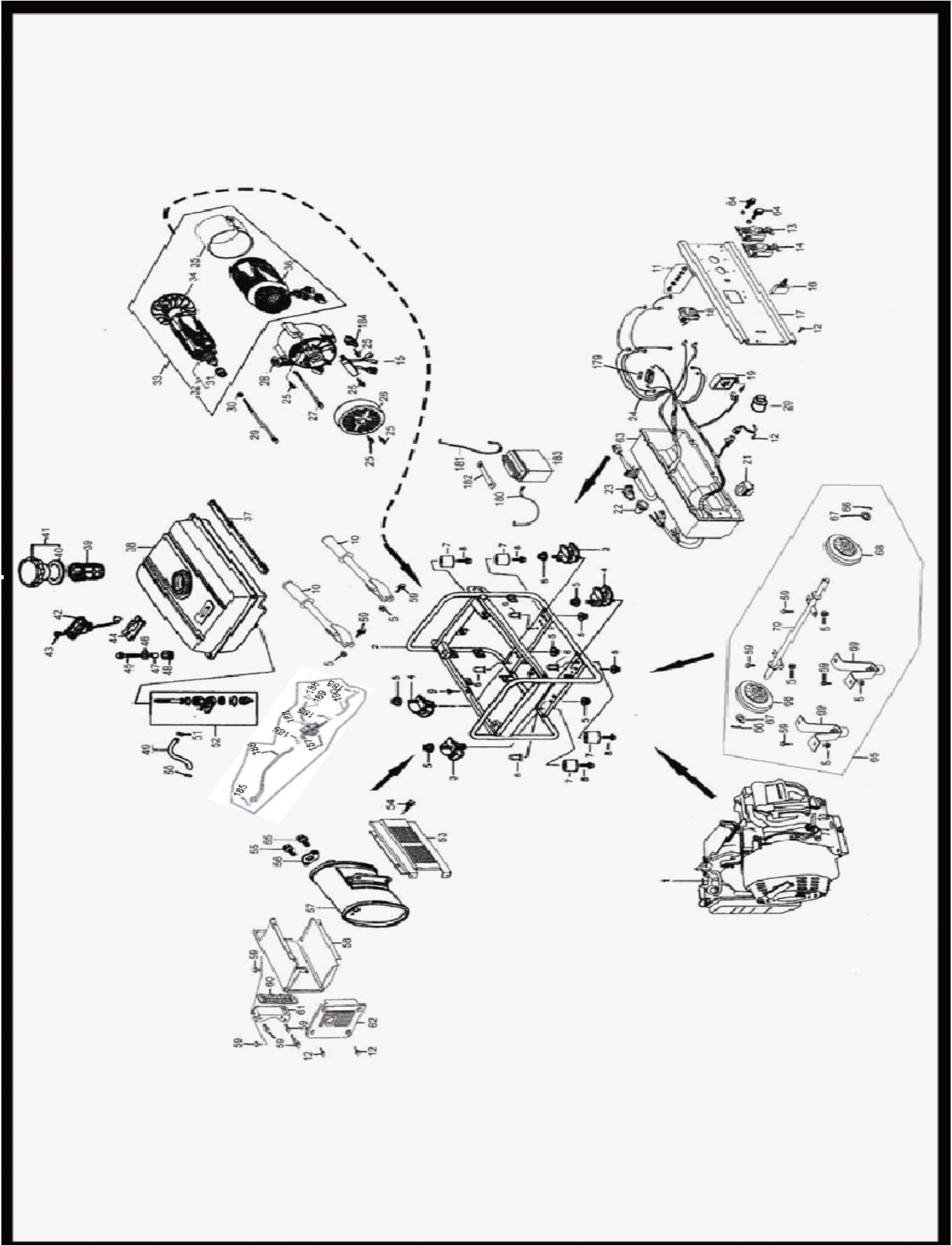


EXPLODED VIEW AND PARTS LIST

1	Gasoline Engine, Whole set	1	28	Supporting Stand	1	55	Flange Bolt M8*32	2
2	Frame COMP	1	29	Bolt M10*1.25*265	1	56	Muffler Stay	1
3	Bottom Rubber A	2	30	Plain washer 10	1	57	Muffler	1
4	Bottom Rubber B	2	31	Bearing 6207-2RS	1	58	Muffler Protector, Inner	1
5	Flange Nut M8	12	32	Rotator COMP	1	59	Flange Bolt M8*16	4
6	Flange Nut M6	4	33	Stator & Rotator ASSY	1	60	Seal, Muffler protector	1
7	Cushion, Frame	4	34	Generator Fan	1	61	Muffler Stay COMP	1
8	Bolt M6*12	4	35	Stator Cover	1	62	Side Muffler Protector	1
9	Rubber Pad, Frame	2	36	Stator ASSY	1	63	Control Panel Case	1
10	Handles	2	37	Stripe, Fuel tank	1	64	DC Output Post	2
11	Earth Terminal Set	1	38	Fuel Tank	1	65	Wheel ASSY	1
12	Flange Bolt M6*12	8	39	Fuel Filter	1	66	Pin	2
13	Receptacle	1	40	Packing Ring	1	67	Washer 20	2
14	Receptacle	1	41	Fuel Filler Cap COMP	1	68	Wheel COMP	2
15	Voltage Regulator	1	42	Fuel Sensor	1	69	Bracket	2
16	Circuit Breaker	1	43	Screw M5*1	2	70	Well Shaft	1
17	Control Panel	1	44	Gasket, Fuel tank	1	71	Recoil COMP	1
18	Voltmeter	1	45	Flange Bolt M6*22	4	72	Flange Bolt M6*8	3
19	Diode ASSY	2	46	Washer	4	73	Fan, Cover COMP	1
20		1	47	Collar	4	74	Flange Bolt M6*12	13
21	Boot, Engine switch	1	48	Cushion	4	75	Shroud COMP	1
22	Boot, Main wire harness	1	49	Outlet pipe 4.5*165	1	76	Clip, Oil blocker	3
23	Boot, AC output wire	1	50	Tube Clip	2	77	Grommet Drain Hole	1
24	Wire Harness ASSY	1	51	Rubber, Fuel tube	1	78	Start Motor	1
25	Flange Bolt M5*12	2	52	Fuel Cock	1	79	Flange Bolt M8*35	2
26	Alternator Cover	1	53	Muffler Protector	1	80	Flange Nut M16	1
27	Flange Bolt M6*175	4	54	Flange Bolt M6*14	4	81	Starting Pulley	1
82	Cooling Fan	1	122	Case COMP, Air cleaner	1	157	Arm, Valve rocker	2
83	Key	1	123	Separator, Air cleaner	1	158	Nut, Valve rocker arm	2
84	Flywheel COMP	1	124	Flange Nut M5	6	159	Nut, Pivot adjusting	2
85	Oil Seal, 35*52*8	2	125	Cover COMP, Air cleaner	1	160	Flange Bolt M8*40	7
86	Crank Case ASSY	1	126	Clip, Air Cleaner ware	2	161	Crankcase Cover	1
87	Oil blocker	1	127	Element, Air cleaner	1	162	Flange Bolt M5*10	3
88	Bolt, Drain plug	2	128	Seal, Air cleaner	1	163	Fan Cover	1
89	Washer, Drain plug	2	129	Packing, Heat isolator	1	164	Cap ASSY, Oil filler	1
90	Clip, Wire	1	130	Clip, Tube	4	165	Governor Kit	1
91	Flange Bolt M6*25	2	131	Valve, Dashpot check ASSY	1	166	Packing, Case cover	1
97	Cord Stop Switch	1	132	Tube, Fuel 45*165	1	167	Pin, Dowel 8*12	2
98	Grommet Cord	1	133	Tube, Breather	1	168	Piston Ring Set	1
99	Coil ASSY, Ignition	1	134	Flange Bolt M10*80	4	169	Clip, Piston pin	2
100	Oil Seal, 8*14*5	1	135	Head COMP, Cylinder	1	170	Piston	1
101	Radial Ball Bearing (6202)	2	136	Bolt head, M8*34	2	171	Pin, Piston	1
102	Shaft, Governor arm	1	137	Spark Plug	1	172	Connecting Rod ASSY	1

103	Pin, Lock, 10mm	1	138	Camshaft	1	173	Control ASSY	1
104	Washer, 8.2*170.8	1	139	Valve lifter	2	174	Governor Spring	1
105	Flange Nut M10	1	140	Intake Valve	1	175	Spring, Throttle return	1
106	O-ring, 14mm	1	141	Exhaust Valve	1	176	Governor Arm	1
107	Switch ASSY, Oil level	1	142	Seat, Valve spring	1	177	Governor Rod	1
108	Balancer	1	143	Retainer, EX. Valve spring	1	178	Bolt, Governor arm	1
109	Crankshaft	1	144	Rotator, Valve	1	179	Fuse	1
110	Radial Ball Bearing (6207)	2	145	Retainer, In. Valve spring	1	180	Battery Wire, Anode	1
111	Pin, Dowel 12*20	2	146	Valve Spring	2	181	Battery Wire, Cathode	1
112	Gasket, Cylinder head	1	147	Push Rod	2	182	Battery Cover	1
113	Bolt Head, 8*106	2	148	Exhaust Piper	1	183	Battery	1
114	Packing, Air cleaner	2	149	Cover COMP, Head	1	184	Brush ASSY	1
115	Stay ASSY, Manual choke	1	150	Washer COMP, Head cover	1	185	Pipe thread clamp	4
116	Grommet Fender	1	151	Bolt, Head cover	1	186	intake-tube	1
117	Carburetor ASSY	1	152	Nut M8	2	187	Gas valve	1
118	Packing, Carburetor	1	153	Pipe COMP EX.	1	188	pressure pipe, circlip	2
119	Heat Isolator, Carburetor	1	154	Gasket (B) EX. Pipe	1	189	pressure pipe	1
120	Flange Nut M6	4	155	Plate, Push rod guide	1	190	exit pipe	1
121	Stay, Air cleaner	1	156	Bolt, Pivot	2			





LIMITED WARRANTY

These products are warranted to be free from defects in material or workmanship for a period of 1 year from the date of purchase by user. This warranty applies to the original purchaser of the equipment and is non transferable. Verification of purchase is the responsibility of the buyer. The products must be purchased in U.S. or Canada through an authorized network distribution. Parts will be replaced or repaired at no charge, except when the equipment has failed due to lack of proper maintenance. Any misuse, abuse, alteration or improper installation or operations will void warranty. Determining whether a part is to be replaced or repaired is the sole decision of our authorized service dealers.

NOTE: Some services performed by parties other than our service dealers may void warranty.

This warranty covers parts only. It will not provide for replacement of complete products due to defective parts.

Components not manufactured by us such as engines are guaranteed by their manufacturer and can be serviced at factory-authorized locations near you. Any costs incurred due to replacement or repair of items outside of an approved facility is the responsibility of the buyer and not covered under warranty.

This warranty specifically excludes the following; failure of parts due to damage caused by fire, flood, accident, snowstorm, windstorm, acts of God, chemicals corrosion, bird drops, sea water, sea breeze, sea salt, alternative parts other than manufacturer's specifications, damage by operation in a marine application, and damage caused by vandalism.

Additional exclusions: loss of running time, inconvenience, loss of income, or loss of use, including any implied warranty of merchantability of fitness for a specific use.

Warranty does not cover items subject to normal wear such as: receptacles, tires, spark plugs, fuel filters, air cleaner elements, wheel bearings, recoil ropes, cables, belts, engine oil and grease, or any part subject to direct physical contact by the public. This warranty does not cover any personal injury or damage to surrounding property caused by failure of any part.

This warranty is in lieu of any other warranty expressed or implied and we assume no other responsibility or liability outside that expressed within this warranty.

For Your Records

Date of Purchase: _____ **Generator Model Number:** _____

Purchased from Store/Dealer: _____ **Generator Serial Number:** _____

Purchase Receipt: (retain your purchase receipt to ensure trouble-free warranty coverage)

Product Registration Form

PERSONAL INFORMATION

First Name: _____

Last Name: _____

Street Address: _____

Street Address: _____

City, State, ZIP: _____

Phone Number: _____

E-Mail: _____

GENERATOR INFORMATION

Model Number: _____

Serial Number: _____

Date Purchased: _____

Purchased From: _____

Product Distributed & Serviced by: