

GENERAC®

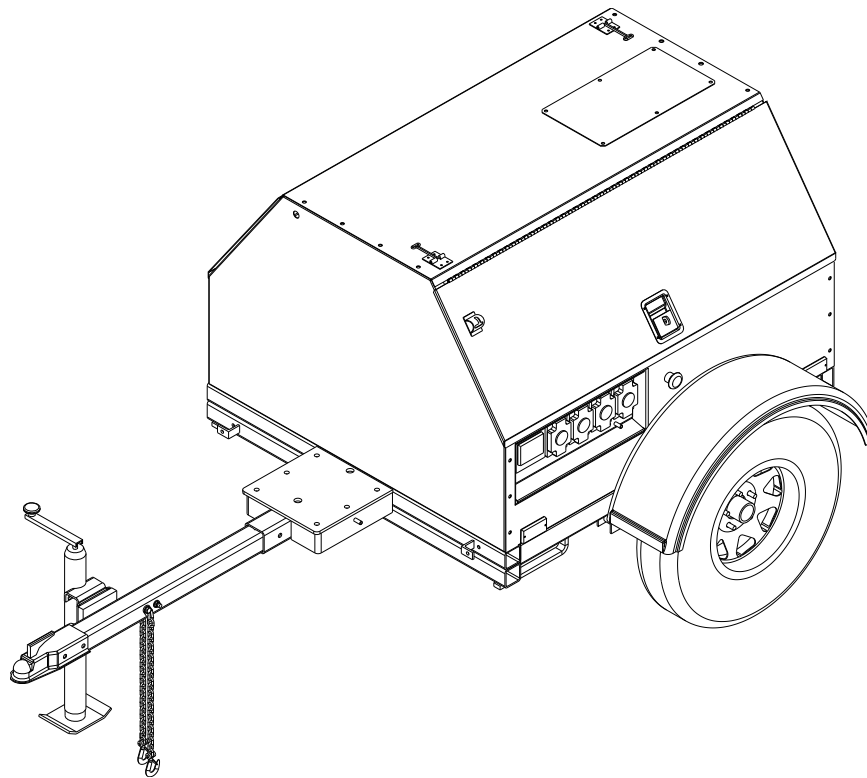
MAGNUM

Owner's Manual

For

Diesel Generator

MLG8 • MLG15 • MLG20 • MLG20ICAN



MODEL NUMBER: _____

SERIAL NUMBER: _____

DATE PURCHASED: _____

SAVE THIS MANUAL FOR FUTURE REFERENCE

⚠ WARNING

California Proposition 65. Engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects, and other reproductive harm.

(000004)

⚠ WARNING

California Proposition 65. This product contains or emits chemicals known to the state of California to cause cancer, birth defects, and other reproductive harm.

(000005)

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Section 1 Introduction and Safety

Introduction

Thank you for purchasing a Generac Mobile Products LLC product. This unit has been designed to provide high-performance, efficient operation, and years of use when maintained properly.

The information in this manual is accurate based on products produced at the time of publication. The manufacturer reserves the right to make technical updates, corrections, and product revisions at any time without notice.

Read This Manual Thoroughly



⚠ WARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

If any section of the manual is not understood, contact your nearest Generac Mobile Products Authorized Dealer, or contact Generac Mobile Products (GMP) Customer Service at 1-800-926-9768, or www.generacmobileproducts.com with any questions or concerns.

The owner is responsible for proper maintenance and safe use of the equipment. Before installing, operating, or servicing this generator:

Save these instructions for future reference. This manual contains important instructions for the generator that should be followed during installation, operation and maintenance of the generator and batteries. ALWAYS supply this manual to any individual that will use this machine.

Safety Rules

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The warnings in this manual, and on tags and decals affixed to the unit are, therefore, not all inclusive. If using a procedure, work method or operating technique that the manufacturer does not specifically recommend, verify that it is safe for others. Also make sure the procedure, work method or operating technique utilized does not render the equipment unsafe.

Throughout this publication, and on tags and decals affixed to the unit, DANGER, WARNING, CAUTION and NOTE blocks are used to alert personnel to special instructions about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. Their definitions are as follows:

⚠ DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

(000001)

⚠ WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

(000002)

⚠ CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

(000003)

NOTE: Notes contain additional information important to a procedure and will be found within the regular text of this manual.

These safety warnings cannot eliminate the hazards that they indicate. Common sense and strict compliance with the special instructions while performing the action or service are essential to preventing accidents.

General Hazards



⚠ DANGER

Asphyxiation. Running engines produce carbon monoxide, a colorless, odorless, poisonous gas. Carbon monoxide, if not avoided, will result in death or serious injury. (000103)



⚠ WARNING

Hearing Loss. Hearing protection is recommended when using this machine. Failure to wear hearing protection could result in permanent hearing loss. (000107)



⚠ WARNING

Moving Parts. Keep clothing, hair, and appendages away from moving parts. Failure to do so could result in death or serious injury. (000111)



⚠ WARNING

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire. (000108)

⚠ WARNING

In case of an emergency, press the emergency stop button to stop the engine immediately. Failure to do so could result in death or serious injury. (000298)

⚠ WARNING

Equipment damage. Do not attempt to start or operate a unit in need of repair or scheduled maintenance. Doing so could result in serious injury, death, or equipment failure or damage. (000291)

⚠ WARNING

Risk of injury. Do not operate or service this machine if not fully alert. Fatigue can impair the ability to service this equipment and could result in death or serious injury. (000215)

⚠ WARNING

Only qualified service personnel may install, operate and maintain this equipment. Failure to follow proper installation requirements could result in death, serious injury, and damage to equipment or property. (000182)

⚠ CAUTION

Equipment or property damage. Do not block air intake or restrict proper air flow. Doing so could result in unsafe operation or damage to unit. (000229)

Explosion and Fire Hazards



⚠ DANGER

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Add fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury. (000105)



⚠ WARNING

Fire risk. Fuel and vapors are extremely flammable. Do not operate indoors. Doing so could result in death, serious injury, or property or equipment damage. (000281)



⚠ WARNING

Risk of Fire. Unit must be positioned in a manner that prevents combustible material accumulation underneath. Failure to do so could result in death or serious injury. (000147)

Trailer Hazards

WARNING

Trailer must be securely coupled to the hitch and chains correctly attached. Uncoupled or unchained towing could result in death or serious injury. (000233)

WARNING

Do not operate this unit while transporting. Doing so could result in death or serious injury. (000231)

WARNING

Crushing hazard. Verify unit is properly secured and on level ground. An unsecured unit can suddenly roll or move, causing death or serious injury. (000234a)

WARNING

Property or Equipment Damage. Tighten wheel lug nuts after first 50 miles to factory specifications. Failure to do so could result in death, serious injury, property or equipment damage. (000235)

Electrical Hazards

DANGER



Electrocution. In the event of electrical accident, immediately shut power OFF. Use non-conductive implements to free victim from live conductor. Apply first aid and get medical help. Failure to do so will result in death or serious injury. (000145)

DANGER



Electrocution. Water contact with a power source, if not avoided, will result in death or serious injury. (000104)

DANGER



Electrocution. Contact with bare wires, terminals, and connections while generator is running will result in death or serious injury. (000144)

DANGER



Electrocution. Verify electrical system is properly grounded before applying power. Failure to do so will result in death or serious injury. (000152)

DANGER



Electrocution. Turn utility supply OFF before working on utility connections of the transfer switch. Failure to do so will result in death or serious injury. (000123)

DANGER



Electrocution. Never connect this unit to the electrical system of any building unless a licensed electrician has installed an approved transfer switch. Failure to do so will result in death or serious injury. (000150)

WARNING



Electrical shock. Disconnect battery ground terminal before working on battery or battery wires. Failure to do so could result in death or serious injury. (000164)

Battery Hazards



⚠ DANGER

Electrocution. Do not wear jewelry while working on this equipment. Doing so will result in death or serious injury.

(000188)



⚠ WARNING

Explosion. Batteries emit explosive gases while charging. Keep fire and spark away. Wear protective gear when working with batteries. Failure to do so could result in death or serious injury.

(000137a)



⚠ WARNING

Explosion. Do not dispose of batteries in a fire. Batteries are explosive. Electrolyte solution can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

(000162)



⚠ WARNING

Risk of burn. Do not open or mutilate batteries. Batteries contain electrolyte solution which can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

(000163a)

⚠ WARNING

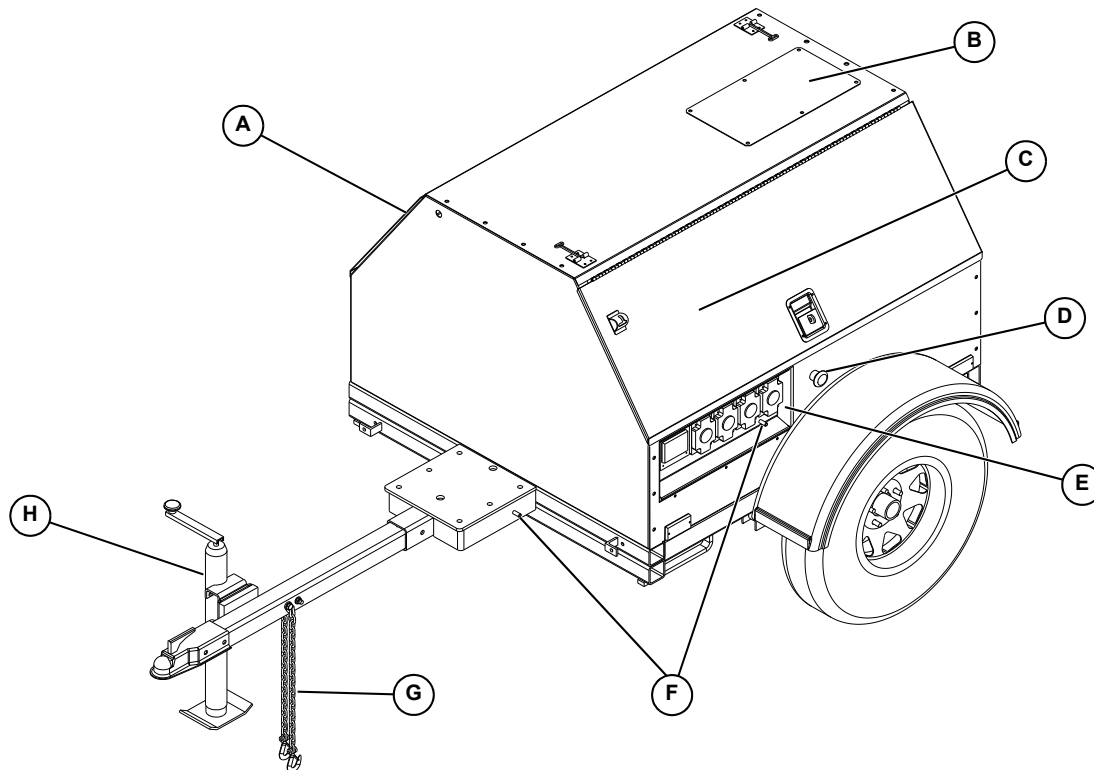
Environmental Hazard. Always recycle batteries at an official recycling center in accordance with all local laws and regulations. Failure to do so could result in environmental damage, death or serious injury.

(000228)

Always recycle batteries in accordance with local laws and regulations. Contact your local solid waste collection site or recycling facility to obtain information on local recycling processes. For more information on battery recycling, visit the Battery Council International website at: <http://batteryCouncil.org>

Section 2 General Information

Component Locations



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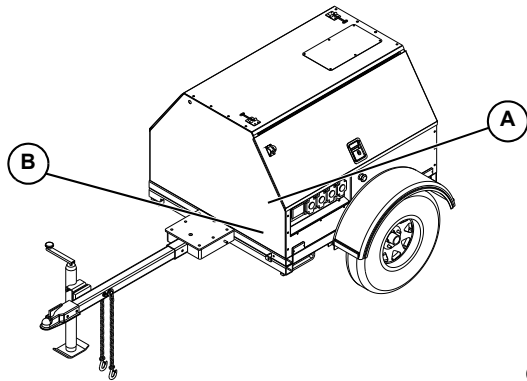
Figure 2-1. Component Locations

Table 2-1. Generator Components

A	Fuel Filler Location (under door)	E	Receptacle Panel (not available on MLG8 units)
B	Radiator Access Panel	F	Ground Studs (2)
C	Control Panel Locations (under door)	G	Safety Chains
D	Emergency Stop Switch (on MLG8 units, switch is located on front panel)	H	Tongue Jack

Unit and Serial Number Locations

See **Figure 2-2** to locate the unit ID tag (A) and Vehicle Identification Number (VIN) tag (B). Important information, such as the unit model number, serial number, VIN and tire loading information is found on these tags. Record the information from these tags so it is available if the tags are lost or damaged. When ordering parts or requesting assistance, you may be asked to provide this information.



003550

Figure 2-2. Unit and Serial Number Locations

Engine Oil Recommendations

To maintain the product warranty, the engine oil should be serviced in accordance with the recommendations of this manual.

The engine has been filled with factory engine oil of a grade recommended by the engine supplier.

Use a high quality detergent oil with an appropriate classification and viscosity for the engine type and ambient temperature conditions. Consult your Generac Mobile Products Authorized Dealer or the applicable engine service manual for engine oil recommendations.

Coolant Recommendation



⚠ DANGER

Risk of poisoning. Do not use mouth to siphon coolant. Doing so will result in death or serious injury.

(000149)



⚠ WARNING

Risk of burns. Do not open coolant system until engine has completely cooled. Doing so could result in serious injury.

(000154)

⚠ CAUTION

Do not use any chromate base rust inhibitor with propylene glycol base antifreeze, boosters or additives. Doing so will cause overheating.

(000165)

Consult your Generac Mobile Products Authorized Dealer or the applicable engine service manual for engine coolant recommendations. See table below for mixtures:

Freezing Point °F (°C)	-12 (-24)	-34 (-36)	-54 (-48)	-90 (-67)
Water (% Volume)	60	50	40	30
Antifreeze (% Volume)	40	50	60	70*

* Maximum freeze protection is at 70%.

Main Control Panels

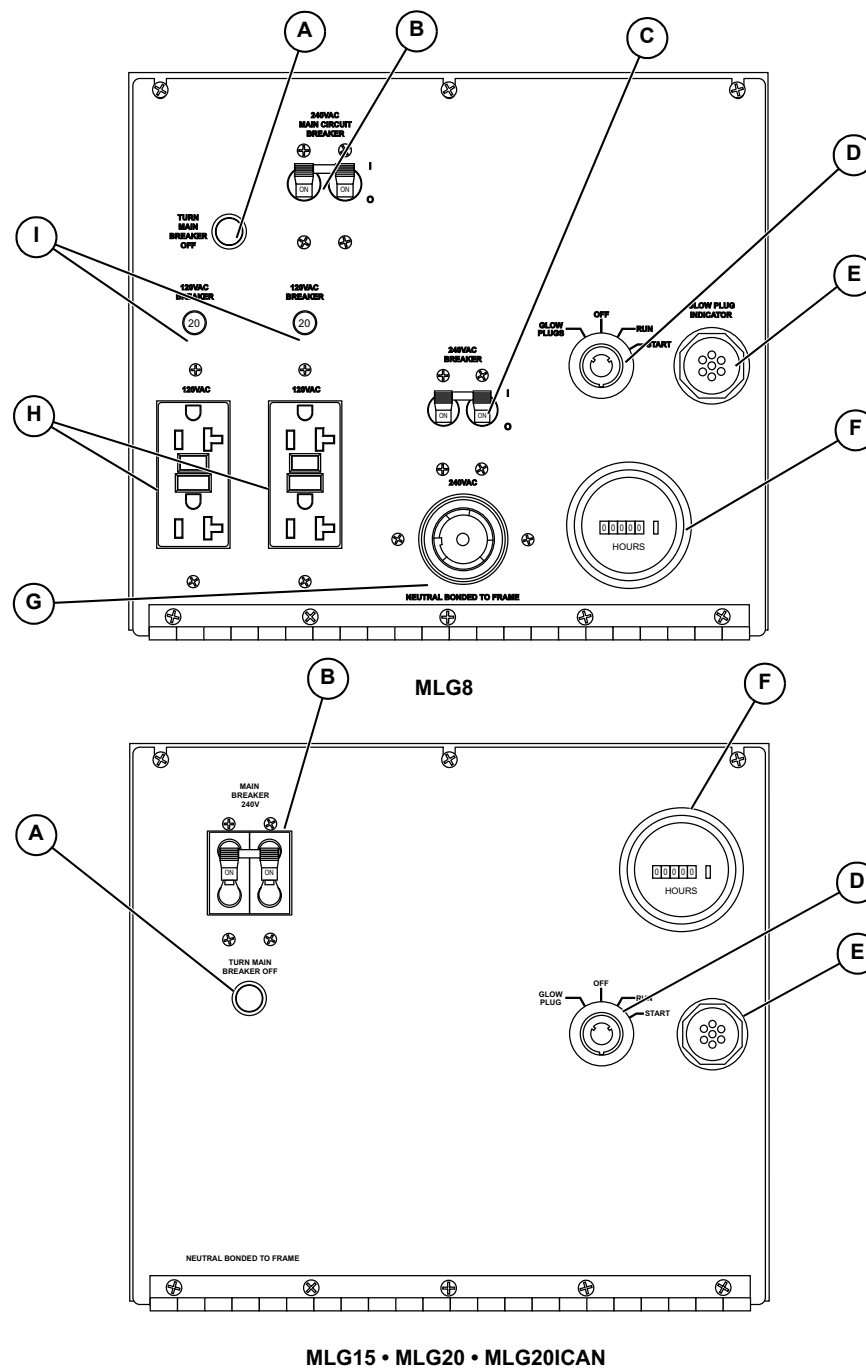


Figure 2-3. Control Panel Component Locations

Table 2-2. Control Panel Components

A	Circuit Breaker Indicator Light	F	Engine Hour Meter
B	Main Circuit Breaker	G	240V Twist-Lock Receptacle
C	240VAC Circuit Breaker	H	120V GFCI Receptacles
D	Key Switch	I	120V Breaker
E	Glow Plug Indicator		

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Section 3 Operation

Prestart Checklist

Before starting the unit, all items in the prestart checklist must be completed.



WARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

- Verify all maintenance procedures are up to date. For more information, see [General Maintenance](#) and [Basic Maintenance Schedule](#).
- Verify the unit is level.
- Verify there is no water inside, on, or near the unit. Dry if needed.
- For grounding requirements, follow any local, state, or National Electrical Code (NEC) guidelines.
- Verify the key switch is OFF (O).
- Verify all circuit breakers are OFF (O).
- Inspect all electrical cords; repair or replace any that are cut, worn, or bare.
- Verify oil, coolant, and fuel levels are correct, per the engine manufacturer manual.
- Verify battery connections are secure.
- Turn the battery disconnect switch ON, if equipped.
- Inspect the engine fan belt tension and condition.
- Inspect the engine fan guard.
- Inspect the engine exhaust system for loose or rusted components.
- Verify the radiator and surrounding shroud are clear of debris.
- Verify all covers are in place and secure.
- Verify the emergency stop switch is pulled out.

Starting the Unit



DANGER

Asphyxiation. Running engines produce carbon monoxide, a colorless, odorless, poisonous gas. Carbon monoxide, if not avoided, will result in death or serious injury. (000103)

CAUTION

Equipment Damage. Do not continuously crank engine for more than ten seconds. Doing so will lead to overdischarge of batteries and starter seizure. (000230)

NOTE: If the engine was run out of fuel or the fuel tank was drained, it may be necessary to bleed the fuel lines. See the engine operator's manual supplied with the unit.

1. Verify the main circuit breaker and individual circuit breakers for each of the receptacles are OFF (O).

NOTE: When the red Turn Main Breaker Off light is illuminated, the main circuit breaker must be turned to OFF (O).

2. See [Figure 3-1](#). Turn the key on the key switch to GLOW PLUG (A) and hold the key in place for five seconds, or until the glow plug indicator turns red.

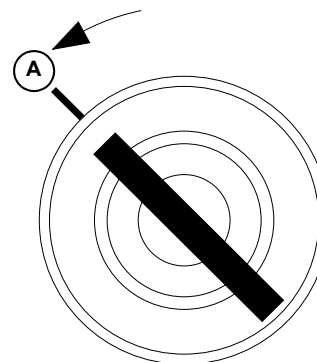
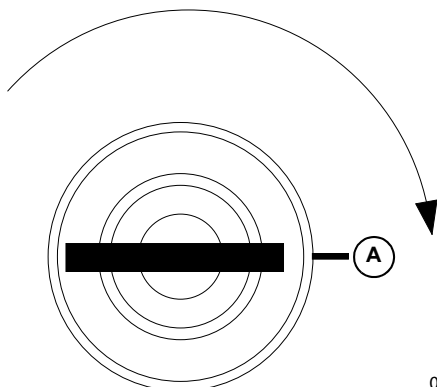


Figure 3-1. Activate Glow Plug

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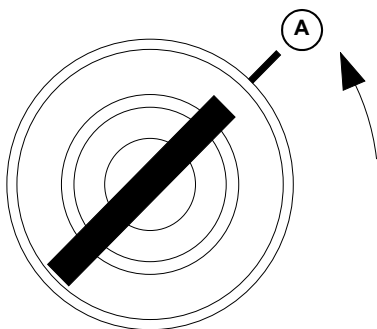
- See [Figure 3-2](#). As soon as it is glowing, turn the key to START (A) and hold it until the engine cranks and starts running.



003553

Figure 3-2. Crank Engine to Start

- See [Figure 3-3](#). Release the key, it will move to RUN (A).



003554

Figure 3-3. Release Key

NOTE: For cold weather conditions, see the engine operator's manual for appropriate glow plug interval.

NOTE: If oil pressure is not obtained within 15 seconds after the key is switched to RUN, the low oil automatic shutdown will turn off the fuel supply, stopping the engine. Check the oil level and turn the key to OFF to reset the oil pressure timer before attempting to restart the engine.

- Once the engine is running, allow it to reach normal operating temperature before switching on any loads.

Emergency Stop Switch

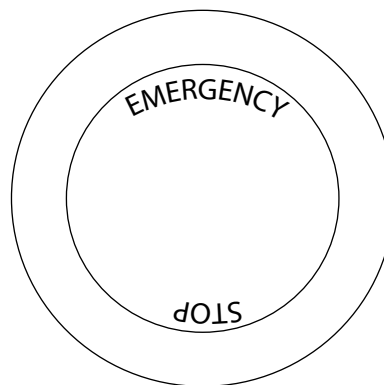
⚠ WARNING

In case of an emergency, press the emergency stop button to stop the engine immediately. Failure to do so could result in death or serious injury. (000298)

⚠ CAUTION

Equipment Damage. The emergency stop switch is not to be used to power down the unit under normal operating circumstances. Doing so will result in equipment damage. (000246)

The unit is equipped with one emergency stop switch. For location of the emergency stop switch, see [Component Locations](#). The switch can be accessed and activated with all doors closed and locked.



002815

Figure 3-4. Emergency Stop Switch

Activate the emergency stop switch by pushing the button in until it locks down. This will trip the main circuit breaker which will open the contact, disconnecting the load to the connection lugs. This will also open the fuel circuit, shutting down the engine. The emergency stop fault will be displayed on the control panel. The switch will remain closed until it is pulled out.

Automatic Shutdown

This unit is equipped with a low oil pressure and high coolant temperature automatic shutdown system. This system will automatically shut off the fuel supply to stop the engine if oil pressure drops too low or the engine exceeds normal operating temperature. Return the switch to OFF to reset the unit after the cause of shutdown has been determined.

Voltage Regulator

This unit is equipped with an electronic voltage regulator. The voltage regulator controls the output of the generator by regulating the current into the exciter field. The regulator has three screwdriver adjustable potentiometers that may be adjusted for voltage, stability and voltage roll-off (U/F). The voltage regulator is adjusted before shipment from the factory. Contact Generac Mobile Products for additional information before attempting to adjust the voltage regulator.

Derating for Altitude

All units are subject to derating for altitude and temperature; this will reduce the available power for operating tools and accessories connected to the receptacles. Typical reductions in performance are 2-4% for every 1000 ft (305 m) of elevation and 1% per 10°F (5.6°C) increase in ambient air temperature over 72°F (22°C).

Wet Stacking

The unit is powered by a diesel engine. Diesel engines are susceptible to wet stacking if lightly loaded. Wet stacking occurs when an engine is run at less than 30% of its full load capacity, causing unburned fuel to accumulate in the exhaust system. Wet stacking can be detected by continuous black exhaust when the unit is under a constant load. It can also cause fouling of injectors and buildup on engine valves. Diesel engines operate properly when applied loads are between 30% and 100% capacity. Appropriate generator sizing is determined by the anticipated load. If the unit is in a wet stack condition, load the unit heavily for five hours or until the exhaust is clear.

Receptacle Panel

This unit is equipped with a receptacle panel for running accessories or tools from the generator. Power is supplied to the receptacles any time the engine is running and the main circuit breaker is switched to ON (I). Each receptacle has an individual circuit breaker, located inside the cabinet under a flip-up cover. Each circuit breaker corresponds with the receptacle located below it on the receptacle panel.

Should the main breaker, or any of the individual circuit breakers trip, remove some of the load to the receptacles before turning them back on.

NOTE: To ensure proper grounding, anytime the generator is providing power to any equipment or load panels that do not have a grounded plug, a ground wire must be added between the equipment and the grounding stud on the receptacle panel per the National Electrical Code (NEC), state and local regulations.

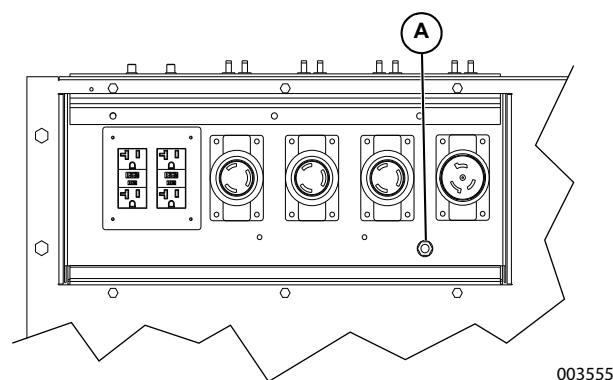


Figure 3-5. Receptacle Panel Grounding Stud

A	Receptacle Panel Grounding Stud
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Shutting Down the Unit

Check with personnel using power supplied by the unit and let them know the power is going to be turned off. Verify the power shut down will not create any hazards by accidentally turning off equipment that needs to be kept on (pumps, compressors, lights, etc.). When you have finished using the unit, proceed with shut down as follows:

1. Remove all loads from the receptacles.
2. Switch the individual circuit breakers for each receptacle to OFF (O).
3. Switch the main circuit breaker to OFF (O).
4. Turn the key switch to OFF.

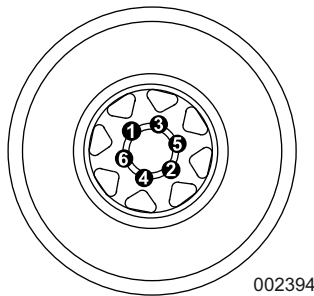
NOTE: For extended storage time, disconnect the battery. For extended storage requirements, see the engine operator's manual.

Towing the Unit

Once the engine is shut down, follow these steps to prepare the unit for towing.

1. Verify the unit is OFF.
2. Use the jack to raise or lower the trailer onto the hitch of the towing vehicle. Lock the hitch coupling and attach the safety chains or cables to the vehicle. Raise the jack foot completely.
3. Connect any trailer wiring to the tow vehicle. Check for proper operation of the directional and brake lights.
4. Verify all doors are properly latched.
5. Check for proper inflation of the trailer tires. Proper inflation is specified on each tire.

6. Check the wheel lugs. Tighten or replace any lugs that are loose or missing. If a tire has been removed for axle service or replaced, tighten the lugs, in the order shown, to the following specifications:
 - a. Start all lug nuts by hand.
 - b. First pass tighten to 20-25 ft-lbs (27-33 Nm).
 - c. Second pass tighten to 50-60 ft-lbs (67-81 Nm).
 - d. Third pass tighten to 90-120 ft-lbs (122-162 Nm).



002394

Figure 3-6. Lug Sequence

NOTE: After first road use, repeat tightening procedure.

Maximum recommended speed for highway towing is 45 mph (72 km/h). Recommended off-road towing speed is not to exceed 10 mph (16 km/h).

Lifting the Unit



Personal injury. Excessive weight. Use only appropriate lifting eyes and lifting equipment to lift unit. Improper lifting techniques could result in equipment damage, death or serious injury. (000224)

When lifting the unit, attach any slings, chains or hooks directly to the central lift point.

1. Verify the equipment being used to lift the unit has sufficient capacity. For approximate weights, see the applicable product spec sheet.
2. Always remain aware of people and objects around the unit while moving.

3. Use the forklift pockets with care. Approach the unit as perpendicular as possible to avoid damaging the unit. Verify any obstructions are clear of the forklift tines before lifting.

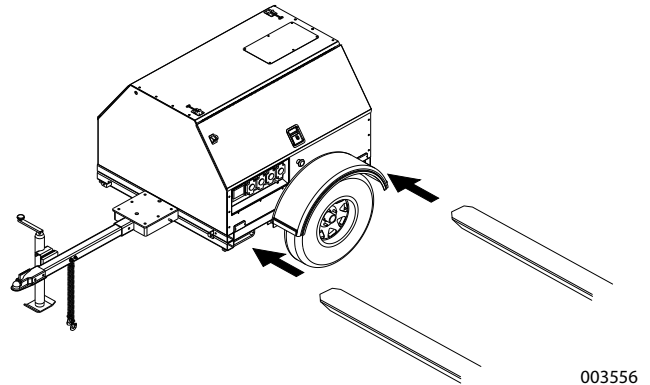


Figure 3-7. Standard Forklift Pockets

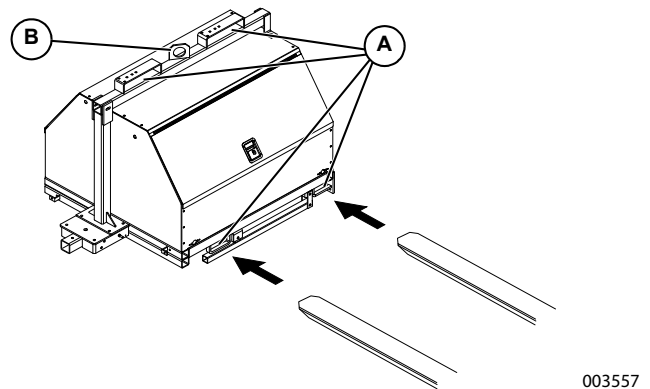


Figure 3-8. Optional Lift Structure

A	Forklift Pockets
B	Central Lift Point

Section 4 Maintenance

Emissions Information

For emissions information, see the OEM engine manual.

Daily Walk Around Inspection



Equipment Damage. Failure to perform a daily inspection could result in damage to the unit.

(000306)

Look for conditions that could hinder performance or safety, such as (but not limited to) oil/coolant/fuel leakage, blocked vents, loose/missing hardware, and electrical connections.

Visually inspect the fan belt for cracks, fraying, stretching, and verify the belt is properly seated in the pulley grooves. Replace the belt according to the manufacturer's recommendations.

General Maintenance

Poorly maintained equipment can become a safety hazard. In order for the equipment to operate safely and properly over a long period of time, periodic maintenance and occasional repairs are necessary. Never perform routine service (oil/filter changes, cleaning, etc.) unless all electrical components are OFF. Before servicing the unit, always follow the instructions listed below.

- Verify the key is removed.
- Verify the circuit breakers are OFF (O).
- Activate (push in) the emergency stop switch.
- Disconnect the negative (-) terminal on the battery.
- 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.
- Do not wash the unit with a high pressure hose or with any kind of power washer.
- Do not wash the engine block or fuel tank with a power washer or steam cleaner. Water may enter the cabinet and collect in the generator windings or other electrical parts, causing damage. Water will also pool on top of fuel tank and mix with any environmentally hazardous fluids that may be present, such as engine oil and coolant.
- If the unit is stored outside, check for water inside the cabinet and generator before each use. If wet, dry the unit thoroughly before starting.
- Inspect condition of electrical cords. Do not use the unit if insulation is cut or worn through.
- Verify the condition of the air filter by viewing the level of the vacuum draw on the filter minder gauge. Replace the air filter when the yellow center

bar reaches the red section on the gauge (20 in. H₂O).

- Check wheel lugs. see [Towing the Unit](#).
- Check coolant level daily. See the engine operator's manual for coolant recommendations and proper mixture.
 - Coolant is checked visually by inspecting the level in the coolant overflow jug located near the radiator.
 - Normal operating level is between the FULL and ADD markings on the overflow jug, also known as the normal range.
 - When engine is stopped and completely cool, coolant may be added directly to the coolant overflow jug.
- Check the oil level daily. See the engine operator's manual for the proper viscosity grade of oil, including special operating conditions such as a change in season or climate.
 - Do not start the unit if the engine oil level is below the ADD mark on the dipstick.
 - Normal operating level is in the cross-hatch pattern between the FULL and ADD markings on the dipstick.
 - Add oil only if the oil level is below the ADD mark on the bottom of the cross-hatch pattern on the dipstick.
 - Do not overfill the crankcase.
- Check the fuel level.

NOTE: During the first 100 hours of operation, avoid long periods of no load or sustained maximum load operation. If the unit is to run for longer than five minutes without a load, shut the engine OFF.

Basic Maintenance Schedule

See the original equipment manufacturer's operating manual for a complete list of maintenance requirements. Failure to comply with the procedures as described in the engine operator manual will nullify the warranty, decrease performance and cause equipment damage or premature equipment failure. Maintenance records may be required to complete a warranty request.

Table 4-1. Basic Maintenance Schedule - MLG8

Item	As Required	Every 200 Hours	Every 400 Hours	Every 500 Hours	Every 800 Hours	Every Two Years
Drain Water Separator	◆					
Inspect/Adjust Belt		◆				
Inspect/Clean Fuel Filter		◆				
Inspect/Replace Air Filter		◆				
Replace Engine Oil*		◆				
Check Radiator and Hose Clamps		◆				
Replace Engine Oil Filter*			◆			
Replace Fuel Filter			◆			
Clean Water Separator			◆			
Replace Fan Belt				◆		
Check/Clean Battery				◆		
Inspect/Adjust Valve Clearance					◆	
Replace Engine Coolant						◆
Replace Radiator Hose Clamps						◆

* Actual oil life and change intervals should be determined through oil sampling and analysis in extreme conditions.

Table 4-2. Basic Maintenance Schedule - MLG15

Item	As Required	First 50 Hours	Every 250 Hours	Every 500 Hours	Every 24 Months
Drain Water Separator	◆				
Check/Replace Air Cleaner Element	◆				
Replace Engine Oil and Filter*		◆	◆		
Inspect/Clean Solenoid Fuel Pump Filter		◆	◆		
Inspect/Adjust Belt			◆		
Check Radiator and Hose Clamps			◆		
Replace Fuel Filter				◆	
Inspect/Adjust Valve Clearance				◆	
Check/Clean Battery				◆	
Replace Engine Coolant					◆
Replace Radiator Hose Clamps					◆

* Actual oil life and change intervals should be determined through oil sampling and analysis in extreme conditions.

Table 4-3. Basic Maintenance Schedule - MLG20

Item	As Required	Every 250 Hours	Every 500 Hours	Every 1000 Hours	Every 12 Months
Drain Water Separator	◆				
Check Coolant Level	◆				
Inspect Belt	◆				
Replace Engine Oil*		◆			
Replace Engine Oil Filter*			◆		
Replace Fuel Filters			◆		
Adjust/Replace Belt			◆		
Replace Air Cleaner			◆		
Check/Clean Battery			◆		
Check/Adjust Valve Clearance				◆	
Replace Radiator Hose Clamps					◆
Replace Engine Coolant					◆

* Actual oil life and change intervals should be determined through oil sampling and analysis in extreme conditions.

Jack Maintenance

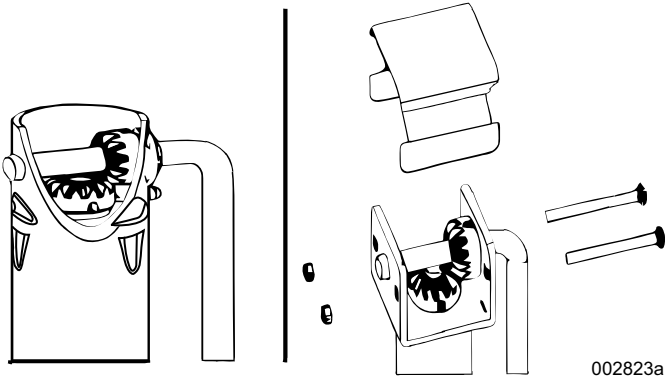
The following procedures should be performed annually.

Side-Wind Models

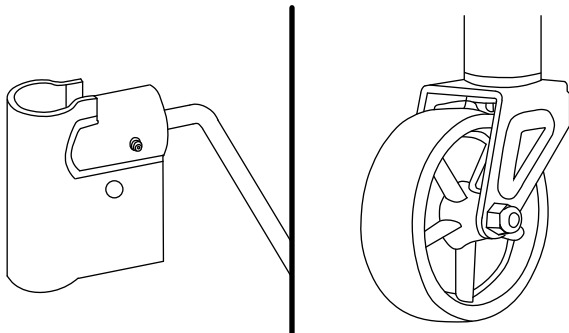
- The internal gearing and bushings of the jack must be kept lubricated. Apply a small amount of automotive grease to the internal gearing by removing the jack cover, or if equipped, use a needle nose applicator or standard grease gun on the lubrication point found on the side of the jack near the crank. Rotate the jack handle to distribute the grease evenly.
- A lightweight oil must be applied to the handle unit at both sides of the tube.
- If equipped, the axle bolt and nut assembly of the caster wheel must also be lubricated with the same lightweight oil.

Top-Wind Models

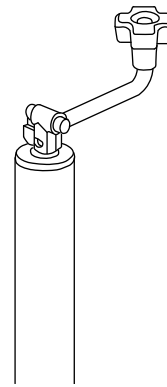
- Apply a lightweight oil to the screw stem.



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002825a

Figure 4-1. Lubrication Points

Trailer Wheel Bearings

The trailer axles are equipped with a grease fitting to allow lubrication of the wheel bearings without the need to disassemble the axle hub. To lubricate the axle bearings, remove the small rubber plug on the grease cap, attach a standard grease gun fitting to the grease fitting and pump grease into the fitting until new grease is visible around the nozzle of the grease gun. Use only a high quality grease made specifically for lubrication of wheel bearings. Wipe any excess grease from the hub with a clean cloth and replace the rubber plug when finished. The minimum recommended lubrication is every 12 months or 12,000 miles (19,312 km). More frequent lubrication may be required under extremely dusty or damp operating conditions.

Lower Radiator Hose Heater Option - Use and Maintenance



Personal Injury. Do not modify the location of the lower radiator hose heater. Improper use of hose heater could result in personal injury or engine damage. (000339)

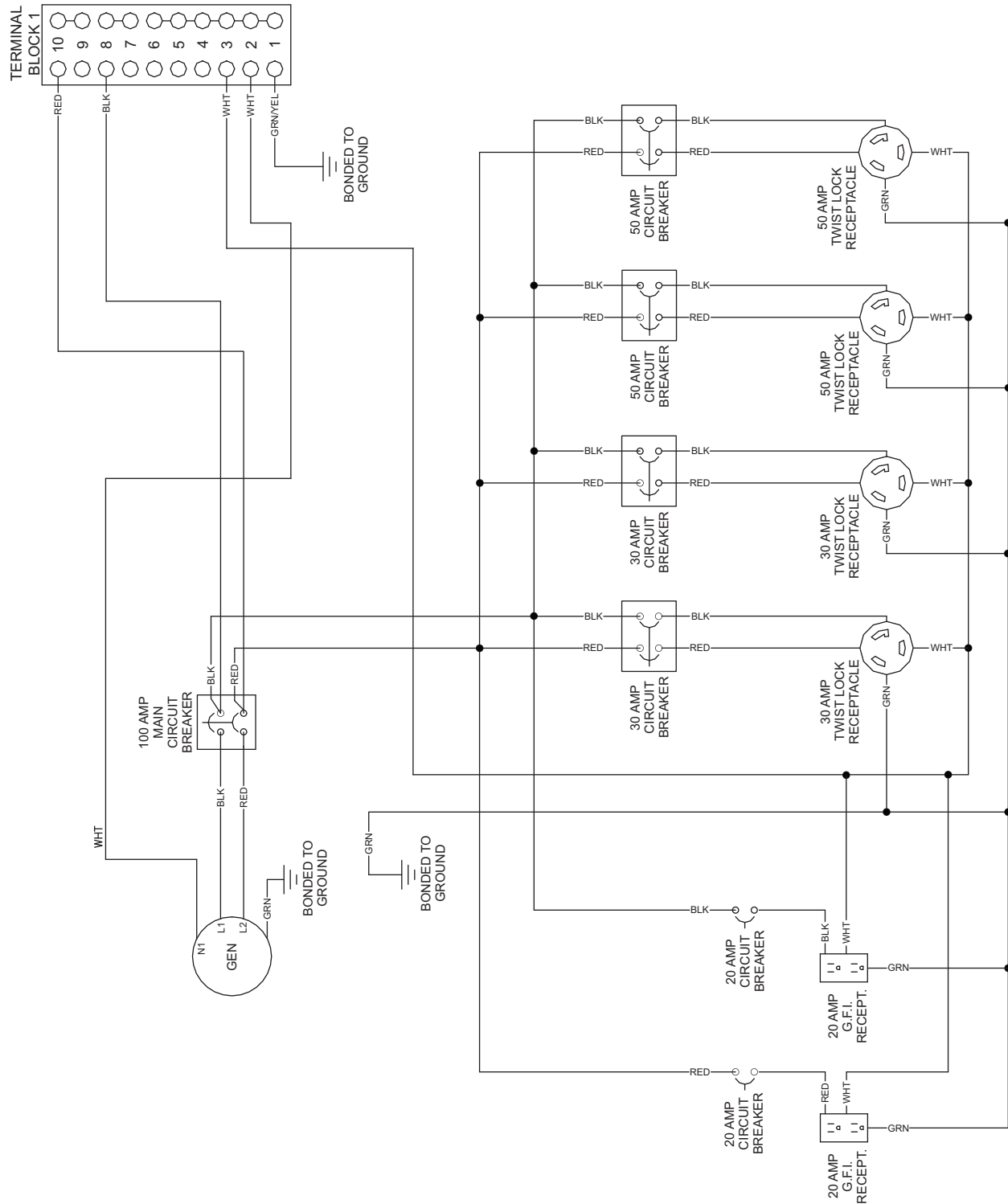
The following points should be followed when operating a unit equipped with a lower radiator hose heater.

- Verify the cooling system is full of the proper mixture of water and engine coolant before each heater use.
- The heater is designed for all-night operation, however, 2-5 hours of heating just prior to starting is usually sufficient for proper engine starting.
- The unit must be level to maintain proper orientation of the heater while it is in operation.
- Use only an undamaged, outdoor rated, three-prong grounded 120VAC extension cord with a minimum amperage rating of 10A. Connect the cord to a properly grounded 120VAC, GFCI receptacle.
- Before starting the engine, unplug the extension cord from the power, then unplug the heater cordset from the extension cord.

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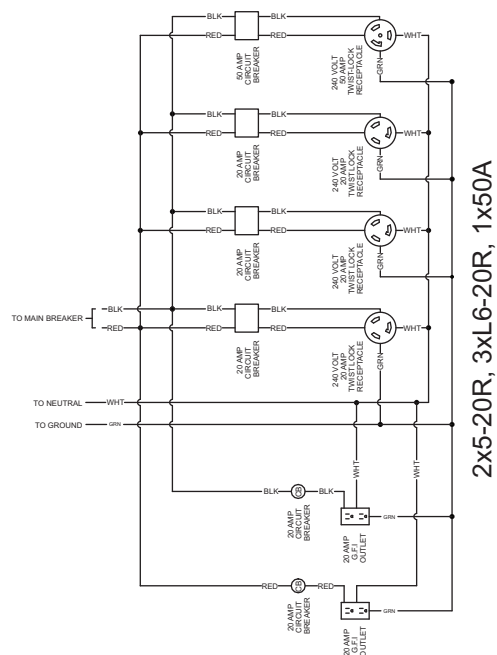
Section 5 Wiring Diagrams and Service Log

AC Wiring Diagram W/3-30A, 1-50A Outlets

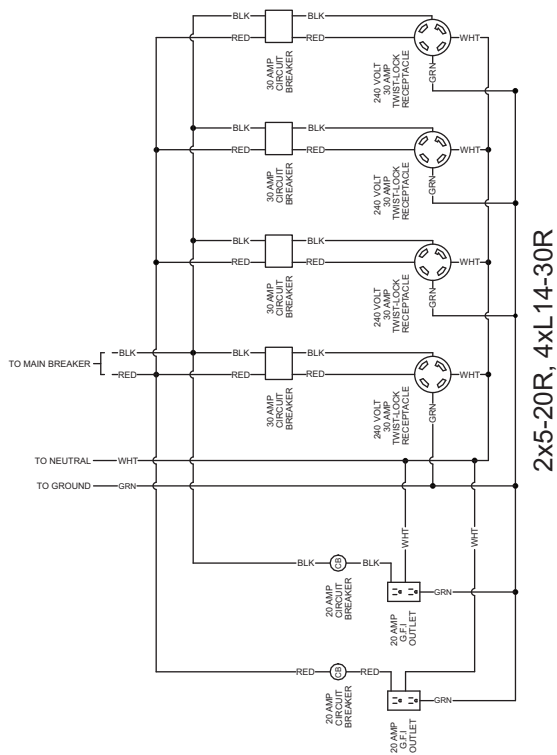


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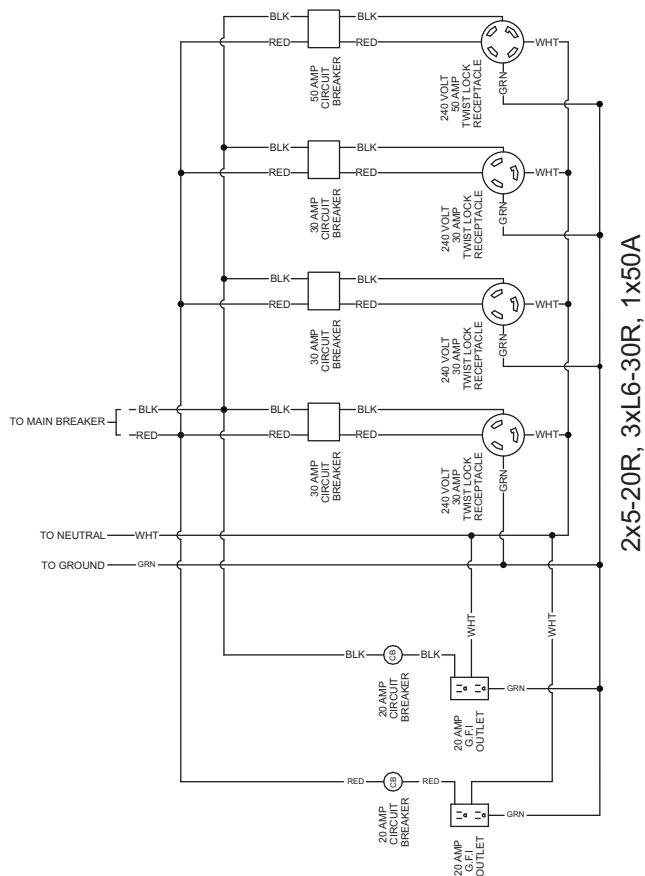
AC Wiring Panel Options



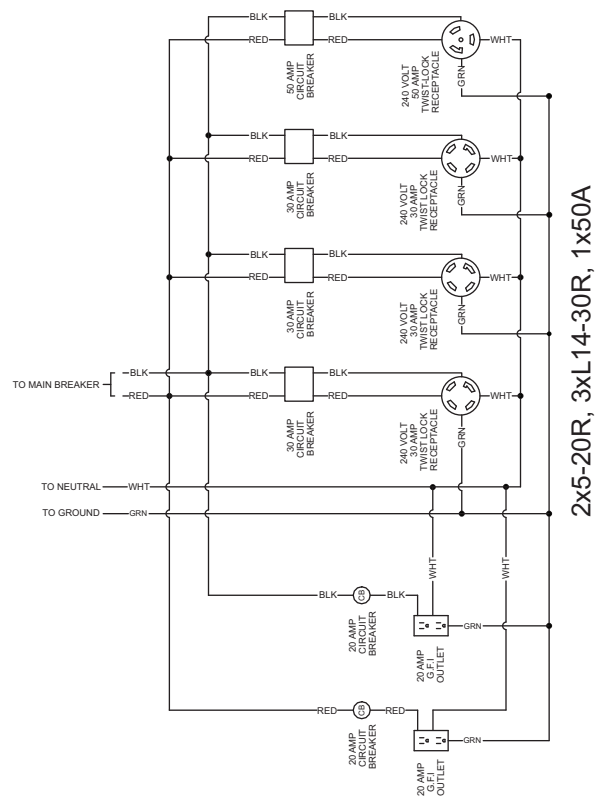
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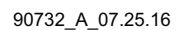
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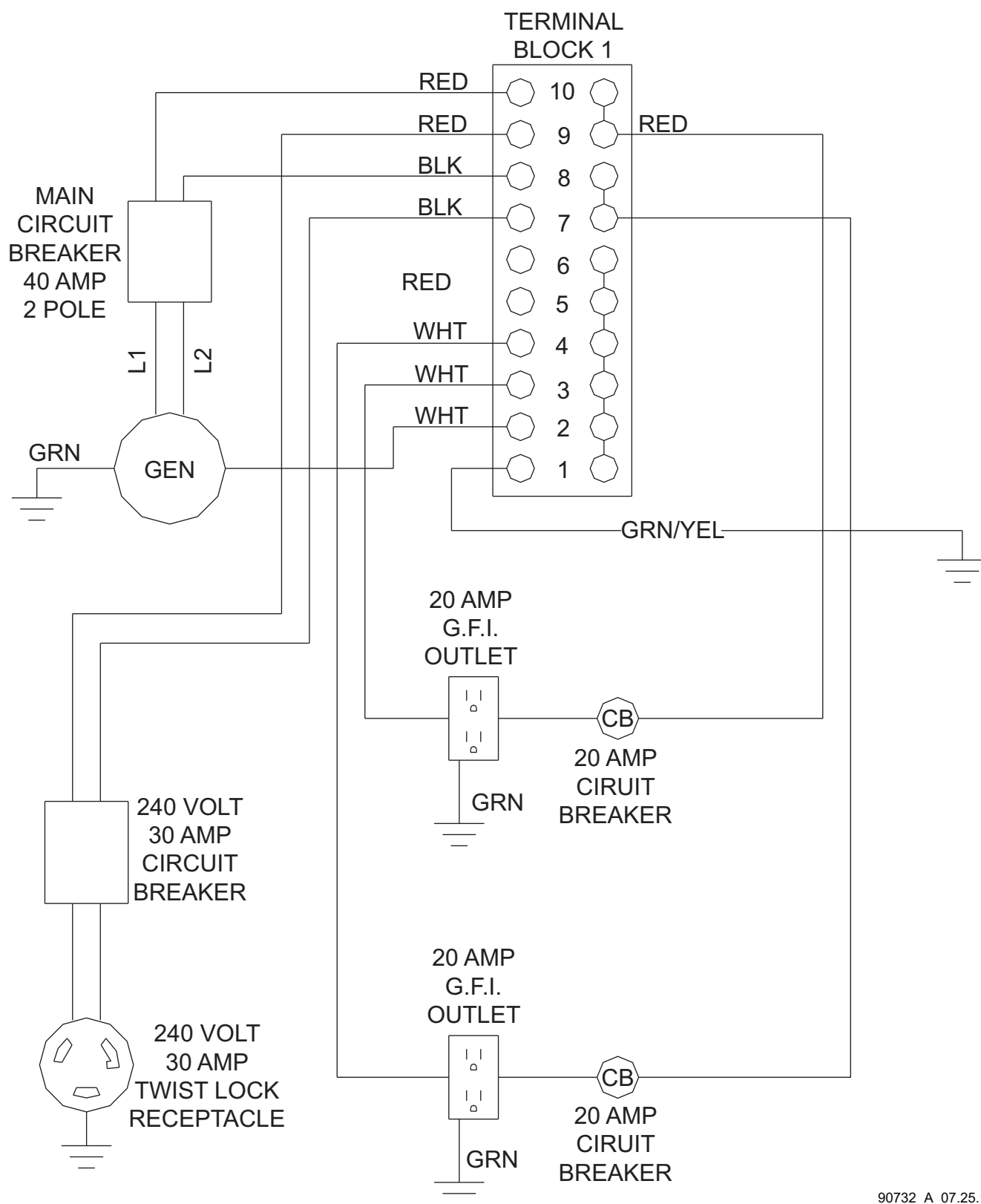
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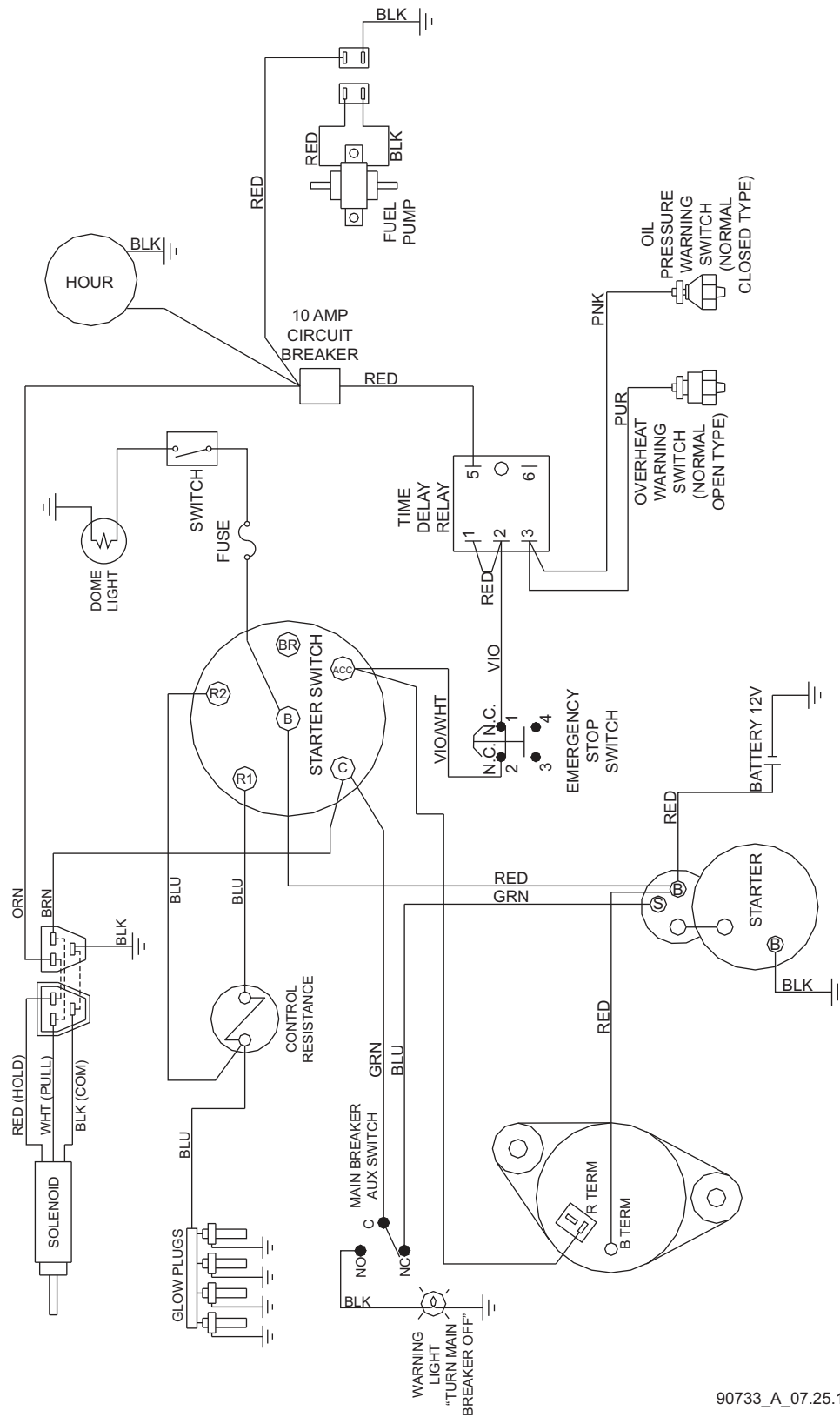
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DC Wiring Diagram - MLG 8 and MLG15

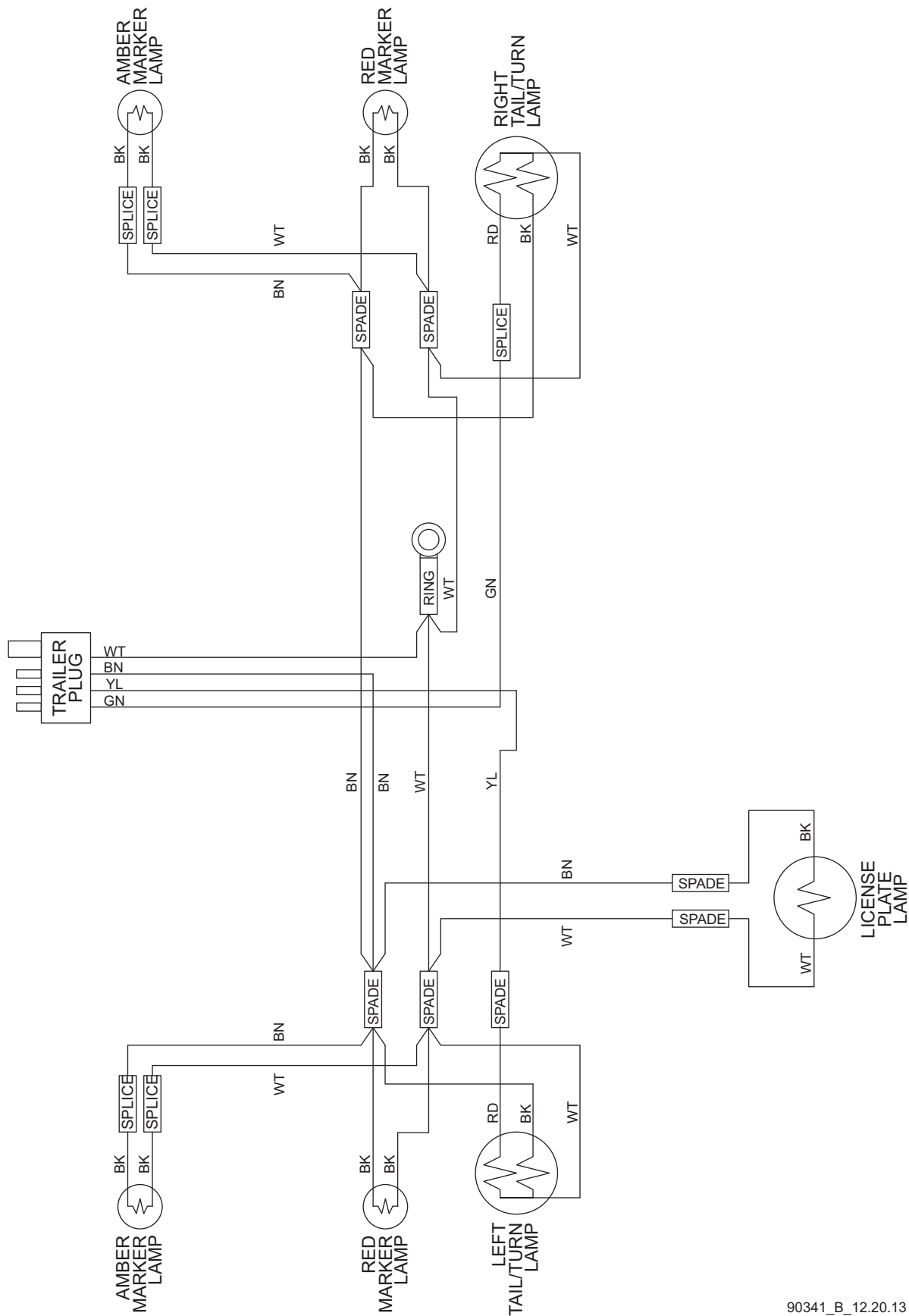


DC Wiring Diagram - MLG 20



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Trailer Harness



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Part No. 10289 Rev. M 09/09/16
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