

DUROSTAR

TRI FUEL



DS13000MXT

U S E R M A N U A L

REV: DS13000MX-11052024

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.

5800 Ontario Mills Pkwy
Ontario, CA 91764 USA
www.duromaxpower.com
Call our Customer Care Team Toll Free 8-5 pm PST Mon-Fri
844-387-6629

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DURO  ***STAR***

DUROSTAR

THE DUROSTAR WAY

The DuroStar Way is more than just a brand, it is our understanding and appreciation of just how important power can be to someone without it...



DUROSTAR FOR HOME

Electricity in our home not only provides comfort but safety as well. From keeping the heat or A/C on to keeping our food cold, power is essential to our daily lives. Inevitably when disaster strikes and we are left without power for a prolonged period of time, our way of life is put at risk. This is by far the most critical time for reliable portable power.



DUROSTAR FOR WORK

On the job site, portable power allows you the ability to get work done in remote locations when traditional power sources are usually unavailable. Equipment like table saws, sanders, and work lights are a necessity and portable power can play a critical role in getting a job done successfully and efficiently.



DUROSTAR FOR PLAY

Camping outdoors in a remote location can get one in touch with nature and allow them to forget the stress of the day to day grind. Here portable power can provide comfort as well as safety. With portable power, you can keep your cell phone charged, light up your campsite, or even brew a cup of coffee, all while being miles from civilization.

The DuroStar Way is a commitment to excellence. This vision is focused on the quality, reliability, and durability of our products combined with outstanding customer service. We understand that having dependable power whenever and wherever you need it provides comfort, safety, and peace of mind. It is through this philosophy that DuroStar achieves our vision of...

POWERING EVERYONE... **ANYWHERE!**

INTRODUCTION

DuroStar Power Equipment is headquartered in Ontario, California and is the industry's leader in Dual Fuel and Tri Fuel portable generator technology. In addition to a full assortment of portable generators ranging from digital inverters to large 16,000-watt generators that can power your whole home, their product line includes power stations, pressure washers, engines, pumps, and accessories.

The foundation of our company is built on quality, reliability, durability, and customer service. At DuroStar our vision is simple, we are committed to Powering Everyone... Anywhere!



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 unleaded gasoline 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**, **WARNING**, or **CAUTION**) to alert you of hazards. Please pay attention to these hazard notices both in this manual and on the engine.

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.



WARNING: This generator may emit highly flammable and explosive gasoline 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 gasoline.

- Do not operate near an open flame.
- Do not smoke near the generator.
- Always operate on a firm, level surface.
- Always turn the generator off before refueling.
- Allow generator to cool for at least 2 minutes before removing the fuel cap. Loosen cap slowly to relieve pressure in the tank.
- Do not overfill the gas tank. Gas may expand during operation. Do not fill to the top of the tank.
- Always check for spilled gas before operating.
- Empty the gasoline tank before storing or transporting the generator.
- Before transporting, turn the 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).
- The 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 back-flow 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 steelwork. 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 (CONTINUED)

⚠ WARNING

- **INGESTION HAZARD:** This product contains a button cell or coin battery
- **DEATH** or serious injury can occur if ingested
- A swallowed button cell or coin battery can cause **Internal Chemical Burns** in as little as **2 hours**
- **KEEP** new and used batteries **OUT OF REACH** of **CHILDREN**
- **Seek immediate medical attention** if a battery is suspected to be swallowed or inserted inside any part of the body



3V CR2016
3V CR2032
3V CR2450
Non-Replaceable



This symbol means:
INGESTION HAZARD



This product contains a button cell or coin battery.


1. Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. **DO NOT** dispose of batteries in household trash or incinerate.
2. Even used batteries may cause severe injury or death.
3. Call a local poison control center for treatment information.
4. Non-rechargeable batteries are not to be recharged.
5. Do not force discharge, recharge, disassemble, heat above 140 Fahrenheit or incinerate. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns.
6. Ensure the batteries are installed correctly according to polarity (+ and -).
7. Do not mix old and new batteries, brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
8. Remove and immediately recycle or dispose of batteries from equipment not used for an extended period of time according to local regulations.
9. Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

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.





NEVER use inside a home or garage, EVEN IF doors and windows are open.

Only use OUTSIDE and far away from windows, doors, and vents.

Avoid other generator hazards.
READ MANUAL BEFORE USE




⚠ DANGER





DO NOT OVERFILL THE GAS TANK
OVERFILLING CAN RESULT IN A FIRE, EXPLOSION, OR DEATH.

AUTOMATIC SHUTOFF
If the generator has shut off/shutdown and the CO Alert RED indicator light Ⓢ on the front panel is lit, the system has detected a dangerous amount of carbon monoxide. Follow the directions below **BEFORE** attempting to restart the generator.
Please consult the owner's manual for additional information.

ONLY OPERATE GENERATOR IN AN OPEN, OUTDOOR AREA AT LEAST 5 FEET AWAY FROM ANY FLAMMABLE MATERIAL. POINT EXHAUST AWAY FROM STRUCTURES. DON'T RUN GENERATORS IN ENCLOSED AREAS (I.E. NOT IN HOUSE OR GARAGE).





MOVE TO FRESH AIR AND GET MEDICAL HELP IF SICK, DIZZY, OR WEAK.

⚠ WARNING TAMPERING WITH THE CO ALERT SENSOR WILL DISABLE THE GENERATOR.

CARBON MONOXIDE SAFETY

Carbon Monoxide



Generators are convenient, but they can also be dangerous. All fuel-burning appliances and equipment release a poisonous gas called carbon monoxide.

Carbon monoxide (also known as CO) can be dangerous for humans and pets, even in small amounts, because it blocks oxygen from getting into your body. Carbon monoxide poisoning can lead to death in a very short time. It is odorless, tasteless and invisible, so you may be exposed without knowing it. That is why carbon monoxide is sometimes called “the silent killer.”

CO ALERT



Description

The DuroStar CO ALERT system was created to protect our customers and their families from dangerous carbon monoxide. Just like the detector for your home the CO-ALERT tests the air for to keep you safe and healthy.



CO Detected

If dangerous carbon monoxide levels are detected:

- The indicator will light red.
- The engine will shutdown.
- The engine will not restart for 5 minutes.



Maintenance Required

If an error in the CO ALERT system is detected the indicator will light yellow. Please contact DuroStar service at 844-387-6629 for assistance.



**ALWAYS READ THE
OWNER'S MANUAL FIRST**

KNOW THE SYMPTOMS

- HEADACHE
- NAUSEA
- SHORTNESS OF BREATH
- DIZZINESS
- FATIGUE

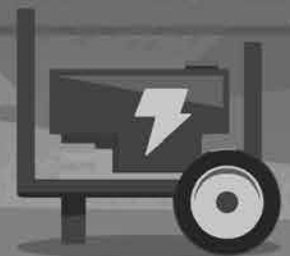


**IF YOU FEEL SYMPTOMS,
LEAVE RIGHT AWAY**

**STAY ALERT WITH CARBON
MONOXIDE DETECTORS**



**POINT FUMES AWAY
FROM NEARBY PEOPLE**



**KEEP IT OUTSIDE AND AWAY
FROM DOORS AND WINDOWS**



As the only safe way to use a portable generator, taking your generator outside is absolutely mandatory to keep your family safe from carbon monoxide. But there's even more you can do. By educating yourself about all carbon monoxide risks, you'll be better prepared to protect your family from this colorless, odorless threat. Visit takeyourgeneratoroutside.com for more information.

**TAKE IT
OUTSIDE™**



CARBON MONOXIDE KILLS

UNIT AND PURCHASE INFORMATION

Serial Number



Serial number

The serial number is located on the engine block, above and to the left of the oil fill.



Serial number format

The serial number will be shown in two parts. The engine model, followed by the serial number.

Engine Model: _____

Serial Number: _____

STAPLE RECEIPT HERE

A purchase receipt may be necessary for warranty parts or service in the future. If you have a paper receipt staple it here for easy reference.

If you purchased the unit online, save the email receipt where you can access it, and record your details here for convenience in the future.

Purchase Date: _____

Order Number: _____

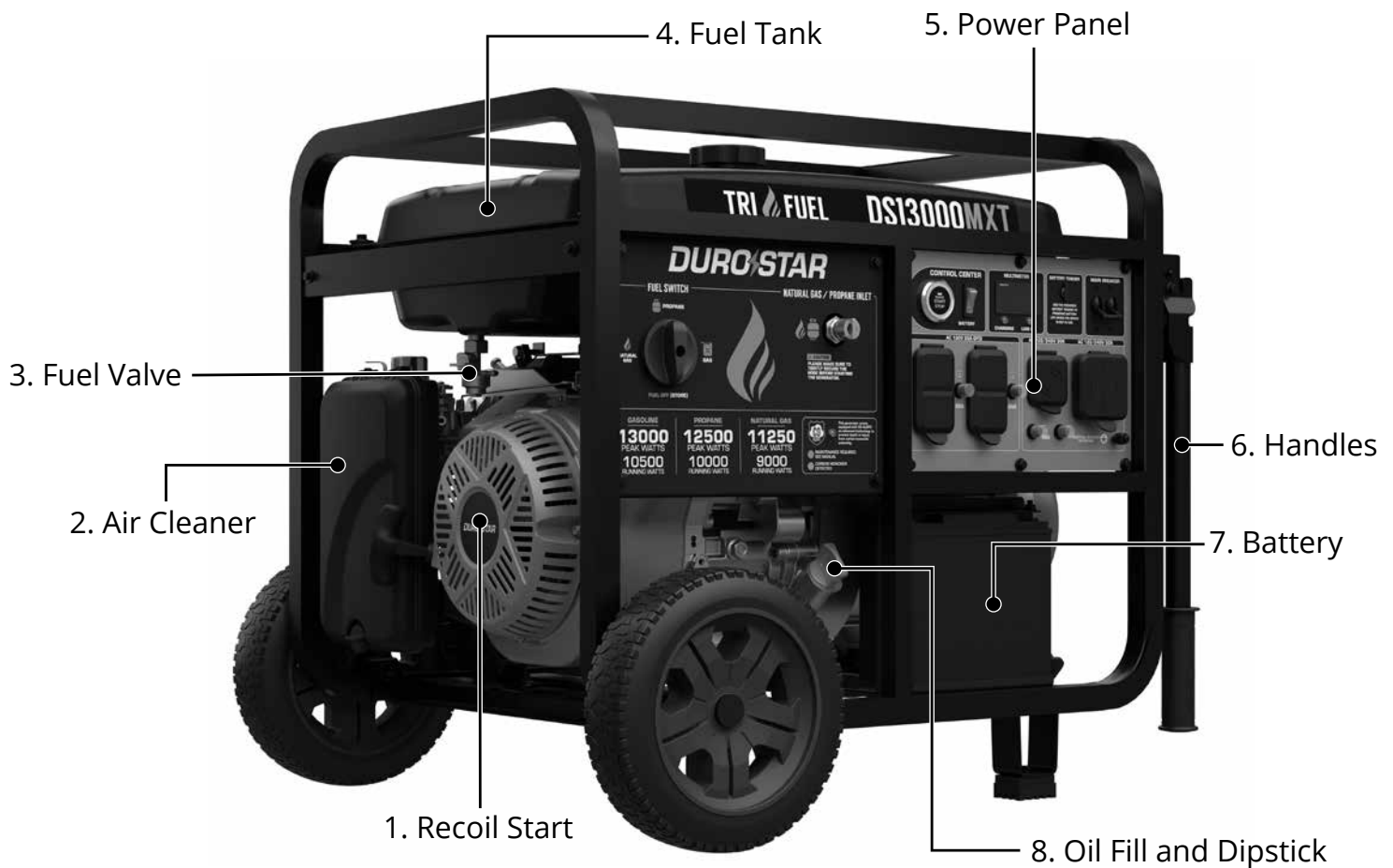
Retailer Name: _____



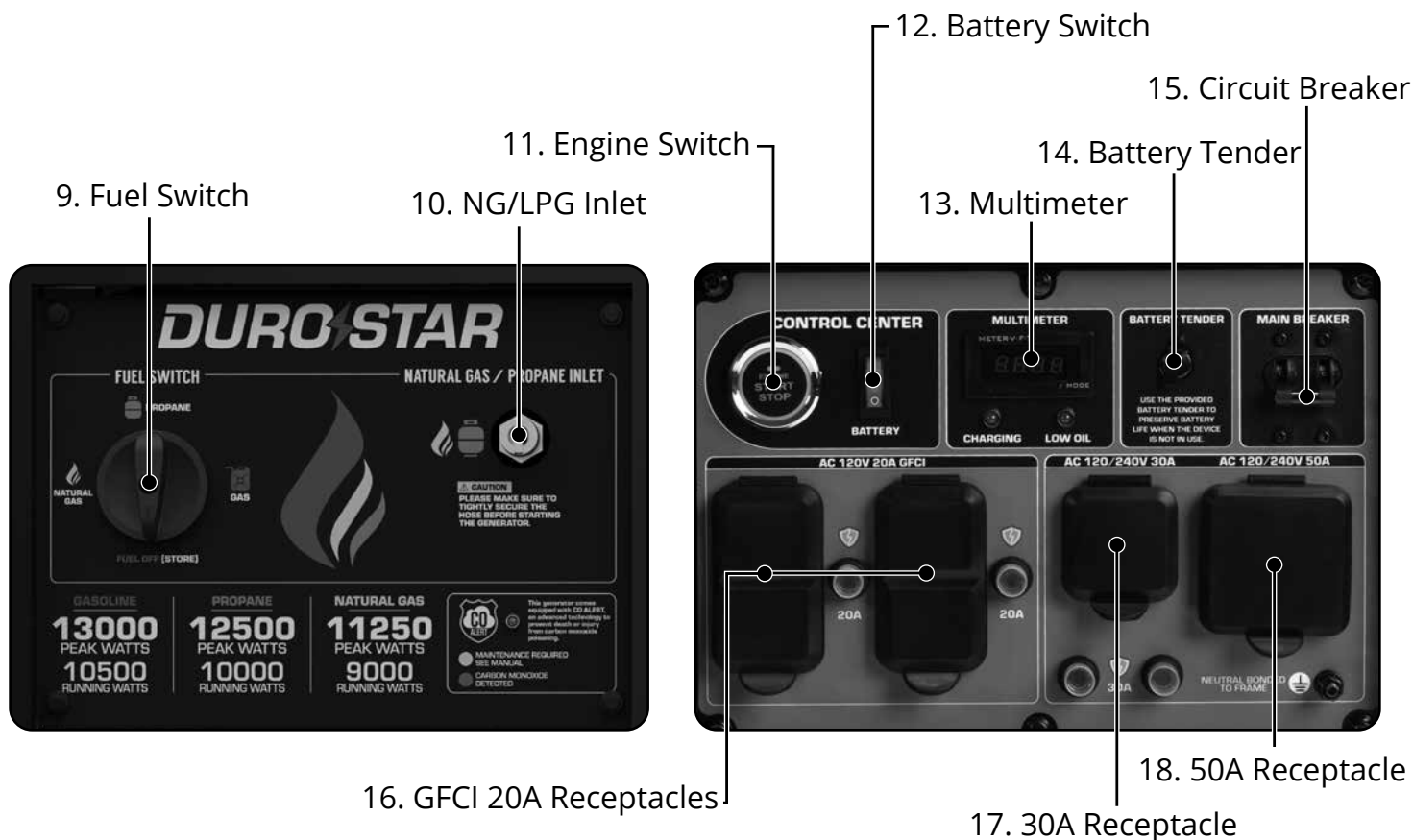
GENERATOR COMPONENTS

To help you get familiar with your new DuroStar generator, please see this component section for easy reference on all the generator's individual features.

GENERATOR COMPONENTS



1. **Recoil Start** - Easy pull recoil start to start the engine without the electric start.
2. **Air Cleaner** - a removable, cleanable, oiled, element that cleans the air going into the engine.
3. **Fuel Valve** - ON/OFF valve that allows gasoline to the fuel switch.
4. **Fuel Tank** - All metal 8.3 gallon gasoline fuel tank.
5. **Power Panel** - Contains the start switch, plugs, meters, and circuit breakers.
6. **Handles** - Longest handles of any DuroStar model allow easy movement across any surface.
7. **Battery** - 12V dc battery that powers the electric start system.
8. **Oil Fill and Dipstick** - Use to add or check the oil.
9. **Fuel Switch** - Fuel selection switch to choose Gas, Propane, Natural Gas, or Storage mode.
10. **NG/LPG Inlet** - Provides a regulated LPG/NG fuel supply to the engine.
11. **Engine Switch** - Push Button start switch. Press for 1 second to start the generator. Hold for 3 seconds to stop the generator.



12. **Battery Switch** – Prevents battery discharge during storage.
13. **Multimeter** – Displays voltage, hertz, and time running.
14. **Battery Tender** - Easily keep your battery charge when the generator is in storage by using the included battery tender.
15. **Circuit Breaker** - Protects the panel from overload and short circuits.
16. **GFCI 20A Receptacle** - Use to connect electrical devices that run 120 Volt, 60Hz, single phase, AC current (NEMA 5-20).
17. **30A Receptacle** - Use to connect electrical devices that run 120 or 240 Volt, 60Hz, single phase, AC current (NEMA L14-30).
18. **50A Receptacle** - Use to connect electrical devices that run 120 or 240 Volt, 60Hz, single phase, AC current (NEMA 14-50).

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 13mm/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.



Battery Tender

Used to charge the battery when in storage



Remote Control

Used to remotely start the generator.



**Propane Regulator w/
Hose**

Used to provide a regulated propane supply to the propane inlet.



**Natural Gas Hose w/
Quick Connect**

Used to provide a natural gas supply to the natural gas inlet.

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



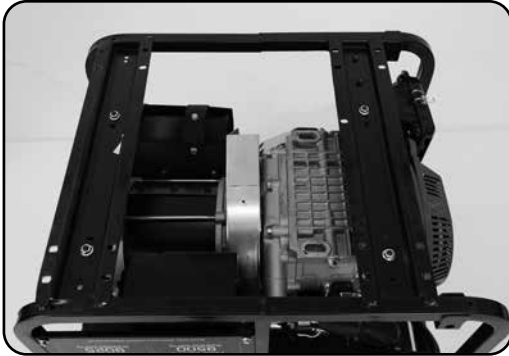
GENERATOR SETUP

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.

DURO* ⚡ *STAR

GENERATOR SETUP

Step 1 - Remove Shipping Braces



1. Unpack

- Remove the generator from the box.
- Place the largest piece of packing foam on a flat surface.
- Flip the generator upside down on the pad.



CAUTION: NEVER attempt this if you have put fuel or oil in the generator.



2. Remove braces

- The shipping braces prevent engine movement during shipment. Flip the generator over and remove the brightly colored braces between the motor and the frame, and the wood brace under the generator.



Note: Shipping braces can be thrown away, they will not be needed again.

GENERATOR SETUP (CONTINUED)

Step 2 - Wheel Kit Installation (Optional)



1. Install support legs

- a. Secure the support legs to the frame with the provided lock nuts.



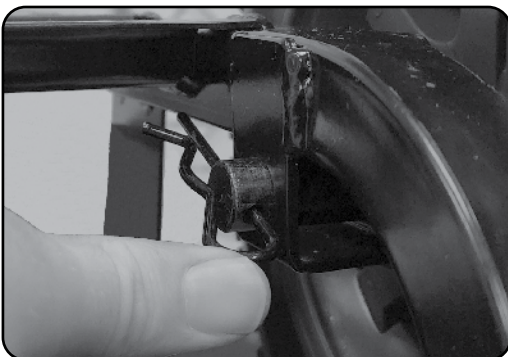
2. Install wheel axles

- a. Place each wheel axle inside each wheel.



3. Place axle into the frame

- a. Place each axle and wheel into each frame axle port.



4. Secure the axle

- a. Place each cotter pin into the cotter pin hole on axle.



5. Install handles

- a. Attach the handles to the brackets on the frame using the provided bolts and nuts.



CAUTION: Do not over-tighten the handles, it will prevent free movement.

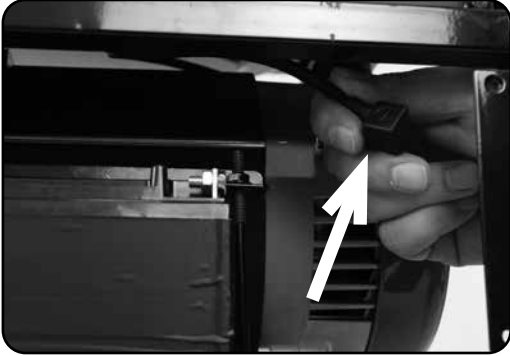


6. Flip over assembled

- a. Flip the assembled generator over onto its wheels and support brackets.

GENERATOR SETUP (CONTINUED)

Step 3 - Connect the Battery



1. Locate the negative cable

- a. Locate the negative battery cable above and behind the battery. One side is connected to ground and the other end needs to be connected to the battery.
- b. Route the free end to the negative battery terminal.



2. Connect the negative cable

- a. Push the black rubber boot up the wire to expose the connector.
- b. Securely connect the free end of the battery cable to the negative battery terminal using the screw and nut from the battery with the screwdriver and wrench from the toolkit.

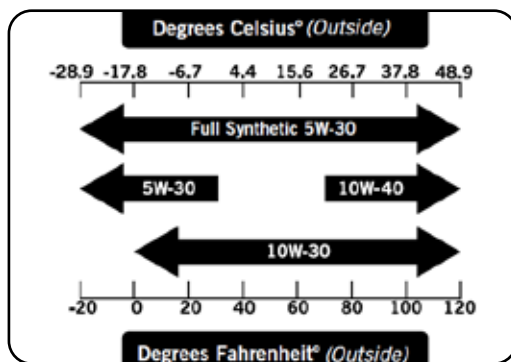
Step 4 - Adding Oil

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:

Model Number	DS13000MXT
Engine Oil Capacity	40.5 fl. oz (1.2 L)



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



Engine oil recommended: SAE 10W-30.

Viscosity varies with regions and temperatures. Choose your oil viscosity using the chart to the left.

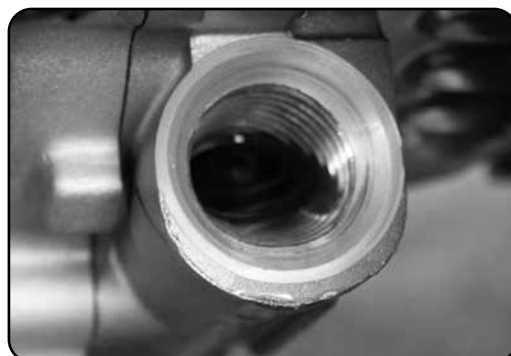
* A small amount of oil from factory testing may be present on arrival.

* Synthetic oil may be used after the 8 hour initial break-in period. Using synthetic oil does not increase the recommended oil change interval. Full synthetic 5W-30 oil will aid in starting in cold temperatures <5°C (41°F).



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 the oil filler cap.



WARNING: Do not overfill the crankcase. This may damage the motor and shorten the overall life of your generator.

GENERATOR SETUP (CONTINUED)

Step 5 - Adding Gasoline (Optional)



Add gasoline

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

Model Number	DS13000MXT
Gas Tank Capacity	8.3 US gal. (31 L)



WARNING: Gas can expand. Do not fill the gas tank to the very top. Leave a minimum of 1.5 in open space. Gasoline and gas fumes are highly flammable. Do not fill the tank near an open flame. Always check for fuel spills.

IMPORTANT:

- To ensure that the generator runs smoothly use only FRESH, UNLEADED GAS WITH AN OCTANE RATING OF 87 OR HIGHER.
- Never use an oil/gasoline mixture. Never use old gas.
- Avoid getting dirt or water in the fuel tank.
- Gas 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.

Step 6 - Grounding the Generator



Attach grounding wire

- Ground the generator by tightening the grounding nut against a grounding wire.
- 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.

Note: If the generator is connected to a home, then it won't be necessary to attach the separate grounding wire and you can opt to use your home ground instead. Please see a certified electrician for further options with grounding your generator.



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

High Altitude Operation

At high altitudes, the standard carburetor air/fuel mixture will be too rich. The performance will decrease, and fuel consumption will increase. A very rich mixture will also foul the spark plug and cause hard starting. Operation at an altitude that differs from that at which this engine was certified, for extended periods of time, may increase emissions. High altitude performance can be improved by specific modifications to the carburetor. If you always operate your generator at altitudes above 3,000 feet (900 meters), have a dealer perform this carburetor modification. This engine, when operated at high altitude with the carburetor modifications for high altitude use, will meet each emission standard throughout its useful life. Even with carburetor modification, engine horsepower will decrease by about 3.5% for each 1,000-foot (300-meter) increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

When the carburetor has been modified for high altitude operation, the air/fuel mixture will be too lean for low altitude use. Operation at altitudes below 3,000 feet (900 meters) with a modified carburetor may cause the engine to overheat and result in serious engine damage.

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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

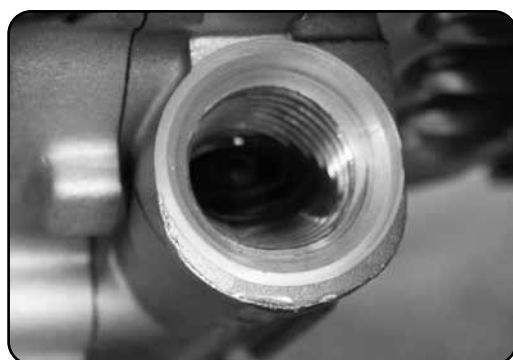


Check the oil

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:

- Make sure the generator is on a level surface.
- Unscrew the oil filler/dipstick cap.
- With a dry cloth, wipe the oil off of the stick on the inside of the cap.
- Insert the dipstick as if you were replacing the cap and then remove it 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).
- Be sure to replace the cap when finished checking oil.



Model Number	DS13000MXT
Engine Oil Capacity	40.5 fl. oz (1.2 L)

Step 2 - Check the Gas Level (Optional)



Check fuel level

If running the engine on gasoline check to see that there is sufficient gasoline in the fuel tank. The fuel gauge on top of the tank will give a rough estimate of the gasoline 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.

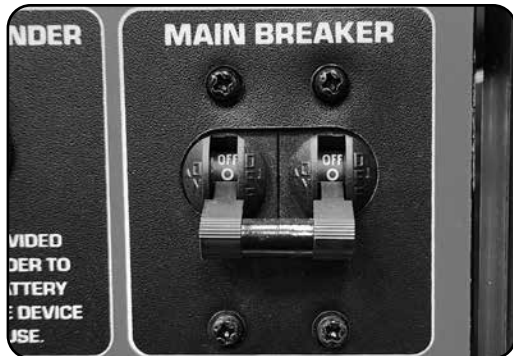


WARNING: Gasoline and gasoline fumes are highly flammable.

- Do not fill the tank near an open flame.
- Always allow the engine to cool for several minutes before refueling.
- DO NOT overfill the 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 gasoline (older than 30 days) can cause permanent damage to the fuel system.
- Always check for fuel spills.

STARTING THE GENERATOR

Starting the Generator Using Gasoline



1. 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.



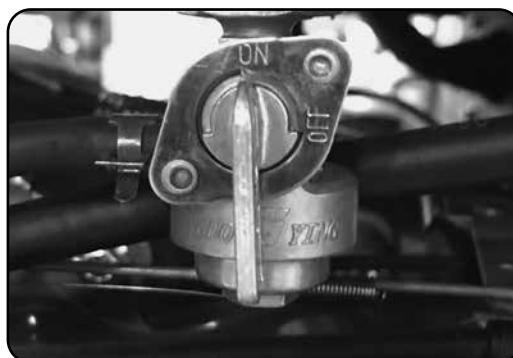
2. Turn fuel switch to GAS

The fuel switch is located on the left front panel. Rotate the knob until GAS is selected to turn on the gas supply.



3. Turn battery switch ON

The battery switch is located on the top center of the main power panel. Turn the switch ON to allow power to the push-button start.



4. Turn gas valve ON

The gas valve is located above the recoil start on the bottom of the fuel tank. Rotate the valve counter-clockwise to the vertical position to turn on the gas supply.



5. Start the generator

The push button start left side of the main power panel. Press the button for 1 second and release to start the generator.



6. Turn breaker ON/Connect

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



CAUTION: LPG must be shut off when using gasoline!



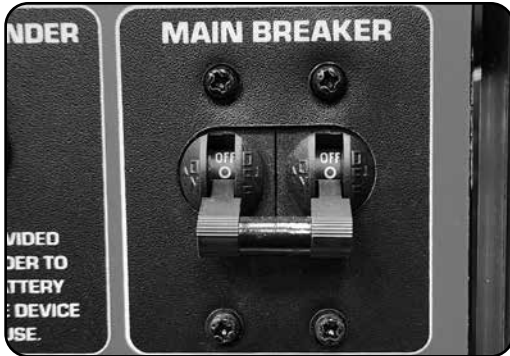
CAUTION: Disconnect all electrical loads from the generator before attempting to start!



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 Using Propane



1. 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.



2. Turn fuel switch to PROPANE

The fuel switch is located on the left-hand front panel. Rotate the switch counter-clockwise to the PROPANE position to turn on the fuel supply.



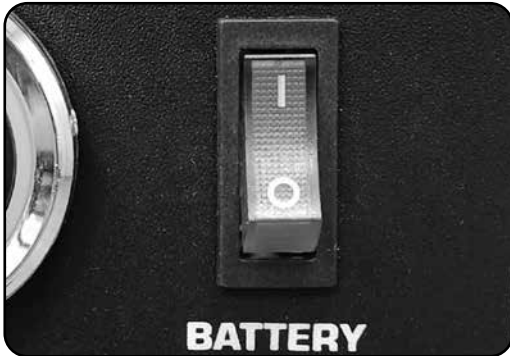
3. Connect propane hose

The propane inlet is located on the left-hand front panel to the right of the fuel switch. Securely connect the propane hose to the inlet.



4. Connect propane tank

Screw the open ACME nut connection to your propane tank and turn the tank on.



5. Turn battery switch ON

The battery switch is located on the top center of the main power panel. Turn the switch ON to allow power to the push-button start.



6. Start the generator

The push button start is located on the left side of the main power panel. Press the button for 1 second and release to start the generator.



7. Turn breaker ON/Connect

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

STARTING THE GENERATOR (CONTINUED)

Starting the Generator Using Propane



WARNING: WHEN USING THE GENERATOR WITH LPG, MAKE SURE THERE IS NO POSSIBLE IGNITION SOURCE CLOSE TO THE GENERATOR.

1. Before using, make sure all of the LPG connectors and hoses are well connected and sealed.
2. Connect electrical devices to the generator ONLY after the engine runs smoothly. (There may be remnant gasoline in the carburetor; this can cause unsteady engine performance for several minutes)
3. If the propane gas leaks, shut off the LPG supply first and then quickly unplug or turn off any electrical devices powered by the unit.
4. When stopping the engine, unplug or turn off any electrical devices, turn off the Main Circuit Breaker and then turn off the LPG Supply. After the engine has stopped turn the Battery Switch to the "OFF" position.



CAUTION: Start Button will not operate if the fuel switch is set to storage.



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

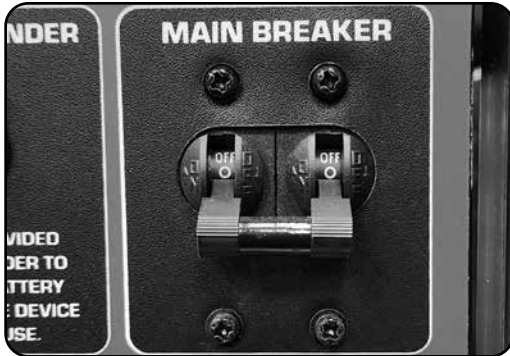


WARNING: Operating the starter motor for more than 5 seconds can damage the motor. If the engine fails to start, wait 10 seconds before operating the starter again.

DURO  ***STAR***

STARTING THE GENERATOR (CONTINUED)

Starting the Generator Using Natural Gas



1. 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.



2. Turn fuel switch to Natural Gas

The fuel switch is located on the left-hand front panel. Rotate the switch counter-clockwise to the Natural Gas position to turn on the fuel supply.



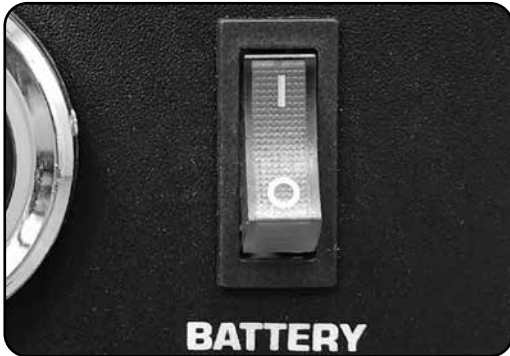
3. Connect natural gas hose

The NG inlet is located on the left-hand front panel to the right of the fuel switch. Securely connect the natural gas hose to the inlet.



4. Connect to supply

Connect the quick connect on the hose to your natural gas supply and turn on your valve.



5. Turn battery switch ON

The battery switch is located on the top center of the main power panel. Turn the switch ON to allow power to the push-button start.



6. Start the generator

The push button start is located on the left side of the main power panel. Press the button for 1 second and release to start the generator.



7. Turn breaker ON/Connect

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

STARTING THE GENERATOR (CONTINUED)

Starting the Generator Using Natural Gas



WARNING: WHEN USING THE GENERATOR WITH NG, MAKE SURE THERE IS NO POSSIBLE IGNITION SOURCE CLOSE TO THE GENERATOR.

1. Before using, make sure all of the NG connectors and hoses are well connected and sealed.
2. Connect electrical devices to the generator ONLY after the engine runs smoothly. (There may be remnant gasoline in the carburetor; this can cause unsteady engine performance for several minutes)
3. If the natural gas leaks, shut off the NG supply first and then quickly unplug or turn off any electrical devices powered by the unit.
4. When stopping the engine, unplug or turn off any electrical devices, turn off the main circuit breaker and then turn off the NG Supply. After the engine has stopped, turn the Battery Switch to the "OFF" position.



CAUTION: Start Button will not operate if the fuel switch is set to storage.



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

Natural Gas Requirements



Installation



WARNING: Consult a licensed professional natural gas plumber for proper installation.

TO THE INSTALLER:

The generator will require at least a 3/4" quick connect to operate properly.



Note: Fuel pipe must be sized for full load. Required fuel pressure to generator fuel inlet at all load ranges 6.0 - 9.0 in. water column for Natural Gas. BTU Content: 225,000 BTU at full load.

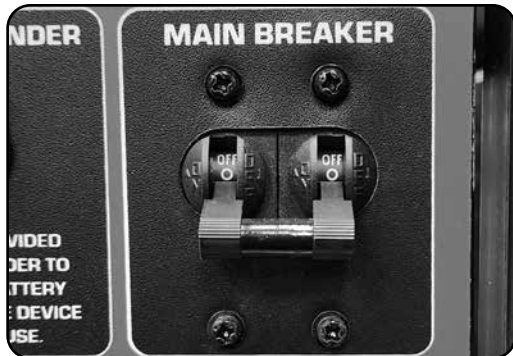
- Install the fuel supply system according to NFPA 37 and other applicable fuel-gas codes.
- Before placing the generator into service, the fuel system lines must be properly purged and leak tested.
- NO leakage is permitted.
- DO NOT operate engine if smell of fuel is present.
- The piping material must conform to federal and local codes, be rigidly mounted, and be protected against vibration.
- Piping should be protected from physical damage, especially where it passes through flower beds, shrub beds, and other cultivated areas where damage can occur.
- For vapor fuels only: Where the formation of hydrates or ice is known to occur, piping should be protected against freezing. The termination of hard piping must include a sediment trap where condensate is not likely to freeze.
- A minimum of one accessible, approved manual shutoff valve shall be installed in the fuel supply line within 6 ft (180 cm) of the generator.
- You must install a manual fuel shut-off valve in the interior of the building.
- Where local conditions include earthquake, tornado, unstable ground, or flood hazards, special consideration shall be given to increase strength and flexibility of piping supports and connections.
- Piping must be of the correct size to maintain the required supply pressures and volume flow under varying generator load conditions with all gas appliances connected to the fuel system turned on and operating.
- Use a pipe sealant or joint compound approved for use with NG/LP on all threaded fittings to reduce the possibility of leakage.



NOTICE: Keep thread sealant out of the gas piping to prevent component part damage. Installed piping must be properly purged and leak tested, in accordance with applicable codes and standards.

STARTING THE GENERATOR (CONTINUED)

Starting the Generator Using the Recoil Start



1. 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.



2. Select fuel

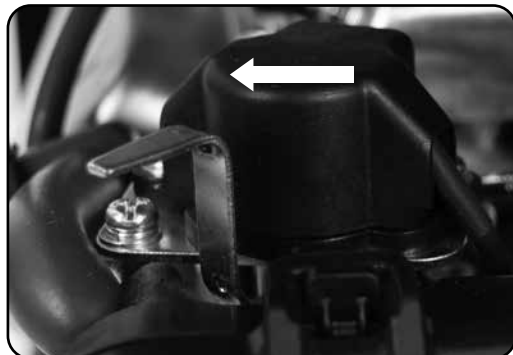
If using gasoline, see step 2 - 4 on pg. 32. If using propane see steps 2 - 4 on pg. 34. If using natural gas see steps 2-4 on pg. 38.

Please note: Starting on LPG/NG will be very difficult using the recoil start.



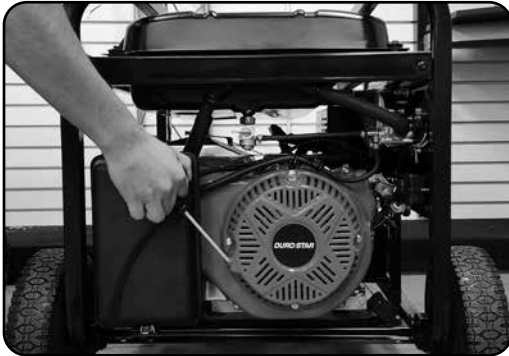
3. Turn battery switch ON

The battery switch is located on the top center of the main power panel. Turn the switch ON to allow power to the push-button start.



4. Close choke

The choke lever is located above the air filter to the left of the recoil start. Slide the lever to the left to cut the air supply and allow more gas into the engine to start.

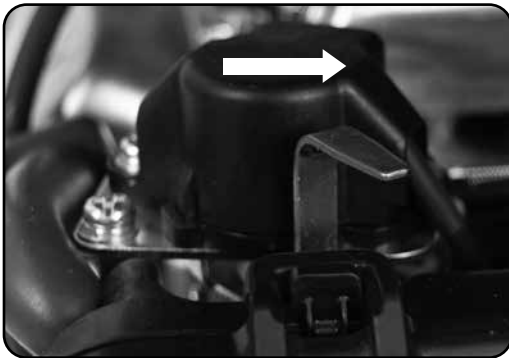


5. Pull the recoil start

The recoil start is located on the left side panel next to the air filter. Pull the recoil handle slowly until resistance is felt, then quickly pull the recoil handle until fully extended.



CAUTION: Release the recoil handle only after the cord has retracted. Releasing the recoil handle while extended may cause harm to yourself or your equipment.



6. Open choke

After the engine has started, push the choke to the open position as the engine warms up.



7. Turn breaker ON/Connect

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

DURO* ⚡ *STAR

STARTING THE GENERATOR (CONTINUED)

Starting the Generator Using Remote Start



1. Select fuel

If using gasoline, see step 2 - 4 on pg. 32. If using propane see steps 2 - 4 on pg. 34. If using natural gas see steps 2-4 on pg. 38.



2. Turn main breaker ON

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



3. Turn battery switch ON

The battery switch is located on the top center of the main power panel. Turn the switch ON to allow power to the push-button start.



4. Push the START button

The remote start has two buttons, START and STOP. Press the START button two times in succession to start the generator.

DURO* ⚡ *STAR



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 to 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
Gasoline	10500	13000
Propane	10000	12500
Natural Gas	9000	11250

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.*



Connecting the Generator to a Home



Interlock kit

- Choose what circuits you want to run.
- Requires an electrician to install, but you have the flexibility of switching up your circuits depending on your power needs.
- More hands-on, and some electrical knowledge is needed so you don't overload the generator.



Transfer switch

- Automatically switches power over to your generator during an outage. Requires an electrician to install.
- Once you choose which circuits you want to power, you're locked into your configuration.



Extension cords

- The most straightforward and affordable option.
- Zero commitment, no installation needed: Simply plug in your appliances and go!
- Perfect for renters, RV/camping trips, and power on the job-site.

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 to the 240V receptacle.

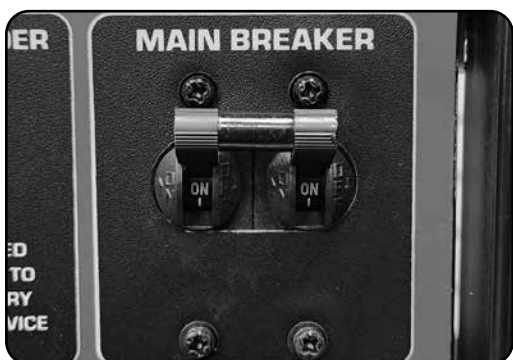


CAUTION: Do not connect 50 Hz or 3-phase loads to the generator.



1. Plug in devices

Plug in devices to the appropriate receptacle. When using the generator 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.

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 the table below for recommended cords based on the power requirement of the electrical device.

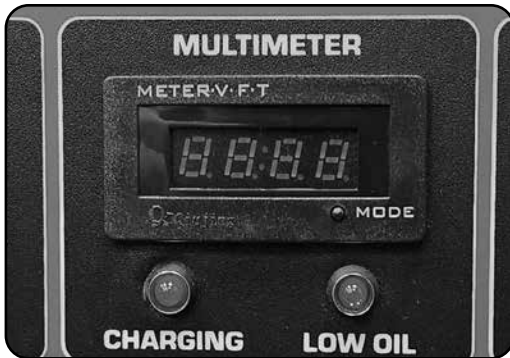
DEVICE REQUIREMENTS		WIRE GAUGE BY LENGTH (ft.)				
AMPS	WATTS (120/240V)	10	25	50	100	150
5	600/1200	18	16	14	12	10
10	1200/2400	16	14	12	12	10
15	1800/3600	14	14	12	12	10
20	2400/4800	12	12	12	10	10
25	3000/6000	12	10	10	10	8
30	3600/7200	10	10	10	8	NR
40	4800/9600	8	8	6	6	NR
50	6000/12000	6	6	6	NR	NR
*NR = NOT RECOMMENDED		*Gauge based on twisted copper wire				

From home back up to just running your electric edger and everything in-between DuroMax has the power cord for you. All DuroMax cords are 100% twisted copper wire for maximum life and reliability.

Length	120V 15A					240V 30A	240V 50A
	14 Gauge	12 Gauge		10 Gauge			6 Gauge
	Single Outlet	Single Outlet	Triple Outlet	Single Outlet	Triple Outlet	L14-30P/ L14-30R	14-50P/ CS6364
10 ft						XP3010GC	
15 ft							XP5015GC
25 ft	XPC14025A	XPC12025A	XPC12025C	XPC10025A	XPC10025C	XP3025GC	XP5025GC
50 ft			XPC12050C	XPC10050A	XPC10050C	XP3050GC	XP5050GC
100 ft		XPC12100A	XPC12100C	XPC10100A	XPC10100C		

USING THE GENERATOR (CONTINUED)

Using the Digital Multimeter



When the generator is started, the display will read the current voltage. Press the MODE button to cycle through the multimeter functions.



1. Voltage

The voltage currently produced by the generator in volts.



2. Frequency

The frequency currently produced by the generator in Hz.



3. Hours run

The number of hours the engine has currently been running.



4. Hours total

The number of hours the generator has been run in total.

USING THE GENERATOR (CONTINUED)

Using the Battery Tender



The generator battery can steadily lose charge during longer periods of storage. Plug the provided trickle charger in to ensure your battery is maintained and ready for use if needed.



CAUTION: Avoid allowing the 12V battery to drop below 11.6V of charge, this can cause permanent damage to the battery cells.



Connect the battery tender

- The battery tender outlet is located to the right of the digital display. Connect the battery tender cord to the battery tender outlet.
- Connect the other end of the battery tender to a standard 120V wall outlet.

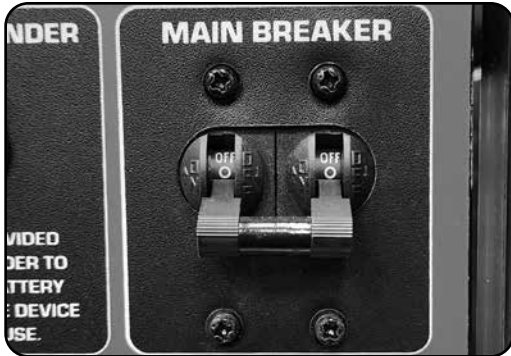


STOPPING THE GENERATOR

This section will cover the recommended shut off procedure for stopping the generator on various fuels.

STOPPING THE GENERATOR

Shutting Down the Generator on Gasoline



1. Turn OFF the main breaker

Move the main breaker to the OFF position.



2. Run the generator

Allow the generator to run for 3-5 minutes.



3. Turn the generator OFF

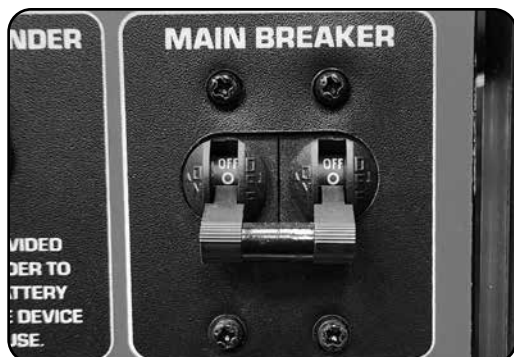
Hold the start button for 3 seconds to shut off the generator.



4. Turn battery switch OFF

Turn the battery switch to the OFF position.

Shutting Down the Generator on Propane



1. Turn OFF the main breaker

Move the main breaker to the OFF position.



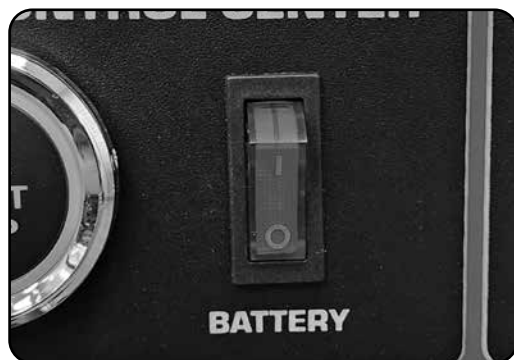
2. Run the generator

Allow the generator to run for 3-5 minutes.



3. Close the propane tank valve

Turn your propane tank valve to the CLOSE position and allow the generator run until it shuts off.

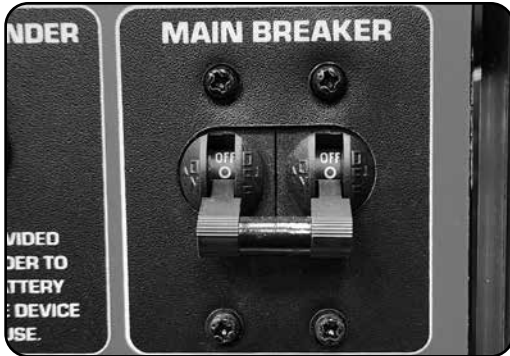


4. Turn battery switch OFF

Turn the battery switch to the OFF position.

STOPPING THE GENERATOR (CONTINUED)

Shutting Down the Generator On Natural Gas



1. Turn OFF the main breaker

Move the main breaker to the OFF position.



2. Run the generator

Allow the generator to run for 3-5 minutes.



3. Hold push button to stop

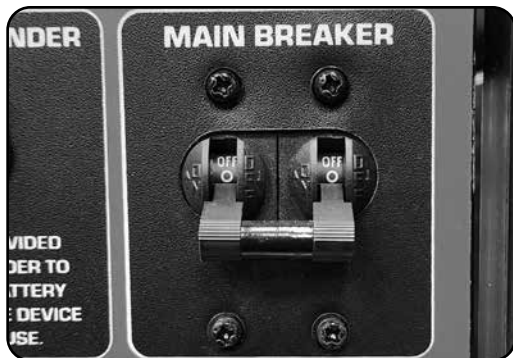
Hold push button for 3 seconds to shut the generator down.



4. Shut off gas valve and turn off

Turn your gas valve to the OFF position and shut the battery switch OFF.

Shutting Down the Generator With the Remote



1. Turn OFF the main breaker

Move the main breaker to the OFF position.



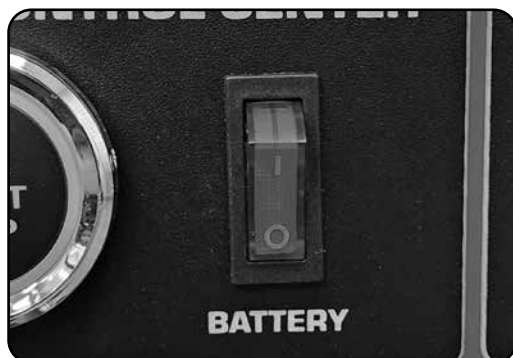
2. Run the generator

Allow the generator to run for 3-5 minutes.



3. Hold the stop button

Hold the STOP button to shut off the generator.



4. Turn battery switch OFF

Turn the battery switch to the OFF position.

DURO  ***STAR***



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, 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 gasoline. Use only a nonflammable solvent, not gasoline, 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	EVERY USE	1ST MO. OR 8 HRS. (BREAK IN)	EVERY 3 MO. OR 50 HRS. OF HEAVY USE	EVERY 6 MO. OR 100 HRS. OF NORMAL USE	EVERY 12 MO. OR 300 HRS.	EVERY 3 YRS. OR 500 HRS.
ENGINE OIL	CHECK	CHANGE	CHANGE	CHANGE		
AIR CLEANER	CHECK	CHECK	CHANGE	CHANGE		
SEDIMENT CUP			CLEAN	CLEAN		
SPARK PLUG			CLEAN / ADJUST	CLEAN / ADJUST		
SPARK ARRESTOR	CHECK				CLEAN	
IDLE SPEED					CHECK / ADJUST	
VALVE CLEARANCE					CHECK / ADJUST	
FUEL TUBE	CHECK				CHECK / REPLACE	
FUEL TANK / FILTER					CLEAN	
COMBUSTION CHAMBER						CLEAN

Break-In Period

As the best practice for any new combustion motor it's recommended to perform the break in procedure as follows:

- Run the generator for the first 6-8 hours on conventional oil, then change the oil. After the break-in period synthetic oil may be used.
- During the break in period of the first 6-8 hours keep the generator load under 50% for optimal results.
- Check and clean the air filter if necessary after the break-in period.

Maintenance Log

As a best practice it's recommended to keep a log of the generator hours and maintenance to ensure your generator is always operating to its full potential.

Date	Generator Hours	Maintenance Performed

Checking the Oil



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:

- Make sure the generator is on a level surface.
- Unscrew the oil filler/dipstick cap.
- With a dry cloth, wipe the oil off of the stick on the inside of the cap.
- Insert the dipstick as if you were replacing the cap and then remove it 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).
- The oil will be visible in the oil fill spout when full.
- Be sure to replace the cap when finished checking oil.



Model Number	DS13000MXT
Engine Oil Capacity	40.5 fl. oz (1.2 L)

Changing the Oil



CAUTION: 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.



1. Locate oil drain hose

The oil drain hose will be located near the oil fill cap and tucked behind the left hand fuel panel. Lead oil drain hose out from behind the fuel panel and place end in approved oil disposal container.



2. Unscrew cap and drain oil

Unscrew the oil drain cap and drain oil into an approved oil disposal container. Contact your local auto parts store for information on oil disposal.



3. Replace drain plug/Add Oil

Replace the oil drain plug and tighten. Add 40.5 fl. oz of oil into the crankcase as shown in the "Add Oil" section on page 25.

MAINTENANCE AND CARE (CONTINUED)

Cleaning the Air Filter

MAINTAIN AIR FILTER

Clean air filter after every 50 hours of use
(every 10 hours in unusually dusty conditions)

Wash filter element with household detergents.
Wipe out dust from air filter housing before
replacing filter element.

Never clean with a brush

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.



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



1. Detach clip from air filter cover

Detach clip from air filter cover to allow the cover to be removed.



2. Remove air filter cover

Remove the air filter cover.



3. Remove element and clean

Remove sponge-like air filter element and wipe the dirt from inside the empty air cleaner casing.



4. Wash cleaner element

Wash the sponge-like elements in household dish detergent and warm water.



5. Dry cleaner element

Pat dry on a dry cloth and allow the elements to dry completely.



6. Add engine oil to elements

Soak the dry elements in a small amount of engine oil. Ring out any excess oil.



7. Replace elements in casing

Replace the sponge-like elements in the air cleaner casing and replace the cover.

MAINTENANCE AND CARE (CONTINUED)

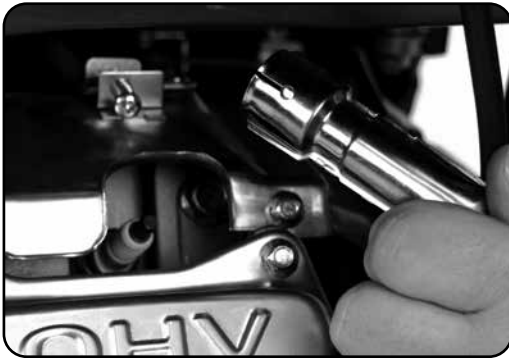
Spark Plug Maintenance



The spark plug is important for proper engine operation. A good spark plug should be intact, free of deposits, and properly gapped.



CAUTION: Improper maintenance may cause reduced fuel economy, misfires, trouble starting, or damage to the spark plug threads.



1. Remove spark plug cap

Pull on the spark plug cap to remove it.



2. Remove spark plug

Unscrew the spark plug from the generator using the spark plug wrench included with this product.



3. Inspect spark plug

Visually inspect the spark plug. If it is cracked or chipped, discard and replace it with a new spark plug. We recommend using an NGK BPR6ES spark plug.



4. Measure plug gap

Measure the plug gap with a gauge. The gap should be 0.7-0.8 mm (0.028-0.031 in).



5. Clean and re-gap

If you are re-using the spark plug, use a wire brush to clean any dirt from around the spark plug base and then re-gap the spark plug.



6. Install spark plug

Screw the spark plug back into its place on the generator using the spark plug wrench.



7. Replace spark plug cap

Replace the spark plug cap.

MAINTENANCE AND CARE (CONTINUED)

Emptying the Gas Tank



If you have been using gasoline in your generator, before storing your generator for extended periods of time you should drain your generator fuel tank of gasoline.



CAUTION: Do not store fuel from one season to another. Gasoline sold at the pump today contains additives such as ethanol that even when stored properly may damage the fuel system components.



1. Shut fuel valve off

Turn the fuel valve to the "OFF" position.



2. Remove fuel filter cup

Remove the fuel filter cup (see "Removing the Fuel Filter Cup" later in this section).



3. Empty fuel filter cup

Empty the fuel filter cup of any fuel.



4. Drain gas from the generator

With a funnel underneath the fuel valve to catch the gas, turn the fuel valve to the "ON" position. Drain all the gas from the generator.



5. Shut fuel valve off

Turn the fuel valve to the "OFF" position.



6. Replace fuel filter cup

Reinstall the fuel filter cup.



7. Store emptied gas

Store the emptied gasoline in a suitable place and add fuel stabilizer to keep fuel fresh and usable.

MAINTENANCE AND CARE (CONTINUED)

Cleaning the Fuel Filter Cup



1. Shut fuel valve off

Turn the fuel valve to the "OFF" position.



2. Remove fuel filter cup

Unscrew the fuel filter cup from the fuel valve using a wrench.



3. Clean filter cup

Clean the cup of all sediment using a rag or brush.



4. Replace fuel filter cup

Reinstall the fuel filter cup.

Transporting the Generator



1. Empty the gas tank

Fully drain your gas tank as shown in “Emptying the Gas Tank” on page 72-73.



2. Disconnect the spark plug

Pull on spark plug cap to disconnect spark plug from ignition wire.



CAUTION: Do not obstruct any ventilation openings and keep the generator in a cool dry area.

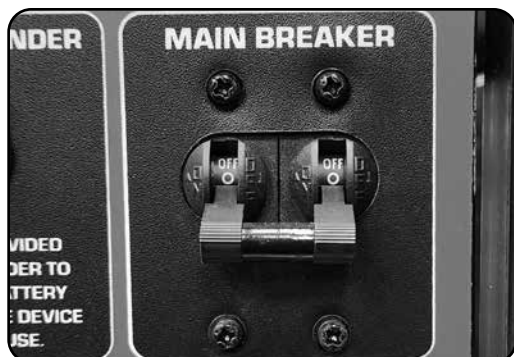


CAUTION: Never place any type of storage cover on the generator while it is still hot.

DURO* ⚡ *STAR

MAINTENANCE AND CARE (CONTINUED)

Storing the Generator for Use Within 30 Days



1. Turn breaker OFF and run

Turn OFF the main breaker and allow the generator to run for 3-5 minutes.



2. Shut fuel valve off and run dry

Shut the fuel valve off and allow generator to run until it stalls out.



3. Turn the battery switch OFF

Turn the battery switch to the OFF position.

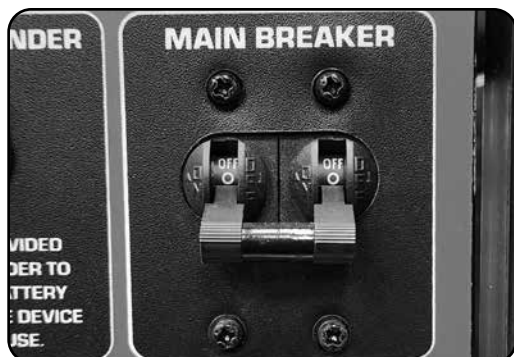


4. Add fuel stabilizer and store

Add fuel stabilizer to gas remaining in tank, and store generator.

MAINTENANCE AND CARE (CONTINUED)

Storing the Generator for Longer Than 30 Days



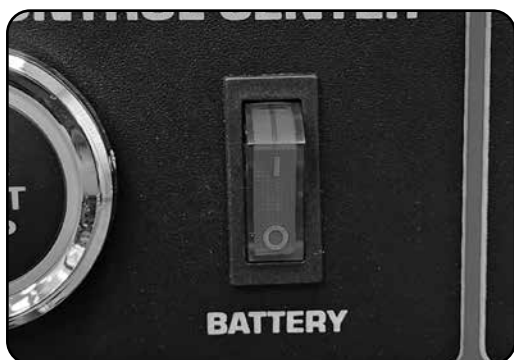
1. Turn breaker OFF and run

Turn OFF the main breaker and allow the generator to run for 3-5 minutes.



2. Shut fuel valve off and run dry

Shut the fuel valve off and allow generator to run until it stalls out.



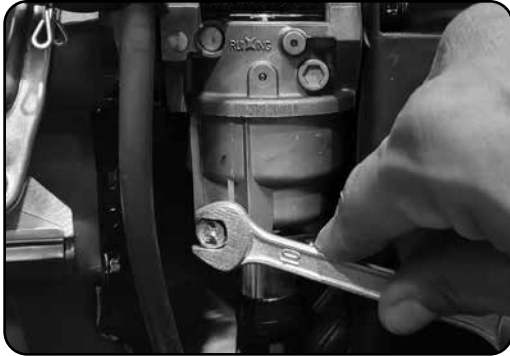
3. Turn the battery switch OFF

Turn the battery switch to the off position.



4. Empty the gas tank

Fully drain your gas tank as shown in "Emptying the Gas Tank" on page 72-73.



5. Drain the carburetor

Remove drain bolt from carburetor and drain small amount of fuel in carburetor bowl.



6. Remove spark plug

Remove spark plug as shown in "Spark Plug Maintenance" on page 70.



7. Add oil to cylinder

Add 2 tablespoons of 10W-30 motor oil directly into the spark plug hole, and pull the recoil to lubricate cylinder. After lubricating cylinder reinstall the spark plug.



8. Connect the battery tender

Connect battery tender and leave plugged in to maintain the battery while in storage, as shown on "Using the Battery Tender" on page 56.

SPECIFICATIONS

Model Number	DS13000MXT
AC Rated Wattage (Gasoline)	10,500 W
AC Rated Wattage (Propane)	10,000 W
AC Rated Wattage (Natural Gas)	9,000 W
AC Surge Wattage (Gasoline)	13,000 W
AC Surge Wattage (Propane)	12,500 W
AC Surge Wattage (Natural Gas)	11,250 W
AC Rated Voltage	120/240V
Dimensions	30.5" L x 27.25" W x 26" H
Weight	211 lbs
Recommended Oil	10W-30
Engine Displacement	500 cc
Gasoline Capacity	8.3 gal
Oil Capacity	40.5 fl. oz. (1.2 L)
Bore	96 mm
Stroke	69 mm
Engine Speed	3600 rpm
Oil Cooling Type	Splash
Bearing Type	Stainless steel ball bearing
Cylinder Sleeve	Cast iron sleeve
Fuel Delivery System	Carburetor
Valve Type	OHV
Engine Type	4-Stroke
Engine Cooling Type	Forced air
Run Time @ 50% (Gasoline)	8.5 hr.
Run Time @ 50% (Propane)	6.5 hr. (40 lb.)
Starting Type	Electric/ Recoil
Noise Level	<74 dB
Neutral System	Bonded
AC Rated Frequency	60 Hz
AC Phase	Single
Suggested Propane Tank Size	40 lbs. minimum



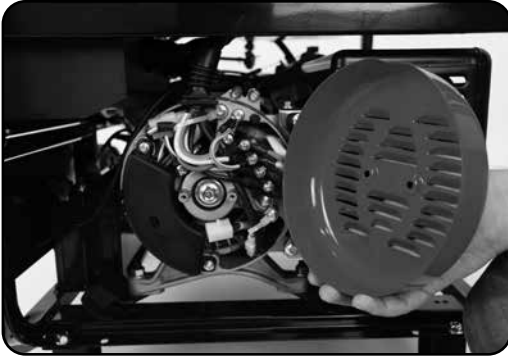
TROUBLESHOOTING

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

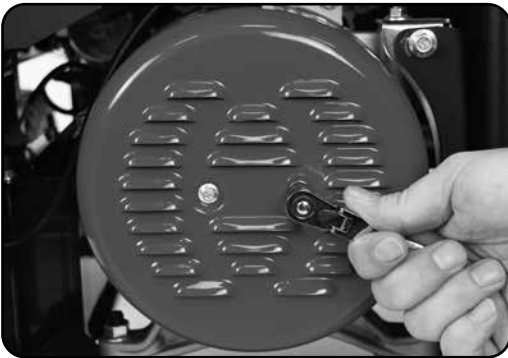
■ TROUBLESHOOTING

Mode	Description	Solution
Engine will not start	Battery not charged	Charge battery
	Engine switch is in the "OFF" position	Turn engine switch to the "ON" position
	Stale gasoline or water in gaso-line	Drain entire system and refill with fresh fuel
	Engine is out of fuel	Add fuel
	Fuel is old or contaminated	Change fuel
	Spark plug is dirty	Clean spark plug
	Spark plug is broken	Replace spark plug
	Generator is not level	Move generator to a level surface
	Oil is low	Add/Change oil
Engine runs, but there is no electrical output	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
Generator runs, but does not support all electrical devices connected	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 filter

Changing/Inspecting the Carbon Brushes



The carbon brushes in conjunction with the AVR regulates power from the generator. The carbon brushes are wearable parts and should be inspected every 250 running hours.



1. Remove generator cover

Remove the 2 bolts of the generator cover then pull the cover off the generator.



2. Remove bolt from brush

Remove the bolt holding the carbon brush.

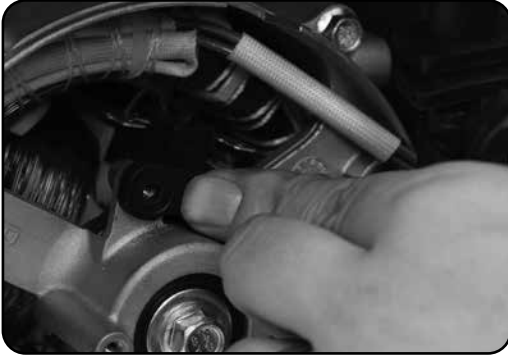


3. Disconnect AVR wires

Remove the two wires from the AVR on the carbon brush.

■ TROUBLESHOOTING (CONTINUED)

Changing/Inspecting the Carbon Brushes (Cont.)



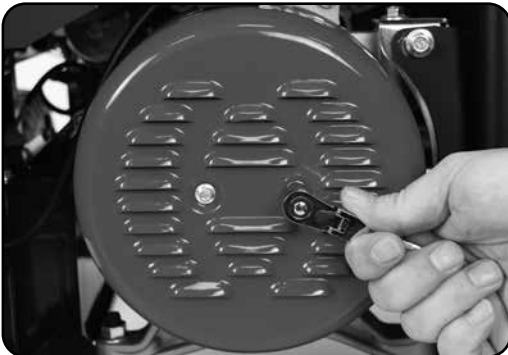
4. Install new brush

Install new carbon brush with bolt.



5. Connect AVR wires

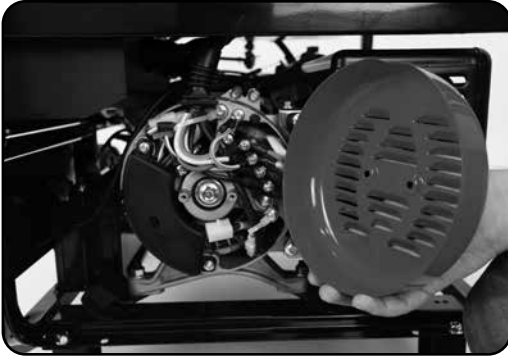
Insert and connect the 2 wires from the AVR, be sure to connect + and - correctly.



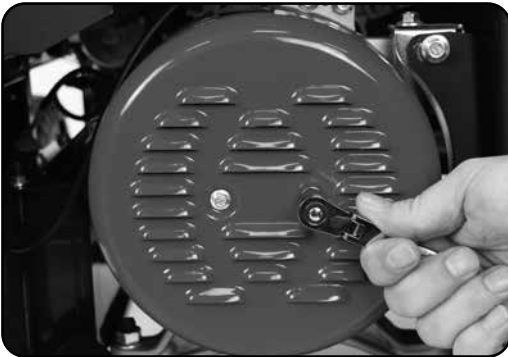
6. Replace generator cover

Replace the back cover of the generator and secure it with the 2 bolts.

Changing/Inspecting the AVR



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



1. Remove generator cover

Remove the 2 bolts of the generator 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.

■ TROUBLESHOOTING (CONTINUED)

Changing/Inspecting the AVR (Continued)



4. Disconnect wires from brush

Remove the 2 wires from the AVR on the carbon brush.



5. Install new AVR

Install the new AVR with the 2 bolts.



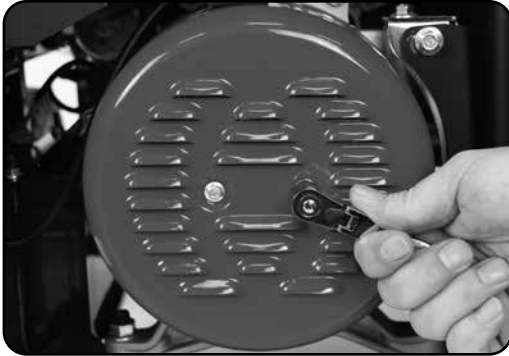
6. Reconnect wires to brush

Insert and connect the 2 wires from the AVR, be sure to connect + and - correctly.



7. Reconnect the AVR wire clip

Reconnect the wire clip.

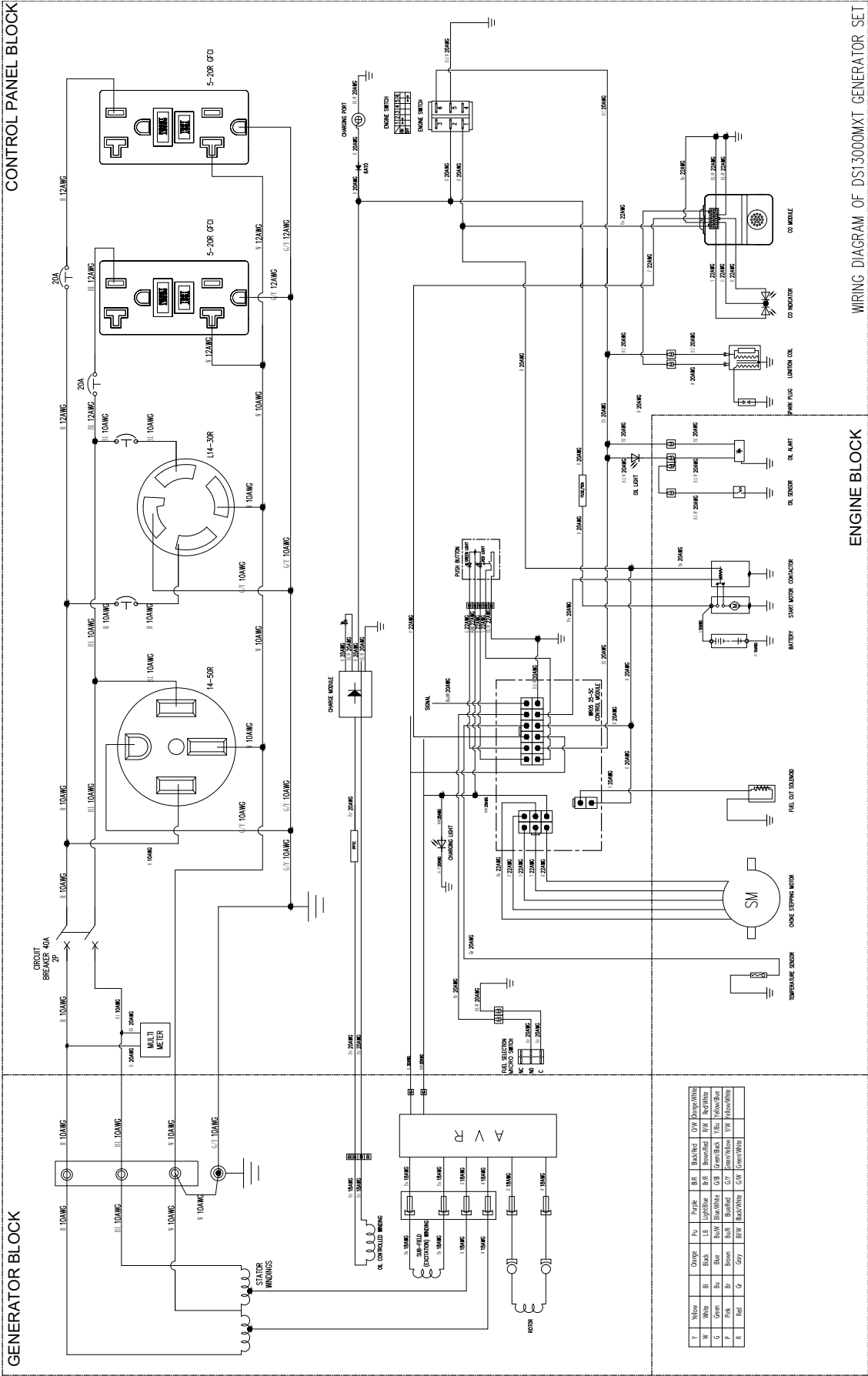


8. Replace generator cover

Replace the back cover of the generator and secure it with the 2 bolts.

DURO* ⚡ *STAR

WIRING DIAGRAM



WARRANTY

3-Year Warranty

All DuroMax 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 is the responsibility of the equipment owner. This warranty is non-transferable and only valid to the original purchaser.

Warranty Exclusions

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

DURO★STAR

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The United States Environmental Protection Agency and DuroMax Power Equipment, are pleased to explain the emission control system warranty on your 2024/2025 model year small off-road engine/equipment. In the United States, new small off-road engine/equipments must be designed, built and equipped to meet stringent anti smog standards. DuroMax must warrant the emission control system on your small off-road engine/equipment for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine/equipment.

Where a warrantable condition exists, DuroMax will repair your small off-road engine/equipment 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 emission-related part on your small off-road engine/equipment is defective, the part will be repaired or replaced by DuroMax.

OWNER'S WARRANTY RESPONSIBILITIES:

As the small off-road engine/equipment owner, you are responsible for the performance of the required maintenance listed in your owner's manual. DuroMax recommends that you retain all receipts covering maintenance on your small off-road engine/equipment, but DuroMax cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the small off-road engine/equipment owner, you should however be aware that DuroMax may deny you warranty coverage if your small off-road engine/equipment or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

If you have any questions regarding your warranty rights and responsibilities, you should contact DuroMax at 844-387-6629 or support@duromaxpower.com.

DEFECTS WARRANTY REQUIREMENTS:

(a) The warranty period begins on the date the engine/equipment is delivered to an ultimate purchaser.

(b) General Emissions Warranty Coverage. DuroMax warrants to the ultimate purchaser and each subsequent owner that the engine/equipment is:

(1) Designed, built, and equipped so as to conform with all applicable regulations adopted by the Environmental Protection Agency.

WARRANTY (CONTINUED)

(2) Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.

(c) Warranty Parts for Exhaust Emission.

(1) Fuel System

(2) Air Induction System

(3) Ignition System

The following parts are also considered emission related components for exhaust emissions, if applicable

(1) Exhaust Gas Recirculation (EGR) System

(2) After treatment devices.

(3) Crankcase ventilation valves.

(4) Sensors.

(5) Electronic control units.

(d) Warranty Parts for Evaporative Emission include fuel tank, fuel cap, fuel line and fittings, carbon canister, vapor hoses. They may also include, if applicable, liquid/vapor separator, clamps, pressure relief valves, etc.

DuroMax will furnish with each new engine/equipment written instructions for the maintenance and use of the engine/equipment by the owner.

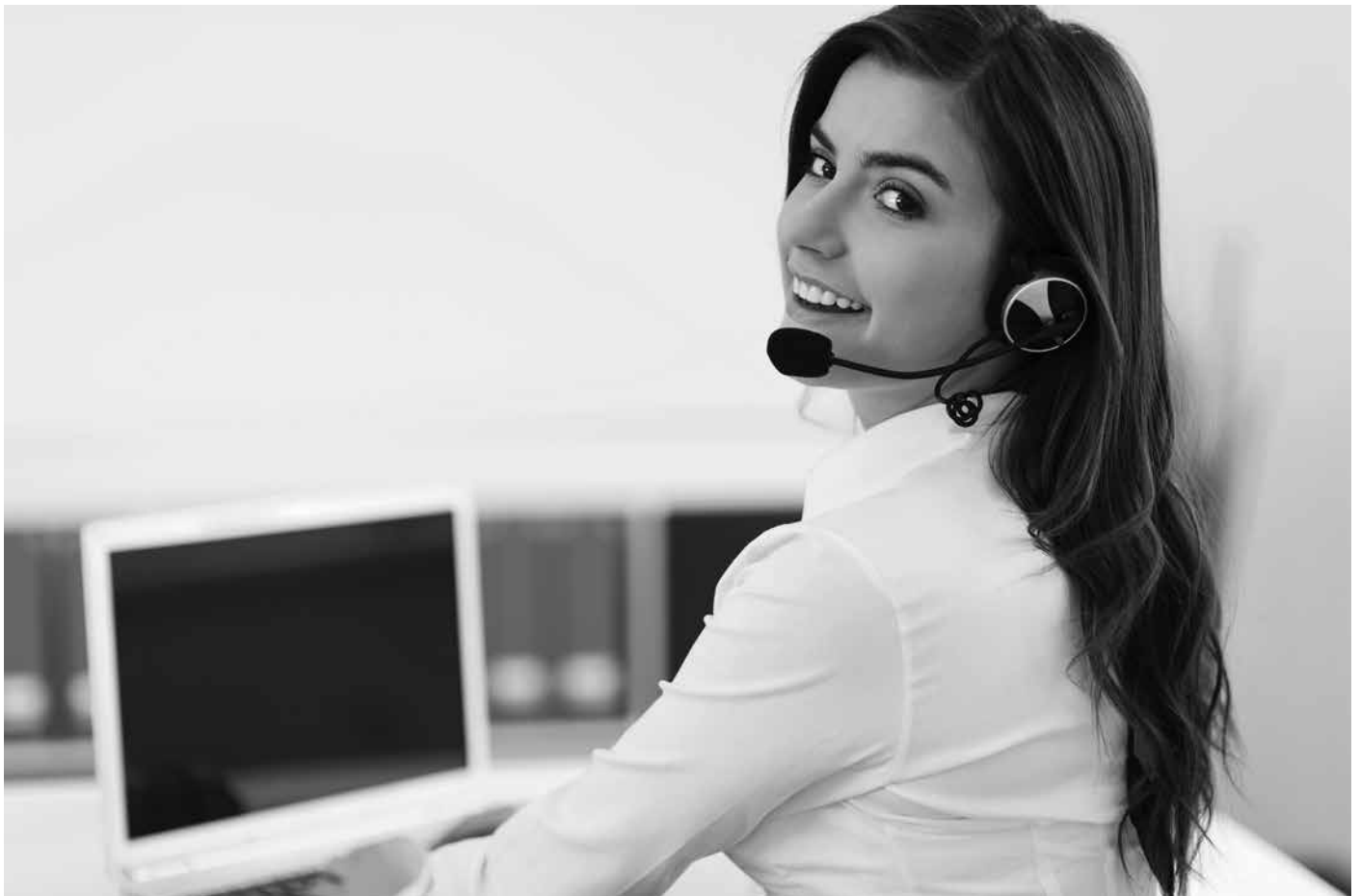
CUSTOMER SERVICE DEPARTMENT

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: 844-387-6629
Customer Service Hours: 8-5 pm PST Mon-Fri

Website: www.duromaxpower.com
Email: customerservice@duromaxpower.com





5800 Ontario Mills Parkway
Ontario, CA 91764
United States

844-387-6629