

# Duro Star



## DS7000Q GENERATOR

### User Manual

REV: DS7000Q-05252018

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.

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# INTRODUCTION

DuroStar has cemented its reputation as one of the markets leading power equipment companies who are headquartered in the US. All of our products are manufactured to the strictest guidelines and go through countless testing in all phases of production.

Evolving our strong engine line, DuroStar has complemented its offerings to include Pressure Washers, Water Pumps, Engines and now offering V-Twin engines. Reliability is the highest standard we hold ourselves to, whether its powering a heater during a winter storm that knocks out power, dewatering a flooded property, or washing away a deck for the summer season



## Notice Regarding Emissions

Engines that are certified to comply with U.S. EPA emission regulations for SORE (Small off Road Equipment), are certified to operate on regular diesel, and may include the following emission control systems: (EM) Engine Modifications and (TWC) Three-Way Catalyst (if so equipped).

# GENERAL SAFETY PROCEDURES



## SAFETY ALERT SYMBOL

The safety alert symbol is used with one of the safety words (**DANGER**, **CAUTION**, or **WARNING**) to alert you of hazards. Please pay attention to these hazard notices both in this manual and on the generator.

### Please familiarize yourself with the following safety symbols and words:

- **DANGER:** Indicates a hazard that will result in serious injury or death if instructions are not followed.
- **WARNING:** Indicates a strong possibility of causing serious injury or death if instructions are not followed.
- **CAUTION:** Indicates a possibility of personal injury or equipment damage if instructions are not followed.



**DANGER:** This generator produces poisonous carbon monoxide gas when running. This gas is both odorless and colorless. Even if you do not see or smell gas, carbon monoxide may still be present. Breathing this poison can lead to headaches, dizziness, drowsiness, and eventually death.

- Use outdoors **ONLY** in non-confined areas.
- Keep several feet of clearance on all sides to allow proper ventilation of the generator.



**WARNING:** The exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



**WARNING:** This generator produces heat when running. Temperatures near exhaust can exceed 150°F (65°C).

- Do not touch hot surfaces. Pay attention to warning labels on the generator denoting hot parts of the machine.
- Allow generator to cool several minutes after use before touching engine or areas which heat during use.

# GENERAL SAFETY PROCEDURES



**WARNING:** This generator may emit highly flammable and explosive diesel vapors, which can cause severe burns or even death. A nearby open flame can lead to an explosion even if not directly in contact with fuel.

- Do not operate near an open flame.
- Do not smoke near generator.
- Always operate on a firm, level surface.
- Always turn generator off before refueling.
- Allow generator to cool for at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.
- Do not overfill fuel tank. Fuel may expand during operation. Do not fill to the top of the tank.
- Always check for spilled fuel before operating.
- Empty the diesel tank before storing or transporting the generator.
- Before transporting, turn fuel valve to the off position and disconnect the spark plug.



**WARNING:** This generator produces a powerful voltage, which can result in electrocution.

- ALWAYS ground the generator before using it (see the “Grounding the Generator” portion of the “PREPARING THE GENERATOR FOR USE section).
- Generator should only be plugged into electrical devices, either directly or with an extension cord. NEVER connect to a building electrical system without a qualified electrician. Such connections must comply with local electrical laws and codes. Failure to comply can create a backflow of power, which may result in serious injury or death to utility workers.
- Use a ground fault circuit interrupter (GFCI) in highly conductive areas such as metal decking or steel work. GFCIs are available in-line with some extension cords.
- Do not use uncovered in rainy or wet conditions.
- Do not touch bare wires or receptacles (outlets).
- Do not allow children or non-qualified persons to operate.






# GENERAL SAFETY PROCEDURES

In addition to the above safety notices, please familiarize yourself with the safety and hazard markings on the generator.

**⚠ DANGER**

Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.

		
<b>NEVER</b> use inside a home or garage, <b>EVEN IF</b> doors and windows are open.		Only use <b>OUTSIDE</b> and far away from windows, doors, and vents.



# QUICK START GUIDE



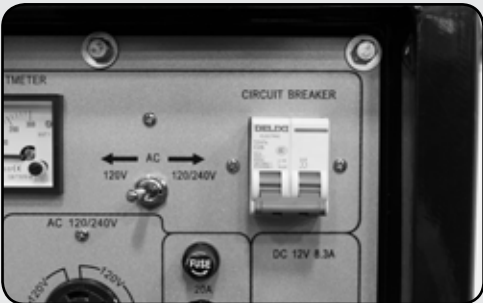
## 1. Add oil

The oil fill cap is located on the lower engine block inside the maintenance door. Remove the oil fill cap and fill with 15w40 diesel oil.



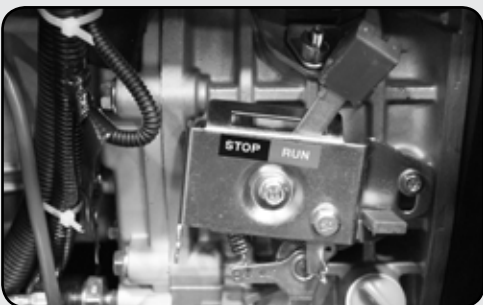
## 2. Add diesel

The fuel cap is located on top of the fuel tank. Fill the tank with fresh diesel fuel. The tank is full when you see fuel in the bottom of the fuel filter cup. DO NOT overfill the tank.



## 3. Turn breaker off

The breaker is located on the right side of the front power panel. Flip the breaker down to prevent accidental load when starting the generator.



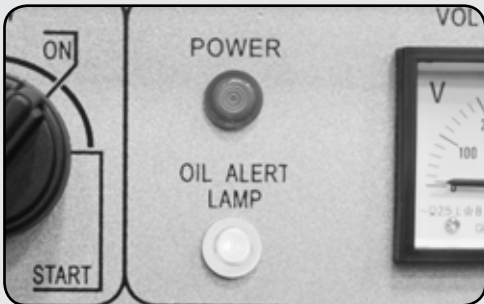
## 4. Run/Stop Switch

The Run/Stop Switch is located inside the maintenance door above the oil fill. Flip the switch to the right to allow the unit to run.



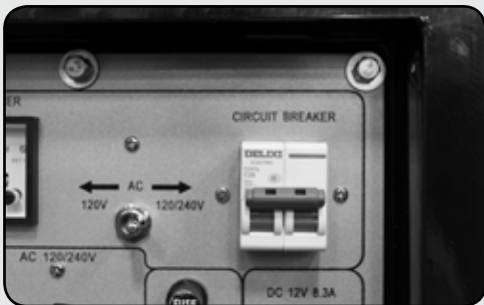
## 7. Start generator

The key switch is located on the left side of the front power panel. Insert the key and turn to the start position to start the generator. Allow the key to return to the run position once started.



## 8. Check power indicator

The power indicator is located to the right of the keyswitch. Ensure the power indicator is lit before powering appliances.



## 9. Turn breaker on

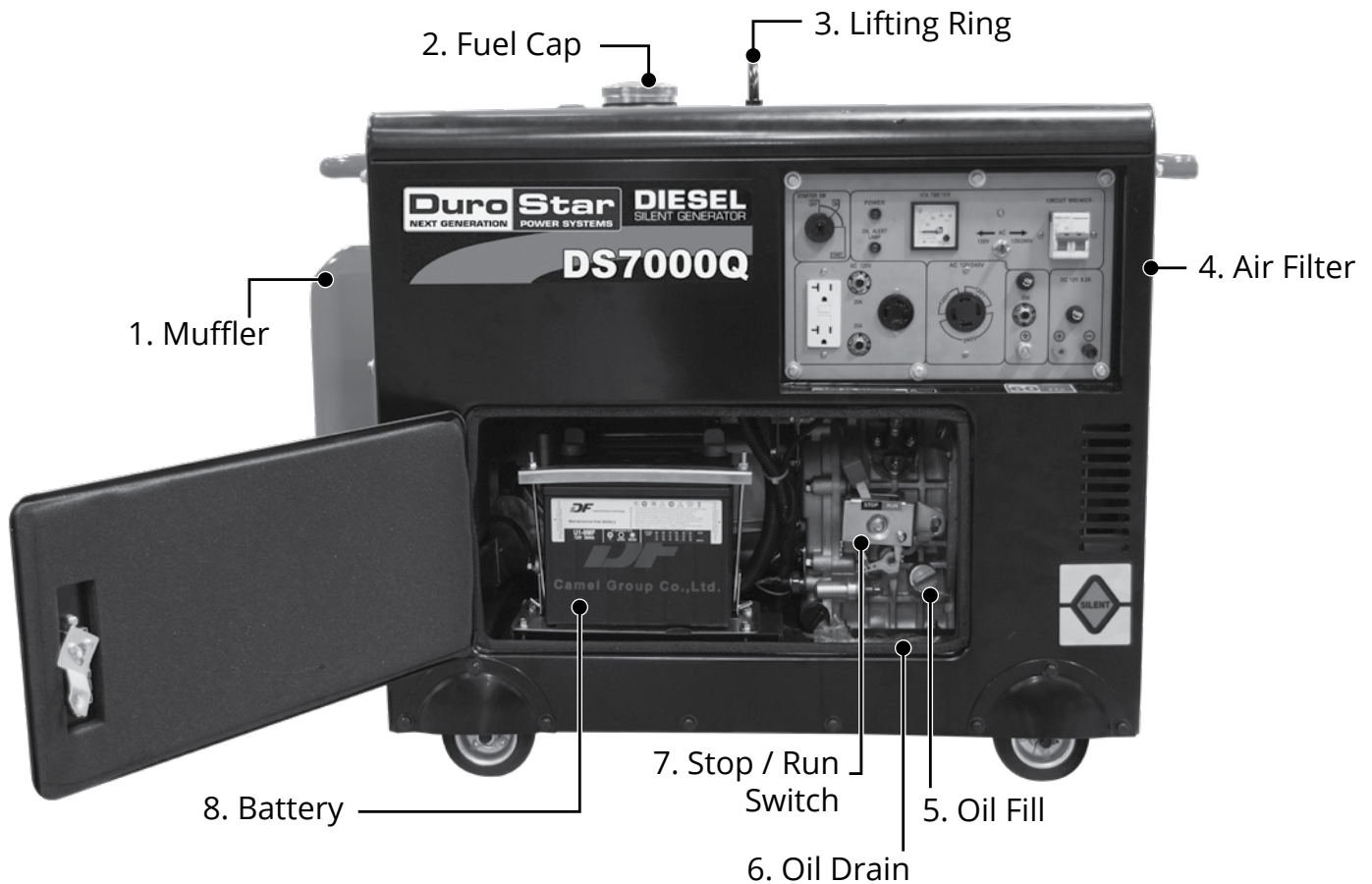
The breaker is located on the right side of the front power panel. Flip the breaker up to allow power to flow to the receptacles.



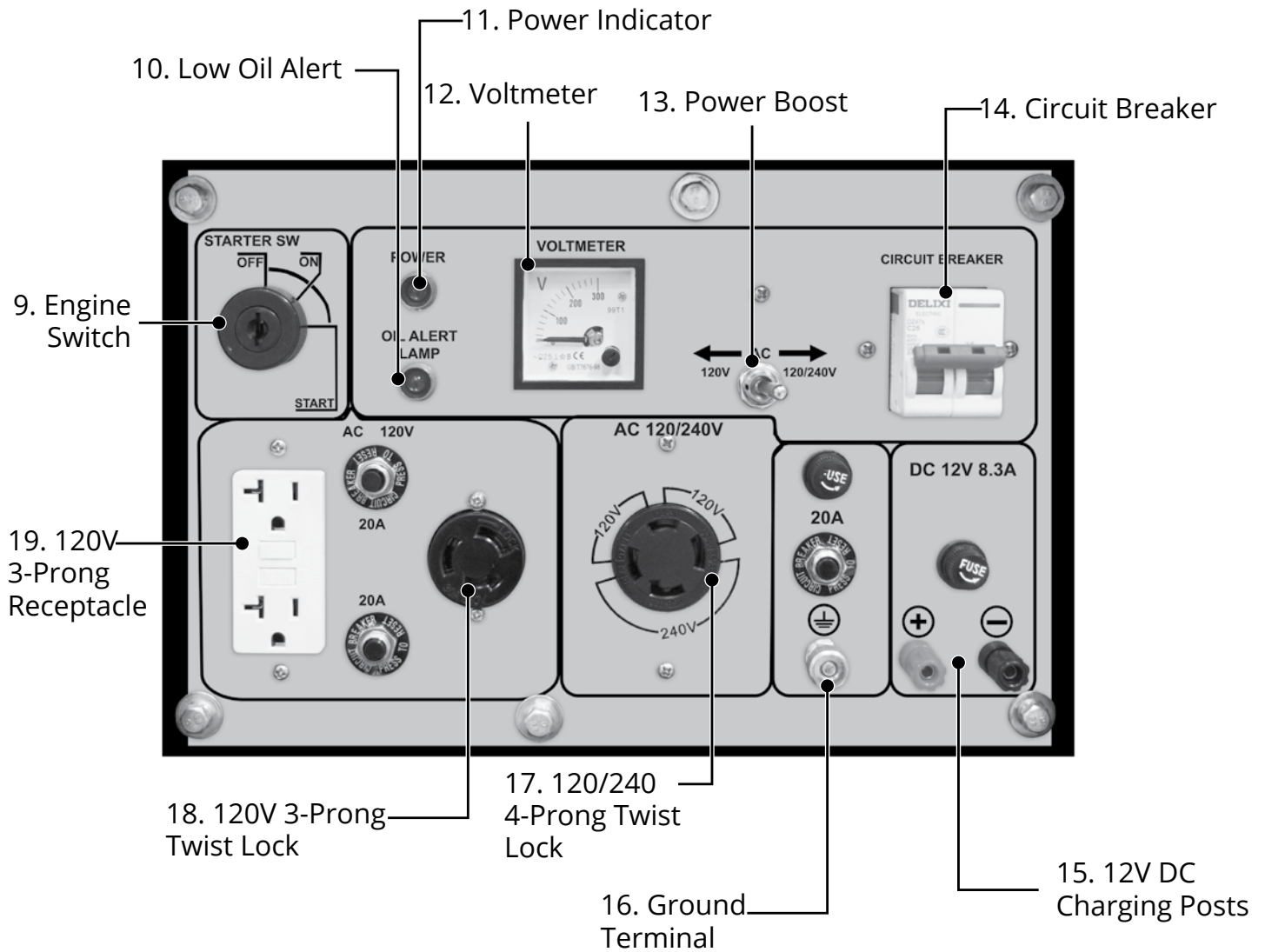
## 10. Connect devices

Connect your devices to the receptacles on the front panel. Start with the largest loads first.

# GENERATOR COMPONENTS



1. **Muffler** - Reduces engine emissions and reduces noise
2. **Fuel Cap** - Allows access to fill the diesel tank.
3. **Lifting Ring** - Use to lift the generator with a truck crane or winch.
4. **Air Filter** - a removable element that cleans the air going into the engine.
5. **Oil Fill and Dipstick** - Use to add or check the engine oil.
6. **Oil Drain** - Use to remove the engine oil during regular oil changes.
7. **Stop/Run Switch** - To the right for Connect a ground wire here to properly ground the generator.
8. **Battery** - 12V DC 7ah Battery that powers the Electric Start System.
9. **Engine Switch** – 3 Position Switch to “Start”, “Run”, or turn “Off” the generator.
10. **Low Oil Alert** - Will light if the engine shuts down or will not start due to low oil.
11. **Volt Meter** - Provides reading of voltage output.
11. **Power Indicator** - Use to confirm the generator has power output before connecting devices.



- 12. **Volt Meter** - Provides reading of voltage output.
- 13. **Power Boost** - DuroStar exclusive Power Boost doubles the amperage available in "120v Only" for heavy loads like RV air conditioners.
- 14. **Circuit Breaker** - Resettable switch that protects the generator from electrical overload.
- 15. **12v DC Charging Posts** - DC Output for charging batteries or running small DC powered items.
- 16. **Ground Terminal** - Connect a ground wire here to properly ground the generator.
- 17. **120/240v 4-Prong Twist Lock** - Use to connect electrical devices that run 120 or 240 Volt, 60Hz, single phase, AC current (NEMA L14-30).
- 18. **120v 3-Prong Twist Lock** - Use to connect electrical devices that run 120 Volt, 60 Hz, single phase, AC current (NEMA 6-20).
- 19. **120v 3-Prong GFCI Receptacle** - Use to connect electrical devices that run 120 Volt, 60 Hz, single phase, AC current (NEMA 5-20).

# PACKAGE CONTENTS

Your generator comes with the items listed below. Please check to see that all of the following items are included with your generator.



**Double Sided  
Screw Driver**

Phillips and slot blade screwdriver used for generator maintenance.



**Spanner**

Assorted wrenches used in generator maintenance and assembly. Commonly 8mm, 10mm, 13mm, and 15mm.



**Spark Plug Wrench**

Used in spark plug maintenance, inspection, and installation.



**Oil Funnel w/ hose**

Used to add oil to the generator without messy spills.



**DC Charge Cables**

Used in conjunction with the charging posts to charge 12v automotive style batteries or small DC appliances.



**Plug Ends**

Plug heads for the receptacles found on the generator are included to make or rewire your own cords.

- Note: Actual tools may differ in appearance or design from image shown.



# GENERATOR SETUP

Proper setup of your generator will get you going as soon as possible while making sure you and your equipment are safe and cared for.

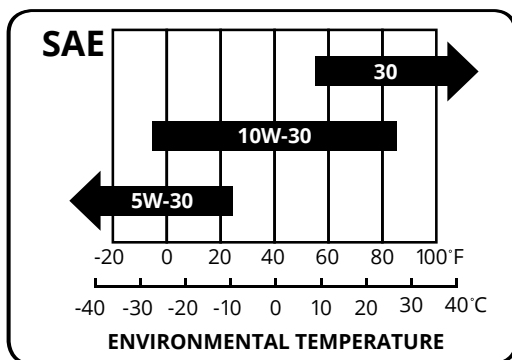
# GENERATOR SETUP

## Step 1 - Adding Oil

The generator requires engine oil to operate properly. The generator, when new from the package contains no oil in the crankcase\*. You must add the proper amount of oil before operating the generator for the first time. This amount is equal to the oil capacity of the engine crankcase:

<b>Model Number</b>	DS7000Q
<b>Engine Oil Capacity</b>	54 fl. oz (1.6L)

**WARNING: Do not apply engine oils with additives or 2-stroke engine oils.** They don't have enough lubrication, and may shorten the engine's service life.



**Engine oil recommended: SAE 15W-40.** Viscosity varies with regions and temperatures. Choose your oil viscosity using the chart to the left.

\* A small amount of oil from factory testing may be present on arrival.



### 1. Add oil

- Make sure the generator is on a level surface.
- Unscrew the oil filler/dipstick cap from the engine .
- Using a funnel, add the appropriate amount of oil into the crankcase. You will know the crankcase is full when the oil level has reached the lower lip of the opening you have just poured the oil into.
- Replace oil filler cap.



**WARNING: DO NOT overfill the crankcase. This may damage the motor and shorting overall life of your generator.**



## Step 2 - Adding Diesel



**WARNING: Diesel and fuel fumes are highly flammable.**

- Do not fill tank near an open flame.
- Do not overfill. Always check for fuel spills.



### 2. Add Diesel

- Make sure the generator is on a level surface.
- Unscrew fuel cap and set aside (NOTE: the fuel cap may be tight and hard to unscrew).
- Slowly add diesel to the fuel tank. Be careful not to overfill.
- The fuel gauge on the top of the fuel tank indicates how much diesel is in the generator fuel tank.
- Replace fuel cap and wipe up any spilled diesel with a dry cloth.

**NOTE: Fuel can expand. Do not fill the fuel tank to the very top. Leave a minimum of 1.5 in of open space.**



#### IMPORTANT:

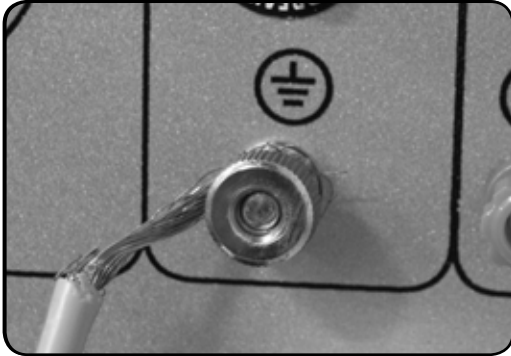
- Never use an oil/diesel mixture. Never use old fuel.
- Avoid getting dirt or water in the fuel tank.
- Fuel can age in the tank and make it hard to start up the generator in the future.
- Never store generator for extended periods of time with fuel in the tank.



<b>Model Number</b>	DS7000Q
<b>Fuel Tank Capacity</b>	3.8 US Gallons (14.5L)

# GENERATOR SETUP (CONTINUED)

## Step 3 - Grounding the Generator



### 1. Attach grounding wire

- a. Ground the generator by tightening the grounding nut against a grounding wire.
- b. Connect the other end to a copper or brass grounding rod that's driven into the earth.

A generally acceptable grounding wire is a No. 12 AWG (American Wire Gauge) stranded copper wire.



Grounding codes can vary by location. Please contact a local electrician to check the grounding regulations for your area.



**WARNING:** Failure to properly ground the generator can result in electrocution.



# STARTING THE GENERATOR

If this is not your first time using the generator there are still steps you should take to prepare it for operation each time you use it.

**IMPORTANT:** At this point you should be familiar with the procedures described in the first portion of this section entitled "GENERATOR SETUP" If you have not yet read this section, go back and read it now.

# BEFORE YOU START YOUR GENERATOR

## Step 1 - Check the oil

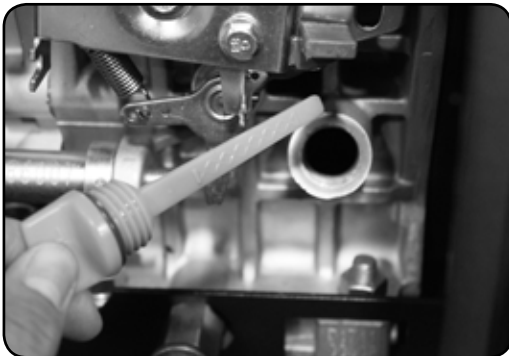


### 1. Check the oil

The generator is equipped with an automatic shutoff to protect it from damage due to low oil. Nonetheless, you should check the oil level of the engine before each use to ensure that the engine crankcase has a sufficient amount.

To check the oil level:

- a. Make sure the generator is on a level surface.
- b. Unscrew the oil filler/dipstick cap.
- c. With a dry cloth, wipe the oil off of the stick on the inside of the cap.
- d. Insert the dipstick as if you were replacing the cap and then remove again. There should now be oil on the stick. If there is no oil on the stick, or oil only at the very end of the stick, you should add oil until the engine crankcase is filled (see “Adding Oil” portion of the “Maintenance” section).
- e. Be sure to replace the cap when finished checking oil.



**NOTE: The oil capacity for your generator can be found in the “Specifications” section of this manual.**

## Step 2 - Check the fuel level



### 1. Check Fuel Level

Before starting the generator, check to see that there is sufficient diesel in the fuel tank. The fuel gauge on top of the tank will give a rough estimate of the diesel level. The gauge will appear white then fill red as the tank is filled.

Note: Fuel gauge may not register with less than 1/3 fuel tank full.



**WARNING: Diesel and diesel fumes are highly flammable.**

- Do not fill tank near an open flame.
- Always allow engine to cool for several minutes before refueling.
- DO NOT overfill fuel tank. Fuel expands when shaken or heated. ALWAYS leave 1½" space or more at the top of the tank.
- ALWAYS use fresh fuel or stabilized fuel. Old diesel (older than 30 days) can cause permanent damage to the fuel system.
- Always check for fuel spills.

# STARTING THE GENERATOR

## Starting the Generator



### 1. Shut breaker off

The breaker is located on the right side of the front power panel. Flip the breaker down to prevent accidental load when starting the generator.



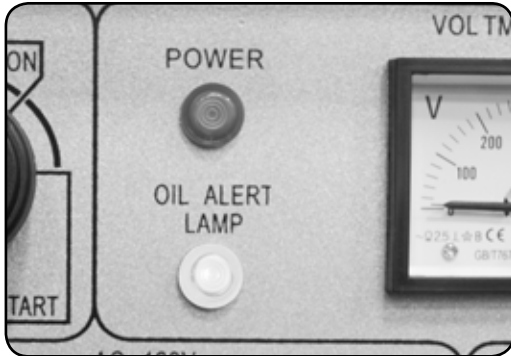
### 2. Run/Stop Switch

The Run/Stop Switch is located inside the maintenance door above the oil fill. Flip the switch to the right to allow the unit to run.



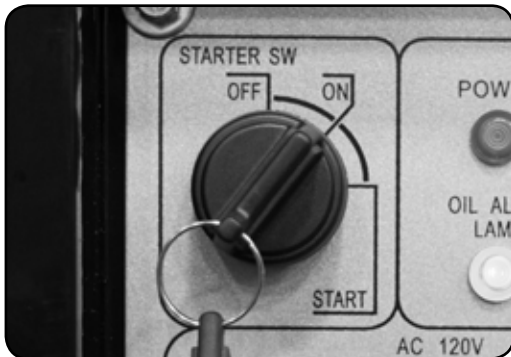
### 3. Turn engine switch to START

The key switch is located on the left side of the front power panel. Insert the key and turn to the start position to start the generator. Allow the key to return to the run position once started.



## 4. Check power indicator

The power indicator is located to the right of the keyswitch. Ensure the power indicator is lit before powering appliances.



## 6. Return engine switch to RUN

The key switch is located on the left side of the front power panel. Insert the key and turn to the start position to start the generator. Allow the key to return to the run position once started.



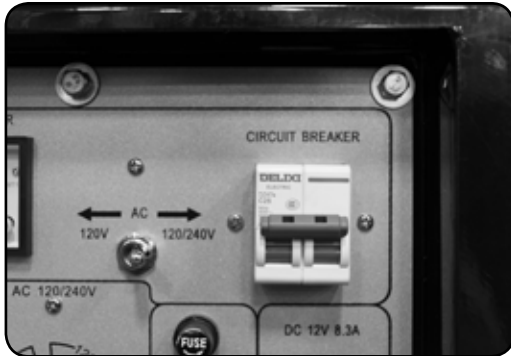
**CAUTION:** Disconnect all electrical loads from the generator before attempting to start!



**WARNING:** Operating the starter motor for more than 5 seconds can damage the motor. If the engine fails to start, release the switch and wait 10 seconds before operating the starter again.

# STARTING THE GENERATOR (CONTINUED)

## Starting the Generator - Remote Start



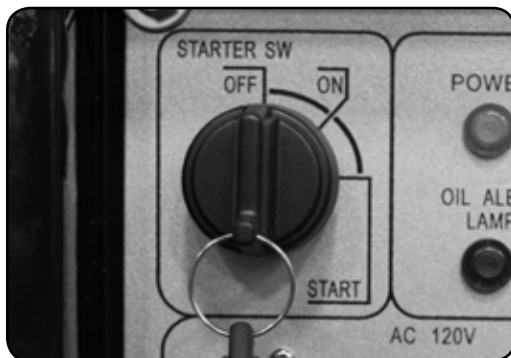
### 1. Turn the breaker ON

The breaker is located on the right side of the front power panel. Flip the breaker down to prevent accidental load when starting the generator.



### 2. Run/Stop Switch

The Run/Stop Switch is located inside the maintenance door above the oil fill. Flip the switch to the right to allow the unit to run.



### 3. Turn engine switch to START

The key switch is located on the left side of the front power panel. Insert the key and turn to the start position to OFF. This will allow you to use the remote to start the generator.





## 4. Open the remote

Open the remote by sliding the cover down. Extend the antenna



## 5. Start the generator

Press the start button at the top with the lightening bolt to start the generator.



**WARNING:** Operating the starter motor for more than 5 seconds can damage the motor. If the engine fails to start, press the stop button and wait 10 seconds before operating the starter again.





# USING THE GENERATOR

If this is not your first time using the generator there are still steps you should take to prepare it for operation each time you use it.

**IMPORTANT:** At this point you should be familiar with the procedures described in the first portion of this section entitled "GENERATOR SETUP" If you have not yet read this section, go back and read it now.

# USING THE GENERATOR

## AC Usage

- You may connect electrical devices running on AC current according to their wattage requirements.
- The chart below shows the rated and surge wattage of your generator according to its model number.
- The rated wattage corresponds to the maximum wattage the generator can output on a continuous basis.
- The surge wattage corresponds to the maximum amount of power the generator can output for a short period of time. Many electrical devices such as refrigerators require short bursts of extra power, in addition the rated wattage listed by the device, to stop and start their motors. The surge wattage ability of the generator covers this extra power requirement.

Fuel Source	Rated (Running Wattage)	Surge (Peak) Wattage
Diesel	5500	7000

The total running wattage requirement of the electrical devices connected to the generator should not exceed the rated wattage of the generator itself. To calculate the total wattage requirement of the electrical devices you wish to connect, find the rated (or running) wattage of each device. This number should be listed somewhere on the device or in its instruction manual.

If you cannot find this wattage, you may calculate it by multiplying the Voltage requirement by the Amperage drawn:  $\text{Watts} = \text{Volts} \times \text{Amps}$ . If these specifications are not available you may estimate the Watts required by your device by using the chart on the next page.

Once you have found the rated wattage requirement of each electrical device, add these numbers to find the total rated wattage you wish to draw from the generator. If this number exceeds the rated wattage of the generator, DO NOT connect all these devices. Select a combination of electrical devices, which has a total rated wattage lower than or equal to the rated wattage of the generator.

Tool or Appliance	Rated (Running) Watts	Additional Surge Watts
Electric water heater (40 gal)	4000	0
Hot plate	2500	0
Radial arm saw	2000	2000
Electric Stove	1500	0
Circular Saw	1500	1500
Air compressor (1 HP)	1500	3000
Window air conditioner	1200	1800
Miter saw	1200	1800
Microwave	1000	2000
Well water pump	1000	1500
Reciprocating saw	960	1040
Sump pump	800	1200
Refrigerator freezer	800	1200
Furnace blower	800	1300
Computer	800	0
Electric drill	600	900
Television	500	0
Deep freezer	500	800
Garage door opener	480	600
Stereo	400	0
Box fan	300	600
Clock radio	300	0
Security system	180	0
DVD Player	100	0
Common light bulb	75	0



**CAUTION** - The generator can only run at its surge wattage capacity for a very short time. Connect only electrical devices requiring a rated (running) wattage equal to or less than the rated wattage of the generator. Never connect devices requiring a rated wattage equal to the surge wattage of the generator.

*NOTE: The above wattage figures are estimates only.  
Try to check the wattage listed on your electrical devices before consulting this chart.*

# USING THE GENERATOR (CONTINUED)

## Connecting a load to the generator

**NOTE: Be sure to attach devices to the correct receptacle (outlet).**

- 120v devices can be directly connected to the 120v ONLY receptacles.
- 120v devices can be connected to the 120/240v receptacle using an appropriate adapter.
- 240v devices can ONLY be connected the 240v receptacle.

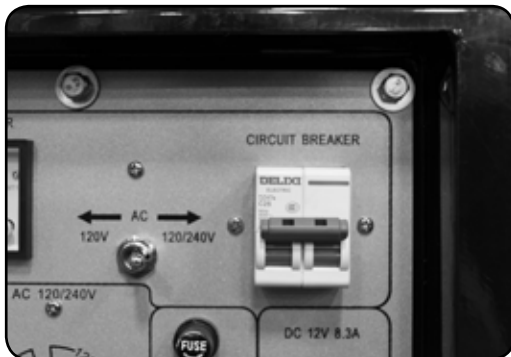


**CAUTION: Do not connect 50Hz or 3-phase loads to the generator.**



### 1. Plug in devices

Plug in devices to the appropriate receptacle. When using the generator in 120/240v mode, balance the load as closely as possible. Placing more load on one side of the circuit will reduce the breaker trip period.



### 2. Turn breaker on

Flip the circuit breaker up to the on position to allow power to the receptacles.



### 3. Turn on connected devices

Start or turn on appliances starting with the biggest loads first.

## Voltage Selector Switch

This generator features Power Boost Technology, which gives the user the ability to double the power in the generator for more heavy duty applications.



The voltage selector switches the dual 120v AC windings of the generator to produce "120V ONLY" or "120/240V". If a 240V appliance is connected to the 4-prong receptacle, the switch must be in the "120/240V" position. If only 120V appliances are being connected to the generator select the "120V ONLY" position to double the 120v amperage and automatically balance the load.



**WARNING** - Only change the Voltage Selector Switch with the main AC Circuit Breaker OFF. The generator can be seriously damaged if the Voltage Selector Switch is changed with the breaker ON.

## Choosing the right power cord

Long or thin cords can drain the power provided to an electrical device by the generator. When using such cords, allow for a slightly higher rated wattage requirement for the electrical device. See table below for recommended cords based on the power requirement of the electrical device.

DEVICE REQUIREMENTS		WIRE GAUGE BY LENGTH (ft.)				
AMPS	WATTS (120/240V)	10	25	50	100	150
5	600/1200	18	16	14	12	10
10	1200/2400	16	14	12	10	8
15	1800/3600	14	12	10	8	6
20	2400/4800	12	10	8	6	4
25	3000/6000	10	8	6	4	4
30	3600/7200	8	6	4	4	NR
40	4800/9600	6	4	4	NR	NR
50	6000/1200	4	4	2	NR	NR

**\*NR = NOT RECOMMENDED**

# USING THE GENERATOR (CONTINUED)

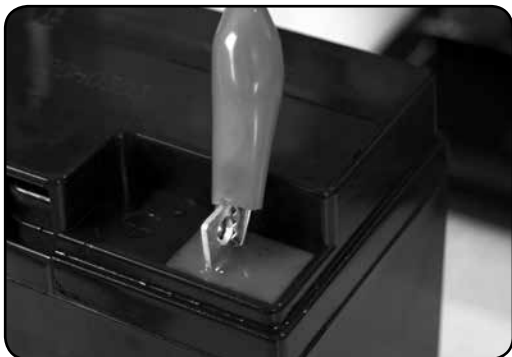
## DC Usage



**CAUTION:** The DC receptacle is for recharging 12 Volt automotive-type batteries only. Do not connect any other device to this receptacle.



**CAUTION:** Never try to jump start a car with your generator.



### 1. Connect the battery

Connect one charging wire to the positive terminal on the battery and the other charging wire to the negative terminal on the battery.



### 2. Connect positive receptacle

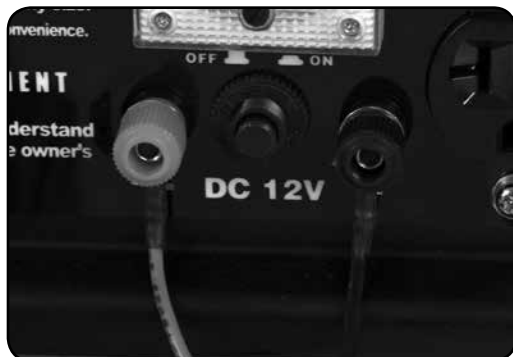
Connect the free end of the positive wire to the positive receptacle (outlet) on the generator.



### 3. Start Generator

The key switch is located on the left side of the front power panel. Insert the key and turn to the start position to start the generator. Allow the key to return to the run position once started.





## 4. Connect negative receptacle

Carefully connect the free end of the negative wire to the negative receptacle on the generator.



## 5. Disconnecting

When disconnecting, always disconnect the wires from the generator first to avoid a spark.



**DANGER - Stored batteries emit highly explosive hydrogen gas when charged. Batteries also contain acid, which can cause severe chemical burns.**



**DANGER - Do not allow open flames or cigarettes nearby for several minutes after charging a battery.**



**DANGER - Always wear protective goggles and rubber gloves when charging a battery.**



**DANGER - If battery acid gets on your skin, flush with water. If battery acid gets in your eyes, flush with water and call a physician immediately.**



**DANGER - If battery acid is swallowed, drink large quantities of milk and call a Physician immediately.**





# MAINTENANCE AND CARE

Proper maintenance and storage of your generator is essential to ensure trouble free use of your generator when you need it.

By following the maintenance and care requirements, you can keep your generator running smooth and efficient for years to come.

# MAINTENANCE AND CARE

Proper routine maintenance of your generator 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 a malfunction in which you can be seriously injured or killed. Always follow the inspection and maintenance recommendations and schedules in this instruction manual.**

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

## Maintenance Schedule

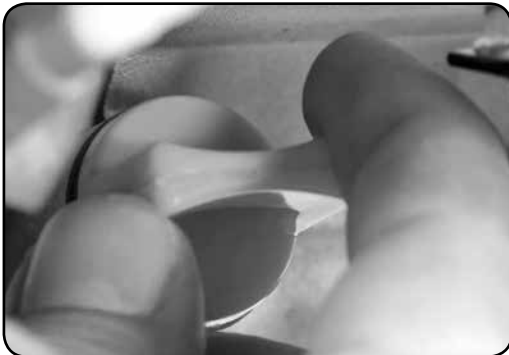
Remember that this schedule is based on the assumption that your machine will be used for its designed purpose. Sustained high-load, high temperature operation, or use in unusually wet or dusty conditions, will require more frequent service.

SERVICE		REGULAR SERVICE PERIOD				
		BEFORE EACH USE	EVERY MO. OR 20 HRS	EVERY 3 MO. OR 50 HRS	EVERY 6 MO. OR 100 HRS	EVERY 12 MO. OR 300 HRS
ENGINE OIL	CHECK	■				
	CHANGE		■			
AIR CLEANER	CHECK	■				
	CHANGE			■		
SEDIMENT CUP	CLEAN				■	
SPARK ARRESTOR	CLEAN				■	
IDLE SPEED	CHECK / ADJUST					■
VALVE CLEARANCE	CHECK-ADJUST					■
COMBUSTION CHAMBER	CLEAN	<b>500 HOURS</b>				
FUEL TANK / FILTER	CLEAN				■	
FUEL TUBE	CHECK	<b>EVERY 24 MO. (REPLACE IF NECESSARY)</b>				
<b>TO BE PERFORMED AT EVERY MONTH INDICATED OR HOUR INTERVAL WHICH EVER COMES FIRST</b>						



# MAINTENANCE AND CARE (CONTINUED)

## Checking the oil

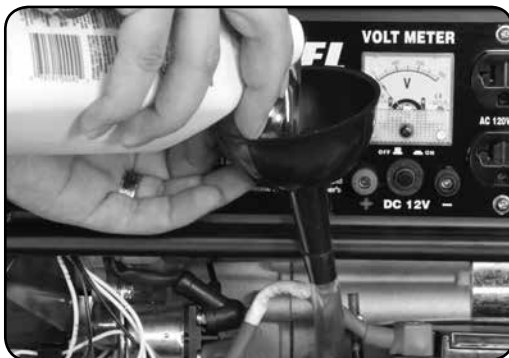
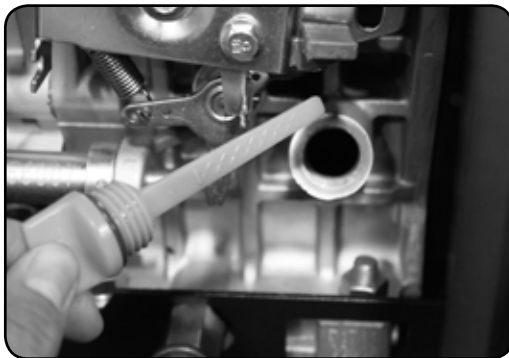


### 1. Check the oil

The generator is equipped with an automatic shutoff to protect it from damage due to low oil. Nonetheless, you should check the oil level of the engine before each use to ensure that the engine crankcase has a sufficient amount.

To check the oil level:

- a. Make sure the generator is on a level surface.
- b. Unscrew the oil filler/dipstick cap.
- c. With a dry cloth, wipe the oil off of the stick on the inside of the cap.
- d. Insert the dipstick as if you were replacing the cap and then remove again. There should now be oil on the stick. If there is no oil on the stick, or oil only at the very end of the stick, you should add oil until the engine crankcase is filled (see “Adding Oil” portion of the “Maintenance” section).
- e. Be sure to replace the cap when finished checking oil.

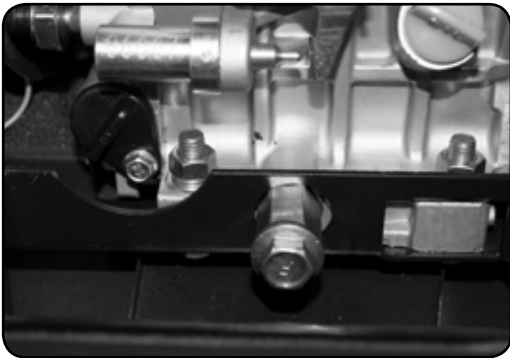


**NOTE: The oil capacity for your generator can be found in the “Specifications” section of this manual.**

# Changing the oil

Worn out or dirty oil does not cool the generator properly and can lead to catastrophic engine damage.

In addition to regular oil changes, it is necessary to drain the oil from the crankcase if it has become contaminated with water or dirt.



## 2. Remove drain plug

Using a hex wrench, unscrew the oil drain plug, which is located on the crankcase underneath the oil filler/dipstick cap.

Allow all the oil to drain from the generator.



## 2. Drain oil

Drain oil into an approved oil disposal container. Contact your local auto parts store for information on oil disposal.



## 3. Replace drain plug

Replace the oil drain plug and tighten with a 10 mm hex wrench.

# MAINTENANCE AND CARE (CONTINUED)

## Cleaning the air cleaner

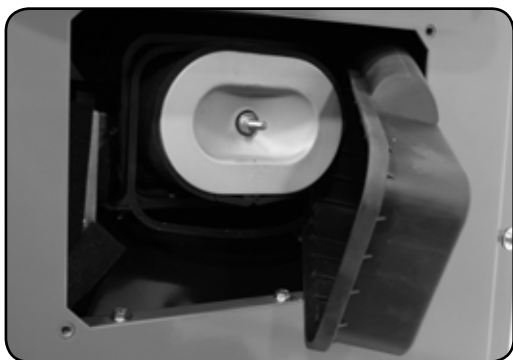
Routine maintenance of the air cleaner helps maintain proper airflow to the carburetor. Check that the air cleaner is free of excessive dirt after every use.

Note: Improper maintenance may cause less air to enter the engine or dirty air to enter the engine causing overheating and engine wear.



### 1. Open filter housing

Remove the 4 bolts on the right side of generator and remove the cover to expose the air filter.



### 2. Remove filter cover

Unscrew the wingnut and remove the air cleaner cover.



### 3. Remove the element

Remove the retaining nut and inspect the air filter element. If dirty dispose of the element and replace with OEM replacement parts.





## 4. Reinstall the element

Reinstall the still clean, or new, element in the air cleaner base and secure it with the retaining nut.



## 5. Reinstall the filter cover

Place the air filter cover on the air filter base and tighten the wingnut securely.



## 6. Reinstall filter housing

Reinstall the filter housing on the right side of the generator and secure with the 4 bolts.

# SPECIFICATIONS

<b>AC Rated Wattage</b>	5500W	
<b>AC Surge Wattage</b>	7000W	
<b>AC Rated Voltage</b>	120/240V	
<b>AC Rated Frequency</b>	60 Hz	
<b>AC Phase</b>	Single	
<b>DC Voltage</b>	12V	
<b>DC Amperage</b>	8.3A	
<b>Dimensions</b>	LENGTH	38in.
	WIDTH	22in.
	HEIGHT	30in.
<b>Engine Type</b>	4-Stroke OHV Forced-Air	
<b>Ignition System</b>	Non-Contact Transistor	
<b>Displacement</b>	418cc	
<b>Starting Type</b>	Electric	
<b>Fuel Tank Capacity</b>	3.8 US Gal. (14.5L)	
<b>Oil Capacity</b>	54 fl. oz. (1.1L)	
<b>Run Time @ 50%</b>	10 hr.	
<b>Noise Level</b>	<74db	



# TROUBLESHOOTING

This section of the manual is to help you troubleshoot problems with your generator.

# TROUBLESHOOTING

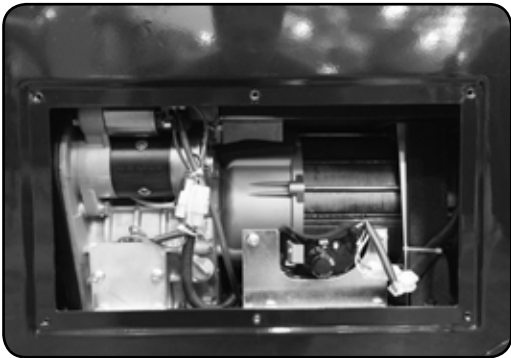
Mode	Description	
<b>Engine will not start</b>	Engine Switch is "Off"	Set engine switch to "run"
	Engine is out of fuel	Add fuel
	Fuel is old or contaminated	Change fuel
	Generator is not level	Move generator to a level surface
	Oil is low	Add / change oil
<b>Engine runs, but there is no electrical output.</b>	Circuit Breaker is "Off"	Turn "on" circuit breaker
	Wiring connection is bad	Replace extension cord(s)
	Device connected to generator is Malfunctioning	Disconnect malfunctioning device
<b>Generator runs, but does not support all electrical devices connected.</b>	Generator is overloaded	Disconnect 1 or more items to reduce the load
	Device connected to generator is bad	Disconnect malfunctioning device
	Air Cleaner is dirty	Clean / replace the air cleaner



# TROUBLESHOOTING (CONTINUED)

## Changing / Inspecting the AVR

The AVR regulates power from the generator. If the generator is overheated or overloaded, the AVR may be damaged and require replacement.



### 1. Remove rear cover

Remove the 4 bolts of the rear cover then pull the cover off the generator.



### 2. Remove AVR bolts

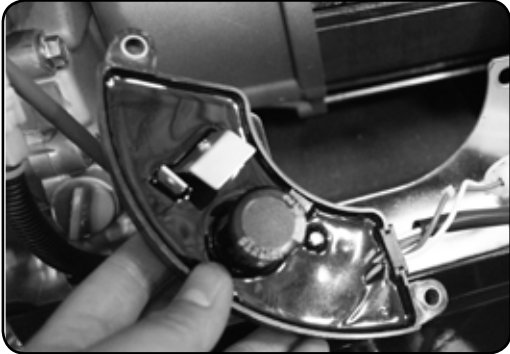
Remove the 2 bolts holding the AVR.



### 3. Disconnect AVR wire clip

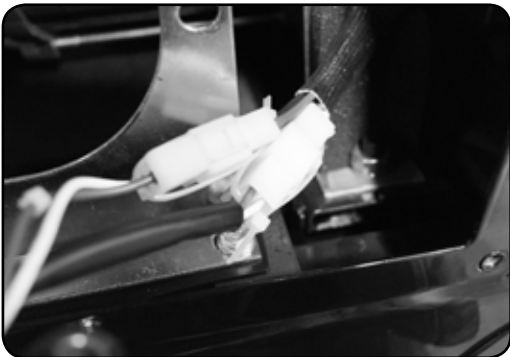
Disconnect the wire clip.

## Changing / Inspecting the AVR (Continued)



### 4. Install new AVR

Install the new AVR with the 2 bolts.



### 5. Reconnect the AVR wire clips

Insert and connect the 2 wires clips from the AVR, be sure to connect them securely.



### 6. Reinstall rear cover

Replace the rear cover and tighten the 4 bolts securely.







# WARRANTY

## 3-year Warranty

All DuroMax/DuroStar Power Equipment warrant the original purchasers to a 3-year Parts Warranty (Residential Use ONLY: Unusually heavy or commercial use is covered for a period of 1-year) in the event of failure due to defects in electrical or mechanical components. Freight on any items submitted for replacement or repair under the Warranty are the responsibility of the equipment owner. This warranty is non-transferable and only valid to the original purchaser.

## Warranty Exclusions

The DuroMax/DuroStar Power Equipment warranty does not cover repairs or returns when the fault is: Normal Wear and Tear, Installation Use or Maintenance Services, Cosmetic defects, Accessories, Failures due to acts of God or Natural Disasters, or problems related to/from aftermarket or non-OEM parts.

## Warranty Limitations

DuroMax/DuroStar Power Equipment does not claim or hold any obligation to loss of time, freight charges, use of product, or any incidental damages from the use of this product. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED.

## U.S. EPA AND CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS

The U.S. Environmental Protection Agency (EPA), California Air Resources Board, and Imperial Industrial Supply Co. LTD. / DuroMax Power Equipment are pleased to explain the emissions control system's warranty on your 2018 small off-road engine. In California, new equipment that use small off-road engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. DuroMax Power Equipment must warrant the emissions control system on your small off-road engine for the period listed below provided there has been no abuse, neglect, or improper maintenance of your equipment.

Your emissions control system may include parts such as: carburetors or the fuel injection system, ignition system, catalytic converters, fuel tanks, valves, filters, clamps, connectors, and other associated components. Also, included may be hoses, belts, connectors, sensors, and other emission-related assemblies.

Where a warrantable condition exists, DuroMax Power Equipment will repair your small off-road engine at no cost to you including diagnosis, parts, and labor.

## MANUFACTURER'S WARRANTY COVERAGE:

This emissions control system is warranted for two years. If any emissions-related part on your equipment is defective, the part will be repaired or replaced by DuroMax Power Equipment.

## **OWNER'S WARRANTY RESPONSIBILITIES:**

- As the small off-road engine owner, you are responsible for performance of the required maintenance listed in your owner's manual. DuroMax Power Equipment recommends that you retain all receipts covering maintenance on your small off-road engine, but DuroMax Power Equipment cannot deny warranty solely for the lack of receipts or your failure to ensure the performance of all scheduled maintenance.
- As the small off-road engine owner, you should however be aware that the DuroMax Power Equipment may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, or improper maintenance or unapproved modifications.
- You are responsible for presenting your small off-road engine to a DuroMax Power Equipment distribution center or service center as soon as the problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.
- If you have any questions regarding your warranty coverage, contact us at 800-629-4329 or email [support@duromaxpowerequipment.com](mailto:support@duromaxpowerequipment.com).

## **DEFECTS WARRANTY REQUIREMENTS:**

The warranty period begins on the date the engine or equipment is delivered to an ultimate purchaser and extends for a period of Two Years.

## **GENERAL EMISSIONS WARRANTY COVERAGE:**

DuroMax Power Equipment warrants to the ultimate purchaser and each subsequent owner that the engine or equipment is:

1. Designed, built, and equipped to conform with all applicable regulations adopted by the Air Resources Board; and
2. Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.

The warranty on emissions-related parts will be interpreted as follows:

1. Any warranted part that is not scheduled for replacement as required maintenance in the Owner's Manual must be warranted for the warranty period stated above. If any such part fails during the period of warranty coverage, it must be repaired or replaced by the manufacturer according to Subsection (4) below. Any such part repaired or replaced under the warranty must be warranted for the remaining warranty period.

## WARRANTY (CONTINUED)

2. Any warranted part that is scheduled only for regular inspection in the Owner's Manual must be warranted for the warranty period stated above. A statement in such written instructions to the effect of "repair or replace as necessary" will not reduce the period of warranty coverage. Any such part repaired or replaced under warranty must be warranted for the remaining warranty period.
3. Any warranted part that is scheduled for replacement as required maintenance in the Owner's Manual must be warranted for the period prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part must be repaired or replaced by the engine manufacturer according to Subsection (4) below. Any such part repaired or replaced under warranty must be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
4. Repair or replacement of any warranted part under the warranty must be performed at no charge to the owner at a warranty station.
5. Notwithstanding the provisions of Subsection (4) above, warranty services or repairs must be provided at all manufacturer distribution centers that are franchised to service the subject engines.
6. The owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.
7. The manufacturer is liable for damages to other engine components proximately caused by a failure under warranty of any warranted part.
8. Throughout the emissions warranty period stated above, the manufacturer must maintain a supply of warranted parts sufficient to meet the expected demand for such parts.
9. Any replacement part may be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner.
  - a. Such use will not reduce the warranty obligations of the manufacturer.
10. Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any nonexempt add-on or modified parts will be grounds for disallowing a warranty claim. The manufacturer will not be liable to warrant failures of warranted parts caused using a nonexempt add-on or modified part.
11. The manufacturer issuing the warranty shall provide any documents that describe that manufacturer's warranty procedures or policies within five working days of request by the Air Resources Board.

## Exhaust Emission Warranty Parts List.

1. Fuel Metering System
  - i. Carburetor and internal parts (and/or pressure regulator or fuel injection system).
  - ii. Air/fuel ratio feedback and control system.
  - iii. Cold start enrichment system.
2. Air Induction System
  - i. Controlled hot air intake system.
  - ii. Intake manifold.
3. Ignition System
  - i. Spark Plugs.
  - ii. Magneto or electronic ignition system.
  - iii. Spark advance/retard system.
4. Air Injection System
  - i. Air pump or pulse valve.
  - ii. Valves affecting distribution of flow.
  - iii. Distribution manifold.
5. Catalyst or Thermal Reactor System (i) Catalytic converter.
  - i. Thermal reactor.
  - ii. Exhaust manifold.
6. Particulate Controls
7. Traps, filters, precipitators, and any other device used to capture particulate emissions.
8. Electronic controls.
9. Vacuum, temperature, and time sensitive valves and switches.

## 10. Hoses, belts, connectors, and assemblies.

11. Evaporative Emission Warranty Part List
  - i. Fuel Tank\*
  - ii. Fuel Cap
  - iii. Fuel Line
  - iv. Fuel Line Fittings
  - v. Clamps\*\*
  - vi. Pressure Relief Valves\*\*
  - vii. Control Valves\*\*
  - viii. Control Solenoids\*\*
  - ix. Electronic Controls\*\*
  - x. Vacuum Control Diaphragms\*\*
  - xi. Control Cables\*\*
  - xii. Control Linkages\*\*
  - xiii. Purge Valves
  - xiv. Vapor Hoses
  - xv. Liquid/Vapor Separator
  - xvi. Carbon Canister
  - xvii. Canister Mounting Brackets
  - xviii. Carburetor Purge Port Connector

\*Note: The parts list for equipment less than or equal to 80 cc only includes the fuel tank.

\*\*Note: As they relate to the evaporative emission control system.

DuroStar Power Equipment will furnish with each new engine written instructions for the maintenance and use of the engine by the owner.

# CUSTOMER SERVICE

DuroStar Power Equipment is committed to ensuring that our products perform when they need to. Our generators are your lifeline in the event of an emergency. Should you have any problems, please contact our customer service department:

**DUROSTAR POWER EQUIPMENT**  
**5800 Ontario Mills Parkway**  
**Ontario, CA 91764**

Customer Service: 844-DUROMAX  
Customer Service Hours: 8-5pm PST

Website: [www.duromaxpowerequipment.com](http://www.duromaxpowerequipment.com)  
Email: [customer\\_service@duromaxpowerequipment.com](mailto:customer_service@duromaxpowerequipment.com)







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