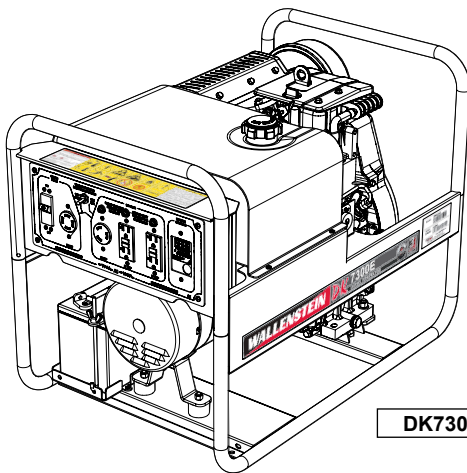
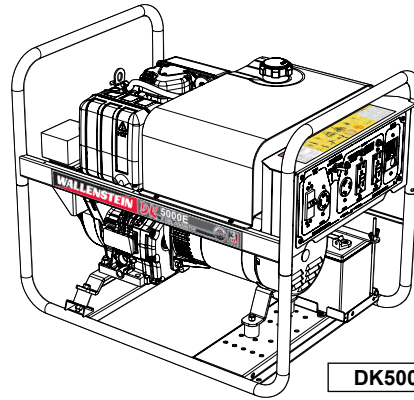


WALLENSTEIN

EMB Manufacturing Inc.
4144 Boomer Line · St. Clements, On · N0B 2M0 · Canada
Ph: (519) 699-9283 · Fax: (519) 699-4146
www.embmfg.com



DK7300E



DK5000E

DK5000E & DK7300E PORTABLE DIESEL GENERATOR OPERATOR'S MANUAL



Before putting the generator into service:

Do not attempt to start or operate the DK generator without thoroughly reviewing this manual for safe and proper operation.

Keep this manual with the DK Generator at all times

U1 Lawn & Garden 250 CCA battery is not included



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WALLENSTEIN

WARRANTY

Effective on products retailed on or after January 1, 2015.

Register your product online at www.wallensteinequipment.com within 30 days of purchase to activate warranty.

This product is warranted to be free of defects in materials and workmanship under normal use and service, for a period of

**Five (5) Years for Consumer
Two (2) Years for Commercial / Rental**

from the date of purchase, when operated and maintained in accordance with the Operating and Maintenance Instructions supplied with this unit. Warranty is limited to the repair of the product and/or replacement of parts.

This warranty does not cover the following items:

- 1) Machines or parts lost or damaged during shipment,
- 2) Normal maintenance or adjustments after initial pre-service and set up is completed
- 3) Normal replacement of service items.
- 4) Accessory items / parts not supplied by EMB MFG INC.
- 5) Damages resulting from:
 - misuse, negligence, accident, theft or fire
 - use of improper or insufficient fuel, fluids or lubricants
 - use of parts or after market accessories other than genuine EMB MFG INC. parts
 - modifications, alteration, tampering or improper repair performed by parties other than an authorized dealer
 - any device or accessories installed by parties other than an authorized EMB dealer or distributor

Engines are covered by the manufacturer of the engine and covered by the warranty period specified by that manufacturer. **Engine warranty must be registered at the engine manufacturer's website.** For service, contact your local engine dealer.

Under no circumstances will the manufacturer be liable for any consequential damage or expense of any kind, including loss of profits. The manufacturer is under no circumstances liable for tow vehicle of any kind. The manufacturer is not liable for the maintenance of the product.

This warranty is extended only to the original purchaser and is not transferable. Warranty is void if repairs are attempted by anyone other than a Wallenstein Authorized Service Centre.

If a difficulty develops with the product, contact the local dealer from which you purchased the unit. Only Wallenstein authorized dealers are authorized to make repairs to the product or affect the replacement of defective parts, which will be done at no charge within a reasonable time after the receipt of the product. Unit or parts shall be returned at the customer's expense to the Authorized Service Centre. Damage in transit is not covered by warranty. Include the original purchase receipt with any claim (keep a copy of the receipt for your files).

The distributor's liability under warranty is limited to the repair of the product and/or replacement of parts and is given to the purchaser in lieu of all other remedies including incidental and consequential charges. There are no warranties, expressed or implied, other than those specified herein.

EMB MFG Inc
4144 Boomer Line, St Clements, ON N0B 2M0 Canada
Phone: 519-699-9283 Fax: 519-699-4146 : attention to Warranty Dept
Email: warranty@embmfg.com

WALLENSTEIN
DK SERIES PORTABLE DIESEL GENERATOR
DELIVERY INSPECTION REPORT

To activate warranty, register your product online at
www.embmfg.com

Customer's Name _____

Contact Name _____

Dealer Name _____

(_____) _____
Phone Number

Serial Number _____

_____/_____/_____
Delivery Date

I have thoroughly instructed the buyer on the equipment care, adjustments, safe operation and applicable warranty policy and reviewed the manual.

Dealer's Rep. Signature

_____/_____/_____
Date

The product manuals have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Owner's Signature

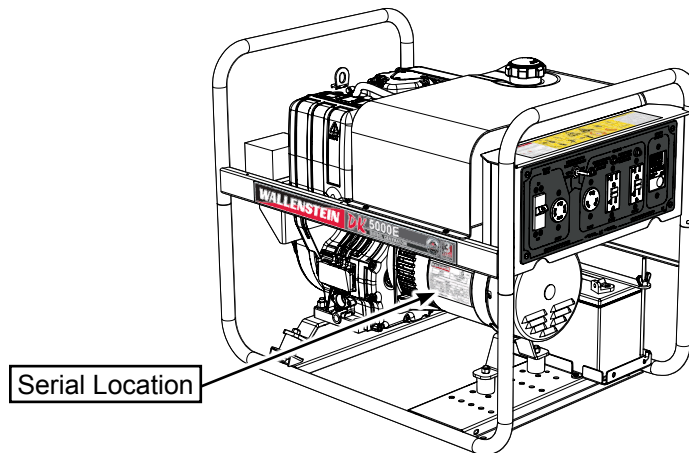
_____/_____/_____
Date

✓	Pre-Delivery Inspection
	Inspect for damage from shipping, immediately contact the shipping company if damage is found.
Portable Diesel Generator	
	Check Electrical Connections
	Check Function of Generator
	Check that Fasteners are Tight
	Check Engine Fluid Levels
	Review Operating and Safety Instructions
Safety Checks	
	All Safety Decals Installed
	Guards and Shields Installed and Secured
	Test GFCI outlets
	Review Operating and Safety Instructions

SERIAL NUMBER LOCATION

Always reference the serial number of your Wallenstein generator when ordering parts or requesting service or other information.

The serial number plate is located where indicated. Please mark the numbers in the spaces provided for easy reference. (Serial label location is the same for both models)



SERIAL NUMBER LOCATION

DK5000E / DK7300E Portable Diesel Generator

Serial Number _____

LABELLING INFORMATION

As you begin to get familiar with your Wallenstein product, you will notice that there are numerous labels located on the machine. Here is a brief explanation of what they are for and how to read them.

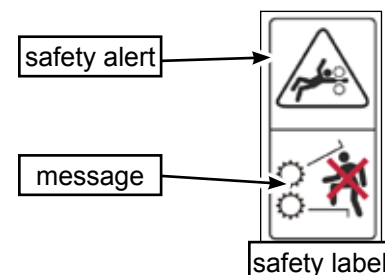
There are three different types of labelling: safety, informative and product labels.

Safety Labels are pictorial and always with a yellow background colour and generally 2 panel. The top panel shows the safety alert (the potential hazard) and the bottom panel shows the message (how to avoid the hazard).

Informative Labels are generally pictorial, have a white background colour and can vary to the number of panels. The label will illustrate the function of a feature and is accompanied by detailed instructions in the owners manual, with the label illustrated along side.

Product Labels are associated with the product and carry various messages. (model, serial, etc)

See the section on safety signs for safety label definitions. For a complete illustration of labels and label locations, download the parts manual for your model product at www.embmfg.com.



1 INTRODUCTION

Congratulations on your choice of the Wallenstein **DK5000E or DK7300E generator**. This equipment has been designed and manufactured to meet the needs of a home owner, business operator or industry that needs electric power during power outage, at a remote location or when not using the power grid system.

Safe, efficient and trouble free operation of your Wallenstein Generator requires that you and anyone else who will be using or maintaining the generator, review this Wallenstein Operators manual and read and understand the Safety, Operation, Maintenance and Trouble Shooting information contained within this Manual.

The Wallenstein **DK5000E or DK7300E Portable Diesel Generator** is designed to be a reliable source of continuous power and have a full featured power distribution panel and utilize electric start diesel engines to provide a steady and reliable source of power when the need arises.

Features include:

A full compliment of receptacles:

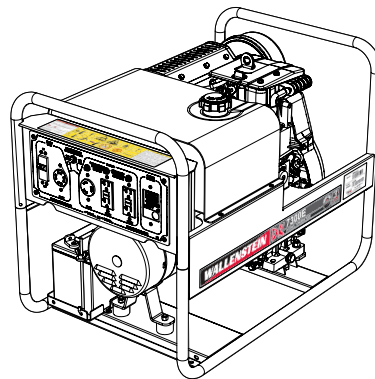
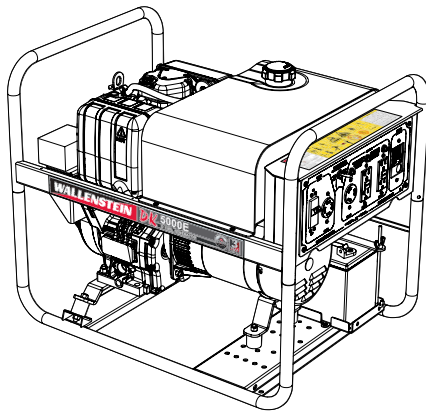
- 1 x 30 amp 120/240v twist lock L14-30 receptacle
- 1 x 30 amp 120v twist lock L5-30 receptacle
- 2 x 20 amp 120v GFCI 15-20R ground fault receptacles

Electronic Power Monitor: Display cycles between power (P=kW) and total running hours, and is capable of displaying frequency (C=hertz). Indicator light warns of underload condition, flashing display indicates overload.

Full Power Feature: when the 240V leg is not used, turning on the full power feature utilizes the secondary winding of the alternator (normally used for 240V) to increase the power capacity of the 120v side. Amperage values in the specification chart are shown with the Full Power feature on.

Optional Kits: available are the WK210 & WK214 Wheel Kits, which make it a one person job to easily move your generator into position.

DK5000E / DK7000E



Use the Table of Contents or Index as a guide to locate required information. Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Wallenstein dealer or the Distributor if you need assistance, information or additional copies of the manuals.

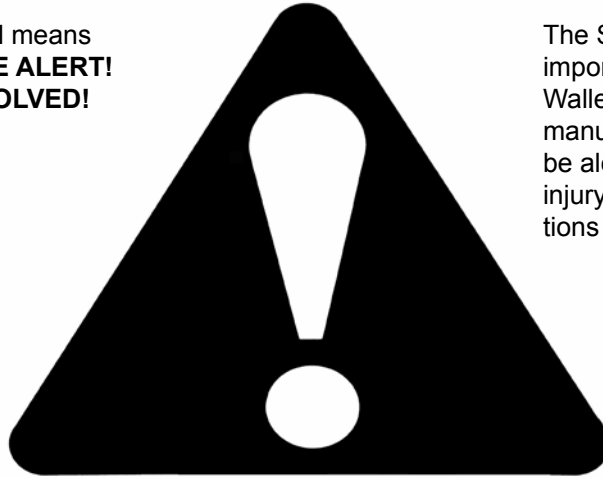
OPERATOR ORIENTATION - The directions left, right, front and rear, as mentioned throughout this manual, are determined when facing the control panel

#Z93204 U1 Lawn & Garden 250 CCA
battery is recommended

2 SAFETY

SAFETY ALERT SYMBOL

This Safety Alert symbol means
ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!



The Safety Alert symbol identifies important safety messages on the Wallenstein Generator and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

3 Big Reasons

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines:

DANGER - Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING - Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.


If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or Wallenstein, 4144 Boomer Line, St. Clements, ON, N0B 2M0. Phone (519) 699-9283 or Fax (519) 699-4146.



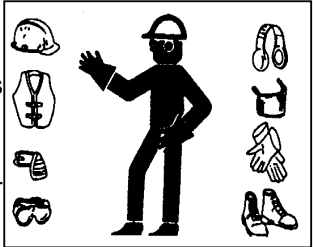
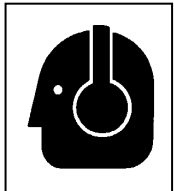
SAFETY

YOU are responsible for the SAFE operation and maintenance of your Wallenstein Portable Diesel Generator. **YOU** must ensure that you and anyone else who is going to use, maintain or work around the generator be familiar with the use and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be used while using the Generator.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** using this equipment is familiar with the recommended use and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

2.1 SAFETY DO'S & DON'TS'

- **DO** give operating instructions to operators or employees before allowing them to operate the machine, and REVIEW annually thereafter.
- **DO** read and understand ALL Safety and Operating instructions in the manual and follow them. Most accidents can be avoided. The most important safety device on this equipment is a SAFE operator. 
- **DO NOT** expect a person who has not read and understood all use and safety instructions to operate the machine. An untrained operator is not qualified and exposes himself and bystanders to possible serious injury or death. It is the owners responsibility to the operator to ensure familiarity and understanding of the machine.
- **DO NOT** modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- **DO NOT** risk injury or death by ignoring good safety practices.
- **DO** review safety related items annually with all personnel who will operating or maintaining the generator

- **DO** have a first-aid kit available for use should the need arise and know how to use it. 
- **DO** read and understand all safety signs located on the machine before using, maintaining, adjusting or cleaning the generator
- **DO** have a fire extinguisher suitable for electrical fires available, should the need arise and know how to use it. 
- **DO** inspect and secure all guards before starting.
- **DO** wear appropriate protective gear. This list includes but is not limited to:
 - Heavy gloves
 - Hearing Protection
 - Protective shoes with slip resistant soles
 - Protective glasses, goggles or face shield
- **DO** prepare before servicing, adjusting, repairing or unplugging:
 - stop the machine, disconnect load
 - shut off the engine,
 - remove ignition key and place in your pocket,
 - wait for all moving parts to stop
 - clear the area of people, especially small children.
- **DO** wear suitable ear protection for prolonged exposure to excessive noise. 
- **DO** operate on dry level ground away from combustibles.
- **DO NOT** touch hot engine parts, muffler, muffler cover, engine body, engine oil, etc. during operation and after the engine has been shut off. Contact may cause burns.
- **DO NOT** modify the control panel wiring or any grounding on the generator
- **DO** think SAFETY! Work SAFELY!


2.2 EQUIPMENT SAFETY GUIDELINES

Safety of the operator and bystanders is one of the main concerns in designing and developing equipment. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you, follow them.

1. In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be used in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.
2. Replace any safety sign or instruction sign that is not readable or is missing. Location of such safety signs is indicated in this manual.
3. Never use alcoholic beverages or drugs which can hinder alertness or coordination while using this equipment. Consult your doctor about using this machine while taking prescription medications.
4. **Under no circumstances should young children be allowed to work with this equipment. Do not allow persons to use this until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.** Review the safety instructions with all users annually.
5. This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with machinery and familiar with this equipment's operations. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
6. Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **DON'T TRY IT.**
7. Do not modify the equipment in any way. Unauthorized modification may result in serious injury or death and may impair the function and life of the equipment.
8. In addition to the design and configuration of this equipment, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the engine and machine manuals. Pay close attention to the Safety Signs affixed to the machine.
9. **Safe condition** involves the following procedure:
 - Flip main switch "off" or disconnect all loads
 - Shut off the engine.
 - Ensure all components have stopped moving.
 - Remove and pocket the ignition key. (electric start only)
 - Disconnect the battery.(electric start only)

Safe Condition procedure should be performed before any service, maintenance work or storage preparation.

2.3 SAFETY TRAINING

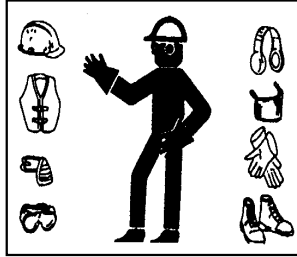
1. Train all new personnel and review instructions frequently with existing workers. Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
2. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.
3. It has been said, "The best safety feature is an informed, careful operator." We ask you to be that kind of an operator. It is the operator's responsibility to read and understand ALL Safety and Use instructions in the manual and to follow these. Accidents can be avoided.
4. **Working with unfamiliar equipment can lead to careless injuries. Read this manual before assembly or using, to acquaint yourself with the machine. If this machine is used by any person other than yourself, or is loaned or rented, it is the machine owner's responsibility to make certain that the operator, prior to using:**
 - **Reads and understands the operator's manuals.**
 - **Is instructed in safe and proper use of the equipment.**
 - **Understands and knows how to perform the "safe condition" procedure:**
 - Flip main switch "off" or disconnect all loads
 - Shut off the engine.
 - Ensure all components have stopped moving.
 - Remove and pocket the ignition key. (electric start only)
 - Disconnect the battery.(electric start only)
5. Know your controls and how to stop the engine and machine quickly in an emergency. Read this manual and the one provided with your engine.
6. Be certain only a properly trained and physically able person will use the machinery. A person who has not read and understood all using and safety instructions is not qualified to use the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with the work, their physical limitations need to be recognized and accommodated.

2.4 PREPARATION

1. Never use the engine and machine until the operators have been adequately trained in the safe operation of the machine and have read and completely understand:
 - Safety, Operation and Feature sections of this manual,
 - Engine Operator's Manual
 - Each of the Safety Messages found on the safety signs on the engine and machine.
2. Personal protection equipment including:
 4. Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
 5. Use only in daylight or good artificial light.
 6. Be sure machine is properly mounted, adjusted and in good operating condition.
 7. Ensure that all safety shielding and safety signs are properly installed and in good condition.
 8. If fuel is on site, store it well away from the machine and flammable materials.
 9. Perform the "PreOperation Checklist" procedure before starting work.

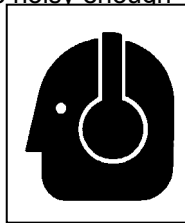
- safety glasses
- safety shoes
- gloves
- hearing protection

are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, cleaning, or moving the generator. Do not allow long hair, loose fitting clothing or jewellery to be around equipment.



3. PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!

Power equipment can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on a full-time basis. Noise over 85dB on a long-term basis can cause severe hearing loss. Noise over 90db adjacent to the Operator over a long-term basis may cause permanent, total hearing loss.



Caution: Hearing loss from loud noise (from tractors, chain saws, radios, and other such sources close to the ear) is cumulative over a lifetime without hope of natural recovery.

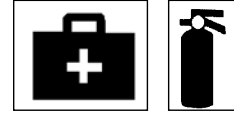
2.5 MAINTENANCE SAFETY

1. Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
2. Follow good shop practices.
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.



3. Make sure there is plenty of ventilation. Never operate the machine or the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
4. Put the machine in **safe condition** before working on this machine:
 - Flip main switch "off" or disconnect all loads
 - Shut off the engine.
 - Ensure all components have stopped moving.
 - Remove and pocket the ignition key. (electric start only)
 - Disconnect the battery.(electric start only)
5. Allow the engine to cool before performing maintenance, engine components and oil may be hot enough to cause injury.
6. Never work under equipment unless it is blocked securely.
7. When performing any service or maintenance work always use personal protection devices such as
 - safety glasses,
 - hand protection - gloves
 - hearing protectors
 - safety shoes

8. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
9. An appropriate fire extinguisher (electrical fires) and first aid kit should be kept readily accessible while performing maintenance on this equipment.



10. Inspect and tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure generator is in a safe condition.
11. When completing a maintenance or service function, make sure all safety shields and devices are installed before placing the generator in service.
12. When performing maintenance on this equipment always have at least 2 workers present. Do not work alone in case an emergency should arise.
13. When cleaning any parts, do not use gasoline but use regular cleanser.
14. Always use proper tools, that are in good condition. Make sure you understand how to use them, before performing any service work.

2.6 REFUELING SAFETY

Diesel fuel is not nearly as flammable as gasoline or other common fuels, however it can catch fire and can be very difficult to extinguish.

1. Allow the engine to cool if the generator has been in operation.
2. Refuel only outdoors in a well-ventilated area with the engine off.
3. Never smoke near diesel, and keep other flames and sparks away.
4. Do not overfill the fuel tank.
5. Always store diesel in an approved container. Make sure that any spilled fuel has been wiped up before starting the engine.

2.7 OPERATING SAFETY

1. Please remember it is important that you read and heed the safety signs on the generator. Clean or replace all safety signs if they cannot be clearly read and understood. They are there for your safety, as well as the safety of others. The safe use of this machine is strictly up to you, the operator.
2. All things with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices. The manufacturer has designed this generator to be used with all its safety equipment properly attached, to minimize the chance of accidents. Read and understand operator's manual before starting, to make sure you have all safety equipment attached and operational.
3. Close and secure all covers, guards, deflection shields and shields before starting and operating.
4. Personal protection equipment including hearing protection, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving.
5. Inspect electrical harness, and controller to ensure they are in good condition before operating to maintain control.
6. Keep the generator dry. Operate on a dry surface under an open well ventilated, covered structure.
7. Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.
8. Do not operate near openings to any building that can be occupied in order to help avoid the exhaust hazard.
9. Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
10. Never allow children or unauthorized people to operate or be around this machine.
11. Plug appliances directly into generator or use a heavy-duty outdoor-rated extension cord. Make sure entire extension cord is free of cuts or tears and the plug has all 3 prongs, especially a grounding pin.

12. If necessary to connect generator to house wiring to power appliances, have a qualified electrician install appropriate equipment. Or, your utility company may be able to install an appropriate transfer switch.
13. Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
14. To prevent a possible fire, keep the generator at least 3 feet (1 meter) away from building walls and other equipment during operation. Do not place flammable objects close to the engine.
15. **NEVER** plug the generator into a wall outlet. This practice, known as backfeeding, can cause an electrocution risk to utility workers and others served by the same utility transformer.

2.8 TRANSPORT SAFETY

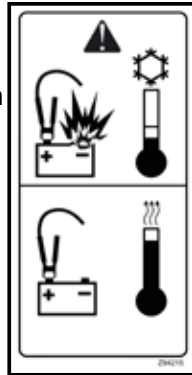
1. Comply with Provincial / state and local laws governing safety and transporting of machinery on public roads.
2. Do not exceed a safe travel speed. Slow down for rough terrain and cornering.
3. Do not transport or move the generator with the engine running.
4. Inspect all access panels and guards to ensure they are secured.
5. If the generator has been running, allow the engine to cool for at least 15 minutes before loading the generator on the transport vehicle. A hot engine and exhaust system can burn you and may ignite some materials.
6. Ensure the fuel tank cap is on tight and keep the generator level when transporting to reduce the possibility of fuel leakage.
7. Move the fuel valve lever to the OFF position.
8. When using ropes or tie-down straps to secure the generator for transportation, be sure to only use the frame bars as attachment points. Do not fasten ropes or straps to any portions of the generator body.
9. Do not drink and drive.
10. Just before transport, perform a circle check to ensure everything is safe and secure.

2.9 BATTERY SAFETY

Caution: Poison / Danger - Causes Severe Burns. The battery contains sulphuric acid. Avoid contact with skin, eyes or clothing. Keep out of reach of children.

1. Wear gloves and safety glasses or face shield when working on or near batteries.
2. Use a battery carrier to lift the battery or place hands at opposite corners to avoid spilling acid through the vents.
3. Avoid contact with battery electrolyte:
External Contact: Flush immediately with water.
Eye Contact: Flush with water for 15 minutes. Get prompt medical attention. Clean up any spilled electrolyte immediately.
4. Avoid contact with battery posts, terminals and related accessories, they contain lead and lead compounds, chemicals known to cause harm. Wash hands immediately after handling battery.
5. Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive.
6. To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of the electrical system.
7. FROZEN BATTERIES CAN EXPLODE and result in death or serious injury. DO NOT jump start / charge a frozen

#Z93204 U1 Lawn & Garden 250 CCA battery is recommended



4. Do not allow children to play on or around the stored machine.
5. Place the generator on a level surface. Tilting or laying it on its side can cause fuel or oil leakage. Support the frame with planks if required.
6. Allow the engine / exhaust to cool. A hot engine and exhaust system can ignite or melt some materials.
7. With the engine and exhaust system cool, cover the generator to keep out dust.
8. Do not use a nonporous sheet as a dust cover. A nonporous cover will trap moisture around the generator, promoting rust and corrosion.

2.11 ELECTRICAL SAFETY

1. The generator produces enough electric power to cause a serious shock or electrocution if misused.
2. Using a generator or electrical appliance in wet conditions (rain or snow), or near a pool or sprinkler system, or when your hands are wet, could result in electrocution. Keep the generator and the immediate area dry.
3. If the generator has been outdoors, unprotected from the weather, check all of the electrical components on the control panel before each use. Moisture can cause a short circuit in electrical components that could result in electrocution.
4. Do not connect to a building's electrical system unless a transfer / isolation switch has been installed by a qualified electrician.
5. **NEVER** tamper with the factory settings of the engine or engine governor. Engine speed controls frequency portion of the electrical output (60Hz) Personal injury or damage to the engine or equipment can result if operating in speed ranges above the maximum or below the minimum allowable.



2.10 STORAGE SAFETY

1. Store the unit in a well vented area away from human activity.
2. If possible, store in a dry area, avoid storage areas with high humidity, because that promotes rust and corrosion.
3. Avoid any area where power tools are operated or spark-producing electric motors.

2.12 DIESEL ENGINE SAFETY

BEFORE STARTING ENGINE, READ AND UNDERSTAND THE OPERATING AND MAINTENANCE INSTRUCTIONS THAT CAME WITH YOUR ENGINE.

WARNING: DO NOT

1. DO NOT start the engine with out checking fluid levels
2. DO NOT run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odourless and deadly poison.
3. DO NOT store, spill, or use fuel near an open flame, or devices such as a stove, furnace, or water heater which use a pilot light or devices which can create a spark.
4. DO NOT refuel indoors where area is not well ventilated. Outdoor refuelling is preferred.
5. DO NOT refuel while the engine is running. Allow engine to cool for 5 minutes before refuelling. Store fuel in approved safety containers.
6. DO NOT remove fuel tank cap while engine is running.
7. DO NOT operate engine if fuel is spilled. Move machine away from the spill and avoid creating any ignition until the spill is cleaned up.
8. DO NOT smoke while filling fuel tank.
9. DO NOT stop engine while under load. Whenever possible, disconnect the electrical load first, before stopping. Allow the engine to idle for approximately 5 min with no load, to cool before shutting down.
10. DO NOT tamper with governor springs, governor links or other parts which may increase the governed speed selected by the original equipment manufacturer.
11. DO NOT operate engine without a muffler. Inspect periodically and replace, if necessary. If engine is equipped with a muffler deflector, inspect periodically and replace, if necessary with correct deflector.
12. DO NOT run engine above rated speeds. This may result in injury.
13. DO NOT operate engine with an accumulation of grass, leaves, paper or other combustible materials in the muffler area.

14. DO NOT use this engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed on the muffler. The arrester must be maintained in effective working order by the operator. **Canada:** check with local, provincial or federal authorities. **USA:** In the state of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal land.
15. DO NOT touch hot engine parts, muffler, muffler cover, engine body, engine oil, alternator body, etc. during operation and after the engine has been shut off. Contact may cause burns.
16. DO NOT run engine with air cleaner or air cleaner cover removed.

WARNING: DO

1. DO remove the key from the ignition, disconnect the negative wire from the battery terminal when servicing the machine.
2. DO keep hot muffler, engine area and machine free of debris.
3. DO examine muffler periodically to be sure it is functioning effectively. A worn or leaking muffler should be repaired or replaced as necessary.
4. DO Treat your fuel and maintain fuel filters and check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.
5. DO follow maintenance recommendations as outlined in the service interval chart in your engine operators manual
6. DO review the engine operators manual.
7. DO keep the generator at least 3 feet (1 meter) away from buildings and other equipment during operation.
8. DO keep flammable materials away from the generator. The exhaust system gets hot enough to ignite some materials.
9. DO let the engine cool before storing the generator indoors.

2.13 SIGN-OFF FORM

Wallenstein follows the general Safety Standards specified by the American Society of Agricultural and Biological Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be using and/or maintaining the generator must read and clearly understand ALL Safety, Usage and Maintenance information presented in this manual.

Do not use or allow anyone else to use this generator until such information has been reviewed. Annually review this information before the season start-up.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to use this machine.

A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator's Manual and have been instructed in the operation of the equipment.

[illegible]

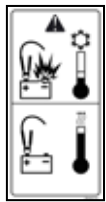
3 SAFETY SIGNS

1. Keep safety signs clean and legible at all times.
2. Replace safety signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety signs in Section 3 each have a part number displayed with it. Use this part number when ordering replacement parts.
5. Safety signs are available from your authorized Distributor or Dealer Parts Department or the factory.

3.1 HOW TO INSTALL SAFETY SIGNS:

- Be sure that the installation area is clean and dry.
- Be sure temperature is above 50°F (10°C).
- Determine exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

3.2 SAFETY SIGN EXPLANATIONS:



Caution: FROZEN BATTERIES CAN EXPLODE and result in death or serious injury. DO NOT jump start / charge a frozen battery. Let battery thaw before charging.



Caution: A generator produces enough electrical power to cause serious shock or electrocution. Using a generator in wet conditions such as in rain or snow, or with wet hands could result in electrocution. Keep the generator dry.



Caution: Parts of a generator become very hot during operation and remain hot for a time after stopping the engine. Be careful not to touch the muffler while it is hot. Let the engine cool before storing the generator indoors.



Caution: Never run a generator indoors, a generator's exhaust contains toxic carbon monoxide, which you cannot smell or see. Breathing carbon monoxide can be lethal.



Caution: do not refuel the machine while smoking or when near open flame or sparks. Fuel is highly flammable, handle with care.

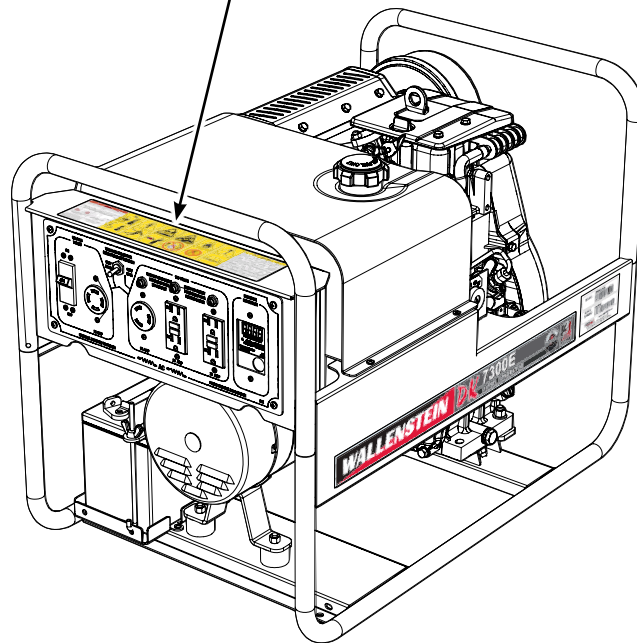
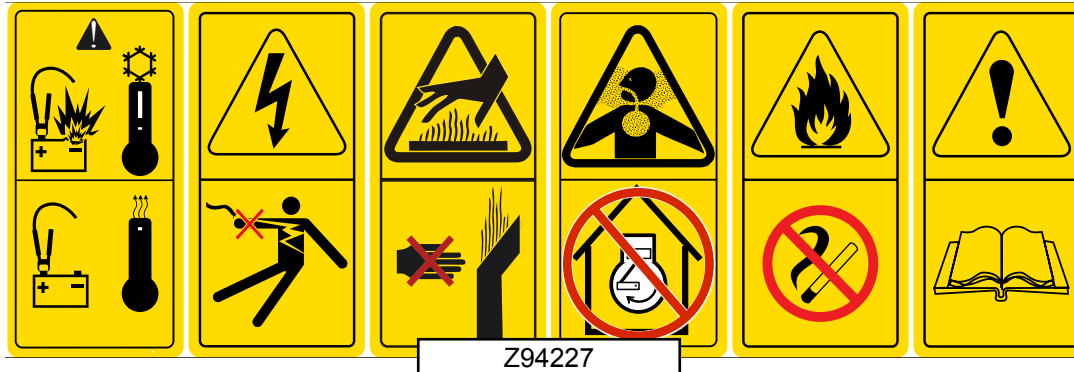


Caution: read and understand ALL safety and operating instructions in the manual, read and understand ALL safety labels located on the machine. The most important safety device on this equipment is an informed SAFE operator.

3.3 SAFETY SIGN LOCATIONS

The types of safety signs and locations on the equipment are shown in the illustration that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!



**DK5000E &
DK7300E**

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

4 OPERATION & FEATURES



OPERATING SAFETY

- Read and understand operator's manual before starting. Review safety instructions annually.
- Stop and disable engine, remove ignition key and place in your pocket and wait for all moving parts to stop before servicing, adjusting or repairing.
- To prevent electrical shocks, do not operate this generator in the rain or with wet hands. Generator should be kept dry and not operated on wet or damp surfaces.
- Close and secure all guards, deflectors and shields before starting and operating.
- Do not connect the generator to a commercial power line.
- Do not operate with damaged or defective extension cords, or power cords. Protect the cord from getting pinched or crushed if it passes through a window or doorway.
- Use properly rated, grounded 3-prong extension cords, tools, and appliances.
- Do not operate this generator indoors, or in areas with poor ventilation. The exhaust fumes contain carbon monoxide, a poisonous, odourless, invisible gas. Prolonged exposure can lead to unconsciousness and death.
- Do not refuel the engine while it is in operation or still hot. Do not refuel the engine near open flames, pilot lights or sparking electrical devices (e.g. power tools, welders or grinders).
- To prevent a possible fire, keep the generator at least 1 meter (3 feet) away from building walls and other equipment during operation.
- Do not place flammable objects close to the engine.
- The engine should be refuelled in a well-lit, adequately vented area. Avoid fuel spillage.
- Never allow children or unauthorized people to operate or be around this machine.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- Do not cover the generator while in operation. Overheating can result in damaged equipment.
- For storage, do not cover the generator until it has cooled down completely.
- The ambient temperature should not exceed 100° F/40° C.

4.1 TO THE NEW OPERATOR OR OWNER

The Wallenstein Portable Generators are designed to provide portable electrical power to equipment that is not connected to the electrical grid system.

It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the work site. Untrained operators are not qualified to use the machine.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how

to use the Generator safely and how to set it to provide maximum field efficiency. By following the using instructions in conjunction with a good maintenance program, your Portable Generator will provide many years of trouble-free service.

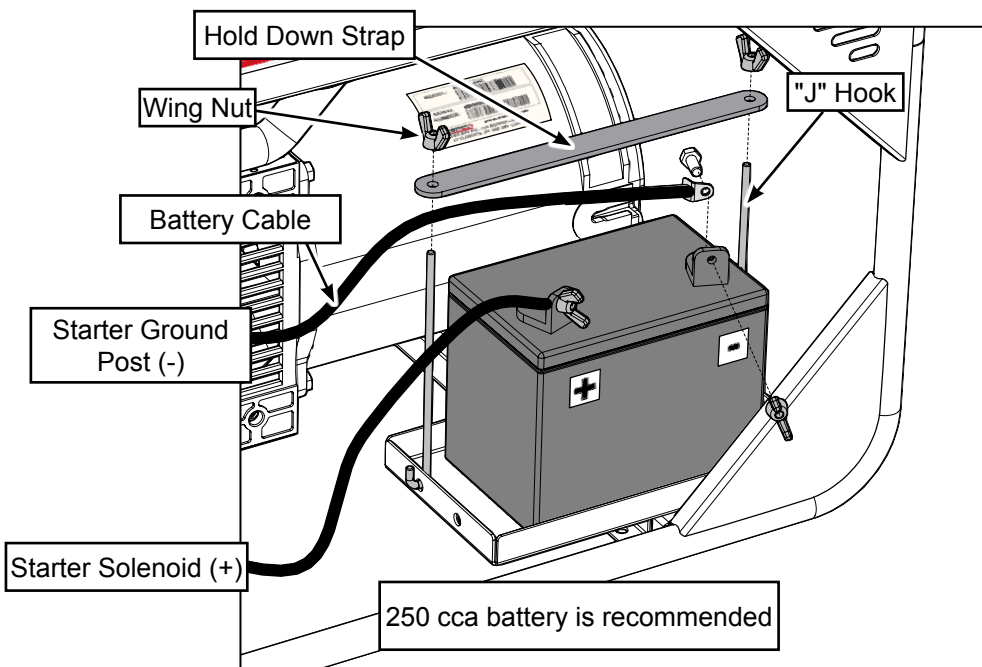
4.1.1 SAFE CONDITION

Ensure all operators understand how to put the machine in safe condition before working with this machine,

- Flip main switch "off" or disconnect all loads
- Shut off the engine.
- Ensure all components have stopped moving.
- Remove and pocket the ignition key. (electric start only)
- Disconnect the battery.(electric start only)

4.1.2 INSTALL BATTERY:

1. Remove cables, clamps and brackets from their shipping position.
2. Bring a battery to the machine.
3. Lay out components.
4. Position battery in its tray.
5. Install the threaded "J" hooks into the battery tray.
6. Install the hold down strap onto the "J" hooks over the battery.
7. Tread on the wing nuts, snug up tightly.
8. Attach cable from the starter solenoid to positive (+) battery post and tighten securely.
9. Attach the cable from the ground post on the starter to the negative (-) post on the battery (neutral is bonded to the frame)



BATTERY SAFETY

1. Wear gloves and safety glasses or face shield when working on or near batteries.
2. Use a battery carrier to lift the battery or place hands at opposite corners to avoid spilling acid through the vents.
3. Avoid contact with battery electrolyte:
External Contact: Flush immediately with water.
Eye Contact: Flush with water for 15 minutes. Get prompt medical attention. Clean up any spilled electrolyte immediately.
4. Avoid contact with battery posts, terminals and related accessories, they contain lead and lead compounds, chemicals known to cause harm. Wash hands immediately after handling battery.
5. Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive.
6. To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of the electrical system.
7. FROZEN BATTERIES CAN EXPLODE and result in death or serious injury. DO NOT jump start / charge a frozen battery. Let battery thaw before charging.



Caution: Poison / Danger - Causes Severe Burns. The battery contains sulphuric acid. Avoid contact with skin, eyes or clothing. Keep out of reach of children.

4.2 MACHINE COMPONENTS

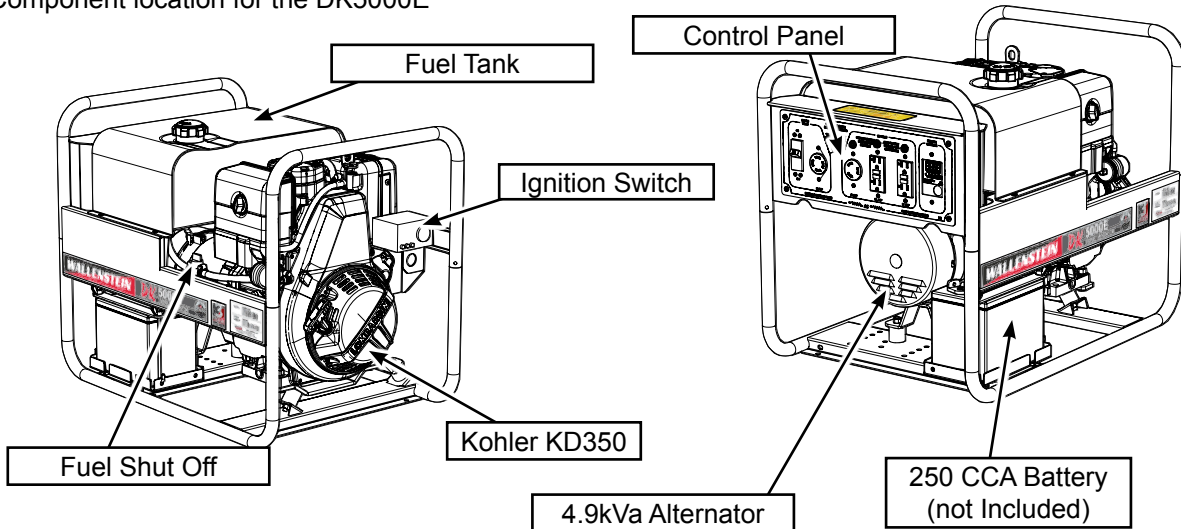
The Wallenstein DK Portable Generator series consists two models of generators. The DK5000E features a 4.9kVa alternator driven by 349cc Kohler diesel engine. The DK7300E includes a 6.8 kVa alternator and 416 cc Kubota diesel engine. DK generators feature an electronic "Power Monitor". (see Power Monitor section)

All control and power outlets are mounted on the end of the frame for convenient access and operation.

The unit is designed to provide electrical power for work or home or provide power at a remote location. Each outlet is designed with a circuit breaker to protect against overload. The machine is neutral bonded to the frame. The battery and fuel tank are mounted in the frame for convenient access.

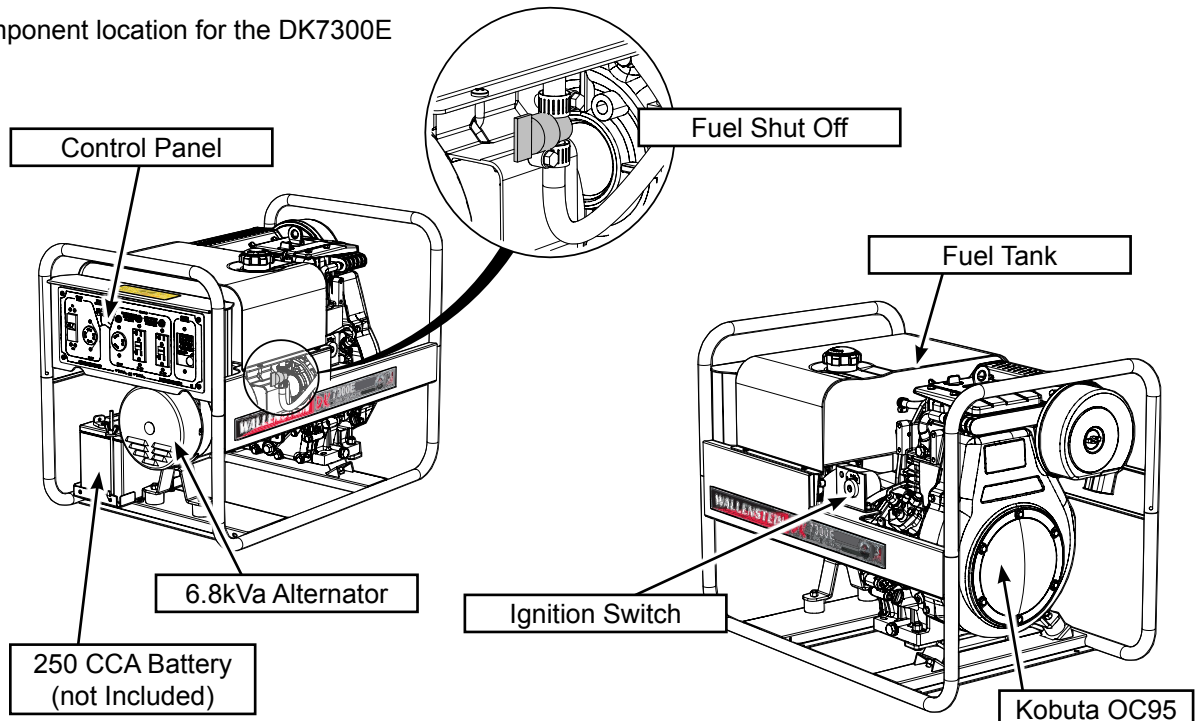
4.2.2 DK5000E

Component location for the DK5000E



4.2.3 DK7300E

Component location for the DK7300E



For a detailed parts breakdown, see your dealer or visit the Wallenstein website to download the **DK Parts Manual**.

4.3 MACHINE BREAK-IN

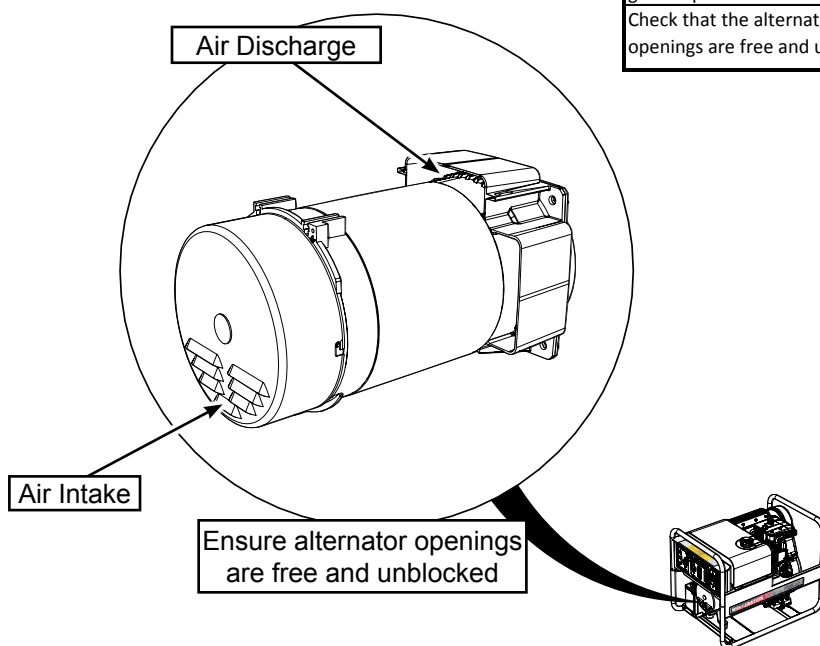
Although there are no operational restrictions on the portable generator when used for the first time, it is recommended that the following mechanical items be checked:

A. After operating for 1 hour:

1. Ensure the machine is in **safe condition** before checking any components. (see 4.1.1)
2. Review the engine operators manual for break-in.
3. Inspect the axle, tires, and wheels (if installed) .
4. Torque all fasteners and hardware.
5. Check that the alternator cooling air intake and discharge openings are free and unblocked
6. Check condition of electrical components and connectors. Keep all components / connectors in good condition.

B. After operating for 8 hours:

1. Repeat steps 1 through 6 listed above. (Section A)
2. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section.



4.4 PREOPERATION CHECKLIST

Efficient and safe operation of the Wallenstein Portable Generator requires that each operator reads and understands the use procedures and all related safety precautions outlined in this section. A PreOperation checklist is provided for the operator. It is important for both the personal safety and maintaining good mechanical condition that this checklist is followed.

Before operating the Wallenstein Portable Generator and each time thereafter, the following areas should be checked off:

Pre-Operation Checklist	✓
Check and lubricate the machine per the schedule outline in the Maintenance Section.	
Exhaust gas contains poisonous carbon monoxide. Never run the generator in an enclosed area. Be sure there is adequate ventilation in the work area.	
Check all electrical connections. Replace, repair or clean as required.	
Make sure that all lids, guards and shields are in place, secured and functioning as designed.	
Check condition of the battery and other electrical components. Keep all components in good condition.	
Check the fuel level, Starting with a full tank will help to eliminate or reduce operating interruptions for refueling.	
Check engine fluid levels. Top up as required. Refer to the engine operators manual.	
Check the air filter	
Check all power cords that will be used, ensure they are in good repair.	
Check that the alternator cooling air intake and discharge openings are free and unblocked	

4.5 CONTROLS

Please review this section to familiarize yourself with the location and function of each control before starting. The DK series controls are laid out so that they are easy to see and use. Familiarizing yourself with the controls will enable you to take advantage of all the features available on the DK series and apply them as conditions demand.

4.5.1 DIESEL ENGINE

Always read the engine operator's manual supplied with the machine to familiarize yourself with its operating and starting procedure details.

Ignition Switch:

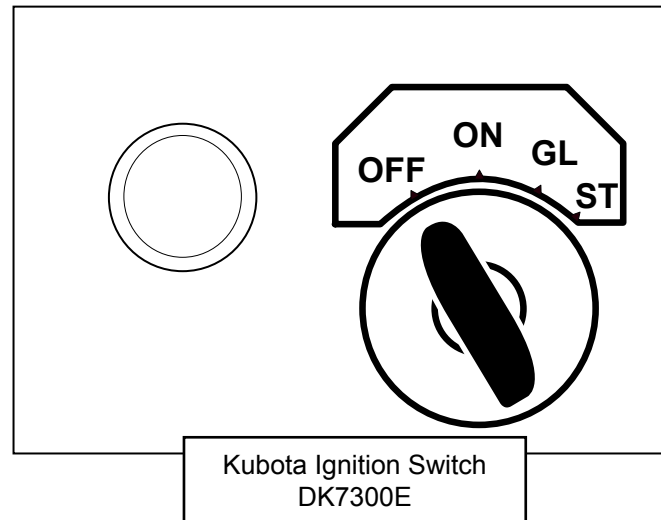
This key operated switch controls the electric power to the engine. (see machine components)

OFF - Turn key fully counterclockwise to stop the electrical system power and turn the engine off.

ON - Turn clockwise on detent to the "ON" position. This is the position where the engine will continue to run.

GL - (Kubota only) Preheat: Turn clockwise GL (glow) position. This is the position activates the glow plug to warm the combustion chamber

ST - Start :Turn fully clockwise to the last spring-loaded detent position to engage the starter solenoid and start the engine. Release the key when the engine starts and it will return to the ON position.



Throttle:

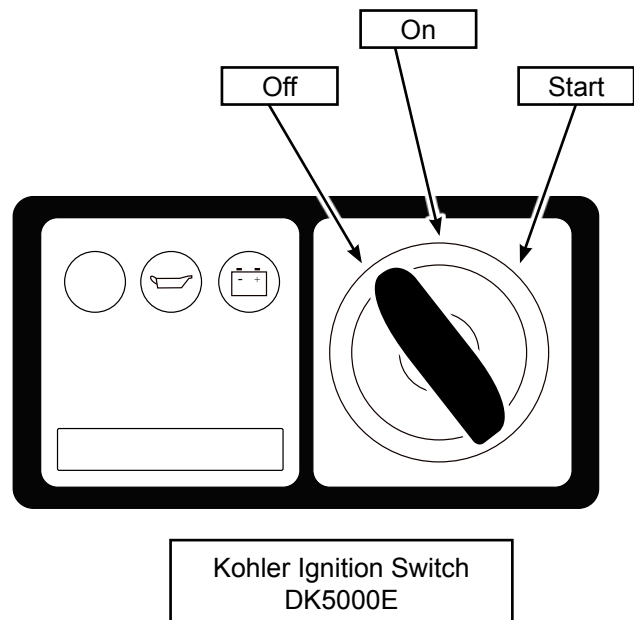
The throttle is preset and locked to run at optimum RPM and is not adjustable. Engine RPM directly affects output from the alternator, and therefore the RPM should never be adjusted.

Low Oil Shutdown (Kohler):

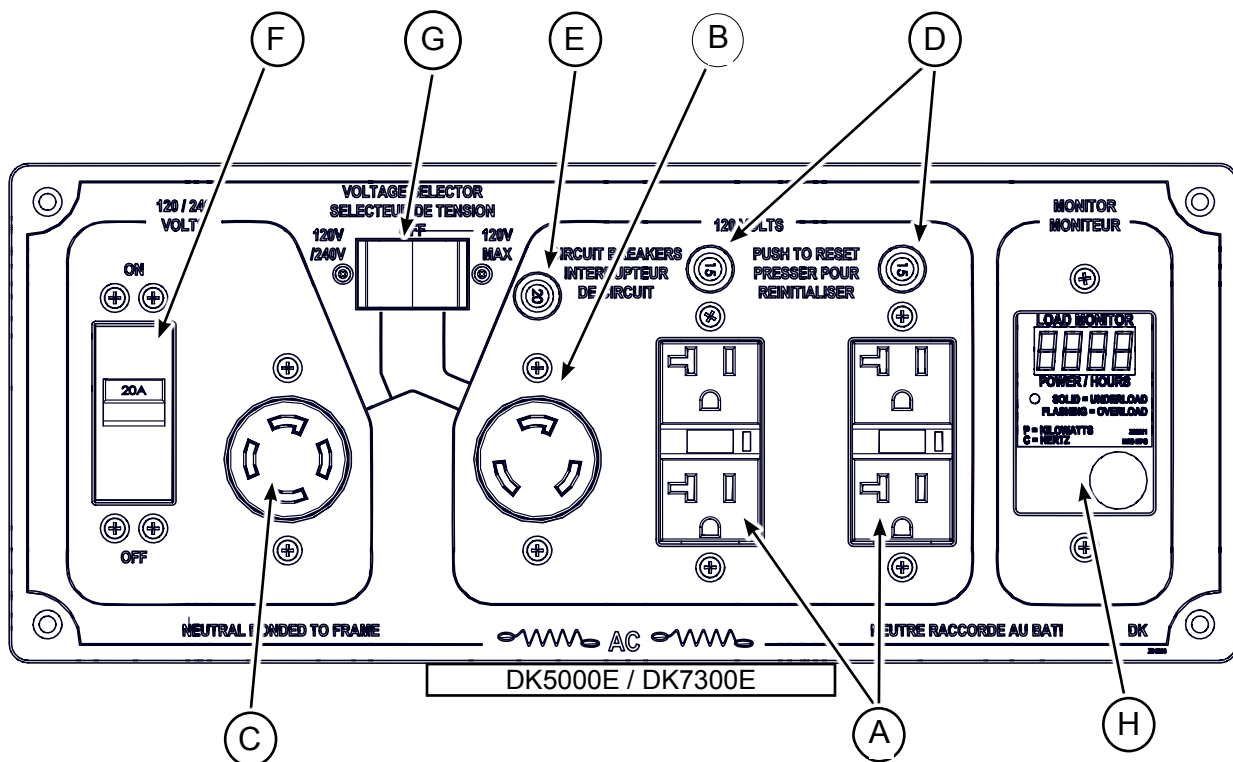
The Low Oil Shutdown system is designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. Before the oil level in the crankcase can fall below a safe limit, the system will automatically stop the engine

Oil Alert (Kubota):

The Oil Alert system is designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. Before the oil level in the crankcase can fall below a safe limit, the Oil Alert system will light up an indicator light alerting the operator to stop the engine and add oil.



4.5.2 ELECTRICAL CONTROLS



- A. These two outlets (GFCI 5-20R) are used to provide 120 Volt, 20 Amp power.
- B. This outlet (L5-30) is used to provide 120 Volt, 30 Amp power.
- C. This outlet (L14-30) is used to provide 120/240 Volt, 30 Amp power .
- D. These 20 Amp breakers are used to protect the 20 Amp 120 Volt outlets (B). Push the switch to reset.
- E. This 30 Amp circuit breaker protects the 30 Amp L5-30 outlet (B). Push the switch to reset.
- F. Main Switch (30 Amp breaker DK7300E & 20 amp DK5000E) is the master overload for the generator. Move the switch up to engage the breaker and down to disengage the breaker.
- G. Full Power Switch: when the 240V leg is not used, turning on the full power feature utilizes the secondary winding of the alternator (used for 240V) to increase the power capacity of the 120v side.
- H. Power Monitor: displays important operating details of the generator: see Power Monitor section.

IMPORTANT

A circuit breaker that trips repeatedly may indicate a problem.

4.5.3 FULL POWER FEATURE

The DK Series alternator is equipped with two windings, each delivers 120v. When the voltage selector switch is in the 120V/240V position, the power circuits (legs) operate in series (like two separate generators). Each leg supplies half the amps, specific to receptacles on each leg (one leg to each 120v receptacle and both legs to 240v receptacle.).

Since the legs are separate (series) neither leg can supply power to the other leg's receptacles. It is important, to balance the load connected to each leg.

When the voltage selector switch is in the 120V MAX position, the 240v is shut off, and the legs operate in parallel. Increasing the power capacity of the 120v side, and sharing the total load connected to 120v receptacles. Since both legs share the total load, there is no need to balance the load.

120v amperage values in the specification chart are shown with the Full Power feature on.

4.5.4 POWER MONITOR

Wet Stacking

Wallenstein Diesel Generators are designed to operate at moderate to maximum load. Operating in underload condition will create an effect called "Wet Stacking"

Like all internal combustion engines, to operate at maximum efficiency a diesel engine has to have exactly the right air-to-fuel ratio and be able to sustain its operational temperature for a complete burn of fuel. When a diesel engine is operated in underload condition, it will not attain its correct operating temperature.

When the diesel engine runs below its optimum operating temperature for extended periods, unburned fuel is exhausted and noticed as wetness in the exhaust system, and so the phrase "Wet Stacking".

Unburned fuel in the combustion chamber will eventually cause carbonizing (low compression, fouled injectors and a buildup of carbon on the rings, exhaust valves, and exhaust) and eventual engine failure.

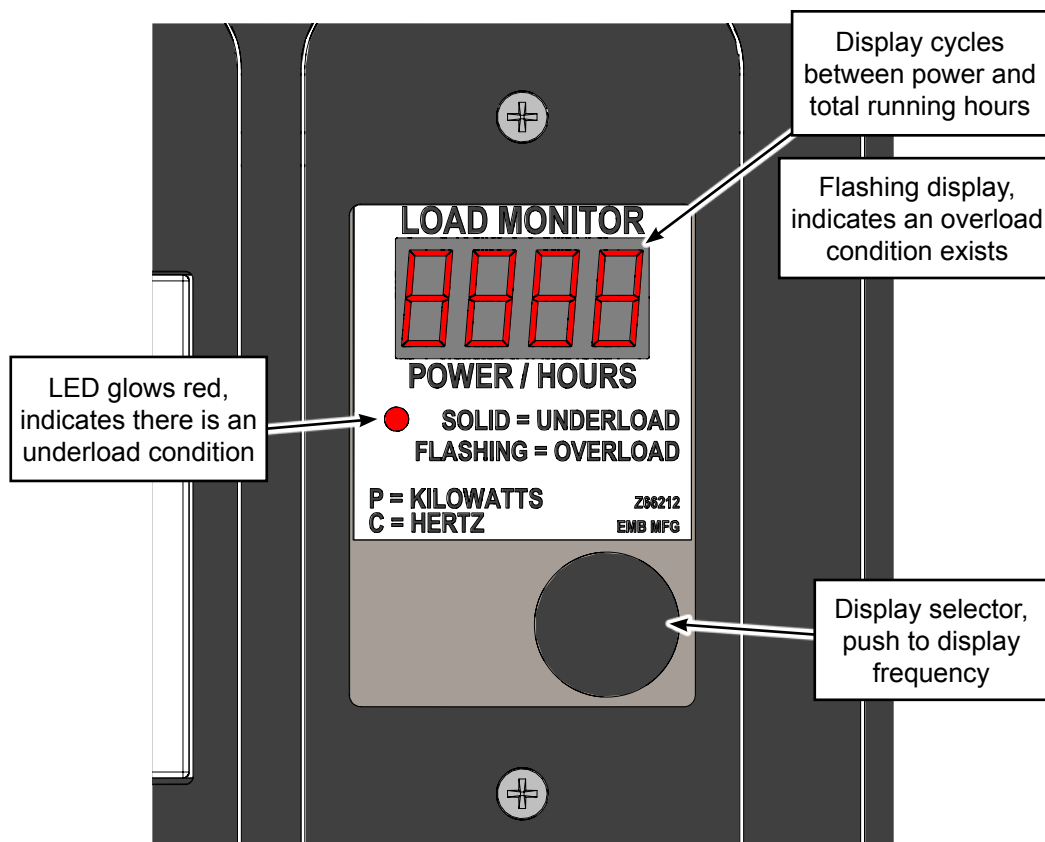
The Power Monitor feature will help avoid costly engine repairs due to carbonizing (*damage caused by running in underload is not covered by warranty*). The Power Monitor will indicate under-load conditions, alerting the user to increase to optimum load requirements. Additional functions of the monitor include: log and display the number of running hours, and log the number of hours the engine has run in underload condition.

During normal operation:

- The display cycles between total running hours and power. Power is kW and the prefix "P" is displayed.
- The indicator light is normally off.
- Depressing the display selector switches the display to frequency (hertz) with a prefix "C". Display returns to hours/power after a few moments.

Warning Conditions:

- If the **display is flashing**: an overload condition exists. Decrease electrical load.
- If the **LED indicator light glows red**: an underload condition exists. Increase electrical load to avoid "wet stacking" issues.



4.6 ELECTRICAL LOAD

4.6.1 BALANCING LOADS

When operating your Wallenstein generator please be aware of load balancing when using 120v receptacles.

The alternator powers two legs of 120v each (series). Each leg supplies half the amps, specific to receptacles on each leg (one leg to each 120v receptacle and both legs to 240v receptacle).

240V will balance automatically since both legs are connected to the same load.

Since 120v legs are independent of each other they can be loaded differently and become unbalanced. Significantly unbalanced loads will cause one leg of the alternator to heat up more than the other causing uneven wear in the alternator and can lead to eventual failure.

Before connecting loads to the generator, find the amperage draw of each load and combine and distribute the loads so that they are balanced across all receptacles. Balancing can be achieved, for example, by spreading multiple loads over 2 receptacles rather than running all loads from one receptacle.

When using 120v exclusively, activating the full power switch causes the legs to share the load (parallel) and there is no need to balance the load.

Make sure the accumulated wattage rating of tools or appliances does not exceed that of the generator.

4.6.2 WATTAGE AND LOAD

Your Wallenstein generator has two wattage (power) specifications that need to be considered when you are connecting loads: continuous watts and maximum watts.

At the same time there are two different types of loads, resistive and reactive.

Reactive Load

Generally a tool or appliance that contains an **electric motor** is a reactive load, Reactive loads have two modes of operation: startup and running.

An electric motor **starting watts** (reactive load) could possibly require up to 3 x its **running watts** at start up.

In other words wattage will spike at starting and level off to running (continuous) wattage when it is operating normally. (See wattage chart)

Resistive Load

A resistive load is **lighting, hot plate, TV**, etc, Resistive loads generally will not spike and starting wattage is the same as running wattage. (See wattage chart)

Continuous Wattage

Continuous wattage is the wattage range that can be safely generated by the alternator for an extended period.

Maximum Wattage

Maximum wattage is the wattage range the generator can produce but for only short periods of time (MAX time 30 minutes). Drawing maximum wattage for extended periods will cause damage to the alternator and void the warranty.

4.6.3 CALCULATING LOAD

When calculating load in watts, you will need to determine two wattage values:

- **running wattage + starting wattage:** determine the starting wattage of your reactive loads and add them to the running wattage of your resistive loads.
- **running wattage only:** add up the running wattage of both the resistive and reactive loads.

Load Calculation Example			
Generator Spec: 2000 maximum watt, 1500 continuous watt			
Qty	Load	Starting Watts	Running Watts
1	Refrigerator/Freezer	1200	192
1	Furnace Fan (1/8 hp)	500	300
6	Lighting (40w ea)	240	240
Totals		1940	732

The example totals match the second combination on the chart, and shows that the run status is OK.

Wattage Combination	Status
total starting wattage + total running wattage is within the continuous rating	OK
total starting wattage is over the continuous rating but below maximum, and total running wattage is within continuous rating	OK
total starting wattage is over the continuous & maximum rating, and total running wattage is within continuous rating	Stop
total starting wattage is over the continuous & maximum rating, and total running wattage is over continuous rating	Stop
both the total starting wattage and total running wattage are over the continuous rating but below maximum	Stop

4.6.4 WATTAGE CHART

The chart below contains general wattage information, and is intended to be used as a guide only.

For some electrical, and electronic appliances, you can determine the power needed by looking at the data tag supplied by the manufacturer.

Most products and all electrical motors should have a data tag attached to their bodies that give volts and amps and may contain wattage information.

To determine the wattage, use this formulae:

Amps x Volts = Watts

(See wattage chart)

Household Wattage Approx.	Starting	Running
Coffee Maker	600	600
Dish Washer	540	216
Electric Frying Pan	1500	1500
Electric Range 8" Element	2100	2100
Microwave Oven (650 watts)	1000	1000
Refrigerator/Freezer (Energy Star)	1200	132-192
Automatic Washer	3400	1200
Clothes Dryer (Electric)	6750	5400
Furnace Fan (1/8 hp)	500	300
Furnace Fan (1/6 hp)	750	500
Furnace Fan (1/4 hp)	1000	600
Furnace Fan (1/3 hp)	1400	700
Furnace Fan (1/2 hp)	2350	875
Lighting	add up various wattages	
Radio	50-200	50-200
Sump Pump (1/3 hp)	1300	800
Sump Pump (1/2 hp)	2150	1050
Television: tube / 43" flat screen	300 / 190	300 / 190
Air Conditioner (10000 BTU)	2200	1500
Laptop Computer	200-250	200-250
Desktop Computer	600-800	600-800
Monitor (LCD style)	30	30
Printers		
Ink Jet / Ink Jet Multi Function	20 / 250	20 / 250
Laser	400-850	400-850
DVD Player	350	350
Satelite Receiver	250	250
Fan (portable)	120	40

Industrial Motors Approx.	Starting	Running
Split Phase ¼ hp	1700	400
Split Phase ½ hp	2600	600
Capacitor Start Induction Run ⅓ hp	975	450
Capacitor Start Induction Run 1 hp	2300	1000
Capacitor Start Capacitor Run 1-½ hp	4200	1600
Fan - ¼ hp	1200	650

Contractor Approx.	Starting	Running
Air Compressor (½ hp)	1600	975
Air Compressor (1 hp)	4500	1600
Bench Grinder (8")	2500	1400
Hand Drill (½")	900	600
Pressure Washer (1 hp)	3600	1200
Circular Saw (7 - ¼")	2300	1400
Electric Chain Saw (14", 2hp)	1100	1100
230 Amp AC (at 100 amp)	7800	7800
Table Saw (10 Inches)	4500	1800
Drill (3/8", 4 amps)	600	440
Drill (1/2", 5.4 amps)	900	600

Farm Equipment Approx.	Starting	Running
Electric Fence (25 miles)		250
Milk Cooler	1800	1100
Milker (Vacuum Pump, 2hp)	2300	1000
Portable Heater(Kerosene / Diesel		
50,000 BTU	600	400
90,000 BTU	725	500
150,000 BTU	1000	625
Battery Charger		
15 Amp	380	380
60 Amp w/ 250 Amp Boost	1500/5750	1500/5750
100 Amp w/ 300 Amp Boost	2400/7800	2400/7800
Electric Welder (200 Amp AC)	9000	9000

4.7 FIELD OPERATION



OPERATING SAFETY

- Read and understand operator's manual before starting. Review safety instructions annually.
- Stop and disable engine, remove ignition key and place in your pocket and wait for all moving parts to stop before servicing, adjusting or repairing.
- To prevent electrical shocks, do not operate this generator in the rain or with wet hands. Generator should be kept dry and not operated on wet or damp surfaces.
- Close and secure all guards, deflectors and shields before starting and operating.
- Do not connect the generator to a commercial power line.
- Do not operate with damaged or defective extension cords, or power cords. Protect the cord from getting pinched or crushed if it passes through a window or doorway.
- Use properly rated, grounded 3-prong extension cords, tools, and appliances.
- Do not operate this generator indoors, or in areas with poor ventilation. The exhaust fumes contain carbon monoxide, a poisonous, odourless, invisible gas. Prolonged exposure can lead to unconsciousness and death.
- Do not refuel the engine while it is in operation or still hot. Do not refuel the engine near open flames, pilot lights or sparking electrical devices (e.g. power tools, welders or grinders).
- To prevent a possible fire, keep the generator at least 1 meter (3 feet) away from building walls and other equipment during operation.
- Do not place flammable objects close to the engine.
- The engine should be refuelled in a well-lit, adequately vented area. Avoid fuel spillage.
- Never allow children or unauthorized people to operate or be around this machine.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- Do not cover the generator while in operation. Overheating can result in damaged equipment.
- For storage, do not cover the generator until it has cooled down completely.
- The ambient temperature should not exceed 100° F/40° C.

The operator has the responsibility of being familiar with all operating and safety procedures and following them.

Although the Portable Generator is easy to use, each operator should review this section to familiarize himself with the detailed safety and operating procedures. When using this machine, follow this procedure:

4.7.1. PREPARE

- Clear the area of bystanders, especially small children.
- Each operator must be trained and familiar with the set up and operation of the generator and its components.
- Review the machine components. (see Section 4.2)

- Review and follow the PreOperation Checklist. (see Section 4.4).
- Review operation and function of the controls. (see section 4.5)
- Survey the work site, move to a clear, level work area and position at the work site. Do not start the generator until it is in position.
- Review loads section. (see section 4.6).

Ensure all operators understand how to put the machine in safe condition before working with this machine,

- Flip main switch "off" or disconnect all loads
- Shut off the engine.
- Ensure all components have stopped moving.
- Remove and pocket the ignition key. (electric start only)
- Disconnect the battery. (electric start only)

4.7.2. START

1. Starting the Generator:

- a. Ensure the main power switch / breaker is in the "off" position or turn all the appliances or electrical loads off.
- b. Plug in power cords from appliances or loads.
- c. Ensure the cooling vents around the alternator are free and not blocked
- d. Use the ignition key to engage the starter and start the engine. (Refer to engine manual for detailed engine starting procedure.)
- e. Run the engine for a few moments until it warms up.
- f. Flip the main switch / breaker to "on", or switch appliances or electrical loads on.

2. Stopping:

- a. Flip the main power switch / breaker to the "off" position or turn all the appliances or electrical loads off.
- b. Run the engine for a few moments to allow the engine to cool.
- c. Switch engine off, unplug all appliances or loads.

3. Emergency Stopping:

- a. Immediately flip off the main breaker
- b. Turn the engine off.
- c. Correct the emergency condition before resuming work and re-starting the engine.

4. Terrain:

The generator works well in a wide variety of operating conditions but it should always be positioned on a level surface. When the frame is level, fuel spillage is minimized and the gas tank capacity is maximized. Do not operate unless the frame is level.

5. Weather:

- a. Do not operate in the rain, in damp wet conditions or with wet hands. Keep the generator and work area dry to prevent shocks and shorts. Use properly rated, grounded 3-prong extension cords, tools, and appliances.
- b. Do not operate at temperatures above 100° F (40° C) to prevent overheating of the engine or generator. Always run for a few minutes without an electrical load to help cool the components before shutdown.

6. Electrical Loads:

The generator is ideally suited to camping, boating, farm, household, workshop, construction site or anywhere that back-up power is required. In order to determine the power requirements of your appliance, refer to section 4.6.

If the power draw for the appliance exceeds the outlet capacity, **the circuit breaker will be tripped**. Reduce the current draw and reset the breaker before resuming operation.

7. Electrical Component Condition:

Always use electrical components that are in good condition. Do not use electrical cords, plugs and connectors that are frayed, damaged, cracked or not in good condition. Electrical components that are not in good condition can lead to shocks, shorts or sparking. Any of these conditions can create and lead to an undesirable or unsafe situation.

8. Electrical Hazards:

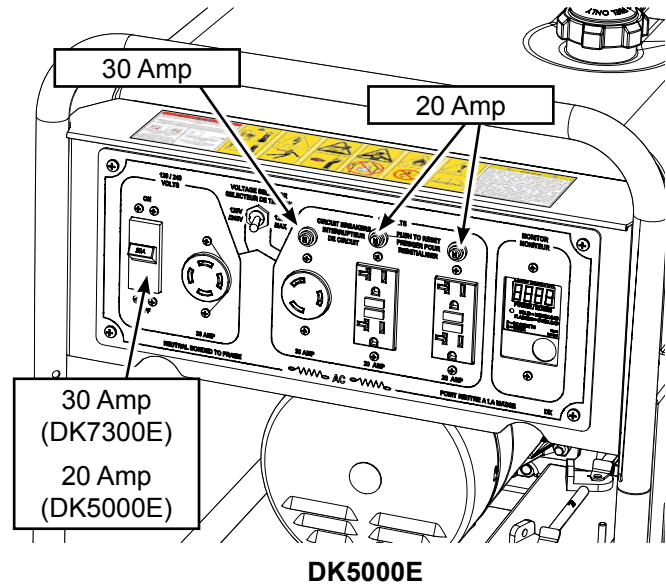
The generator is designed to generate an electrical current at a high enough power level to get meaningful work done. However, power at these levels also includes the possibility of electrical hazards. Some things to remember about electrical hazards include but are not limited to:

- Keep all electrical components in good condition.
- Do not operate with frayed, cracked or damaged parts.
- Do not operate if operating in damp or wet conditions.
- Do not operate with wet hands.

9. Circuit Breakers:

Each of outlets on the electrical panel is protected with a circuit breaker to prevent overloading the circuit. If a breaker trips, reduce the load before re-setting the breaker.

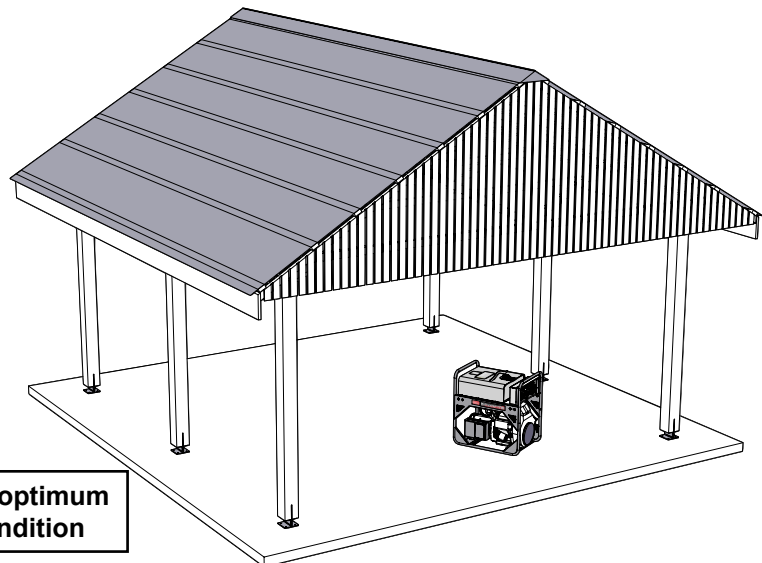
- The two 120 volt 20 amp outlets are each protected by a 20 amp pop up circuit breaker. The DK series have the added feature of GFCI (5-20R) protected outlets.
- The 120 volt 30 amp (L5-30) receptacle is protected by a 30 amp breaker. If this breaker trips then the 20 amp circuit as well as the 30 amp circuit will be off.
- The 120/240 volt (14-30R) receptacle is protected by a 30 amp breaker in the DK7300E and 20 amp in the DK5000E, which also serves as the main off/on switch. If this breaker trips all the circuits will be off.



10. Operating Hints:

- Position frame on a level area to minimize the chance of spilling fuel and maximize the fuel capacity of the tank. Spilled fuel can be ignited by a spark from the electrical power system.
- Do not refuel while the engine is running. Wait until the unit has cooled before refuelling.
- Keep the working area neat and clean to prevent slipping and tripping. Prevent accidents at the work site.
- Always keep the generator and connections dry, do not let water pool around the generator or connections to prevent potential electrocution hazard.
- Position the generator under cover to protect it from rain or bad weather.
- Do not operate when the ambient temperature exceeds 100° F (39° C) to prevent overheating.
- Do not cover the unit during operation to prevent overheating.

IMPORTANT
A circuit breaker that trips repeatedly indicates a problem.



4.7.3. RESIDENTIAL

The most economical way to supply power during a power outage is to use a portable generator and run extension cords into the house to power chosen appliances.

Never connect a generator to a house electrical system without a transfer switch. Known as "backfeeding" it is both illegal and extremely dangerous.

A safer system is to have an electrician install a power transfer switch, connected to the house's main electrical panel. Prepare the generator, run a single extension cord into the transfer switch, flip the switch and power the circuits you need through the main circuit breaker.

This eliminates the risk of electrical "back feed" injuring or killing utility workers repairing downed power lines.

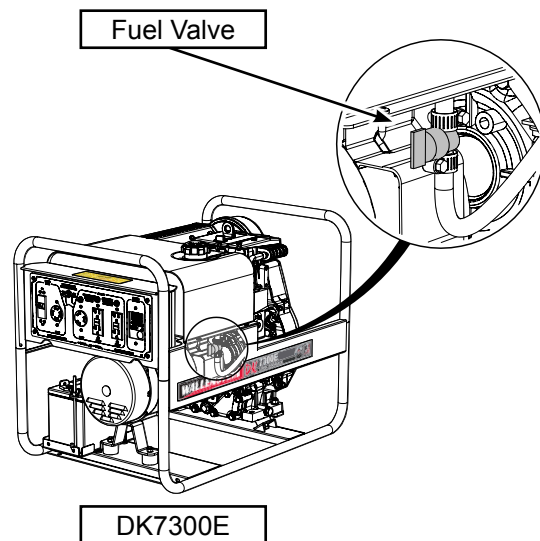
A portable electric generator can provide power for fridges, freezers, sump pump, furnace fan small kitchen appliances, power tools, lights and other comforts of civilization when you are experiencing a power outage.

When not required for home, portable generators can be used to power recreational vehicles, or put to work on construction sites that have no electrical service, providing clean, reliable power to operate saws, drills, air compressors, heaters, paint sprayers and other AC-powered tools.

5.1 MOVING

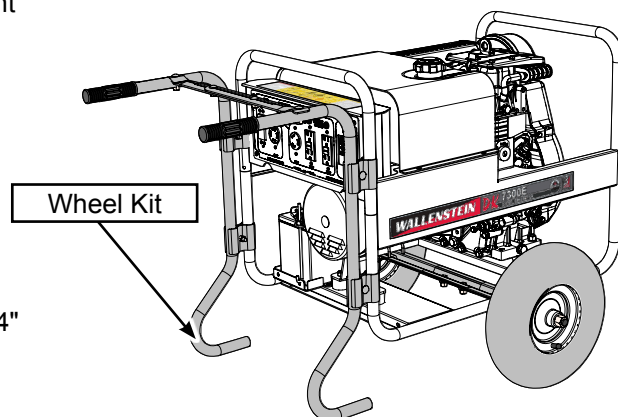
5.1.1. TRANSPORTING:

- When transporting from location to location, keep the following points in mind:
- Do not lay the generator on its side when moving, storing, or during operation. A hazardous condition may be created by oil or fuel may leaking.
- Transport when the fuel tank is empty or nearly empty. Turn the fuel line off.
- If the generator has been running, allow the engine to cool for at least 15 minutes before loading the generator on the transport vehicle. A hot engine and exhaust system can burn you and can ignite some materials.
- Keep the generator level when transporting to reduce the possibility of fuel leakage. Move the fuel valve lever to the OFF position.
- When using ropes or tie-down straps to secure the generator for transportation, be sure to only use the frame bars as attachment points. Do not fasten ropes or straps to any portions of the engine or alternator.



5.1.2 WHEEL KIT:

A wheel kit is available to make movement around the work area easier. Kit consist of handles and axle with tires The kit is easy to install and simply clamps on to the existing frame. Available with 10" tires (WK210) or 14" tires (WK214)



5.2 STORAGE



STORAGE SAFETY

- Store the unit in an area away from human activity, or children playing
- Do not store near any tool, machine, appliance that produces flame or sparks.
- Store the unit in a level area.

5.2.1 PLACING IN STORAGE

After use or when the machine will not be used for a period of time, completely inspect all major systems of the Portable Generator. Replace or repair any worn or damaged components to prevent any unnecessary down time at next use

Follow this procedure before storing:

1. Remove ignition key and store in a secure place.
2. Remove all plugs or electrical loads from the electrical panel.
3. Thoroughly clean the machine with a damp cloth to remove all dirt, mud or debris.
4. Touch up all paint nicks and scratches to prevent rusting.
5. Turn fuel valve off.
6. For storage up to a year, keep the fuel tank full. Contact with air and water will degrade the diesel fuel.
7. If the generator is to be stored for longer periods, add diesel preservative or drain the fuel tank, and refuel with fresh diesel at startup.
8. Remove the battery and store it in a cool, dry area on wooden blocks or a wooden pallet. Charge it monthly to maintain an adequate charge.
9. Store the machine inside in cool dry area. Avoid storage areas with high humidity, because that promotes rust and corrosion.
10. Use a canvas tarp or similar material to keep it covered and free of dust. Avoid plastic or non-porous cover that will trap moisture and promote corrosion.
11. If stored outside (not recommended), keep it sheltered, store it on wooden blocks or a wooden pallet, cover with a waterproof tarpaulin and tie down securely.
12. Store in an area away from human activity.
13. Do not allow children to play around the stored unit.

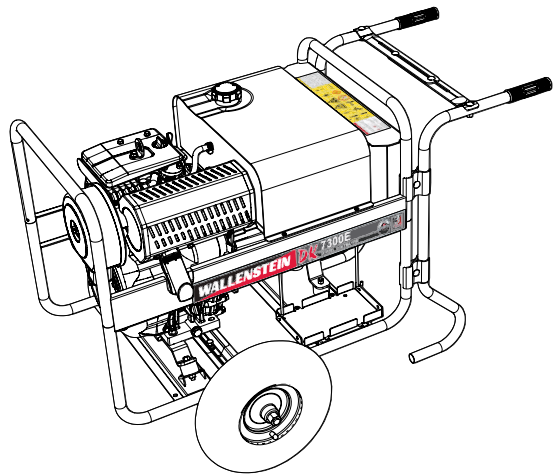
5.2.2 REMOVING FROM STORAGE

When removing this machine from storage, follow this procedure:

1. Remove the tarpaulin if covered.
2. Install and connect the battery.
3. Bring the ignition key.
4. Review and follow the pre-operation checklist.
5. Check engine operators manual for engine startup after storage.

IMPORTANT

If the machine has been stored for more than 12 months with fuel, drain the fuel tank and replace with fresh diesel fuel. Sediment and sludge may form in the fuel over time and clog fuel filters.



**Battery removed, ready for storage
(Typical)**

6 SERVICE AND MAINTENANCE



MAINTENANCE SAFETY

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Read the instructions before you begin, and make sure you have the tools and skills required. Do not smoke or have sources of ignition nearby while performing maintenance.
- Follow good shop practices.
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
- Make sure there is plenty of ventilation. Never operate the engine in a closed building. The exhaust fumes may cause asphyxiation.
- Before working on this machine, shut off the engine, disconnect all loads, and turn fuel valve off.
- Never work under equipment unless it is blocked securely.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
- Periodically tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure unit is in a safe condition.
- When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.
- Caution: Burns from hot parts. Let the engine, alternator and exhaust system cool before touching.
- Use only a non-flammable solvent, not gasoline, to clean parts.

6.1 SERVICE

6.1.1 FLUIDS AND LUBRICANTS

1. **Engine Oil:**
See engine owners manual for full detail on oil type specific to operating conditions and capacity.
2. **Engine Fuel:**
See engine owners manual for full detail on fuel types and limitations.
Fuel Tank Capacity: 20 Liter, (5.3 US gal)
3. **Storing Lubricants:**
Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

6.1.2 FLUIDS AND LUBRICANTS

Use the Maintenance Checklist provided to keep a record of all scheduled maintenance.

1. Use a hand-held grease gun for all greasing.
2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.
4. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fittings if necessary.

6.2 MAINTENANCE

By following a careful service and maintenance program for your machine, you will enjoy many years of trouble free operation.

Ensure all operators understand how to put the machine in safe condition before working with this machine,

- Flip main switch "off" or disconnect all loads
- Shut off the engine.
- Ensure all components have stopped moving.
- Remove and pocket the ignition key. (electric start only)
- Disconnect the battery.(electric start only)



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

To properly care for your generator, it is recommended to perform maintenance procedures on a regular basis. Other service tasks that are more difficult or require special tools are best handled by professionals and are normally performed by your small engine technician or other qualified mechanic.

If you operate your generator under unusual conditions, such as sustained high-load or high-temperature operation, or use it in dusty conditions, consult your service technician for recommendations applicable to your individual needs and use.

Improper maintenance, or failure to correct a problem before operation, can cause a malfunction which may void your warranty. Always follow the inspection and maintenance recommendations.

Remember that your service technician knows your generator best and is fully equipped to maintain and repair it. To ensure the best quality and reliability, use only new, genuine parts for repair and replacement.

Genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.

6.2.1 GENERAL MAINTENANCE

On a regular basis check all nuts, bolts and screws and ensure they are all properly secured. Ensure the machine is clean free of oil and fuel spills. Inspect fuel line connections between the engine and fuel tank.

NEVER attempt to adjust or modify the factory settings of the engine or engine governor. Engine speed controls frequency portion of the electrical output (60hZ) Personal injury or damage to the engine or equipment can result if operating in speed ranges above the maximum or below the minimum allowable. Only qualified technicians with the proper equipment should to make adjustments to the engine settings.

6.2.2 ENGINE MAINTENANCE

Review the engine owners manual periodic maintenance section. Follow the recommendations for service and maintenance as outlined in your engine owners manual. Always follow the safety procedures and precautions in the owner's manual.

6.2.3 ALTERNATOR MAINTENANCE

Review the alternator owners manual maintenance section. Follow the recommendations for service and maintenance as outlined in your alternators owners manual. Always follow the safety procedures and precautions in the owner's manual.

6.2.4 SERVICING THE BATTERY

Read Section 2.9 on battery safety for safe handling of the battery

Caution: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to cause cancer and reproductive harm. Wash hands immediately after handling battery.

Remove

1. Disconnect negative (–) cable first, then positive (+) cable.
2. Remove battery hold-down bracket and battery from unit.

Install

1. Install battery on unit with battery hold-down bracket.
2. Connect positive (+) cable first, then negative (–) cable.
3. Coat terminals with dielectric grease or petroleum jelly.

Cleaning the Battery

1. Disconnect negative (–) cable first, then positive (+) cable.
2. Clean battery cable ends and terminals with wire brush. Rinse with a weak baking soda solution.
3. Connect positive (+) cable first, then negative (–) cable.
4. Coat terminals with dielectric grease or petroleum jelly.

Charging the Battery

DO NOT fast charge. Charging at a higher rate will reduce battery life.

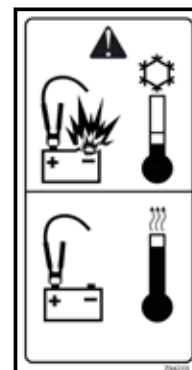
ALWAYS follow information provided on battery and battery charger. Contact battery manufacturer and battery charger manufacturer for detailed instructions.

1. Remove battery from unit.
2. Use a battery carrier to lift the battery or place hands at opposite corners to avoid spilling acid through the vents
3. Place battery on bench or other well-ventilated area.
4. Connect positive (+) lead of charger to positive (+) terminal, and negative (–) lead to negative (–) terminal.
5. Charge battery according to the instructions from battery charger manufacturer and battery manufacturer.

Jump Starting Battery

Read Section 2.9 on battery safety for safe handling of the battery.

WARNING: frozen batteries can explode and result in death or serious injury. DO NOT charge a frozen battery. Let battery thaw before charging.



Unit used for jump-starting should have a 12-volt battery and a negatively grounded system.

1. Connect positive (+) jumper cable to positive terminal of discharged battery.
2. Connect the other end of the same jumper cable to positive (+) terminal of booster battery.
3. Connect one end of the second jumper cable to negative (–) terminal of booster battery.
4. Make the final jumper cable connection to engine block or the furthest ground point away from the discharged battery.
5. Start engine.
6. After engine starts leave cables connected for one to two minutes.
7. Disconnect jumper cables in reverse order of installation.
8. Operate unit as normal to charge battery.

#Z93204 U1 Lawn & Garden 250 CCA battery is recommended

7 SPECIFICATIONS

7.1 MECHANICAL

DK Series Generators	DK5000E	DK7300E
Maximum watts	5000	7300
Continuous watts	3750	6000
Maximum amps (120-V)	41.6	60.8
Continuous amps (120-V)	31.25	50
Maximum amps (240-V)	20.8	30.4
Continuous amps (240-V)	15.6	25
Full Power Feature (120V)	yes	yes
Voltage 1	120	120
Voltage 2	240	240
Frequency	60 Hz	60 Hz
Engine	Kohler KD350 6.7 HP 349 CC	Kubota OC95-E3 9.4 HP 416 CC
Fuel	Diesel	Diesel
Full tank capacity	20 Litres 5.3 Gal.	20 Litres 5.3 Gal.
Estimated Run time (hours) Half load	22	16
Full load	14	9
Glow Plug	No	Yes
Weight lbs	205	270
kg	93.0	122.5
Dimensions length / width / height	29.25 x 20.25 x 23.75 74.3 x 51.5 x 61.0	31.5 x 21.0 x 23.75 80.0 x 53.5 x 61.0
Inch		
cm		
Starting System	electric start	electric start
Receptacles	1 x L14-30 1 x L5-30 2 x GFCI15-20R	1 x L14-30 1 x L5-30 2 x GFCI15-20R
Options	WK210 & WK214 Wheel Kits	
Details:		
Kohler KD350: Low oil shutdown		
Kubota OC95-E3: Low oil alert		
Full Power Feature: when the 240V leg is not used, turning on the full power feature utilizes the secondary winding of the alternator (used for 240V) to increase the power capacity of the 120v side. Amperage values in the chart are shown with the Full Power feature on.		
Power Monitor: Display cycles between power (P=kW) and total running hours, and is capable of displaying frequency (C=hertz). Indicator light warns of underload condition, flashing display indicates overload.		

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

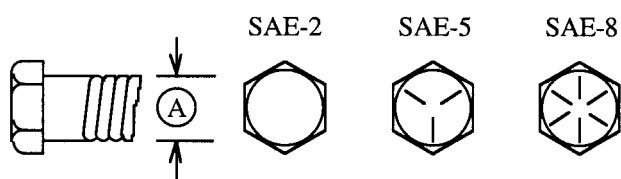
7.2 BOLT TORQUE

CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

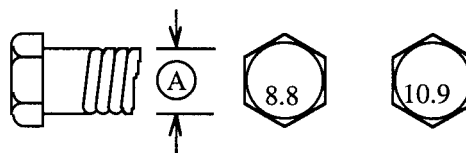
ENGLISH TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*					
	SAE 2 (N.m) (lb-ft)		SAE 5 (N.m) (lb-ft)		SAE 8 (N.m) (lb-ft)	
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970



METRIC TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*			
	8.8 (N.m) (lb-ft)		10.9 (N.m) (lb-ft)	
M3	.5	.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710



Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.
















* Torque value for bolts and capscrews are identified by their head markings.

8 TROUBLE SHOOTING

Wallenstein generators are designed with high quality Kubota and Kohler engines combined with tested and tough 120 / 240v alternators to produce a system that very reliable and robust.

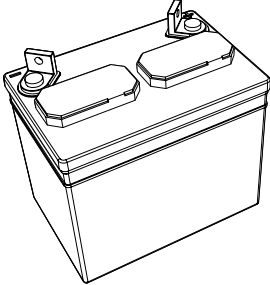
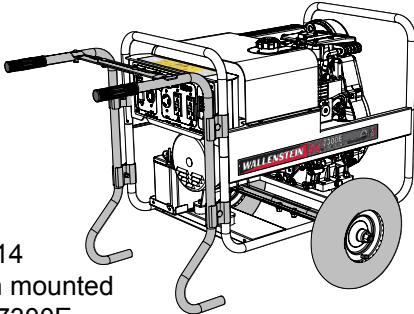
In the following page, we have listed many of the causes and solutions to the problems that you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting section, please call your local distributor or dealer. Before you call, please have this Operator's Manual and serial number ready.

PROBLEM	CAUSE	SOLUTION	CAUTION	
Engine will not start	Fuel valve OFF	Turn lever ON		
	Out of fuel	Refuel		Ensure machine is off
	Bad fuel (generator stored without treating or draining fuel)	Drain fuel tank , refuel with fresh fuel		Ensure machine is off
	Low oil level caused Oil Alert to stop engine	Add oil, turn engine switch to OFF and then restart the engine		Ensure machine is off
	Fuel filter restricted	Replace filter		Ensure machine is off
	Load connected	Flip off main switch, or unplug load		
	Weak Battery	Check / replace battery		Ensure machine is off
	ignition malfunction, valves stuck, etc	Take the generator to an authorized servicing dealer for repair		Ensure machine is off / Call technician
Breakers tripping	Electrical load too high	Reduce electrical load		Ensure machine is off
	Load or cord defective	Check appliance, tool, any load connected to generator for damage, shorting		Ensure machine is off
	Incorrect residential connection	call electrician		Ensure machine is off
	Electrical cords damaged	Check cord and connections for damage, replace		Ensure machine is off
No Power 120 / 240 v	Breaker tripped	Reset breaker, check reason for breaker trip, replace if defective		Ensure machine is off
	Alternator problem	check connections to control panel, inspect alternator		Ensure machine is off / Call technician
	Electrical cords damaged / cut	Check cord and connections for damage, replace		Ensure machine is off
	Broken receptacle	Check receptacle and connections for damage, replace		Ensure machine is off
No Power 240 v	Full power switch on 120V setting	Select 120 / 240v setting		Ensure machine is off / Call technician

9 ACCESSORIES

Call your dealer for pricing and availability

 <p>#Z93204</p>	<p>#Z93204 U1 250CCA Lawn & Garden Battery</p> <p>For models: DK5000E & DK7300E</p> <p>The perfect battery to reliably get your generator started.</p>
 <p>#WK214 Shown mounted on DK7300E</p>	<p>#WK210 TWO WHEEL KIT WITH 10" TIRES #WK214 TWO WHEEL KIT WITH 13" TIRES</p> <p>For models: DK5000E & DK7300E</p> <p>A must have add on kit for true portability!</p>

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