Operator's Manual

Mobile Generator

G 100
G 120

EN

5000185616	04	0911

5 0 0 0 1 8 5 6 1 6

Trademarks

All trademarks referenced in this manual are the property of their respective owners.

Manufacturer

Wacker Neuson Production Americas LLC

N92W15000 Anthony Avenue

Menomonee Falls, WI 53051 U.S.A.

Tel: (262) 255-0500 · Fax: (262) 255-0550 · Tel: (800) 770-0957

www.wackerneuson.com

Original instructions

This Operator's Manual presents the original instructions. The original language of this Operator's Manual is American English.

Foreword

SAVE THESE INSTRUCTIONS—This manual contains important instructions for the machine models below. These instructions have been written expressly by Wacker Neuson Production Americas LLC and must be followed during installation, operation, and maintenance of the machines.

Machines covered in this manual

Machine	Item Number
G 100 G 120	0620649, 0620650, 0620651, 5200001319 0620652, 0620653, 0620654, 5200001320

Machine documentation

- From this point forward in this documentation, Wacker Neuson Production Americas LLC will be referred to as Wacker Neuson.
- Keep a copy of the Operator's Manual with the machine at all times.
- Use the separate Parts Book supplied with the machine to order replacement parts.
- Refer to the separate Repair Manual for detailed instructions on servicing and repairing the machine.
- If you are missing any of these documents, please contact Wacker Neuson to order a replacement or visit www.wackerneuson.com.
- When ordering parts or requesting service information, be prepared to provide the machine model number, item number, revision number, and serial number.

Expectations for information in this manual

- This manual provides information and procedures to safely operate and maintain the above Wacker Neuson model(s). For your own safety and to reduce the risk of injury, carefully read, understand, and observe all instructions described in this manual.
- Wacker Neuson expressly reserves the right to make technical modifications, even without notice, which improve the performance or safety standards of its machines.
- The information contained in this manual is based on machines manufactured up until the time of publication. Wacker Neuson reserves the right to change any portion of this information without notice.

CALIFORNIA Proposition 65 Warning

Engine exhaust, some of its constituents, and certain vehicle components, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Laws pertaining to spark arresters

NOTICE: State Health Safety Codes and Public Resources Codes specify that in certain locations spark arresters be used on internal combustion engines that use hydrocarbon fuels. A spark arrester is a device designed to prevent accidental discharge of sparks or flames from the engine exhaust. Spark arresters are qualified and rated by the United States Forest Service for this purpose. In order to comply with local laws regarding spark arresters, consult the engine distributor or the local Health and Safety Administrator.

Manufacturer's approval

This manual contains references to *approved* parts, attachments, and modifications. The following definitions apply:

- **Approved parts or attachments** are those either manufactured or provided by Wacker Neuson.
- **Approved modifications** are those performed by an authorized Wacker Neuson service center according to written instructions published by Wacker Neuson.
- **Unapproved parts, attachments, and modifications** are those that do not meet the approved criteria.

Unapproved parts, attachments, or modifications may have the following consequences:

- Serious injury hazards to the operator and persons in the work area
- Permanent damage to the machine which will not be covered under warranty

Contact your Wacker Neuson dealer immediately if you have questions about approved or unapproved parts, attachments, or modifications.

1 Safety Information

1.1 Signal Words Used in this Manual

This manual contains DANGER, WARNING, CAUTION, *NOTICE,* and NOTE signal words which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.

This is the safety alert symbol. It is used to alert you to potential personal hazards.
- ▶ Obey all safety messages that follow this symbol.

DANGER
DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- ▶ To avoid death or serious injury from this type of hazard, obey all safety messages that follow this signal word.

WARNING
WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- ▶ To avoid possible death or serious injury from this type of hazard, obey all safety messages that follow this signal word.

CAUTION!
CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- ▶ To avoid possible minor or moderate injury from this type of hazard, obey all safety messages that follow this signal word.

NOTICE: Used without the safety alert symbol, NOTICE indicates a situation which, if not avoided, could result in property damage.

Note: *A Note contains additional information important to a procedure.*

1.2 Machine Description and Intended Use

This machine is a mobile electric power source. The Wacker Neuson Mobile Generator consists of a trailer-mounted cabinet containing an electric alternator, a fuel tank, and a diesel engine. A control panel, receptacles, and connection lugs are provided on the side of the cabinet. As the engine runs, the generator converts mechanical energy into electric power. The operator connects loads to the electric power receptacles and connection lugs.

This machine is intended for the purpose of supplying electrical power to connected loads. Refer to the product specifications for the output voltage and frequency of this generator, and for the maximum output power limit of this generator.

This machine has been designed and built strictly for the intended use described above. Using the machine for any other purpose could permanently damage the machine or seriously injure the operator or other persons in the area. Machine damage caused by misuse is not covered under warranty.

The following are some examples of misuse:

- Connecting a load that has voltage and frequency requirements that are incompatible with the generator output
- Overloading the generator with a load that draws excessive power during either continuous running or start-up
- Operating the generator in a manner that is inconsistent with all federal, state and local codes and regulations
- Using the machine as a ladder, support, or work surface
- Using the machine to carry or transport passengers or equipment
- Using the machine to tow other machines
- Operating the machine outside of factory specifications
- Operating machine in a manner inconsistent with all warnings found on the machine and in the Operator's Manual

This machine has been designed and built in accordance with the latest global safety standards. It has been carefully engineered to eliminate hazards as far as practicable and to increase operator safety through protective guards and labeling. However, some risks may remain even after protective measures have been taken. They are called residual risks. On this machine, they may include exposure to:

- Heat, noise, exhaust, and carbon monoxide from the engine
- Fire hazards from improper refueling techniques
- Fuel and its fumes
- Electric shock and arc flash
- Personal injury from improper lifting the trailer tongue
- Typical hazards related to towing a trailer on roads and highways

To protect yourself and others, make sure you thoroughly read and understand the safety information presented in this manual before operating the machine.

1.3 Safety Guidelines for Operating the Machine

WARNING

Familiarity and proper training are required for the safe operation of the machine. Machines operated improperly or by untrained personnel can be dangerous. Read the operating instructions contained in both this manual and the engine manual and familiarize yourself with the location and proper use of all controls. Inexperienced operators should receive instruction from someone familiar with the machine before being allowed to operate it.

Operator qualifications

Only trained personnel are permitted to start, operate, and shut down the machine. They also must meet the following qualifications:

- have received instruction on how to properly use the machine
- are familiar with required safety devices

The machine must not be accessed or operated by:

- children
- people impaired by alcohol or drugs

Personal Protective Equipment (PPE)

Wear the following Personal Protective Equipment (PPE) while operating this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

1.3.1 Do not operate the generator when open containers of fuel, paint, or other flammable liquids are near.

1.3.2 Do not place flammable material or liquids near the generator.

1.3.3 Do not operate the generator, or tools attached to the generator, with wet hands.

1.3.4 Do not use worn electrical cords. Severe electrical shock and equipment damage may result.

1.3.5 Do not operate the machine indoors unless exhaust fumes can be adequately ventilated.

1.3.6 Do not overload the generator. The total amperage of the tools and equipment attached to the generator must not exceed the load rating of the generator.

1.3.7 Do not allow untrained personnel to operate or service the generator. The generator set should be set up by a certified electrician.

1.3.8 Do not operate generator in standing water.

1.3.9 Do not touch the hot engine, exhaust, or generator components. Burns will result.

1.3.10 Do not start a machine in need of repair.

1.3.11 Use the emergency stop button only in an actual emergency. Do not restart the engine until the cause of the trouble has been determined and fixed.

1.3.12 Wear hearing protection when operating equipment.

1.3.13 Follow starting and stopping instructions described in this manual. Know how to operate and stop generator before starting it.

1.3.14 Make a walk-around inspection of the generator set before starting it. Open side doors and visually inspect engine compartment for obvious damage or the presence of foreign objects which might affect operation.

1.3.15 Keep the machine at least one meter (three feet) away from structures, buildings, and other equipment during use.

1.3.16 Store the machine properly when it is not being used. The machine should be stored in a clean, dry location out of the reach of children.

1.3.17 Keep the area immediately surrounding and underneath the machine clean, neat, and free of debris and combustible materials. Make sure that the area overhead is clear of debris that could fall onto or into the machine or exhaust compartment.

1.3.18 Make sure the machine is on a firm, level surface and will not tip, roll, slide, or fall while operating.

1.3.19 Remove all tools, cords, and other loose items from the generator before starting it.

1.3.20 Make sure the machine is well-grounded and securely fastened to a good earthen ground per national and local regulations.

WARNING

BACKFEED FROM THE GENERATOR INTO THE PUBLIC POWER DISTRIBUTION SYSTEM CAN CAUSE SERIOUS INJURY OR DEATH TO UTILITY WORKERS!

Improper connection of generator to a building's electrical system can allow electrical current from the generator to backfeed into utility lines. This may result in electrocution of utility workers, fire, or explosion. Connections to a building's electrical system must be made by a qualified electrician and comply with all applicable laws and electrical codes.

If connected to a building's electrical system, the generator must meet the power, voltage, and frequency requirements of the equipment in the building. Differences in power, voltage, and frequency requirements may exist and improper connection may lead to equipment damage, fire, and personal injury or death.

1.4 Operator Safety while Using Internal Combustion Engines

WARNING
Internal combustion engines present special hazards during operation and fueling. Failure to follow the warnings and safety standards could result in severe injury or death.

- ▶ Read and follow the warning instructions in the engine owner's manual and the safety guidelines below.

DANGER
Exhaust gas from the engine contains carbon monoxide, a deadly poison. Exposure to carbon monoxide can kill you in minutes.

- ▶ NEVER operate the machine inside an enclosed area, such as a tunnel, unless adequate ventilation is provided through such items as exhaust fans or hoses.

Operating safety

When running the engine:

- Keep the area around exhaust pipe free of flammable materials.
- Check the fuel lines and the fuel tank for leaks and cracks before starting the engine. Do not run the machine if fuel leaks are present or the fuel lines are loose.

When running the engine:

- Do not smoke while operating the machine.
- Do not run the engine near sparks or open flames.
- Do not touch the engine or muffler while the engine is running or immediately after it has been turned off.
- Do not operate a machine when its fuel cap is loose or missing.
- Do not start the engine if fuel has spilled or a fuel odor is present. Move the machine away from the spill and wipe the machine dry before starting.

Refueling safety

When refueling the engine:

- Clean up any spilled fuel immediately.
- Refill the fuel tank in a well-ventilated area.
- Replace the fuel tank cap after refueling.
- Do not smoke.
- Do not refuel a hot or running engine.
- Do not refuel the engine near sparks or open flames.

1.5 Towing Safety

WARNING
Towing a large trailer requires special care. To reduce the possibility of an accident:
- ▶ Both the trailer and vehicle must be in good condition.
- ▶ The trailer and the vehicle must be securely fastened to each other.

Hitch and coupling

Before towing, follow the instructions below to ensure that the hitch and coupling are ready for use.

- Check that the hitch and coupling on the vehicle are rated equal to, or greater than, the trailer's Gross Vehicle Weight Rating (GVWR).
- Inspect the hitch and coupling for wear or damage. DO NOT tow the trailer using defective parts.
- Make sure the coupling is securely fastened to the vehicle.
- Connect the safety chains.
- Connect the breakaway cable safety hook to the bumper or rear of the vehicle. Do not attach the breakaway cable to the vehicle hitch.

Tires and wheels

Before towing, follow the instructions below to ensure that the tires and wheels are ready for use.

- Check the tires on the trailer for tread wear, proper inflation, and condition. Replace worn tires.
- Check that the lug nuts holding the wheels are tight and that none are missing.

Brakes and lights

Before towing, follow the instructions below to ensure that the brakes and lights are ready for use.

- Test the surge brakes on the trailer.
- Test the brakes on the vehicle that will be used for towing.
- Make sure directional and trailer lights are connected and working properly.

1.6 Service Safety

WARNING

A poorly maintained machine can become a safety hazard! In order for the machine to operate safely and properly over a long period of time, periodic maintenance and occasional repairs are necessary.

Personal Protective Equipment (PPE)

Wear the following Personal Protective Equipment (PPE) while servicing or maintaining this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

In addition, before servicing or maintaining the machine:

- Tie back long hair.
- Remove all jewelry (including rings).

1.6.1 **Do not perform even routine service (oil/filter changes, cleaning, etc.) unless all electrical components are shut down.** Before servicing this machine, make sure the engine start switch is turned to off “O”, the circuit breakers are open (off), the emergency stop switch is closed (pushed in), and the negative terminal on battery is disconnected. Attach a “DO NOT START” sign to the control panel. This will notify everyone that the unit is being serviced and will reduce the chance of someone inadvertently trying to start the unit. If the unit is connected to a remote start or transfer switch, make sure the remote switch is also off and tagged.

1.6.2 Ground Connection

The generator must be connected to a good earthen ground for proper operating safety!

A central “equipment ground” is provided at the customer connection lugs. This point is connected directly to the generator set base. All other system grounds are connected to this central point. Ground the generator in accordance with the standards defined in national, state, and local regulations.

1.6.3 Do not attempt to open the radiator cap while the unit is running or before the engine has cooled down. Severe burns may result!

1.6.4 Do not allow water to accumulate around the base of the machine. If water is present, move the machine and allow the machine to dry before servicing.

1.6.5 Do not service the machine if your clothing or skin is wet.

1.6.6 Do not allow untrained personnel to service this equipment. Only trained electrical technicians should be allowed to service the electrical components of this equipment.

1.6.7 Do not modify the machine without the express written approval of the manufacturer.

1.6.8 Do not pressure wash the control panel, generator end, or any other electrical components when cleaning the unit. Never allow water to accumulate around the base of the generator set. If water is present, DO NOT service!

1.6.9 Allow the engine to cool before performing any service work on the machine.

1.6.10 Remain aware of moving parts and keep hands, feet, and loose clothing away from the moving parts of the generator and engine.

1.6.11 Replace all guards, fasten doors, and make sure all safety devices operate properly after making repairs or servicing the equipment.

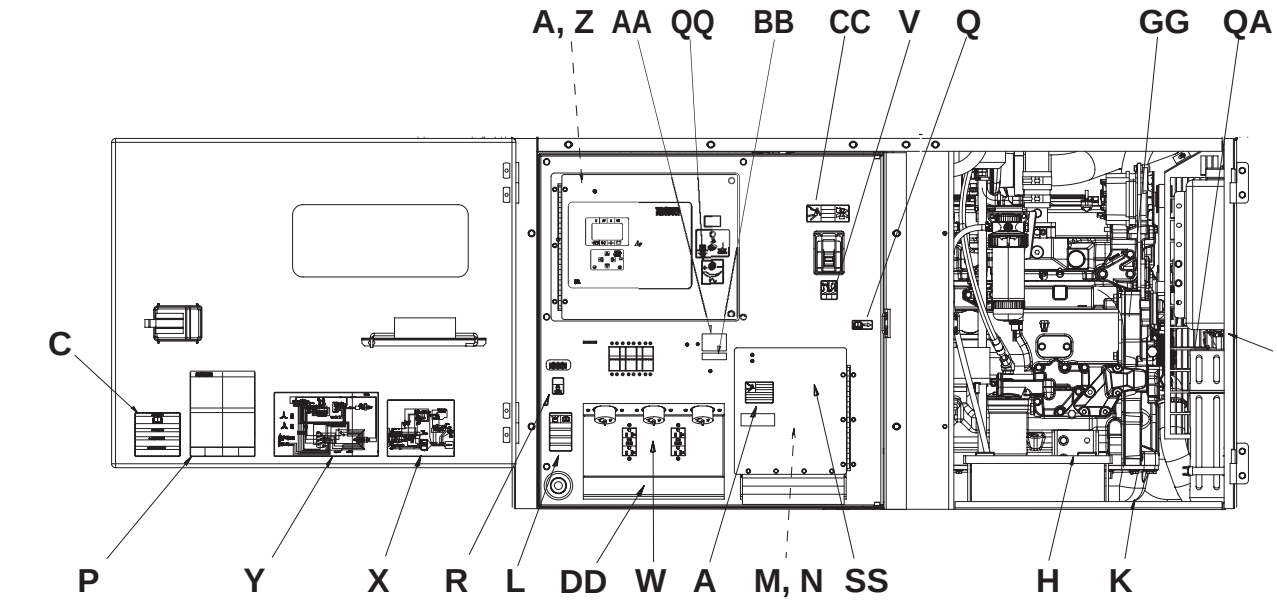
1.6.12 Keep the machine clean and labels legible. Replace all missing and hard-to-read labels. Labels provide important operating instructions and warn of dangers and hazards.

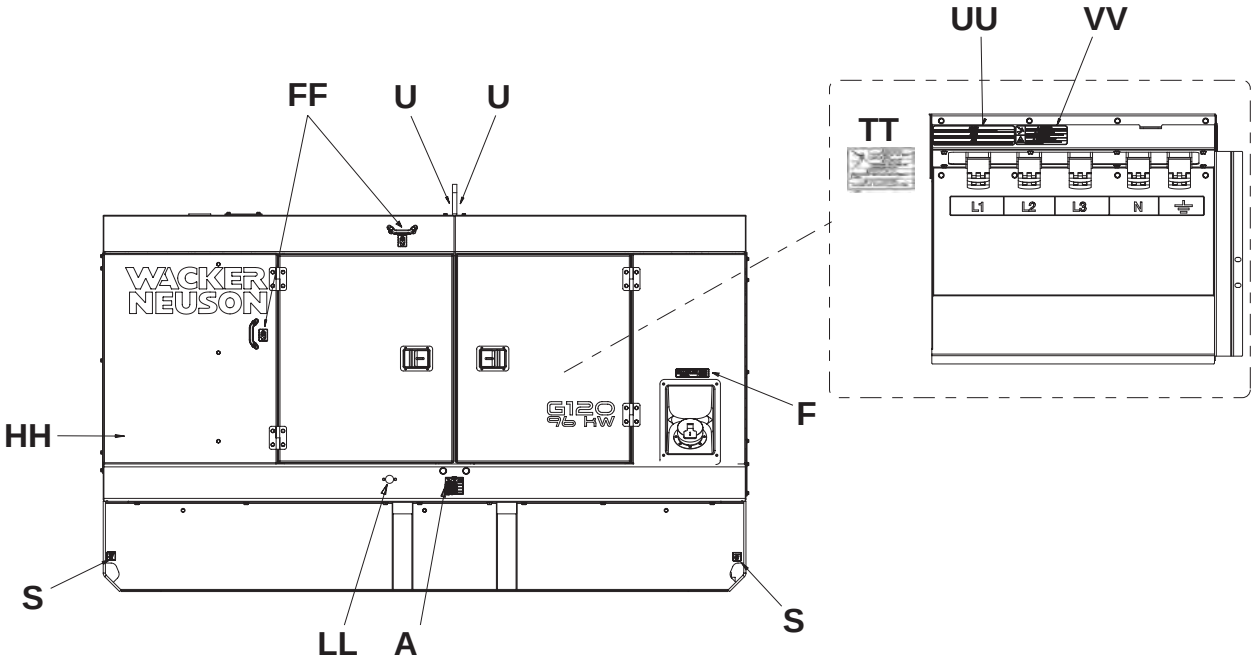
1.6.13 Check all external fasteners at regular intervals.

1.6.14 Make sure slings, chains, hooks, ramps, jacks, and other types of lifting devices are attached securely and have enough weight-bearing capacity to lift or hold the machine safely. Always remain aware of the location of other people in the area when lifting the machine.

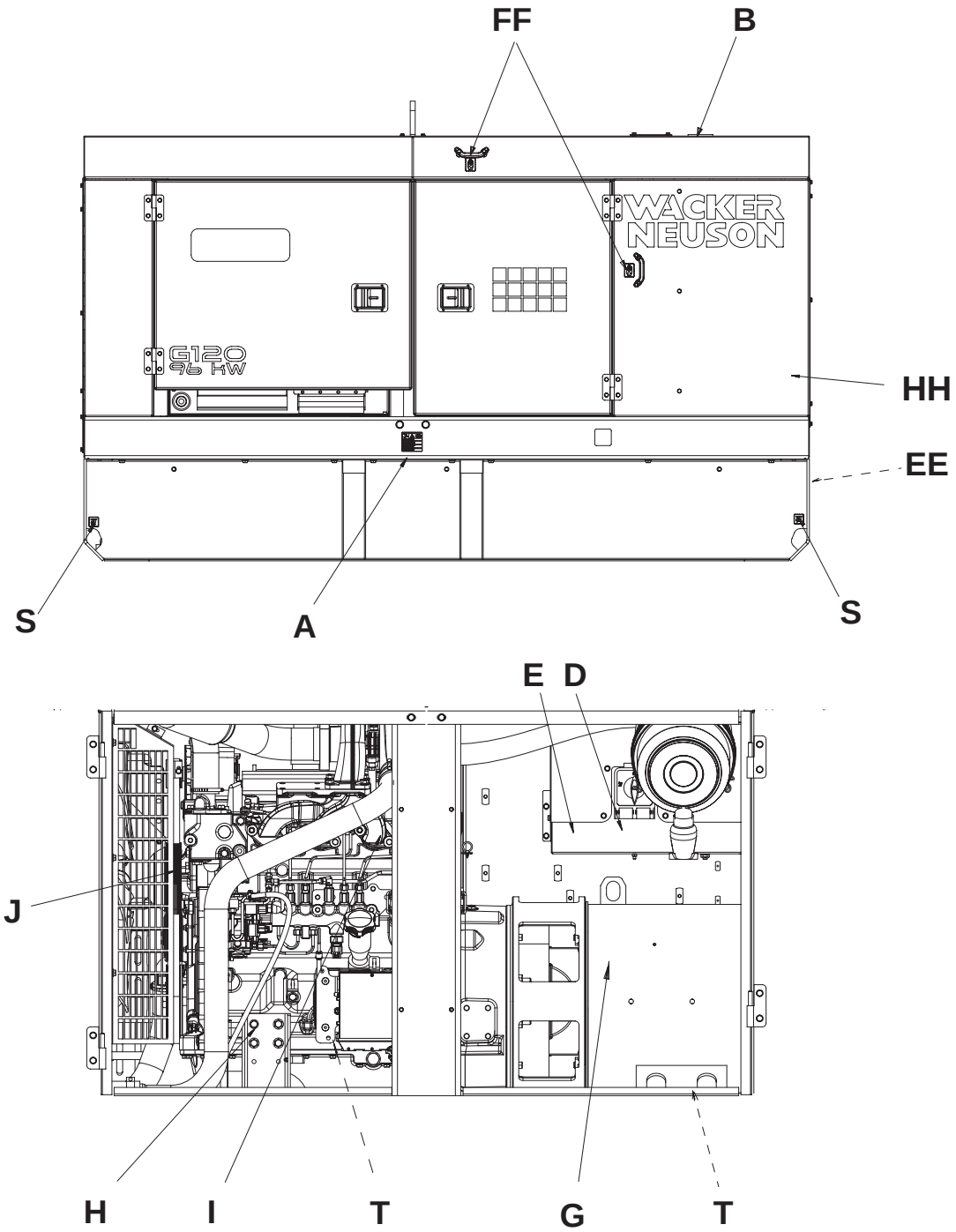
2 Labels

2.1 Label Locations



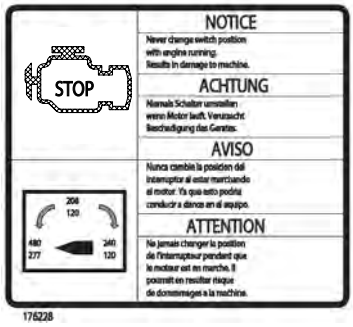


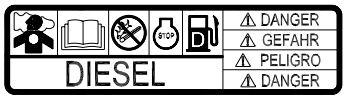
wc_gr006134

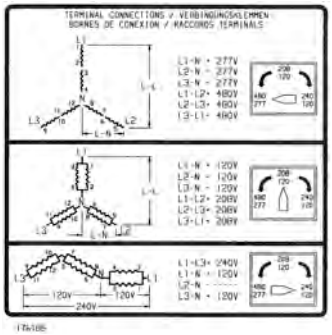


wc_gr006135

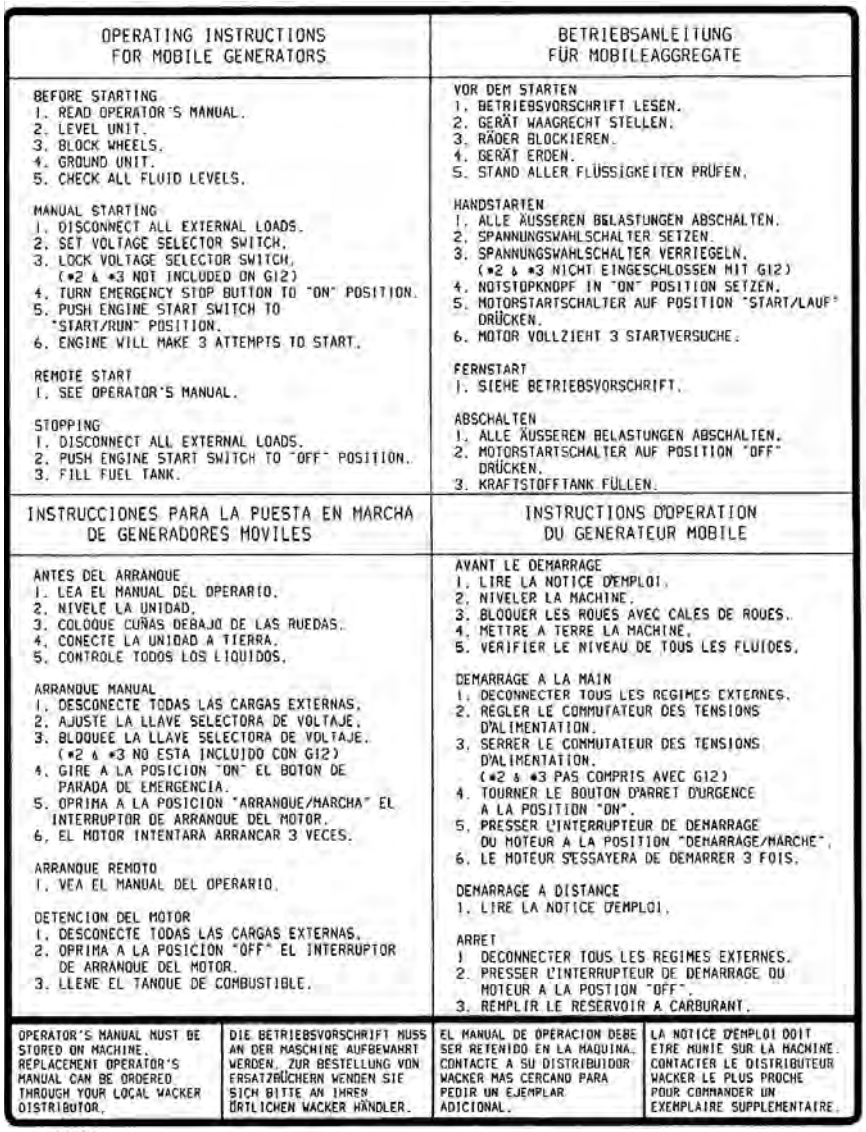
2.2 Label Meanings

A		WARNING! Lock doors. Access can cause electric shock, arc flash, or injury. Read the Operator's Manual for more information.
B		WARNING! Pressurized contents. Do not open when hot!
C		WARNING! Read and understand the supplied Operator's Manual before operating the machine. Failure to do so increases the risk of injury to yourself and others.
D		NOTICE Never change switch position with engine running. Results in damage to machine.
E		WARNING! Electric shock and arc flash can cause serious injury or death.

F		DANGER! Asphyxiation hazard. Do not run the machine indoors or in an enclosed area without adequate ventilation. Read the Operator's Manual for instructions. No sparks, flames, or burning objects near machine. Stop the engine before adding fuel. Use only diesel fuel.
G		WARNING! To prevent hearing loss, wear hearing protection. Hand injury if entangled in moving belt. Rotating machinery! Do not reach inside with engine running. WARNING! Hot surface NOTICE Avoid spraying water into generator.
H		WARNING! Hot surface
I		WARNING! Hot surface
J		WARNING! To prevent hearing loss, wear hearing protection when operating the machine. WARNING! Pressurized contents. Do not open when hot! WARNING! Hand injury if entangled in moving belt. WARNING! Rotating machinery! Do not reach inside machine with engine running.

K		WARNING! Disconnect battery before servicing. Read the Operator's Manual.
L		WARNING! Generator can automatically start which can cause serious injury. Disconnect battery before servicing.
M		WARNING! To reduce the risk of electrical shock and arc flash, read the Operator's Manual. Improper connection of the generator to a building's electrical system can allow electrical current from the generator to backfeed into utility lines. This may result in electrocution of utility workers, fire, or explosion. Connections to a building's electrical system must be made by a qualified electrician and comply with all applicable laws and electrical codes.
N		Voltage selector label

P



OPERATING INSTRUCTIONS FOR MOBILE GENERATORS

BEFORE STARTING
1. READ OPERATOR'S MANUAL.
2. LEVEL UNIT.
3. BLOCK WHEELS.
4. GROUND UNIT.
5. CHECK ALL FLUID LEVELS.

MANUAL STARTING
1. DISCONNECT ALL EXTERNAL LOADS.
2. SET VOLTAGE SELECTOR SWITCH.
3. LOCK VOLTAGE SELECTOR SWITCH. (*2 & *3 NOT INCLUDED ON G12)
4. TURN EMERGENCY STOP BUTTON TO "ON" POSITION.
5. PUSH ENGINE START SWITCH TO "START/RUN" POSITION.
6. ENGINE WILL MAKE 3 ATTEMPTS TO START.

REMOTE START
1. SEE OPERATOR'S MANUAL.

STOPPING
1. DISCONNECT ALL EXTERNAL LOADS.
2. PUSH ENGINE START SWITCH TO "OFF" POSITION.
3. FILL FUEL TANK.

BETRIEBSANLEITUNG FÜR MOBILEAGGREGATE

VOR DEM STARTEN
1. BETRIEBSVORSCHRIFT LESEN.
2. GERÄT WAAGRECHT STELLEN.
3. RÄDER BLOCKIEREN.
4. GERÄT ERDEN.
5. STAND ALLER FLÜSSIGKEITEN PRÜFEN.

HANDSTARTEN
1. ALLE ÄUSSEREN BELASTUNGEN ABSCHALTEN.
2. SPANNUNGSWAHLSCHALTER SETZEN.
3. SPANNUNGSWAHLSCHALTER VERRIEGELN. (*2 & *3 NICHT EINGESCHLOSSEN MIT G12)
4. NOTSTOPKNOPF IN "ON" POSITION SETZEN.
5. MOTORSTARTSCHALTER AUF POSITION "START/LAUF" DRÜCKEN.
6. MOTOR VOLLZIEHT 3 STARTVERSUCHE.

FERNSTART
1. SIEHE BETRIEBSVORSCHRIFT.

ABSCHALTEN
1. ALLE ÄUSSEREN BELASTUNGEN ABSCHALTEN.
2. MOTORSTARTSCHALTER AUF POSITION "OFF" DRÜCKEN.
3. KRAFTSTOFFTANK FÜLLEN.

INSTRUCCIONES PARA LA PUESTA EN MARCHA DE GENERADORES MÓVILES

ANTES DEL ARRANQUE
1. LEA EL MANUAL DEL OPERARIO.
2. NIVELE LA UNIDAD.
3. COLOQUE CUÑAS DEBAJO DE LAS RUEDAS.
4. CONECTE LA UNIDAD A TIERRA.
5. CONTROLE TODOS LOS LIQUIDOS.

ARRANQUE MANUAL
1. DESCONECTE TODAS LAS CARGAS EXTERNAS.
2. AJUSTE LA LLAVE SELECTORA DE VOLTAJE.
3. BLOQUEE LA LLAVE SELECTORA DE VOLTAJE. (*2 & *3 NO ESTA INCLUIDO CON G12)
4. GIRE A LA POSICION "ON" EL BOTON DE PARADA DE EMERGENCIA.
5. OPRIMA A LA POSICION "ARRANQUE/MARCHA" EL INTERRUPTOR DE ARRANQUE DEL MOTOR.
6. EL MOTOR INTENTARA ARRANCAR 3 VECES.

ARRANQUE REMOTO
1. VEA EL MANUAL DEL OPERARIO.

DETENCION DEL MOTOR
1. DESCONECTE TODAS LAS CARGAS EXTERNAS.
2. OPRIMA A LA POSICION "OFF" EL INTERRUPTOR DE ARRANQUE DEL MOTOR.
3. LLENE EL TANQUE DE COMBUSTIBLE.

INSTRUCTIONS D'OPERATION DU GENERATEUR MOBILE

AVANT LE DEMARRAGE
1. LIRE LA NOTICE D'EMPLOI.
2. NIVELER LA MACHINE.
3. BLOQUER LES ROUES AVEC CALES DE ROUES.
4. METTRE A TERRE LA MACHINE.
5. VERIFIER LE NIVEAU DE TOUS LES FLUIDES.

DEMARRAGE A LA MAIN
1. DECONNECTER TOUS LES REGIMES EXTERNES.
2. REGLER LE COMMUTATEUR DES TENSIONS D'ALIMENTATION.
3. SERRER LE COMMUTATEUR DES TENSIONS D'ALIMENTATION. (*2 & *3 PAS COMPRIS AVEC G12)
4. TOURNER LE BOUTON D'ARRET D'URGENCE A LA POSITION "ON".
5. PRESSER L'INTERRUPTEUR DE DEMARRAGE DU MOTEUR A LA POSITION "DEMARRAGE/MARCHE".
6. LE MOTEUR S'ESSAYERA DE DEMARRER 3 FOIS.

DEMARRAGE A DISTANCE
1. LIRE LA NOTICE D'EMPLOI.

ARRET
1. DECONNECTER TOUS LES REGIMES EXTERNES.
2. PRESSER L'INTERRUPTEUR DE DEMARRAGE DU MOTEUR A LA POSTION "OFF".
3. REMPLIR LE RESERVOIR A CARBURANT.

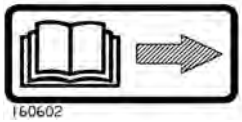
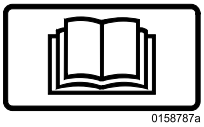
OPERATOR'S MANUAL MUST BE STORED ON MACHINE. REPLACEMENT OPERATOR'S MANUAL CAN BE ORDERED THROUGH YOUR LOCAL WACKER DISTRIBUTOR.

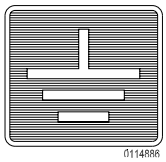
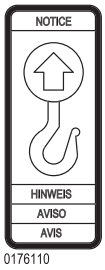
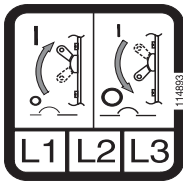
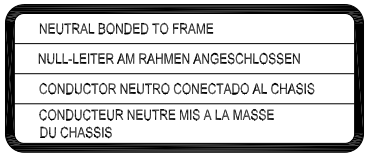
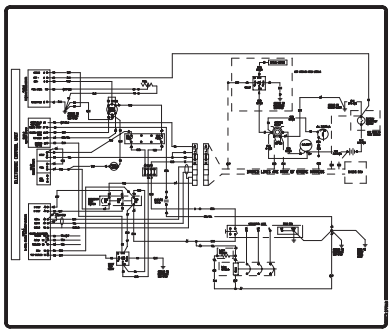
DIE BETRIEBSVORSCHRIFT MUSS AN DER MASCHINE AUFBEWAHRT WERDEN. ZUR BESTELLUNG VON ERSATZBÜCHERN WENDEN SIE SICH BITTE AN IHREN ÖRTLICHEN WACKER HÄNDLER.

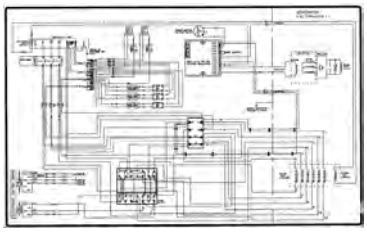
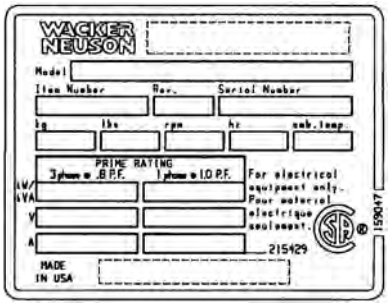
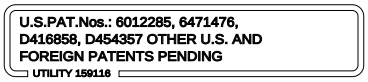
EL MANUAL DE OPERACION DEBE SER RETENIDO EN LA MAQUINA. CONTACTE A SU DISTRIBUIDOR WACKER MAS CERCANO PARA PEDIR UN EJEMPLAR ADICIONAL.

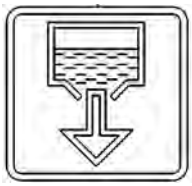
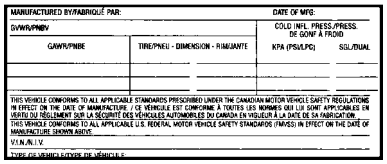
LA NOTICE D'EMPLOI DOIT ETRE MUNIE SUR LA MACHINE. CONTACTER LE DISTRIBUTEUR WACKER LE PLUS PROCHE POUR COMMANDER UN EXEMPLAIRE SUPPLEMENTAIRE.

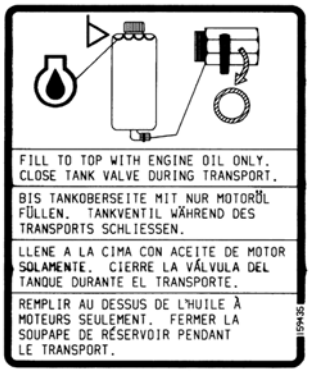
164720

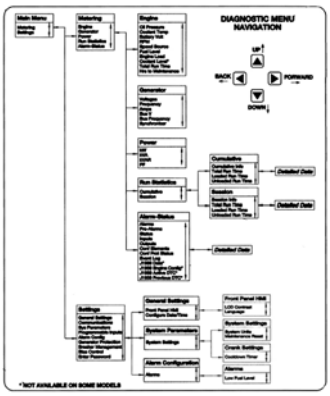
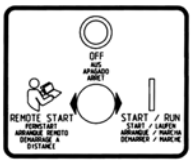
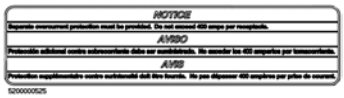
Q QA	 160602  0158787a	Operator's Manual must be stored on machine. Replacement Operator's Manual can be ordered through your local Wacker Neuson distributor.
R		Remote start operation. Read Operator's Manual for instructions.

S		Tie-down point
T		Electrical ground
U		NOTICE Lifting point.
V		Operating the main circuit breaker supplies or interrupts power to the customer connection lugs.
W		Neutral bonded to frame
X		Engine wiring

Y		Generator and Receptacle Wiring
Z		WARNING Electric shock at cooling fins.
AA		A nameplate listing the model number, item number, revision number, and serial number is attached to each unit. Please record the information found on this nameplate so it will be available should the nameplate become lost or damaged. When ordering parts or requesting service information, you will always be asked to specify the model number, item number, revision number, and serial number of the unit.
BB		This machine may be covered by one or more patents.
CC		DANGER Danger of asphyxiation! Do not operate this machine indoors. Electric shock and arc flash will cause serious injury or death.
DD		NOTICE Receptacles not used when: Selector switch set to 208/120V and voltage greater than 228V. Selector switch set to 480/277V and voltage greater than 457V.

EE		Fuel drain
FF	 176230	Hand hold
GG	 179282	WARNING! To prevent hearing loss, wear hearing protection when operating the machine. WARNING! Hand injury if entangled in moving belt. WARNING! Rotating machinery! Do not reach inside machine with engine running.
HH		Protecting Our Environment Fluid containment system (if equipped)
JJ		Certification Label (VIN Number) Also attached to each unit is a Certification Label. This label specifies that the trailer conforms with all Federal Motor Vehicle Standards in effect at the time of manufacture. The label includes the Vehicle Identification Number (VIN) for the trailer.
KK		Trailer Wiring G - Right brake light and directional Y - Left brake light and directional Br - Tail, side, and license plate lights W - Ground L - Electric brakes B - Battery charge

LL		(if equipped) Battery disconnect must be in “ON” position to start engine. NOTICE: Do not use the battery disconnect switch while engine is running. Damage to the electrical components may occur.
MM		Fuses
NN		(if equipped) NOTICE Mobile generator must be level for proper operation of lube level maintainer.
OO		Fill to top with engine oil only. Close tank valve during transport.

PP		Diagnostic menu navigation
QQ		Remote start operation. Read Operator's Manual for instructions.
RR		DANGER Start only from seat in park or neutral. Starting in gear kills. (This label appears on the John Deere engine but does not apply to this machine.)
SS		Lug door must be closed for lugs and receptacles to energize.
TT		(Camlock models only) WARNING! Electric shock can cause serious injury or death.
UU		(Camlock models only) NOTICE Separate overcurrent protection must be provided. Do not exceed 400 amps per receptacle.

VV		(Camlock models only) WARNING! Electric shock and arc flash can cause serious injury or death.

3 Lifting and Transporting

3.1 Lifting the Machine

Prerequisites

Before lifting the generator:

- refer to the Technical Data section for the proper operating weight of the generator
- make sure the lifting devices have sufficient capacity to lift the machine safely
- make sure the winch or crane to be used for lifting the machine is in operable condition and designed for such work

Lifting the generator

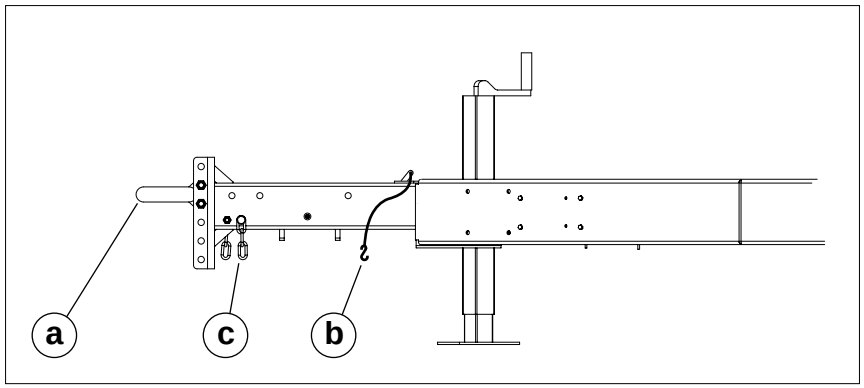
A central lifting eye is located at the top of the generator and is attached to a lifting frame inside the housing.

When lifting the generator, attach a hook or sling securely to the lifting eye.

3.2 Towing the Machine

Provided equipment

The generator trailer is equipped with brakes, lights, and coupler connection.



wc_gr005197

Prerequisites

Before towing the generator:

- Check that the towing vehicle and hitch have a rating equal to or greater than the GVWR. See ***Technical Data***.
- Check the condition of both the coupler and hitch. DO NOT tow the trailer if the coupler or hitch is damaged.

- Make sure that the hitch and coupler are compatible. The generator trailer is equipped with a pintle type coupler (a).
- Check that the directional and running lights on the trailer are working.
- Connect the safety chains (c) using a crossed pattern under the trailer tongue.
- On trailers with surge or electric brakes, connect the breakaway cable (b) on the trailer coupler to the rear bumper or frame of the vehicle. This cable will actuate the brake system on the trailer if both the coupling and safety chains have failed. The breakaway cable is not a parking brake and should not be used as one.
- Check that all fasteners on the coupling are secure.
- Check the tread wear and inflation on the tires. Make sure that all lug nuts are in place and are tight.
- Check the operation of the brakes by braking the vehicle at a slow speed before entering traffic. Both the vehicle and the trailer should brake smoothly. If the trailer seems to be pushing, check the fluid level in the surge brakes or the operation of the electric brakes.

Licensing requirements

- In most states, large trailers must be registered and licensed by the State Department of Transportation. Before towing, be sure to check licensing requirements.
- Drivers towing trailers may be required to carry a commercial driver's license (CDL). Check your local and state licensing regulations before towing the generator.

Coupler maintenance

- A film of grease on the coupler will extend coupler life and eliminate squeaking. Wipe the coupler clean and apply fresh grease each time the trailer is towed.

Towing safety

- When towing, maintain extra space between vehicles and avoid soft shoulders, curbs and sudden lane changes. If you have not pulled a trailer before, practice turning, stopping, and backing up in an area away from heavy traffic.
- Do not exceed 55 mph when towing a trailer.

Notes:

4 Operation

Preparing for first use

To prepare your machine for first use:

1. Make sure all loose packaging materials have been removed from the machine.
2. Check the machine and its components for damage. If there is visible damage, do not operate the machine! Contact your Wacker Neuson dealer immediately for assistance.
3. Take inventory of all items included with the machine and verify that all loose components and fasteners are accounted for.
4. Attach component parts not already attached.
5. Add fluids as needed and applicable, including fuel, engine oil, and battery acid.
6. Move the machine to its operating location.

Safety notices

- Do not exceed the power output of the generator. Damage to tools or generator will occur. Refer to *Technical Data*.
- When using the generator as a standby or substitute power supply, make sure the voltage and phase rotation of the line connections match those of the utility lines. Failure to match phase rotation and voltage may cause equipment connected to the generator to operate incorrectly! This could create unsafe operating conditions.
- Do not exceed the rated current limit of any receptacle.
- The bonding bar between the ground connections must remain in place at all times unless a qualified electrician determines otherwise.

CO Alarms

Because this machine produces carbon monoxide (CO), Wacker Neuson recommends that CO alarms be installed in all structures in close proximity to the machine. CO alarms provide an extra measure of protection against this poison that you cannot see or smell.

Install battery-operated CO alarms or plug-in CO alarms with battery backup, according to the manufacturer's instructions. CO alarms should be certified to the requirements of the latest safety standards (UL 2034, IAS 6-96, or CSA 6.19.01). Test the CO alarm batteries monthly.

4.1 Refueling the Machine

Requirements

- Machine shut down
- Engine cool
- Machine/fuel tank level with the ground
- Fresh, clean fuel supply

Procedure

Perform the procedure below to refuel the machine.

WARNING

Fire hazard. Fuel and its vapors are extremely flammable. Burning fuel can cause severe burns.

- ▶ Keep all sources of ignition away from the machine while refueling.
- ▶ Do not refuel if the machine is positioned in a truck fitted with a plastic bed liner. Static electricity can ignite the fuel or fuel vapors.
- ▶ Refuel only when the machine is outdoors.
- ▶ Clean up spilled fuel immediately.

1. Remove the fuel cap.
2. Fill the fuel tank until the fuel level gauge indicates that the tank is full.

CAUTION

Fire and health hazard. Fuel expands when heated. Expanding fuel in an over-filled tank can lead to spills and leaks.

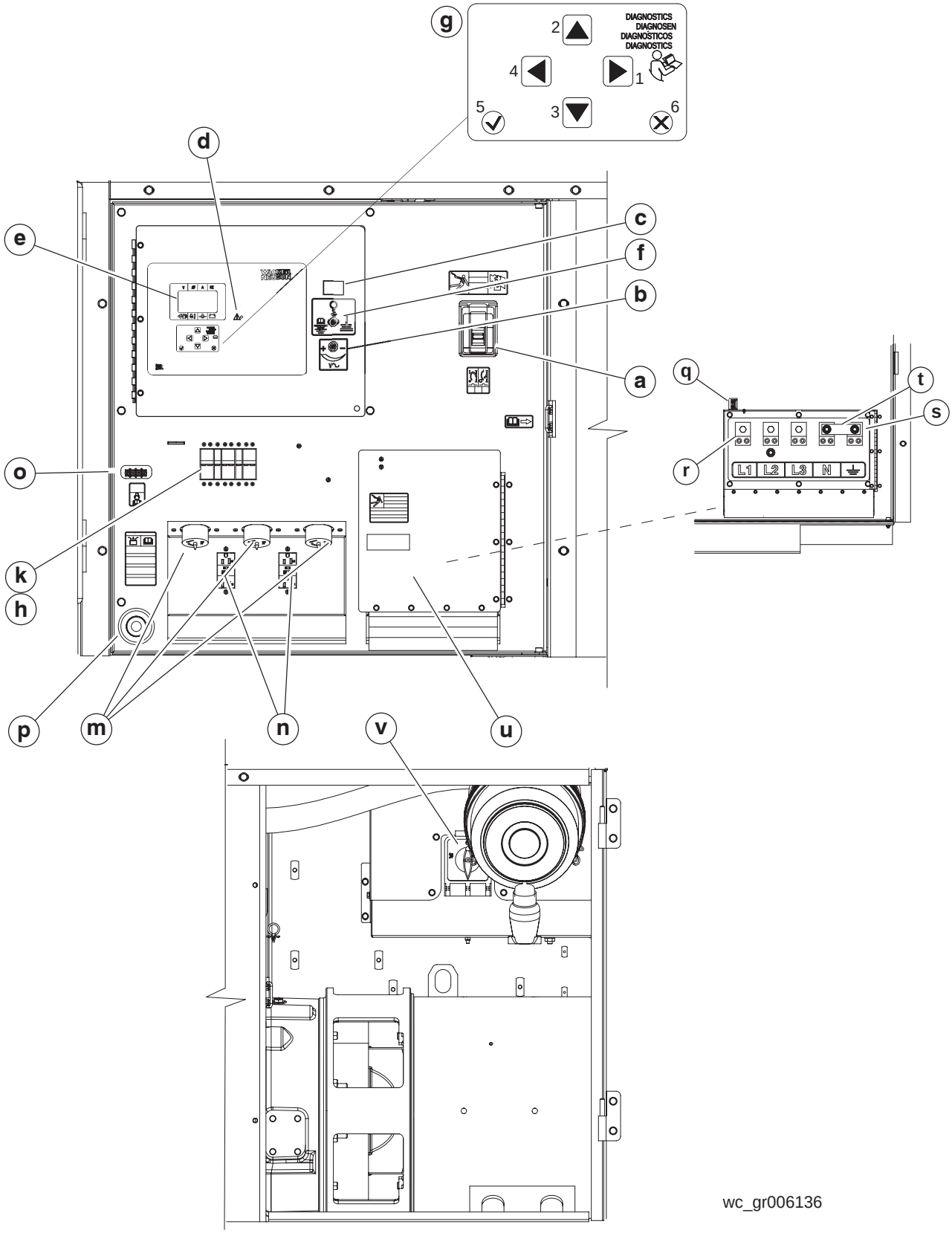
- ▶ Do not overfill the fuel tank.

3. Reinstall the fuel cap.

Result

The procedure to refuel the machine is now complete.

4.2 Control Panel

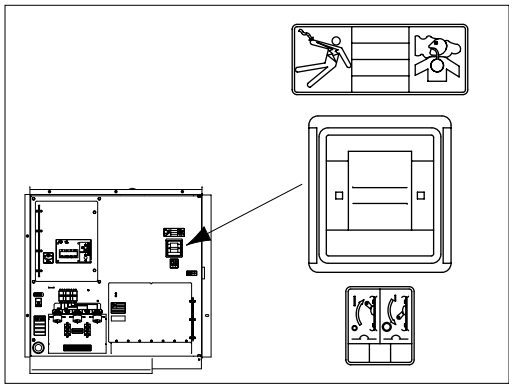


Ref.	Description	Ref.	Description
a	Main circuit breaker	q	Interlock switch
b	Voltage adjustment rheostat	r	Customer connection terminal lugs
c	Hour meter	s	Ground connection
d	Pre-alarm/shutdown LED	t	Bond bar
e	LCD panel	u	Customer connection terminal lugs door
f	Engine start switch	v	Voltage selector switch
g	Keypad (not required for operation)	1	Right arrow button (right / forward)
h	Circuit breaker (240V, 50 Amp)—three	2	Up arrow button
k	Circuit breaker (120V, 20 Amp)—two	3	Down arrow button
m	Twist-lock receptacle (120/240 VAC, 50 Amp)—three	4	Left arrow key (left / backward)
n	GFI receptacle (120 VAC, 20 Amp)–two	5	Check mark button (enter / accept)
o	Remote run terminal block	6	Reset button (cancel / reset)
p	Emergency stop switch	—	—

4.3 Main Line Circuit Breaker

Location The main line circuit breaker is located on the control panel.

Operation In the “off” position, the main line circuit breaker interrupts power from the selector switch to the terminal lugs at the bottom of the generator panel.



wc_gr005693

NOTICE: Before shutting down the generator or performing any service to the generator unit, make sure the main line circuit breaker is in the off “O” position.

NOTICE: The convenience receptacles are not connected through the main line circuit breaker. As a result, these receptacles are powered even with the main breaker in the off “O” position.

- To turn off power to receptacles, open the individual circuit breakers provided for each.

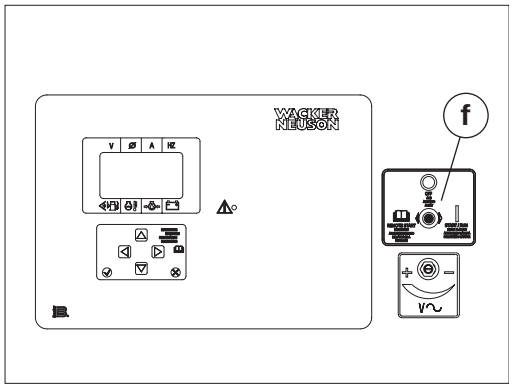
WARNING
Possibility of electrocution! High voltage is present inside the control panel when the generator is operating!

- Never open the control panel while the generator is operating.

4.4 Engine Start Switch

Location and description

The engine start switch **(f)** is located on the right side of the control panel. It is a three-position switch: “REMOTE START,” off “O,” and “START/RUN.”



wc_gr005199

Operation

REMOTE START position:

- The REMOTE START position is the normal setting when the generator is being operated as a back-up power supply connected to a remote switch.
- In the REMOTE START position, the generator is in standby mode and will not start until the remote switch closes.

START/RUN position:

- In the START/RUN position, the switch immediately launches the engine start cycle and activates the starter motor to crank the engine.

Off “O” position:

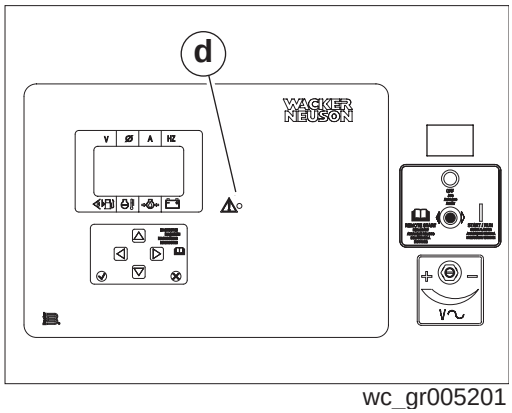
- In the off “O” position, power to the engine’s electrical system, including the fuel solenoid, is disconnected.

Note: *When set in the REMOTE START or START/RUN position, the engine start switch applies battery power to the control module to turn on the LCD panel, and also energizes the engine’s electrical system.*

4.5 Warning Light

Location and description

The amber warning light **(d)** is located on the metering panel. The light serves as a pre-alarm and turns on prior to a potential engine fault condition. At the same time that the light goes on, the LCD panel will begin blinking to indicate which engine function is approaching its fault value.



wc_gr005201

Engine pre-alarms

- Fuel Level = 15%
- High Temperature = 226°F
- Low Oil Pressure = 20 psi
- Time to Service = 250 hours

Diagnostic Table Codes

Active Engine Diagnostic Table Codes (DTCs) can be viewed in the menu. See topic *Navigating the Menus.*

4.6 Voltage Selector Switch

Location

The voltage selector switch is located inside the generator enclosure near the engine air cleaner. To access the switch, open the rear door on the left side of the generator enclosure.

WARNING
Possibility of electrocution! High voltage is present inside the machine enclosure when the generator is operating!

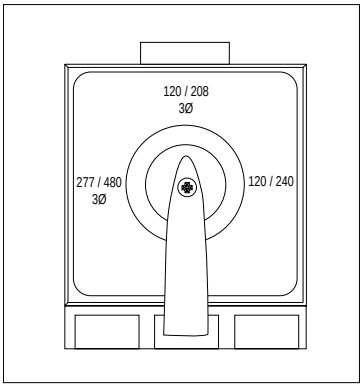
- ▶ Never open the access door while the generator is operating.

NOTICE: Do not change the voltage selector switch with the engine running. This can cause arcing and can severely damage the switch and the generator windings.

Description

The voltage selector mechanically changes the connections between the generator output leads and the terminal lugs on the generator. This allows different voltage ranges to be selected:

Available Voltage Ranges
120/240 VAC 1Ø
120/208 VAC 3Ø
139/240 VAC 3Ø (Refer to section *Voltage Adjustment Rheostat.*)
277/480 VAC 3Ø



wc_gr005686

Operation

- Select the voltage range by rotating the handle on the voltage selector switch to the desired voltage.

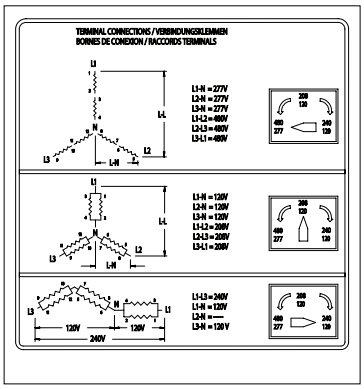
Locking the voltage selector

- The voltage selector is equipped with a locking mechanism. This allows the voltage setting to be locked in place to prevent unauthorized personnel from changing the voltage selection.
- To lock the voltage selector switch in position, push the locking mechanism up and attach a padlock through the openings in the locking strip.

4.7 Voltage Selector Label

Location

The voltage selector label is found on the inside of the hinged terminal access door to the customer connection lugs.



wc_gr005696

WARNING
Hazardous voltage! Improperly connected terminals can cause severe electrical shock, burns, or death.

- ▶ All connections to the terminals must be made by a qualified electrician.

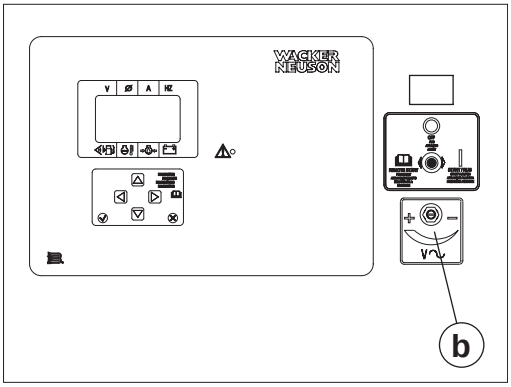
Panel Door Interlock Switch

The customer connection lugs panel access door is equipped with an interlock switch **(q)**. When the door is opened this switch automatically trips the main circuit breaker. Voltage to the receptacles will not be cut.

4.8 Adjusting Voltage with the Rheostat

Location and description

The voltage adjustment rheostat **(b)** is located directly to the right of the metering panel. Use the rheostat to adjust the AC voltage output.



wc_gr005200

Operation

To adjust the AC voltage output:

- Turn the adjusting knob clockwise to increase the voltage output.
- Turn the adjusting knob counterclockwise to decrease the voltage output.
- Monitor the voltage at the LCD panel.

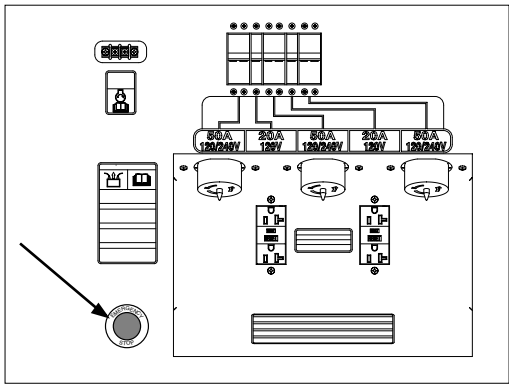
4.9 Emergency Stop Switch

Location

The emergency stop switch is activated by pressing the red button located to the left of the control panel. The button can be accessed with the panel doors closed. It is electrically isolated from the switch and also from the rest of the metering panel.

Operation

- Activate the emergency stop switch by pressing the red button.
- Activating the emergency stop switch opens the main circuit breaker and the fuel solenoid, and results in the engine shutting down.
- The switch will remain activated until the button is pulled out.



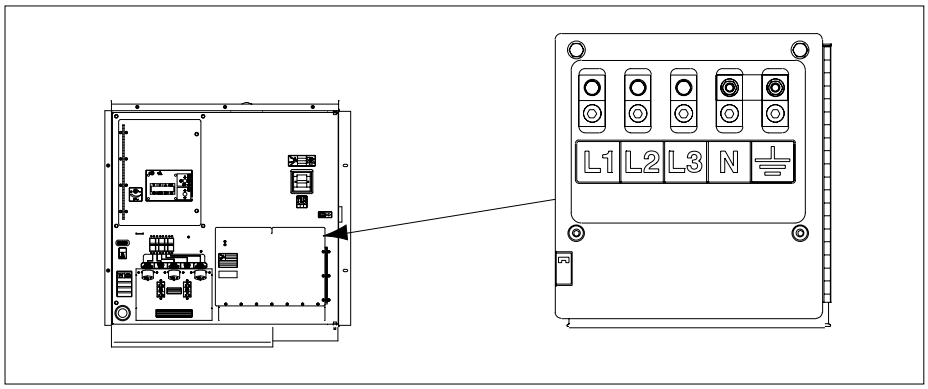
wc_gr005202

NOTICE: Press the emergency stop button only in the case of an actual emergency where the generator must be stopped immediately! In all other instances, open the main line circuit breaker and then turn the engine start switch to off “O”.

4.10 Connection Lugs

Location and description

The customer connection lugs are located on the lower right side of the control box behind a hinged terminal door. The lugs provide connection points for attachment of outside loads.



wc_gr005694

Connecting to the lugs

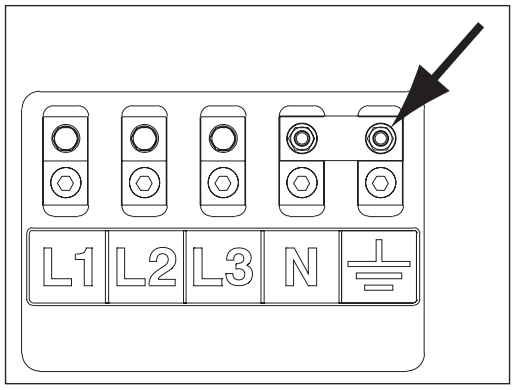
- Make connections to the lugs by running the power cables up through the slots in the bottom of the panel and into the lug.
- Use a 5/16-inch or 8 mm Allen wrench to tighten the cable connections in place.

WARNING
Electrocution hazard! High voltage is present inside the hinged terminal door when the generator is operating.

▶ Do not open the hinged terminal door unless the engine is stopped.

4.11 Grounding the Generator

Location A ground connection is located at the customer connection terminal lugs.



wc_gr008288

Function This ground connection is used for electrically grounding the generator when necessary to comply with the National Electrical Code and other federal, state, and local regulations. For grounding requirements in your area, consult with a qualified electrician, electrical inspector, or local agency having jurisdiction over electrical compliance.

- If the generator is used at a construction site, there may be additional regulations which must be observed.
- In some areas, generators are required to be registered with local utility companies.

4.12 Convenience Receptacles

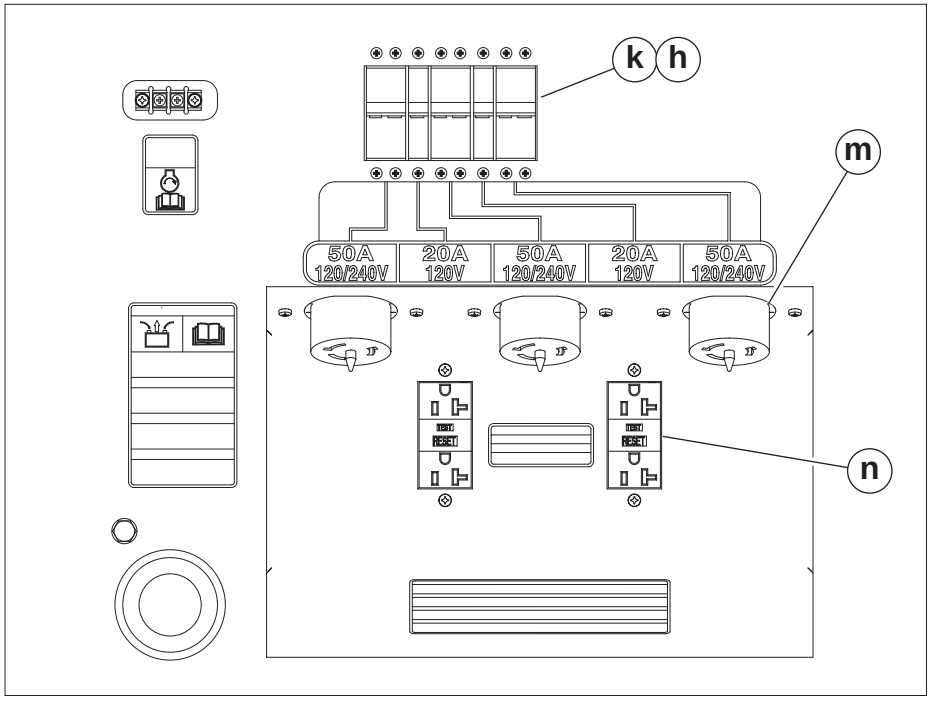
Description

The generator is equipped with :

- three 120V/240V twist-lock receptacles **(m)** rated at 50A
- two 120V duplex receptacles **(n)** with ground fault interrupts (GFI)

Receptacles **do not** connect through the main line circuit breaker. Each receptacle is protected by its own circuit breaker **(h,k)**.

Power to the receptacles is available anytime the generator is running, even with the main line circuit breaker open.



wc_gr005193

Operating notes

- When the voltage selector switch is in the 480V / 3Ø position, voltage at the duplex receptacles is 139V, and voltage at the 50A receptacles is 139/240V.
- When the voltage selector switch is in the 208V / 3Ø position, voltage at the 30/50A receptacles is 120/208V.
- When the voltage selector switch is in the 208V / 3Ø position, the voltage can be adjusted with the voltage adjustment rheostat (f) to 240V / 3Ø. The voltage at the duplex receptacles is 139V, and voltage at the 50A receptacles is 139/240V.

4.13 Before Starting

Explanation

Before putting the generator into service, review each item on the following checklist. Because generators often run unattended for long periods of time, it is important to make sure that the machine is set up properly to reduce the possibility of malfunction.

WARNING
Personal injury hazard. Failure to follow the listed procedures may cause injury to personnel or damage to the generator.

- ▶ Make sure that all persons setting up the generator are certified or fully trained on the installation of the generator.

Before starting the generator:

Exterior checks

- check for damage that may have occurred during towing or travel to the jobsite
- check for debris that has lodged in vents, near the radiator, or around the fan
- make sure the exhaust compartment is clean, with nothing touching the muffler or exhaust pipes
- make sure that the generator is level
- chock the trailer wheels

Internal and pre-operation checks

- check engine oil, coolant, and fuel levels—fill as required
- check the fan belt and hoses on the engine for loose connections or fraying—tighten or replace as required
- make sure that the generator is grounded to a good earthen ground per local regulations and NEC standards
- check that all electrical connections were made in compliance with local regulations and NEC standards
- determine voltage needs—set voltage selector switch and make correct terminal connections
- close and secure side panel access doors
- review and follow safety instructions found in the front of this Operator's Manual

4.14 Manual Start-Up

Explanation

Before starting the generator set for the first time, thoroughly review the “Before starting” checklist in the previous section. Proceed with generator starting only after checking each item in that section.

Thoroughly read and make sure you understand the engine operator’s manual supplied with the generator. Follow the steps below in the order listed.

CAUTION
Possibility of injury or equipment damage. Failure to match phase rotation and voltage may cause equipment connected to the generator to operate incorrectly.

- When using the generator as a standby or substitute power supply, make sure the voltage and phase rotation of the line connections match those of the utility lines or of any other power source normally used.

Start-up procedure

Follow the procedure below to start the generator.

1. Make sure the engine start switch **(f)** is in the off “O” position.
2. Check position of the voltage selector **(v)** and make sure it is set for the desired voltage output. Lock the switch in place.
3. Turn main line circuit breaker **(a)** to off “O”.
4. Turn convenience receptacle circuit breakers **(h,k)** to off “O”.
5. Move engine start switch to “REMOTE START” to check operation of engine control module. The LCD panel should momentarily display **INITIALIZING** followed by **READY** and engine information. Check fuel level and battery values.

Note: *The warning light **(p)** will flash if the fuel level is below 15%. This will not prevent the engine from starting.*

CAUTION
Possibility of accidental equipment start-up. If the contacts on any remote switch linked to the generator are closed, the generator could start unexpectedly when the engine start switch is moved to the REMOTE START position.

- Before placing the engine start switch **(f)** in the REMOTE START position, verify that the contacts on any remote switch linked to the generator set are OPEN.

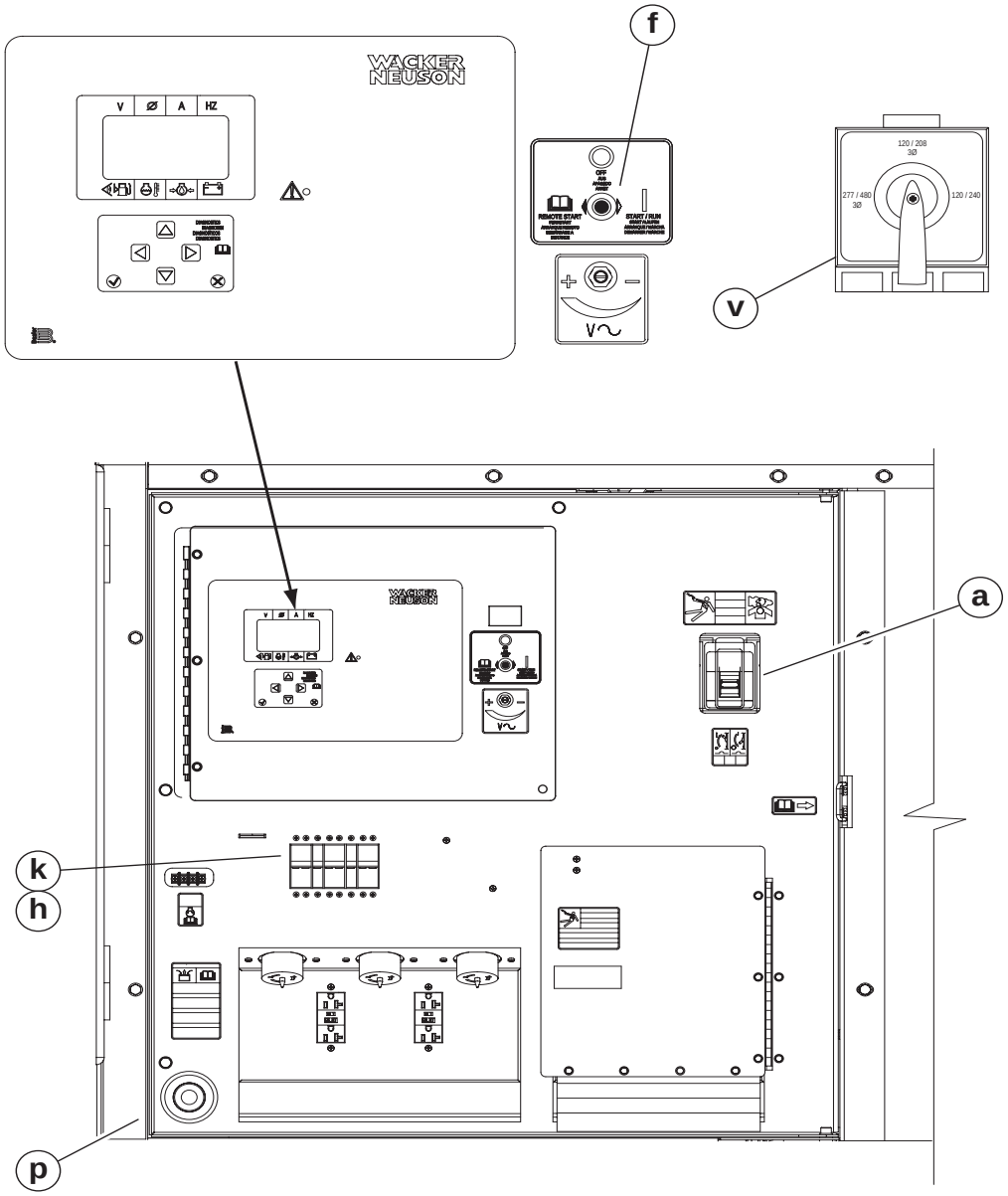
6. Press the emergency stop button **(p)**. The LCD panel should read **EMERGENCY STOP**. Pull out the emergency stop button after verifying the display, and return the engine start switch to off “O”.
7. Start engine by moving the engine start switch to the “START/RUN” position.
8. After displaying **INITIALIZING** and **NOT IN AUTO** sequence, the LCD display will read **START DELAY** followed by **CRANKING** as the engine begins its crank cycle. The normal cycle is for the engine to crank for 12 seconds, then rest for 12 seconds. This cycle will repeat three (3) times.
9. If the engine does not start within this time, the engine control module will shut down the engine and **OVERCRANK** will be displayed on the LCD panel.

10. See *Basic Troubleshooting* to identify possible causes and remedies for the starting problem. Correct the problem before attempting to start the engine again.
11. To repeat crank cycle, return start switch to off “O” to reset engine control module. Allow starter motor to cool between start-up attempts.

After starting

After the engine starts, allow it to warm up for a few minutes and check the readouts on the LCD panel.

- Make sure battery charging system, oil pressure, and engine temperature readings are within normal ranges.
- Check that AC voltage is correct. Voltage can be fine-adjusted by turning the voltage adjustment rheostat on the metering panel.
- Check frequency. The frequency should read 60 Hz.



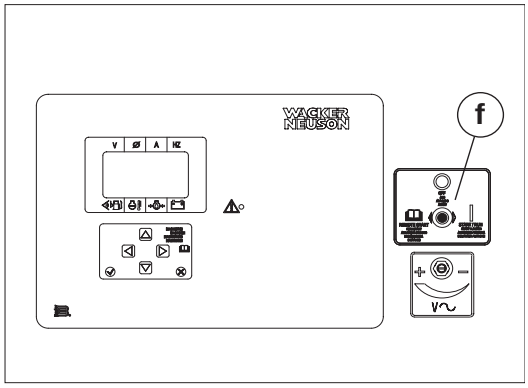
wc_gr006140

4.15 Operation

Switch positions

Leave the engine start switch **(f)** in the START/RUN position while the generator is operating.

If the generator was started using a remote switch, leave the engine start switch in the REMOTE START position.



wc_gr005199

Let the generator run for a few minutes to warm the engine before closing the main circuit breaker.

CAUTION
Possibility of unexpected equipment start-up.
- ▶ Disconnect all attached electrical devices before starting the machine.
- ▶ Before closing breakers, make sure that any electrical devices attached downstream from the generator will not start up unexpectedly.
- ▶ Before placing the engine start switch in the REMOTE START position, verify that the contacts on any remote switch linked to the generator set are **open**. This will prevent the generator from immediately starting when the engine start switch is moved to the REMOTE START position.

While the generator is running, check for excessive vibration, oil leaks, or coolant leaks.

Generator Monitoring

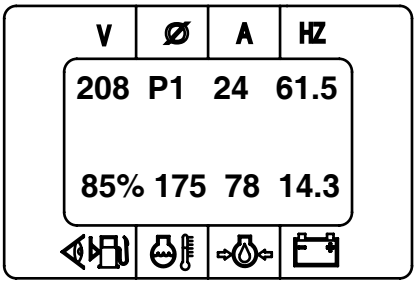
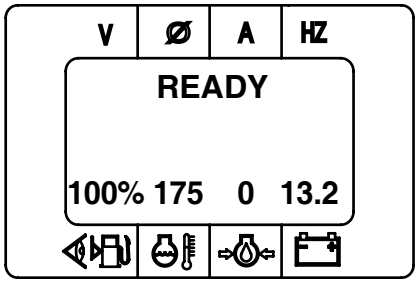
Generator information is displayed on the top line of the LCD panel and is scrolled continuously while the generator is operating, to show the voltage, amperage and frequency of each phase.

Volts "V"- Displays the AC output voltage being produced by the generator.

Phase "Ø" - Indicates which leg is currently being displayed. In three-phase mode, the display will read P1, P2, or P3. In single-phase mode, the display will read L1, L3, or LL.

Amps "A" - Displays the AC output amperage produced by the generator. If the generator is operating at no-load, output amperage will display a 0.

Hertz “Hz” - Displays output frequency. This gauge should read approximately 60 Hz under a no-load condition. If the frequency is too high, check the engine rpm.

	Sample display with engine running.
	Sample display in “Auto” mode.

4.16 Engine Monitoring

Description With the engine start switch set to “RUN/START” or “REMOTE START”, engine information will be continuously displayed on the bottom line of the LCD panel.

Indicators

Symbol	Meaning	Description
	**OIL**	■ Displays engine oil pressure between 0–100 psi. ■ Normal operating pressure = 60–80 psi. ■ Engine shuts down automatically below 15 psi.
	**FUEL**	■ Indicates relative fuel level in the fuel tank. ■ Engine shuts down automatically at 5% level.
	**TEMPERATURE**	■ Displays temperature of engine coolant. ■ Engine shuts down automatically if coolant temperature gets too high.
	**BATTERY**	■ Measures engine starting battery voltage. ■ Normal reading is 13.5–14.5V. ■ Check engine charging system if voltage falls significantly outside this range. ■ Actual battery voltage is displayed when the engine switch is set to REMOTE START and the generator is in standby mode.
	ENGINE HOURS	■ Engine running hours are displayed on the hour meter. ■ Engine hours accumulate only while engine is actually running.

4.17 Engine Power Correction Factors

Performance data conditions

Performance data on John Deere engines are measured at the following standard conditions:

- 744 mm (29.31 in.) of mercury dry air pressure
- 183 m (600 ft.) altitude
- 0% relative humidity
- 25°C (77°F) air intake temperature
- 40°C (104°F) fuel inlet temperature

Refer to the table below to estimate the engine power decrease in percent as environmental factors vary from the standard conditions.

Engine power correction factors

Model	Fuel temp rise of 1°C (1.8°F)	Air temp rise of -12°C (10°F)	Relative humidity rise of 10%	Altitude rise of 305 m (1000 ft) above 3050 m (10,000 ft)	Altitude rise of 305 m (1000 ft) below 3050 m (10,000 ft)
G 100 G 120	None (ECU compensated)	0.50	0.07	4.00	0.5

4.18 Engine Shutdown Faults

Description

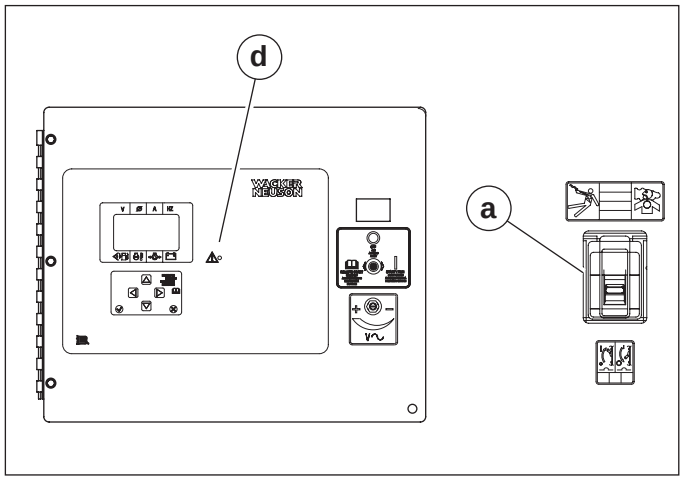
The engine control module (ECM) continuously monitors vital engine functions for fault conditions. When a fault condition occurs, the engine will shut down and the LCD panel will display the fault causing the shutdown.

To reset the ECM and resume operation, return the Engine Start Switch manually to off “O”. Also refer to section *Warning Light.*

ECM Display	Description
EMERGENCY STOP	Indicates that the emergency stop button has been depressed. This display will remain on until the emergency stop button is pulled back out.
HIGH COOLANT TEMP	Indicates that the engine coolant temperature has exceeded 115°C (239°F) and the ECM has automatically shut down the engine. Normal engine running temperature is 85°C ± 8°C (185°F ± 15°F).
OVERSPEED	Indicates that the engine speed exceeded approximately 1980 rpm (110% of its rated speed of 1800 rpm) and the ECM has automatically shut the engine down.
OVERCRANK	An overcrank fault is displayed when the engine fails to start during three cycles of the normal cranking cycle. The ECM has automatically shut down the generator due to an overcrank condition.
LOW FUEL	A low fuel fault condition will be displayed when the fuel tank drops to 5% and the ECM has shut the engine down. This fault condition prevents the fuel lines from running completely dry and avoids the need to bleed the lines when the tank is refilled. The low fuel fault can be disabled if desired. See *Changing/Disabling Low Fuel Fault.*
UNDERSPEED	Indicates that the engine speed dropped below 55 Hz (1650 rpm) for more than 15 seconds and the ECM has automatically shut the engine down.
LOW OIL PRESSURE	Normal operating pressure is between 60–80 psi. If oil pressure drops below 15 psi, the engine will automatically shut down.
LOW WATER LEVEL	For machines with the Low-Coolant Shutdown Option only. This fault will be displayed when the ECM has picked up a signal from the sensor that a low-coolant level exists. During such a condition, the ECM shuts the engine down.

4.19 Current Overload Fault

Along with engine functions, the ECM continuously monitors the current load in each phase. The values for current overload are programmed into the ECM at the factory and are different for each generator size.



wc_gr008167

1. When an overcurrent condition is sensed in any leg, the warning/fault LED **(d)** will flash and the display will indicate OVERCURRENT.
2. If the overcurrent condition persists, the main circuit breaker **(a)** will open and the display will change to OVRLOAD - SET BRKR. This indicates an overload fault.
3. To clear the overload fault, reset the main circuit breaker. Failing to reset the main circuit breaker will cause the machine to shut down after 5 minutes. The display will then change to OVERLOAD.

4.20 Event Log

The control module contains an event log that records the first and last occurrences of pre-alarms and alarms. See *Using the LCD and Keypad* for instructions on how to access the event log.

4.21 Stopping

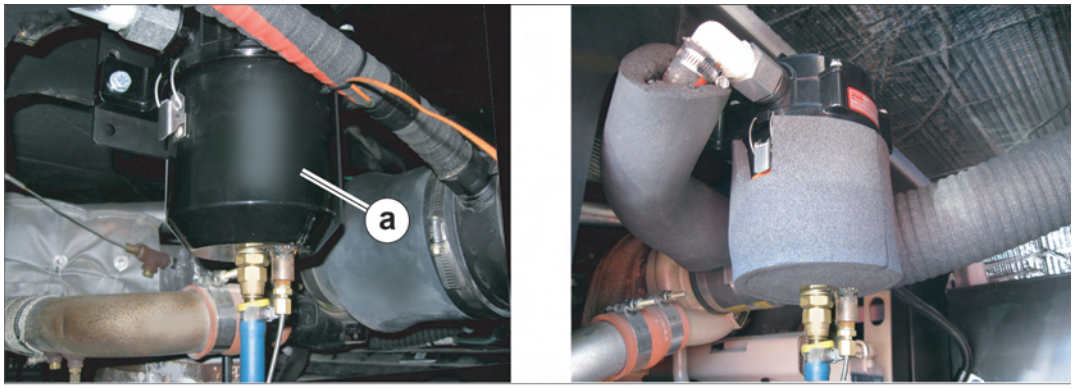
Check with other personnel on the jobsite and let them know that power is being turned off. Make sure that the power shutdown will not create any hazards by turning off devices such as pumps, heaters, or lights that may need to be kept on.

1. Remove all loads from generator.
2. Open (turn to off “O”) main line circuit breaker.
3. Let engine run for approximately 5 minutes to allow it to cool down.
4. Move engine start switch to the off “O” position.

4.22 Racor® Crankcase Filter (if equipped)

Location

The Racor crankcase filter **(a)** is located next to the engine.



wc_gr006383

Description

The crankcase filter removes oil from engine blow-by. Coalesced oil drains into the engine oil pan. Filtered air is then routed to the engine intake system.

The crankcase filter contains a high-performance element which should be replaced after every 750 hours of operation. See *Replacing the Racor Filter Element* in the *Maintenance* chapter.

Filter heater

Your crankcase filter may be equipped with a thermostatically controlled heating system as shown in the illustration on the right. This system prevents water vapor from condensing and freezing on the inner walls of the filter intake hose while operating the generator in extremely cold weather.

4.23 Cold Weather Start-Up

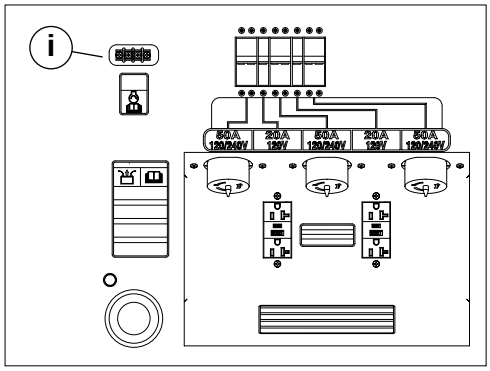
Prerequisites Before starting the generator in cold weather make sure that:

- the battery is at peak power
- the correct weight motor oil is being used
- the starter motor is in good condition

During operation The cold starting aid will automatically activate when the air temperature is low enough. The ECM will notify you that a preheat is in effect.

4.24 Remote Run Terminal Block

Location The remote run terminal block (i) is located just to the left of the convenience receptacle circuit breakers.



wc_gr005194

Description The remote run terminal block provides connection points for installation of a remote start switch. When it is connected to a transfer switch, it allows the generator to be used as a stand-by power supply.

Connections When connecting a remote start switch or transfer switch, use the inner two terminals on the remote run terminal block.

Note: *The bonding bar between the ground connections must remain in place at all times unless a qualified electrician determines otherwise.*

4.25 Automatic/Remote Start-Up

Background

In the REMOTE START position, the generator can be started remotely, either through a transfer switch or some other type of remote start switch. REMOTE START is the normal setting when using the generator as a stand-by power supply.

Prerequisites

Before placing the generator in the automatic start-up mode, review the *Before Starting* and *Manual Starting* sections in this Operator's Manual and follow the procedure below.

CAUTION

Possibility of accidental equipment start-up. If the contacts on any remote switch linked to the generator are closed, the generator could start unexpectedly when the engine start switch is moved to the REMOTE START position.

- ▶ Before placing the engine start switch **(e)** in the REMOTE START position, verify that the contacts on any remote switch linked to the generator set are OPEN.

Start-up procedure

1. Perform a manual start at least once to verify that the metering panel is operating correctly. Refer to sections *Before Starting* and *Manual Starting* in this Operator's Manual.
2. To perform an optional check of the auto start-up circuit:
   - Attach a short jumper wire (minimum 16 gauge insulated) between the two terminals on the remote run terminal block. The jumper wire applies a ground to the ECM to complete the start circuit.
   - Wait for the engine to crank, start, and run.
   - Move the engine start switch to off "O" to stop the engine.
   - Remove the jumper wire from the remote run terminals after testing is complete.
3. Secure the generator by closing and locking all doors.
4. Set the engine start switch to REMOTE START and close the main line circuit breaker.

The generator is now ready for automatic starting.

Maintaing battery charge

If the generator is to be used as a stand-by power supply, provisions must be made to maintain the battery charge. This can be done either by attaching a battery charger to the battery or by starting the generator manually and running the engine periodically to maintain a charge. See section *Manual Starting.*

4.26 Remote/Transfer Switch

Background

A transfer switch is designed to transfer electrical loads from the normal power source (utility) to the emergency power source (generator) when normal voltage falls below a prescribed level.

The transfer switch automatically returns the load back to the normal source when power is restored back to operating levels.

WARNING
Electrocution hazard. Failure to isolate the generator from the utility's electrical distribution system could cause output from the generator to backfeed into the utility lines and cause injury or death to utility workers!

- ▶ When the generator is used as a standby power supply, it must be equipped with a device which isolates it from the utility's distribution system.
- ▶ An isolation device is also required if the generator is being used as a backup to some other type of power supply system.

Precautions

- Installation of a transfer switch or other type of remote starting device is the responsibility of the generator user.
- Installation of such devices must be performed by a qualified electrician following all directions supplied by the manufacturer of the switch.
- If attaching the generator to a power supply normally serviced by a utility company, notify the utility company and check local and state regulations.
- Familiarize yourself with all instructions and warning labels supplied with the switch.

CAUTION!

Possibility of injury or equipment damage. Failure to match phase rotation and voltage may cause equipment connected to the generator to operate incorrectly.

- ▶ When using the generator as a standby or substitute power supply, make sure the voltage and phase rotation of the line connections match those of the utility lines or of any other power source normally used.

DANGER
Electrocution hazard. Lethal voltage is always present in the transfer switch once it has been properly installed.

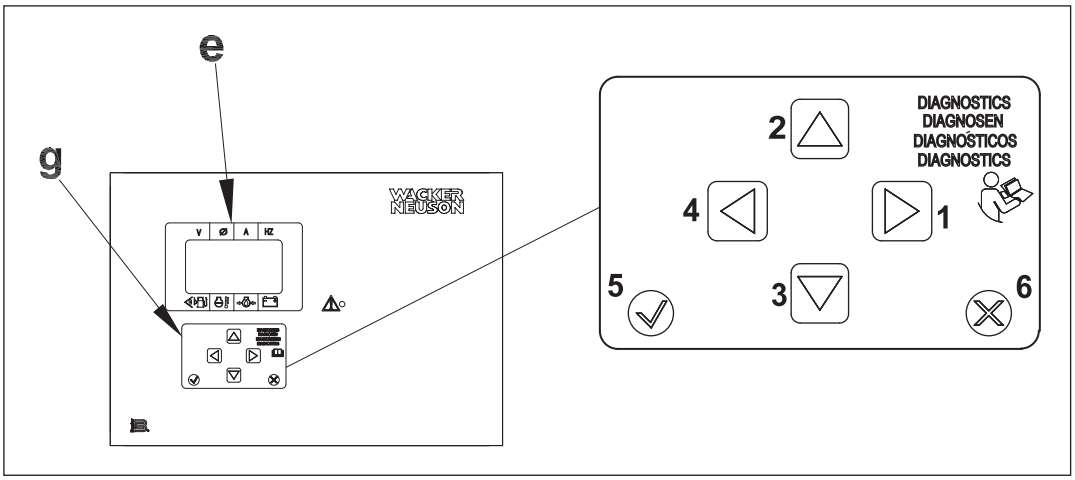
- ▶ Disconnect power before servicing the transfer switch.

5 Using the LCD Panel and Keypad

See graphic: wc_gr005938, wc_gr006064

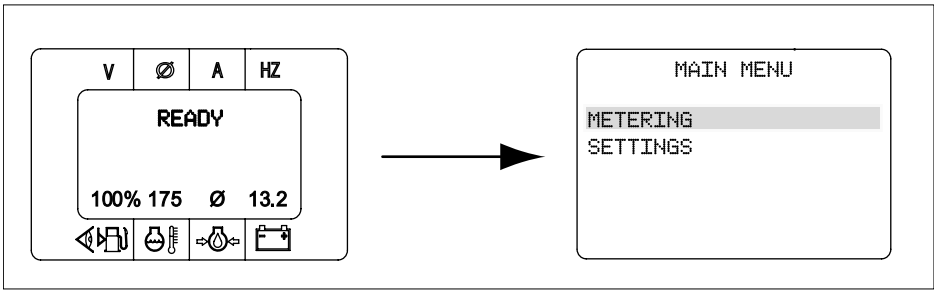
During normal operation, the LCD panel **(e)** displays current information on machine performance and operating status. The keypad **(g)** provides access to additional monitoring functions through a series of menus displayed on the LCD panel. You can also use the keypad to change certain machine settings if desired.

.



wc_gr005938

5.0.1 The various monitoring and configuration menus can be accessed by pressing the right arrow button **(1)**. This action brings up the Main Menu screen.



wc_gr006064

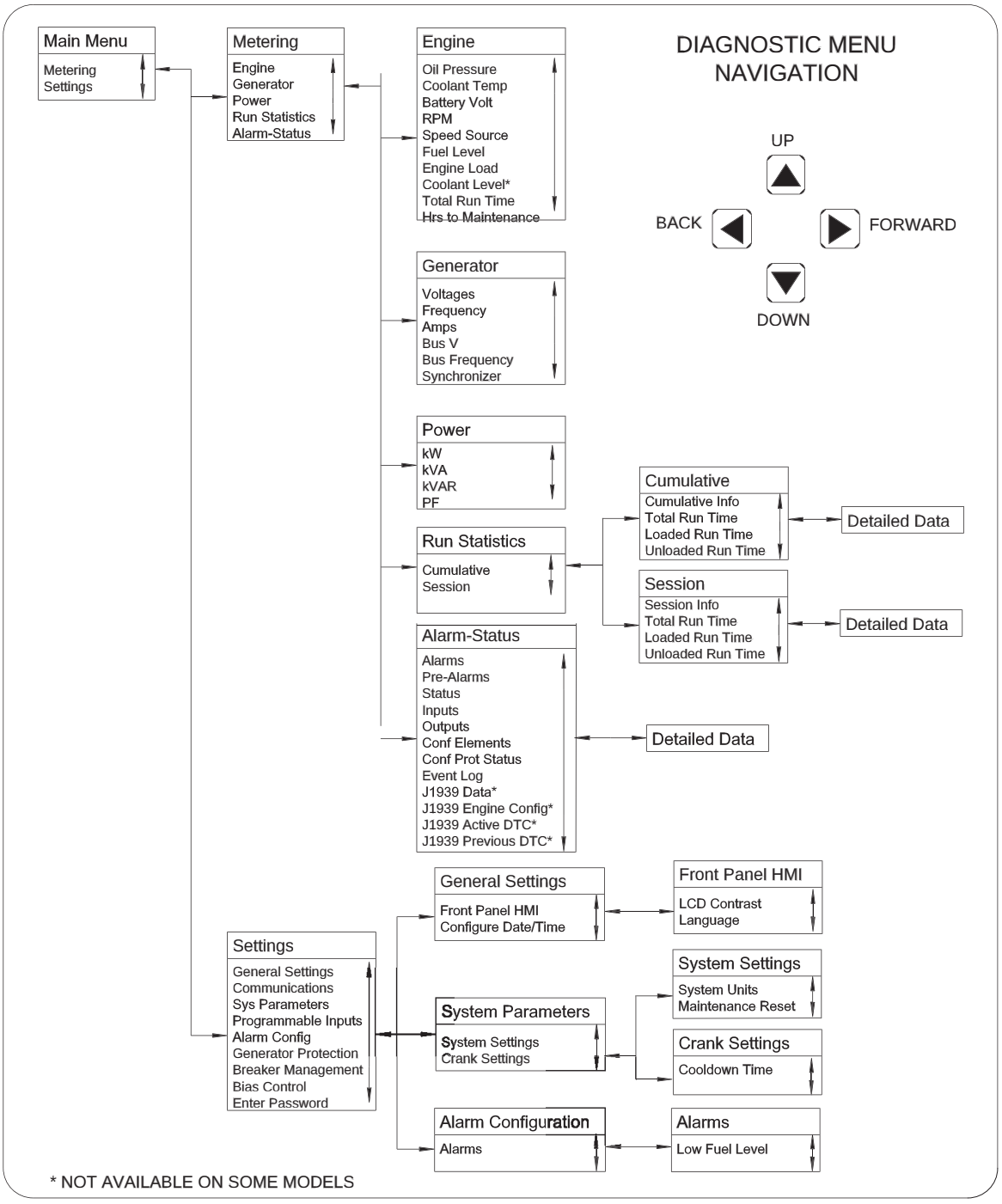
5.0.2 To select items on a menu, use the up/down arrow buttons **(2,3)** to scroll through the available options. When the desired option is highlighted (as shown above), press the right arrow button to access the menu for that particular option.

5.0.3 To return to a previous menu screen, press the left arrow button **(4)**.

5.0.4 To exit menu navigation and return to LCD panel monitoring status, press and hold the left arrow button **(4)**.

5.1 Navigating the Menus

The label pictured below is a navigational aid to access the various diagnostic menus programmed into the LCD. See the accompanying table for information about the menu items.



wc_gr007618

Menu Item	Description	Menu Item	Description
Alarm Config	Alarm configuration	J1939 Active DTC	Diagnostic Trouble Codes
Alarm Configuration		J1939 Data	
Alarms		J1939 Engine Config	Engine configuration
Alarm–Status		J1939 Previous DTC	Diagnostic Trouble Codes
Amps		kVA	Kilovolt-amps
Back		kVAR	Kilovolt-amps Reactive
Battery Volt		kW	Kilowatts
Bias Control		Language	
Breaker Management		LCD Contrast	Liquid Crystal Display
Bus Frequency		Loaded Run Time	
Bus V	Bus voltage	Low Fuel Level	
Communications		Main Menu	
Conf Elements	Configurable elements	Maintenance Reset	
Conf Prot Status	Configurable protection status	Metering	
Configure Date/Time		Oil Pressure	
Coolant Level		Outputs	
Coolant Temp		PF	Power factor
Cooldown Time		Power	
Crank Settings		Pre-Alarms	
Cumulative		Programmable Inputs	
Cumulative Info		RPM	Rotations per minute
Detailed Data		Run Statistics	
Diagnostic Menu Navigation		Session	
Down		Session Info	
Engine		Settings	
Engine Load		Speed Source	
Enter Password		Status	
Event Log		Synchronizer	
Forward		Sys Parameters	System parameters
Frequency		System Settings	
Front Panel HMI	Human-Machine Interface	System Units	
Fuel Level		Total Run Time	
General Settings		Total Run Time	
Generator		Unloaded Run Time	
Generator Protection		Up	
Hrs to Maintenance	Hours to maintenance	Voltages	
Inputs		—	—

5.2 Entering Passwords

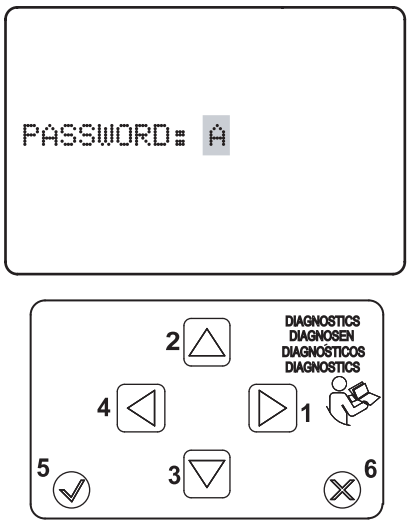
See graphic: wc_gr006068

Some configuration procedures require a password to be entered before changes can be made. Once a password has been entered, it remains in the memory until the machine is shut off.

Note: *The default password is **OP** and is set by the factory. Contact your Wacker Neuson dealer if you need to have the password reset.*

Follow the steps below to enter a password.

5.2.1 The password entry screen appears with a blinking letter “A” as the default character. Use the up/down buttons **(2,3)** to change the “A” to the correct letter or number.



wc_gr006068

5.2.2 When the correct letter or number appears, press the right arrow button **(1)** to enter the character and move to the next position.

5.2.3 Use the up/down buttons to select the next character in the password, and press the right arrow button. Continue selecting and entering characters until the password is complete.

5.2.4 To return to a previous character, press the left arrow button **(4)**.

5.2.5 When the password is complete, press the check mark button **(5)** to enter the password and log into the configuration menu.

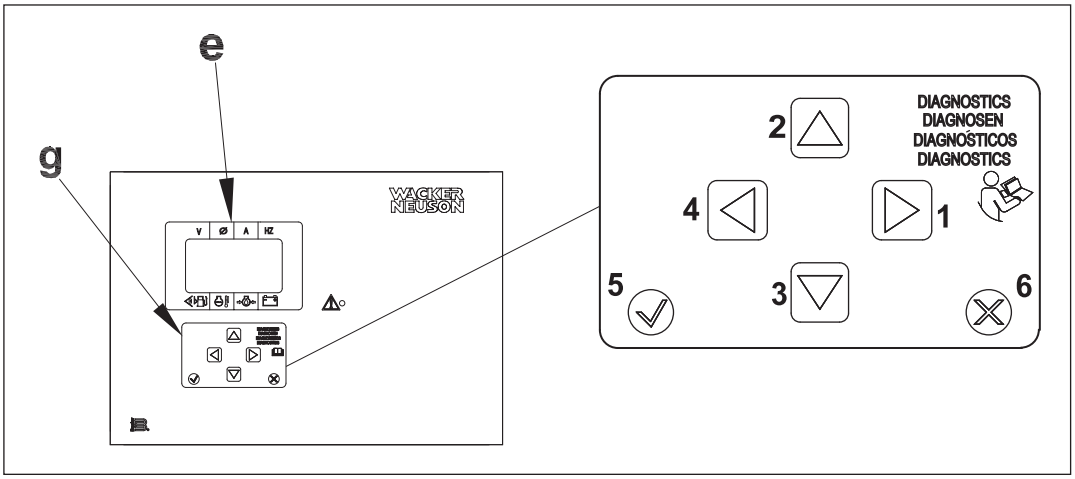
5.2.6 To clear a password and re-enter it, press the “X” button **(6)**.

5.3 Adjusting Screen Contrast

The display contrast of the LCD panel can be adjusted to suit the operator's preference, or for increased visibility in jobsites with low or bright ambient light.

5.3.1 To access the main menu, press the right arrow button **(1)** on the keypad **(g)**.

Note: *If there are active alarms or pre-alarms, press the left arrow button **(4)** three times to access the main menu.*



wc_gr005938

5.3.2 Using the up/down arrow buttons (**2,3),** select SETTINGS, and press the right arrow button.

5.3.3 Select GENERAL SETTINGS. Press the right arrow button.

5.3.4 Select FRONT PANEL HMI. Press the right arrow button.

5.3.5 Select LCD CONTRAST. Press the right arrow button.

5.3.6 If necessary, enter your password. (See *Entering Passwords* for more information.)

5.3.7 Use the up/down arrow buttons to change the contrast as desired. Press the check mark buttonwhen finished.

5.3.8 Exit by repeatedly pressing the left arrow button until the LCD panel display returns to monitoring status.

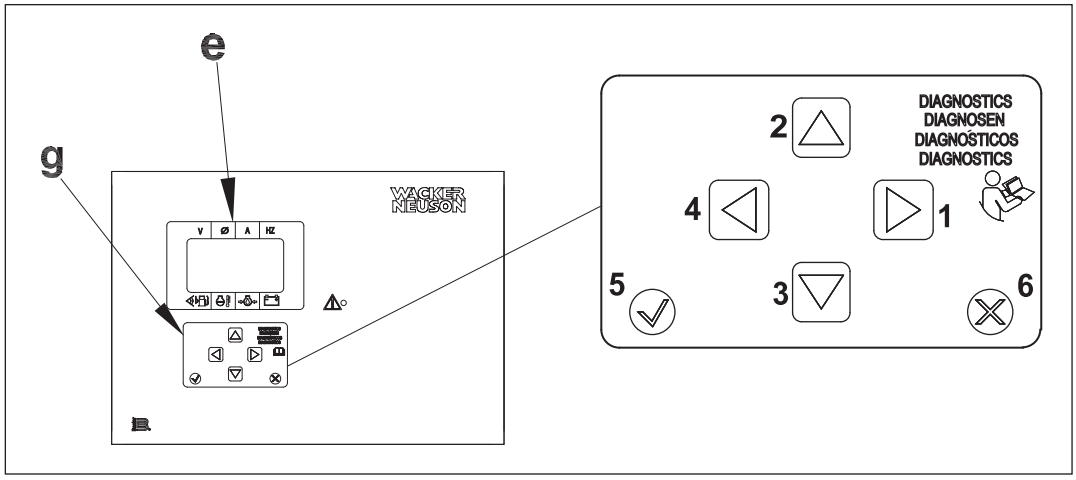
5.4 Setting the Time or Date

See graphic: wc_gr005938

The control module features a clock powered by a separate battery. Follow the steps below to change the time or date.

5.4.1 To access the main menu, press the right arrow button **(1)** on the keypad **(g)**.

Note: *If there are active alarms or pre-alarms, press the left arrow **(4)** three times to access the main menu.*



wc_gr005938

5.4.2 Using the up/down arrow buttons (**2,3),** select SETTINGS, and press the right arrow button.

5.4.3 Select GENERAL SETTINGS. Press the right arrow button.

5.4.4 Select CONFIGURE DATE/TIME. Press the right arrow button.

5.4.5 Select the item to change. Press the check mark button **(5).**

5.4.6 If necessary, enter your password. (See *Entering Passwords* for more information.)

5.4.7 Use the up/down arrow buttons to change the value as desired. Press the check mark button when finished.

5.4.8 Exit by repeatedly pressing the left arrow until the LCD panel display returns to monitoring status.

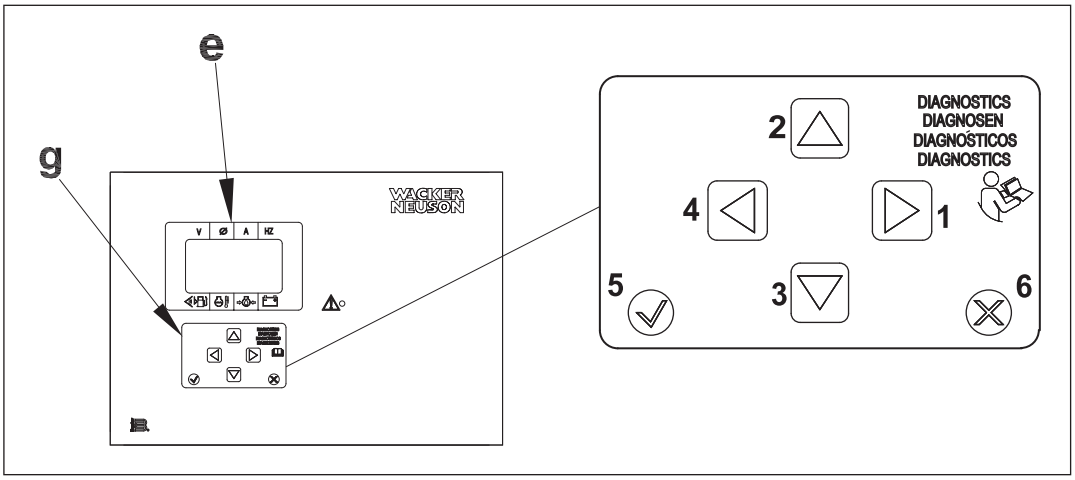
5.5 Changing User Preferences

Changing Display Units

The LCD panel can be configured by the operator to display system information in either metric units or English units.

5.5.1 To access the main menu, press the right arrow button **(1)** on the keypad **(g)**.

Note: *If there are active alarms or pre-alarms, press the left arrow button **(4)** three times to access the main menu.*



wc_gr005938

5.5.2 Using the up/down arrow buttons (**2,3),** select SETTINGS and press the right arrow button.

5.5.3 Select SYSTEM PARAMETERS. Press the right arrow button.

5.5.4 Select SYSTEM SETTINGS. Press the right arrow button

5.5.5 Select SYSTEM UNITS. Press the check mark button **(5)**.

5.5.6 If necessary, enter your password. (See *Entering Passwords* for more information.)

5.5.7 Select either METRIC or ENGLISH (default). Press the check mark button.

5.5.8 Exit by repeatedly pressing the left arrow until the LCD panel display returns to monitoring status.

Changing System Language

Many of the default English monitoring display and menu selections can be changed to other languages. However, this reconfiguration cannot be performed by the operator. Please contact your Wacker Neuson representative if you wish to have the LCD panel display and menu selections appear in a language other than English.

Note: *Not all display and menu selections can be changed from the default English. Refer to “Navigating the Menus” for translations if necessary.*

5.6 Changing / Disabling Low Fuel Fault

See graphic: wc_gr005938

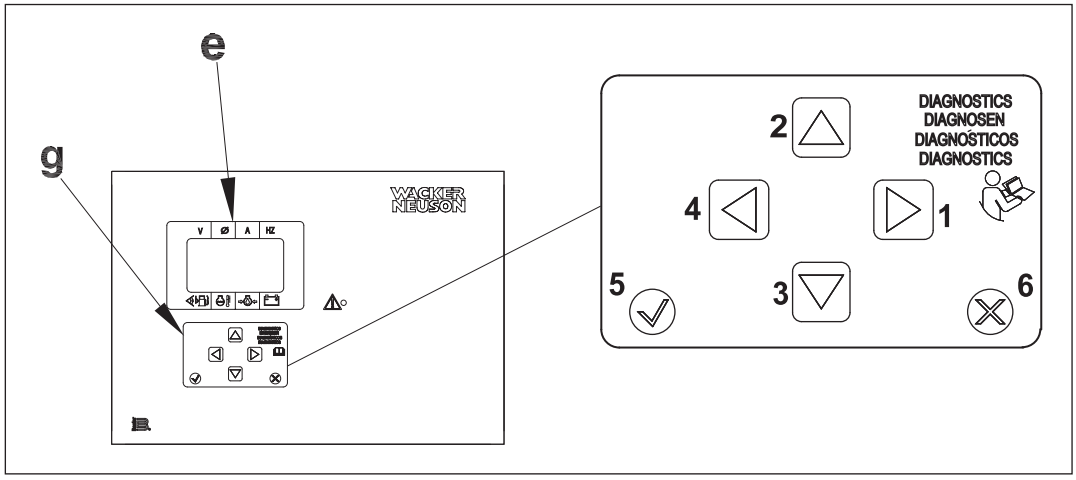
The low fuel fault value can be changed or disabled through the diagnostics menu. (For example, you may wish to reduce the value so that the machine operates for a longer period before running out of fuel.)

Note: *The engine will shut down if the machine runs out of fuel.*

Follow the steps below to change or disable the low fuel fault.

5.6.1 To access the main menu, press the right arrow button **(1)** on the keypad **(g)**.

Note: *If there are active alarms or pre-alarms, press the left arrow button **(4)** three times to access the main menu.*



wc_gr005938

5.6.2 Using the up/down arrow buttons (**2,3),** select SETTINGS and press the right arrow button.

5.6.3 Select ALARM CONFIGURATION. Press the right arrow button.

5.6.4 Select ALARMS. Press the right arrow button.

5.6.5 Select LOW FUEL LEVEL. Press the right arrow button.

5.6.6 Select THRESHOLD. Press the check mark **(5).**

5.6.7 Enter your password. (See *Entering Passwords* for more information.)

5.6.8 Change the default Low Fuel Level value to zero (0) or the desired figure. Press the check mark button to accept the change, or the reset button **(6)** to cancel. Anything less than 5 will disable the automatic shutdown feature.

5.6.9 Exit by repeatedly pressing the left arrow button until the LCD panel display returns to monitoring status.

Note: *The fuel level reading on the display will not drop below 5%.*

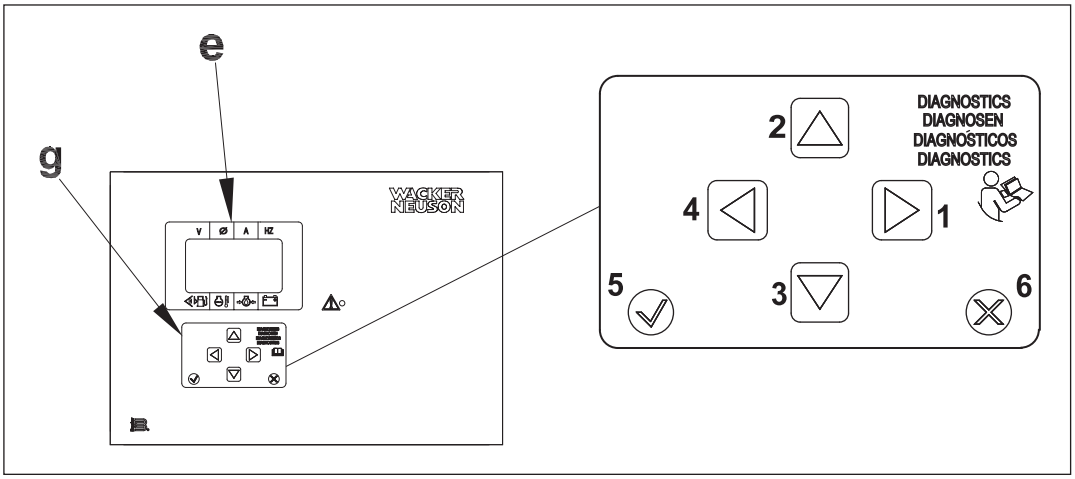
5.7 Changing Cooldown Time

See graphic: wc_gr005938

A cooldown timer activates when the machine is no longer receiving a remote run signal. This timer is factory set to zero (0) minutes. The cooldown time can be changed if desired.

5.7.1 To access the main menu, press the right arrow button **(1)** on the keypad **(g)**.

Note: *If there are active alarms or pre-alarms, press the left arrow **(4)** three times to access the main menu.*



wc_gr005938

5.7.2 Using the up/down arrow buttons (**2,3),** select SETTINGS and press the right arrow button.

5.7.3 Select SYSTEM PARAMETERS. Press the right arrow button.

5.7.4 Select CRANK SETTINGS. Press the right arrow button

5.7.5 Select COOLDOWN TIME. Press the check mark button **(5).**

5.7.6 If necessary, enter your password. (See *Entering Passwords* for more information.)

5.7.7 Use the up/down arrow buttons to change the default value. Press the check mark to accept the change, or the reset button **(6)** to cancel.

5.7.8 Exit by repeatedly pressing the left arrow button until the LCD panel display returns to monitoring status.

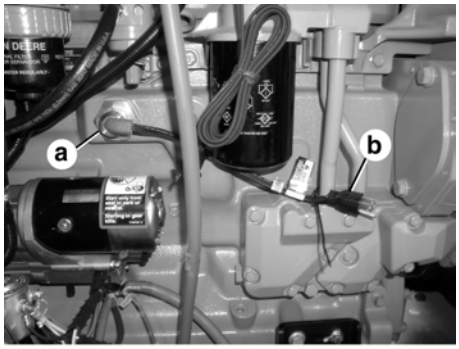
6 Factory-Installed Options

This machine may be equipped with one or more of the following factory-installed options. To verify if any of these options are installed on your machine, contact the Wacker Neuson Corporation at 1-800-770-0957. A nameplate listing the Model Number, Item Number, Revision, and Serial Number is attached to each unit. Please have this information available when contacting Wacker Neuson.

Note: *The illustrations shown in this chapter represent typical installations. The factory-installed options on your machine may look different.*

6.1 Block Heater

The engine block heater option includes a block heater (a) with a cord (b). The function of the block heater is to heat the engine coolant/engine block to improve cold-weather engine starting. Plug the cord into a 120V power supply.



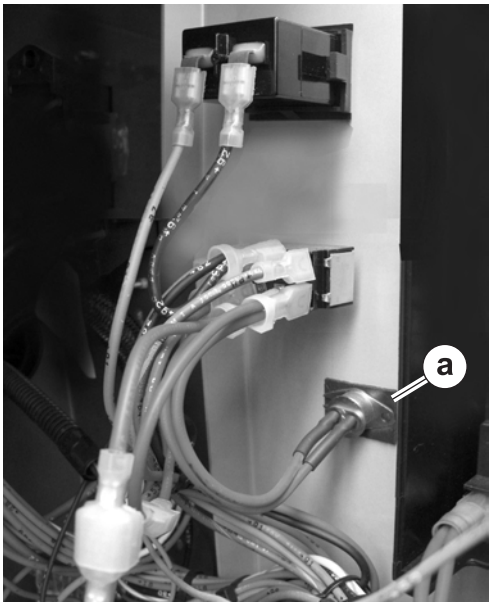
wc_gr001709

6.2 Automatic LCD Heat

To improve the performance of the LCD panel in cold weather, the LCD panel control module is equipped with an LCD heater. The heater draws power from the panel control module and is active only when the panel control module is powered.

An optional thermostat **(a)** can be installed if the machine is to be used in extremely cold weather. The thermostat automatically powers the panel control module when the temperature drops to approximately -30°C (-22° F). This activates the heater to prevent damage to the LCD panel.

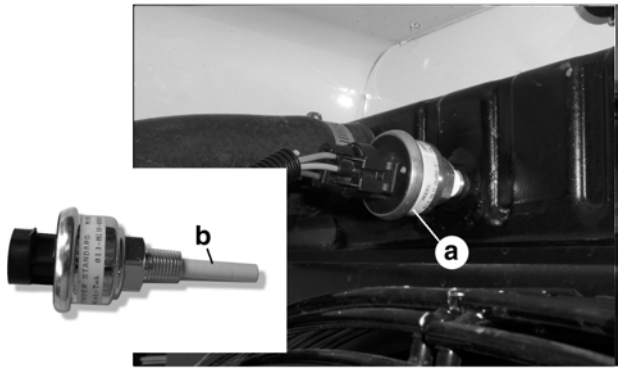
It is important to note that the panel control module draws a small amount of power from the battery when turned on—even when the machine is not running. If the battery should fail, the heater will also fail. Be sure to keep the battery charged when the generator is not in use.



wc_gr007626

6.3 Low Coolant Shutdown

The low-coolant shutdown system consists of an electronic sensor that monitors coolant level. The sensor **(a)** is mounted to the radiator and wired into the ECM. The sensor probe **(b)** is submerged in radiator coolant.



wc_gr001708

If the probe senses no coolant, it sends a signal to the ECM. The ECM program includes a 10-second timer to protect from nuisance shutdowns. If after the ten seconds coolant levels are still sensed as being low, the ECM shuts down the engine. The ECM will then display “LOW COOL LEVEL”. Allow the engine to cool before adding additional coolant.

WARNING
Burn hazard. Pressurized coolant is very hot and can cause serious burns.

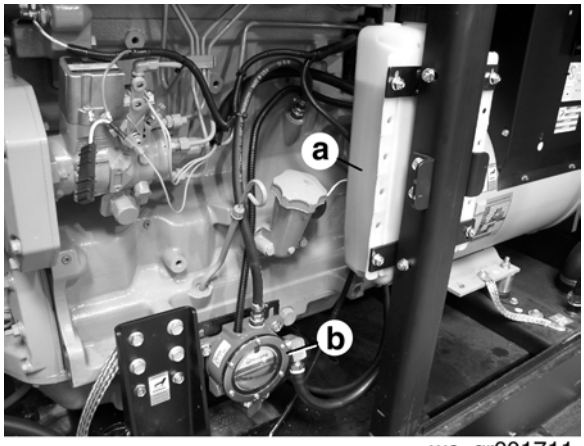
- ▶ Do not remove the radiator cap while the engine is hot.

If it is necessary to open the radiator, only do so with the engine off, and only when coolant is cool enough to touch with bare hands. Slowly loosen the radiator cap to relieve pressure first, before removing it completely.

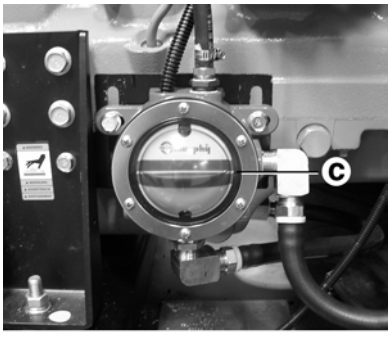
Note: *The sensor may be disabled by unplugging the wire harness. This action will not shut down the machine.*

6.4 Lube Level Maintainer

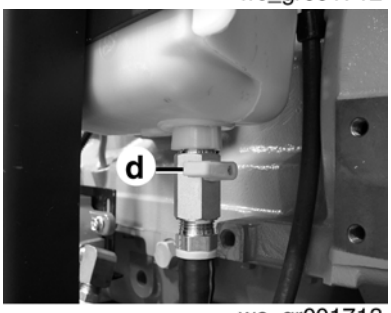
The lube level maintainer system protects the engine from low oil levels by providing an additional 6-quart oil reservoir. Oil from the reservoir is gravity-fed from the oil reservoir **(a)** through the control valve **(b)** and into the engine oil pan as needed.



wc_gr001711



wc_gr001712



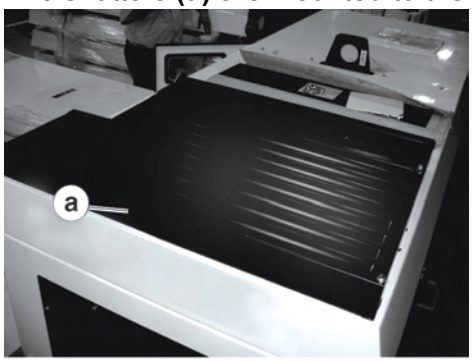
wc_gr001713

The valve includes a sightglass **(c)** through which the oil level can be seen. This oil level is the same as that measured by the engine dipstick. A float inside the valve detects low oil levels and opens the valve to supply the needed oil. The system is wired to the ECM and includes a low oil shutdown in case the oil in the reservoir is depleted. If the engine shuts down due to low oil, the ECM will display “LOW OIL LEVEL”. Fill the engine and the additional oil reservoir with oil before placing the generator back into service.

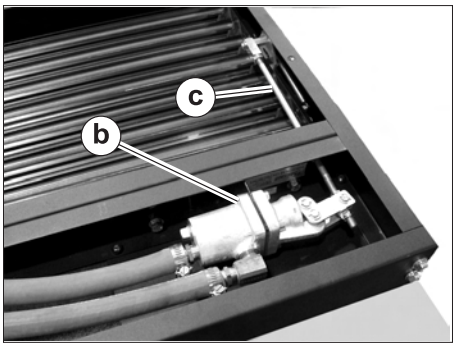
NOTICE: To prevent overfilling the engine with oil, place the shutoff valve **(d)** in the closed position when moving or towing the generator. Once the generator is in position, open the valve.

6.5 Temperature-Activated Shutters

The shutters **(a)** are mounted to the top of the generator enclosure.



wc_gr001707



wc_gr005770

The shutters are designed to keep the engine compartment warm, thus increasing engine temperature during cold weather operation. The shutters are activated through a wax-pellet actuator **(b)** that is connected to the generator's cooling system. As radiator coolant warms, the wax-pellet actuator engages a linkage **(c)** that opens the shutters. As the coolant cools, the shutters close.

6.6 Lockable Battery Disconnect

A lockable ON/OFF switch is available which disconnects the battery. A padlock (not included) securely locks the switch in the OFF position. If equipped, the battery disconnect switch is mounted to the upper skid beneath the access door on either the right or left side of the machine.

wc_gr004338

NOTICE: Do not use the battery disconnect switch while the engine is running. Damage to electrical components may occur.

6.7 Camlocks

A second optional outlet panel features camlock connectors for easy tool changes. Each connector is protected by a spring-loaded cover.

NOTICE: Separate overcurrent protection must be provided. Do not exceed 400 amps per receptacle.

WARNING
Electric shock hazard.

- Do not operate this machine with defective or missing guards, doors, or protective interlocks.

6.8 Quick-Disconnect Fuel Fittings

Quick-disconnect fuel fittings allow an external fuel supply to be connected to the engine.

Requirements

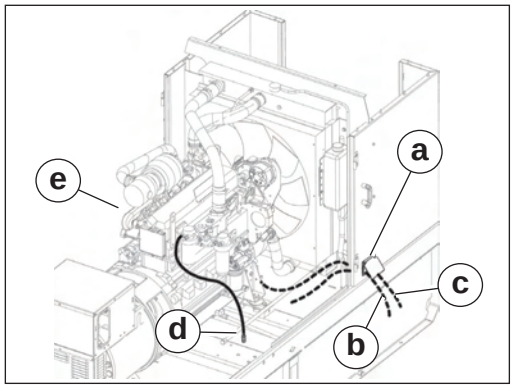
- Engine stopped and cool to the touch
- Fuel supply and return hoses with compatible quick-disconnect fittings

Note: *Required fitting size is ISO 7241-1-Series B (3/8 in.)*

Procedure

Perform the following procedure to connect the external fuel supply.

1. Feed the external supply hose **(b)** and the external return hose **(c)** through the access port **(a)** on the curb side of the machine.



wc gr008405

2. Disconnect the internal feed hose **(d)** at the tank fitting, and connect the internal feed hose to the external supply hose.
3. The internal return hose **(e)** (not shown) is located on the opposite side of the machine. Disconnect the internal return hose from the tank fitting, and connect it to the external return hose **(c)**.

Result

The external fuel supply is now connected.

WARNING

Fire hazard. Improper connections or damaged hoses may leak flammable fuel.

- ▶ Ensure that all quick-disconnect fittings are properly seated before operating the machine.
- ▶ Make sure that fuel hoses are not kinked. Ensure that the hoses will not touch or rest upon hot surfaces while the machine is operating.

7 Maintenance

7.1 Periodic Maintenance Schedule

The table below lists basic machine maintenance. Tasks designated with check marks may be performed by the operator. Tasks designated with square bullet points require special training and equipment.

	Daily	Every 50 Hrs or 2 weeks	Every 250 Hrs or 10 weeks	Every 600 Hrs or 12 Mo	Every 1200 Hrs or 24 Mo	Every 2000 Hrs	Other
Check engine oil and coolant level	✓						
Check engine air filter gauge & air cleaner dust cap *	✓						
Visual walkaround inspection	✓						
Check tire inflation, tread wear and lug nuts before towing	✓						
Check fuel filter		✓					
Service the battery			■				
Change engine oil and replace oil filter**			■				
Clean unit inside and out			■				
Check air intake hoses, connections, and system				■			
Replace fuel filter element				■			
Check automatic belt tensioner and belt wear				■			
Check cooling system				■			
Perform coolant solution analysis & add SCA's				■			
Grease axle				■			
Pressure test cooling system					■		
Flush cooling system***					■		
Check and adjust engine valve clearance						■	
Check brake fluid level in trailer at least monthly							■
Replace the Racor® filter element every 750 hours							■

*Replace the air filter cartridge when yellow indicator of the engine air filter gauge reaches the red line.

***Change the oil after the first 100 hours, then every 250 hours.*

****If John Deere antifreeze is used, the flushing interval may be extended. See engine operator's manual.*

7.2 Breaking In New Machines

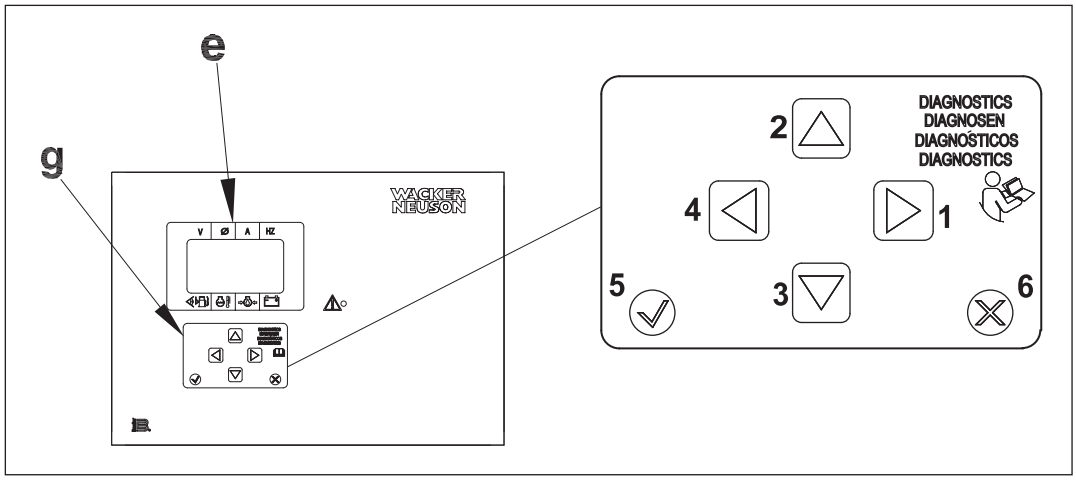
- Run the generator at least 60–100% of continuous load for the first 100 hours.
- Change engine oil and replace oil filter after the first 100 hours.

7.3 Resetting the Periodic Maintenance Timer

After maintenance has been performed on the generator, it is necessary to reset the periodic maintenance timer.

Resetting from Maintenance Timer Menus

The periodic maintenance timer can be reset while viewing the maintenance timer pre-alarm or hours remaining. To reset the periodic maintenance timer while viewing these menus, press and hold the reset button **(6)** for 10 seconds.



wc_gr005938

If pre-alarm is active:

- Main screen
- METERING > ALARM STATUS > PRE-ALARMS

If pre-alarm is not active:

- METERING > ENGINE
- METERING > RUN STATISTICS > CUMULATIVE > CUMULATIVE

Resetting from Main Menu

The periodic maintenance timer can also be reset from the main menu.

1. To access the main menu, press the right arrow button **(1)** on the keypad (g).
Note: *If there are active alarms or pre-alarms, press the left arrow button **(4)** three times to access the main menu.*
2. Using the up/down arrow buttons **(2,3),** select SETTINGS and press the right arrow button.
3. Select SYSTEM PARAMETERS. Press the right arrow button **(1).**
4. Select SYSTEM SETTINGS. Press the right arrow button **(1).**
5. Select MAINT RESET. Press the check mark button **(5).**

6. If necessary, enter your password. (See *Entering Passwords* for more information.)
7. When prompted, select YES and press the check mark button.
8. Exit by repeatedly pressing the left arrow button **(4)** until the LCD panel display returns to monitoring status.

7.4 Replacing the Air Filter Element

Prerequisites

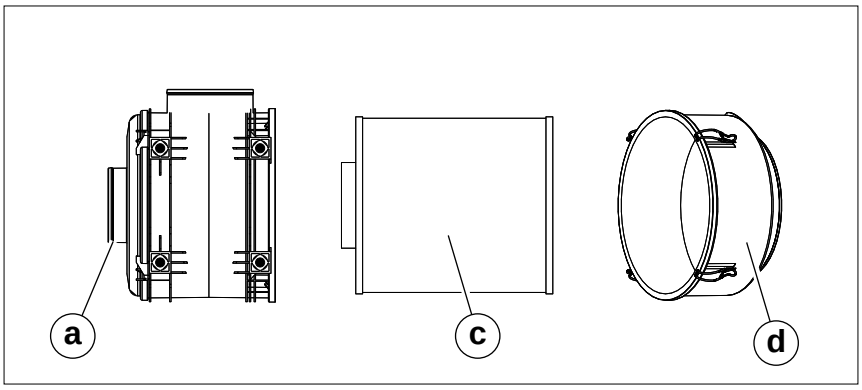
- Machine shut down
- Yellow indicator of the engine air filter gauge has reached the red line

Background

The air cleaner assembly contains a one-piece single element air filter cartridge **(c)**. This cartridge must be replaced when the yellow indicator of the engine air filter gauge reaches the red line.

Procedure

Follow the procedure below to replace the primary air filter element.



wc_gr005198

9. Remove the end cover **(d)**, then discard the entire air filter cartridge **(c).**
10. Insert a new air filter cartridge.
11. Re-install the end cover, making sure that the dust cap is clean and pointing downward.
12. Make sure that the intake piping **(a)** is fully engaged over the neck of the filter to ensure a good seal.

Maintenance

- Periodically, make sure the inlet pipe is free from obstructions.
- Check all connections and make sure they are snug. An air leak at the neck clamp, gauge connection, or intake pipe can quickly lead to engine damage.
- If the filter housing, gauge connection, neck, or inlet pipe are crushed or damaged, replace them immediately.

7.5 Replacing the Racor® Filter Element (if equipped)

When

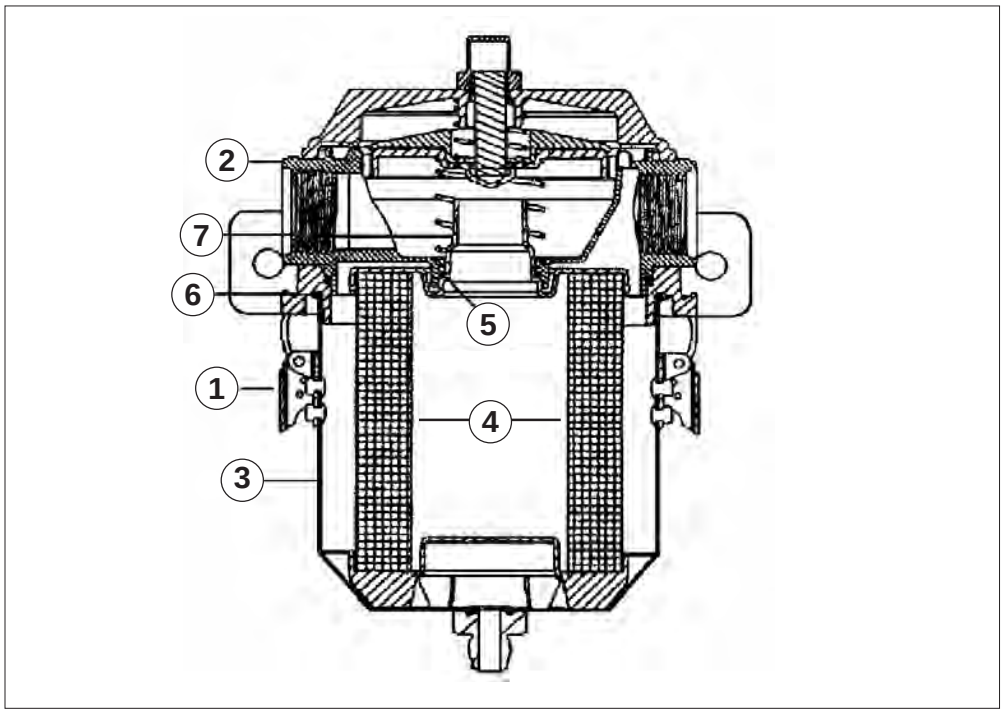
Replace the filter element after every 750 hours of operation, or whenever the red filter service indicator appears.

Prerequisites

- Engine is stopped
- Replacement filter element and O-rings are available
- Shop towels are available to wipe up spills

Procedure

Follow the procedure below to replace the filter element.



wc_gr006384

1. Release the latches **(1)** holding the canister **(3)** to the filter head assembly **(2)**.
2. Drop the canister to expose the filter element **(4)**. A small amount of oil may be present inside the canister, so use caution to avoid spills.
3. Pull the filter element down to remove it.
4. Remove the O-ring **(5)** from the top of the filter element end cap **(7)**. Also, remove the O-ring **(6)** from the bottom of the filter head assembly.

Note: *Dispose of the used filter element and O-rings in accordance with local environmental protection regulations.*

5. Install a new O-ring on the bottom of the filter head assembly. Also, verify that a new O-ring is on the top end cap of the replacement filter element.
6. Push the filter element end cap into the hole in the bottom center of the filter head assembly.
7. Replace the canister and align the latches on the canister with the boss on the filter head assembly.
8. Clamp the latches and snap them closed.

7.6 Lubricating the Engine

Checking oil

Check engine oil daily before starting engine.

WARNING
Burn hazard. Engine, engine oil, muffler, and exhaust pipes become extremely hot during operation.

- ▶ Stop the engine and allow the machine to cool before checking the oil or replacing the engine oil or oil filter cartridge.

- Do not operate engine if oil level is below ADD mark on dipstick. Always keep oil level within the crosshatch pattern or “full” mark on dipstick.
- Change oil after first 100 hours of operation and every 250 hours thereafter. Refer to the engine manufacturer’s Operator’s Manual for lubrication specifications.

Break-in Service

- This engine is factory-filled with John Deere Engine Break-in Oil.
- Operate the engine at heavy loads with minimal idling during the break-in period.
- Do not exceed 100 hours of operation with break-in oil.
- If the engine has significant operating time at light load, or more oil is required in the first 100 hour period, a longer break-in period may be required. In these situations, an additional 100 hour break-in period is recommended using a new change of John Deere Engine Break-In Oil and a new John Deere oil filter.

NOTICE: Do not add more oil until the oil level is BELOW the ADD mark on the dipstick. John Deere Engine Break-In Oil (TY22041) should be used to make up any oil consumed during the break-in period.

- During the first 20 hours, avoid prolonged periods of no load or sustained maximum load operation. If engine is to run for longer than 5 minutes without a load, shut unit down.
- After the first 100 hours, change engine oil and replace engine oil filter. Fill crankcase with seasonal viscosity grade oil.

WARNING
Most used oil contains small amounts of materials that can cause cancer and other health problems if inhaled, ingested, or left in contact with skin for prolonged periods of time.

- ▶ Take steps to avoid inhaling or ingesting used engine oil.
- ▶ Wash skin thoroughly after exposure to used engine oil.

7.7 Checking the Engine Coolant Level

Prerequisites
- Machine shut down
- Engine cool

When Daily

Procedure Follow the procedure below to check the engine coolant level.

WARNING
Burn hazard. Engine coolant is hot and under pressure at operating temperature. It can cause severe personal injury.

▶ Check the coolant level only after the engine has been shut down and is cool.

1. Open the access cover on the roof.
2. Open the radiator filler cap slowly in order to relieve the pressure. Remove the filler cap after the pressure has been released.
3. Verify that the coolant level of the radiator is 3/4-inch below the bottom of the filler neck. Add more coolant if necessary to maintain this level.

WARNING
Burn hazard. Coolant can contain alkali.

▶ Avoid coolant contact with skin and eyes.

4. Inspect the radiator filler cap and filler cap seal for damage. Clean the radiator filler cap or replace it if necessary.
5. Re-install the radiator filler cap.

NOTICE: Solutions of antifreeze and supplemental coolant additives MUST be used year-round. Automotive-type coolants do not contain the correct coolant additives to protect heavy-duty diesel engines. They often contain a high concentration of silicates which can damage the engine and cooling system. Refer to engine operator's manual for coolant recommendations.

7.8 Maintaining the Trailer

Tires

- Keep tires inflated to the proper pressure as shown on the tire sidewall.
- Check tread periodically for wear.
- Replace tires as required.

Wheels

- Check that lug nuts holding wheels are tight.
- Replace any missing lug nuts immediately.

Axle Hubs

- Grease axle hubs using a good wheel bearing grease.

Brakes

- Check operation of brakes before each trip.
- Check level of brake fluid in actuator at front of trailer at regular intervals.
- Fill brake fluid to approximately 1-inch below top of reservoir using DOT-3 heavy-duty brake fluid.
- Tighten filler plug securely.

Note: *If fluid level has fallen too low, bleed brake lines to remove any air trapped in lines. Then fill to proper level with clean brake fluid.*

7.9 Storage

Introduction

Extended storage of equipment requires preventative maintenance. Performing these steps helps to preserve machine components and ensures the machine will be ready for future use. While not all of these steps necessarily apply to this machine, the basic procedures remain the same.

When

Prepare your machine for extended storage if it will not be operated for 30 days or more.

Preparing for storage

Follow the procedures below to prepare your machine for storage.

- Complete any needed repairs.
- Replenish or change oils (engine, exciter, hydraulic & gear-case) per the intervals specified in the Scheduled Maintenance table.
- Grease all fittings and, if applicable, repack bearings.
- Inspect engine coolant. Replace coolant if it appears cloudy, is more than two seasons old, or does not meet the average lowest temperature for your area.
- If your machine has an engine equipped with a fuel valve, start the engine, close the fuel valve, and run the engine until it stops.
- Consult the engine owner's manual for instructions on preparing the engine for storage.

Stabilizing the fuel

After completing the procedures listed above, fill the fuel tank completely and add a high-quality stabilizer to the fuel.

- Choose a stabilizer that includes cleaning agents and additives designed to coat/protect the cylinder walls.
- Make sure the stabilizer you use is compatible with the fuel in your area, fuel type, grade and temperature range. Do not add extra alcohol to fuels which already contain it (for example, E10).
- For engines with diesel fuel, use a stabilizer with a biocide to restrict or prevent bacteria and fungus growth.
- Add the correct amount of stabilizer per the manufacturer's recommendations.

Storing the machine

Perform these remaining steps to store your machine.

- Wash the machine and allow it to dry.
- Move the machine to a clean, dry, secure storage location. Block or chock wheels to prevent machine movement.
- Use touch-up paint as needed to protect exposed metal against rust.
- If the machine has a battery, either remove or disconnect it.

NOTICE: Allowing the battery to freeze or completely discharge is likely to cause permanent damage. Periodically charge the battery while the machine is not in use. In cold climates, store and charge the battery indoors or in a warm location.

- Cover the machine. Tires and other exposed rubber items should be protected from the weather. Either cover them or use a readily available protectant.

8 Basic Troubleshooting

Problem	Cause	Remedy
Engine doesn't start	Battery discharged Battery connections corroded Blown fuse Defective starter	Charge battery. Clean battery connections. Replace fuse. Replace starter.
Engine tries to start but stops	No fuel Clogged fuel filter Fuel circuit failure	Fill tank with fuel. Bleed fuel lines. Replace fuel filter. Check fuel lines.
No generator output	Main circuit breaker open Lug door open Voltage regulator malfunction	Close main circuit breaker. Close lug door. Call for service.
Low oil pressure	Low oil level Clogged oil filter Oil pump failure	Fill engine sump with oil. Replace oil filter. Call for service.
High coolant temperature	Overload Low coolant level Low oil level Clogged oil filter	Reduce load. Fill with coolant. Fill sump with oil. Replace oil filter.
Engine emits black smoke	Clogged air filter Overload High oil level Fuel circuit failure	Clean/replace air filter cartridges. Reduce load. Remove excess oil. Call for service.

9 Technical Data

9.1 Engine

Engine Power Rating

Engine power rating per ISO/TR 14396. Actual power output may vary due to conditions of specific use.

Item No.		G 100	G 120
Engine			
Engine make		John Deere 4.5L	
Engine model		4045HF285	
Emissions		Tier 3	
Number of cylinders		4	
Displacement	cm³ (in³)	4500 (275)	
Engine speed	rpm	1800	
Rated power @ 1800 rpm	kW (Hp)	99 (133)	118 (158)
Coolant capacity	l (qts.)	22.5 (23.8)	
Oil capacity	l (qts.)	15 (15.9)	
Battery	Volts/ CCA	12 / 950	
Fuel type	type	Clean, filtered #1 or #2 diesel**	
Fuel tank capacity	l (gal.)	756 (199.8)	
Fuel consumption, prime load	l (gal.)/hr.	23.4 (6.2)	28 (7.4)
Run time at 100% prime load *	Hours	29.7	24.8
Run time at 75% prime load *	Hours	36.7	31.0
Run time at 50% prime load *	Hours	50.1	43.4
Run time at 25% prime load *	Hours	93.5	81.5

** Run times are based on useable fuel volume, not on fuel tank capacity. “Useable fuel volume” does not include fuel remaining in the tank after a low fuel shutdown.*
See “Refueling the Machine” for more information.
*** The use of #6 diesel fuel is not recommended.*

9.2 Generator

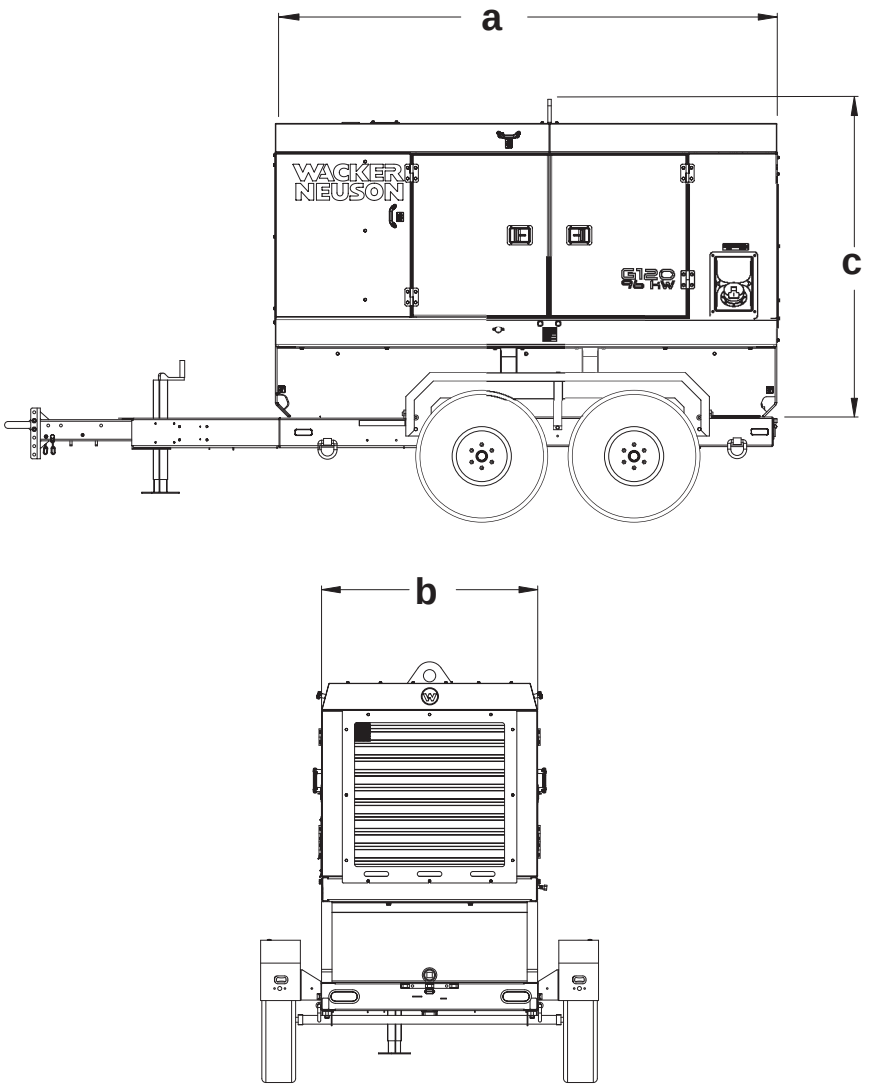
Item No.		G 100	G 120
Generator			
Make/Type		Mecc Alte	
Model		ECP34-2S/4	ECP34-1L/4
Generator speed	Hz	60	
Voltage selector	V	3 position switch 3Ø hi-wye, 3Ø lo-wye, 1Ø zig-zag 277/480, 120/208, 120/240	
AC voltages available	1Ø (V) 3Ø (V)	120, 127, 139, 240, 254, 277 208, 220, 240 416, 440, 480	
Frequency		60 Hz	
Power factor	1Ø 3Ø	1.0 0.8	
Voltage regulation		±1.00%	
Insulation class		H	
Sound level at 7 m (23 ft.)	dB(A)	69	70
AC receptacles		2 duplex, 3 twist-lock	
1Ø 120 GFI duplex	Amps	2-20A	
1Ø 120/240 V twist lock	Amps	3–50A	
Standby output	kW/kVA	88/110	106/132
Prime output	kW/kVA	80/100	96/120
Main breaker	Amps	250	350

9.3 Trailer and Skid

Item No.		G 100	G 120
Generator			
Dry weight (no trailer)	kg (lbs.)	2131 (4699)	2143 (4725)
Operating weight (no trailer)	kg (lbs.)	2783 (6137)	2795 (6163)
Trailer weight without generator	kg (lbs.)	621 (1370)	
GVWR	kg (lbs.)	4534 (9995)	
Surge brakes	Fluid type	Dot 3	
Tires	size	7.50 x 16E	

9.4 Dimensions

		G 100	G 120
a	mm (in.)	2784 (110.0)	
b		1143 (45.0)	
c		1727 (68.0)	



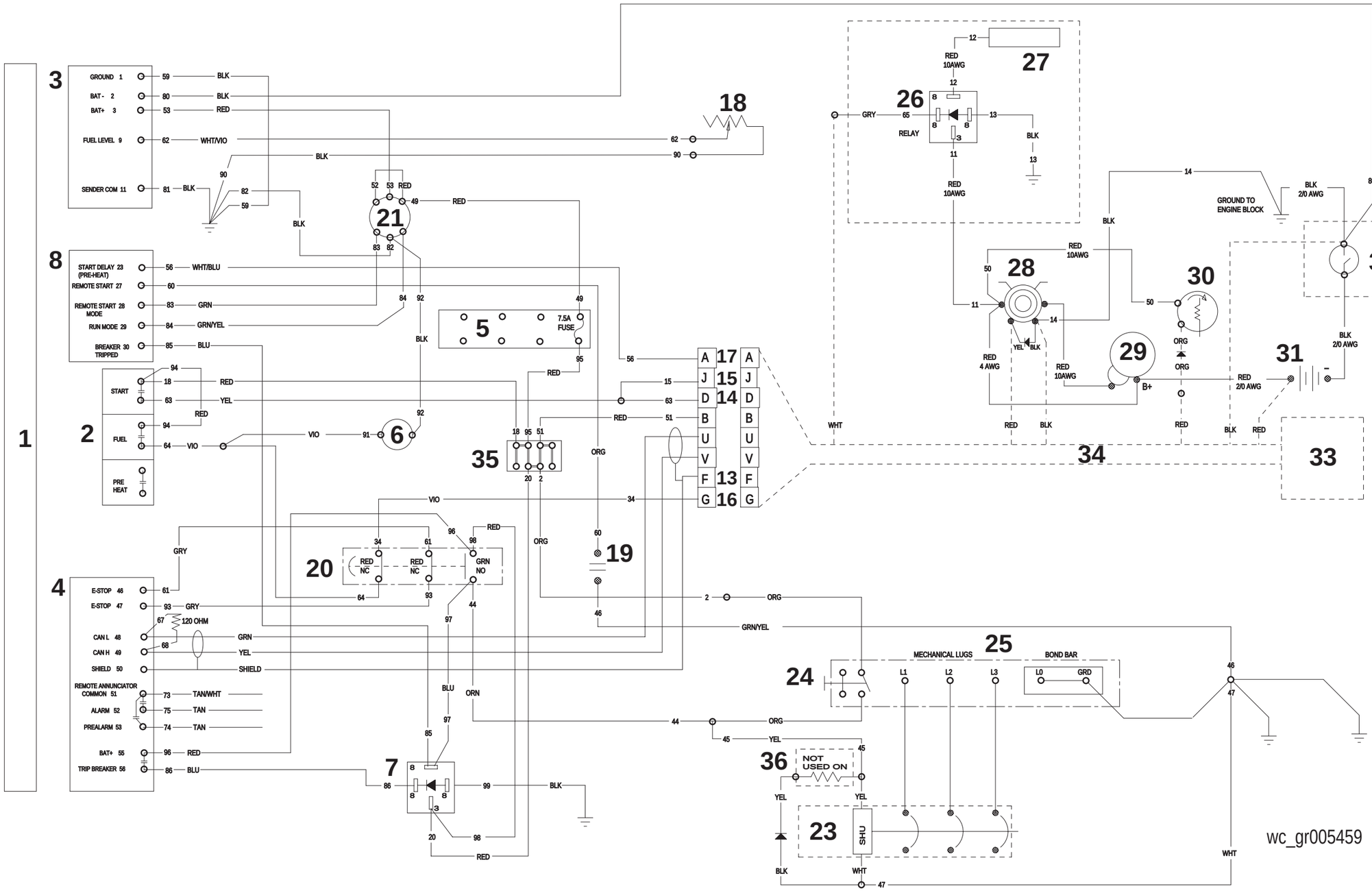
wc_gr005086

Notes:

10 Schematics

This page is intentionally left blank.

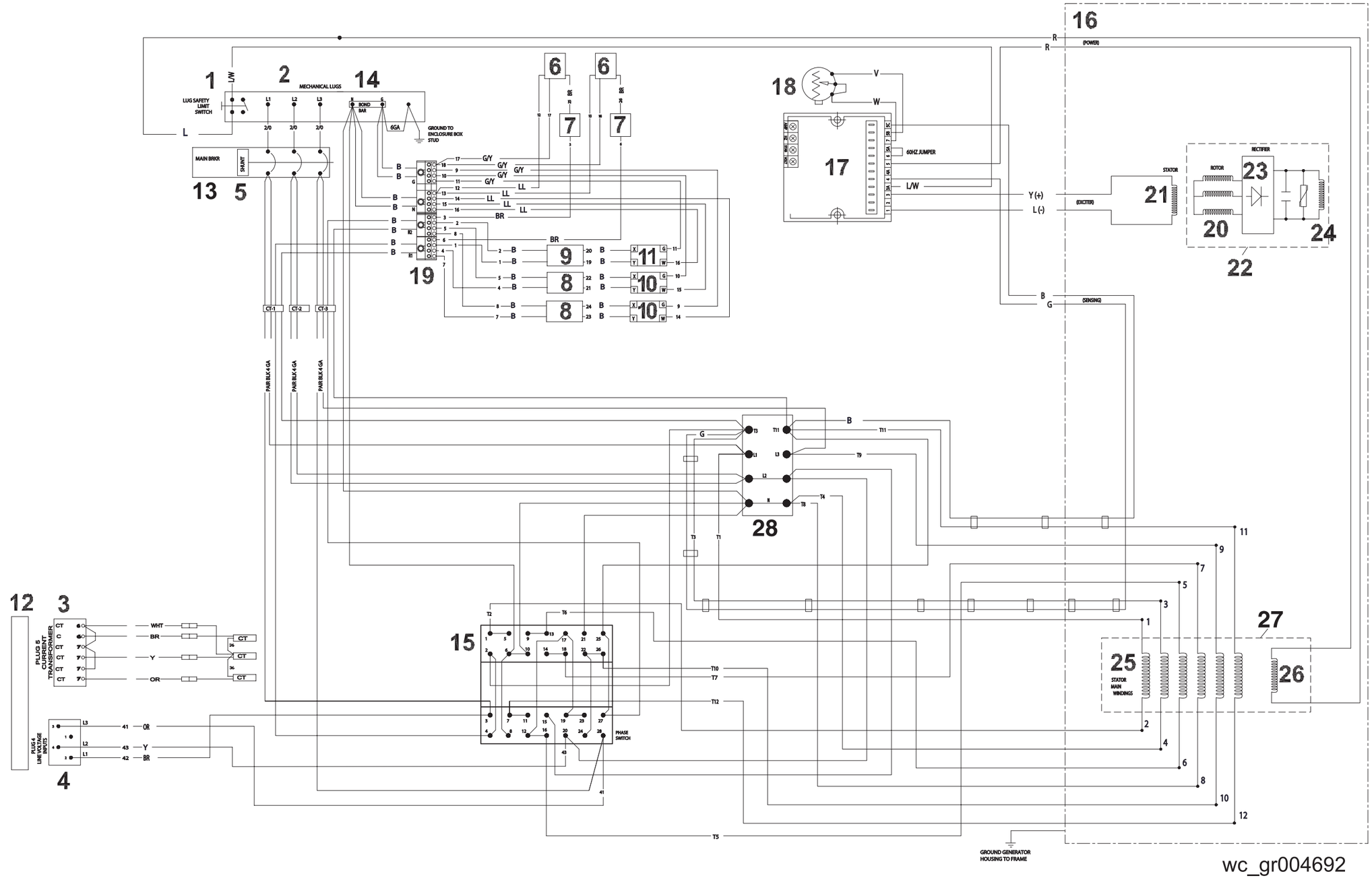
10.1 Engine Wiring



10.2 Engine Wiring Components

Ref.	Description	Ref.	Description
1	Electronic control board	21	Toggle switch
2	Engine outputs	22	10A fuse
3	Engine sensor inputs	23	Main breaker
4	Emergency stop, canbus, and contact outputs	24	Lug door safety switch
5	Fuses	25	Mechanical lugs
6	Hour meter	26	Relay (if equipped)
7	Shunt trip relay	27	Intake heater (if equipped)
8	Contact inputs	28	Starter relay
13	21 position connector	29	Starter
14	Start relay	30	Alternator
15	Alternator / charge	31	12V battery
16	B+ switched	32	Battery disconnect switch
17	Crank delay	33	John Deere engine ECU
18	Fuel level	34	Engine harness
19	Remote start	35	Terminal block
20	Emergency stop switch	36	Resistor (if equipped)

10.3 Electrical Schematic



10.4 Electrical Schematic Components

Ref.	Description	Ref.	Description
1	Lug safety limit switch	16	Generator
2	Mechanical lugs	17	Voltage regulator
3	Plug 5 - current transformer	18	Voltage adjustment rheostat
4	Plug 4 - line voltage inputs	19	Terminal block
5	Shunt	20	Exciter
6	120V 20A GFI receptacle	21	Stator
7	120V breaker	22	Rotor
8	240V 50A breaker	23	Rectifier
10	240V 50A receptacle	24	Rotor winding
12	Engine control module	25	Main stator windings
13	Main breaker	26	Auxiliary stator winding
14	Bond bar	27	Stator
15	Voltage selector switch	28	Terminal strip

Wire Colors					
BLK	Black	RED	Red	ORN	Orange
GRN	Green	VIO	Violet	LT	Light
BLU	Blue	WHT	White		
YEL	Yellow	BRN	Brown		

Wacker Neuson Produktion GmbH & Co. KG, Preußenstraße 41, D-80809 München, Tel.: +49-(0)89-3 54 02-0 Fax: +49 - (0)89-3 54 02-390
Wacker Neuson Production Americas LLC, N92W15000 Anthony Ave., Menomonee Falls, WI 53051
Tel. : (262) 255-0500 Fax: (262) 255-0550 Tel.: (800) 770-0957
Wacker Neuson Limited - Room 1701–03 & 1717–20, 17/F. Tower 1, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hongkong.
Tel: (852) 3605 5360, Fax: (852) 2758 0032