

Skid-Mount Generator



User's Manual





As a new customer of Heat King we would like to welcome you! We are looking forward to providing you with technical support for your Heat King unit. Whatever you need we are here to help.

Ways to contact us for support

By Phone: 1-800-661-0304

The main Technical support phone line is staffed monday-friday 7:00 AM to 3:30 PM CST excluding Manitoba statuatory holidays.

After hours support

Calls received outside of regular hours are directed to the On-call technician. After hours support is reserved for issues that cannot wait until the next business day for resolution. If no answer please leave a message and we will get back to you as soon as possible.

By Email: Support@tamarack-ind.com

Feel free to email us at any time with technical questions or parts inquiries. Please include the year make and model of your Heat King if you have a specific question about your machine so we can better help you. If it is an emergency please call 1-800-661-0304

For more information please visit our website **www.heat-king.ca**



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User's Manual



1 Introduction

1.1 Read before using

For your safety and protection from injury, carefully read, understand, and observe all instructions in this manual. If you have questions regarding this product, please contact Wanco service or sales using the information below.

Keep this manual or a copy of it with the Skid-Mount Generator. Additional and replacement manuals are available from the factory (see Section 1.2).

1.2 Where to obtain service

Before calling for service, please have the unit's model number and serial number available.

Contact our service department using the following information:

Heat King

1205 Sherwin Road Winnipeg, Manitoba Canada R3H 0V3

Toll Free: 1-800-661-0304 Phone: (204) 885-5800 Fax: (204) 885-7557

www.heat-king.ca

Figure 1-1 Vehicle identification tag location





2 Safety Information

2.1 Safety statements in this manual

This manual contains the following types of callouts, which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service. Each alert has a specific meaning, as described below:

1

The safety alert symbol alerts you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING

Indicates an imminently hazardous situation which, if not avoided, COULD result in death or serious injury.

CAUTION

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

CAUTION

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

IMPORTANT!

Indicates information that is of particular importance when transporting, operating, or servicing the equipment.



General Safety 2.2



⚠ WARNING



Improper use of equipment could cause serious injury or death.

Prior to using this product, carefully read, understand, and observe all instructions in this manual and the engine manual.



CAUTION

Crush hazard.

When operating or working on the Genset, keep hands and body parts clear of pinch points.

Operating Safety 2.2.1



A DANGER

Electric shock hazard.

Contact with electrical power lines will cause serious injury or death.

To reduce the risk of personal injury, ensure the surrounding area is in good order and free of debris.

To reduce the risk of shifting, sliding, or overturning, locate the Genset on a firm, level surface.

Do not allow water to accumulate around the base of the Genset.

Ensure the Genset is in good operating condition:

- Check all electrical wiring, and the engine for obvious signs of wear or damage.
- Never use any equipment that is damaged or in need of repair.
- Ensure Genset is well-grounded, per all applicable regulations





2.3 **Engine safety**

2.3.1 **Operator safety**



⚠ DANGER



Explosion hazard.

Keep engine, fuel, and other combustibles away from sparks, open flame, and burning objects.

Do not smoke near engine.

Stop engine before filling or draining external fuel tank.

Use only diesel fuel or approved fuel substitute

Replace external fuel tank cap after refueling.

Do not use gasoline, other fuels, or flammable solvents to clean parts.



⚠ DANGER



Asphyxiation hazard.

Operate the engine outdoors and keep away from engine exhaust.

If operating in an enclosed area, vent exhaust fumes to outdoors and maintain adequate ventilation.

Refill and drain fuel tank only in a well ventilated area.

Perform maintenance in a well ventilated area.



♠ WARNING



Fire hazard.

A hot muffler can ignite flammable materials.

Keep area around muffler free of debris such as leaves, paper, and cartons.



CAUTION



Risk of severe burn.

Do not touch the engine, exhaust pipes, or areas near the muffler exhaust pipe.

Do not remove radiator cap when engine is hot. Contents are hot and under pressure.





2.3.2 California Proposition 65

⚠ WARNING

Health hazard.

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

2.3.3 Spark arresters

IMPORTANT!

State and local safety codes specify that, in certain locations, internal combustion engines that use hydrocarbon fuels must be used with spark arresters.

A spark arrester is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles from the exhaust flow of an internal combustion engine.

Spark arresters are qualified and rated by the United States Forest Service. To comply with all applicable laws regarding spark arresters, consult your local Health and Safety Administrator.





6

Service safety 2.4

2.4.1 **Before servicing**



⚠ DANGER



High voltage.

Contact with live electrical circuits will result in severe injury or death.

Before servicing any component on the Genset, turn off power, then disconnect battery cables from battery terminal.

Only a qualified electrician should service the generator electrical system.



A CAUTION

Adverse weather conditions can cause equipment damage and injury.

Whenever possible, perform maintenance indoors.

The engine is permanently grounded to the frame. NEVER perform even routine service (such as changing oil and filters, or cleaning the engine) unless all electrical components are shut down:

Ensure all generator power circuits are shut off.

Turn the engine key to OFF (0 position) and set all circuit breakers to the OFF position.

Disconnect battery cables: first from the positive (+) battery terminal, then from the negative (-) terminal.

If the ground under or around the Genset is damp or wet, move the generator to a dry location and allow it to dry before servicing. Do not allow water to accumulate around the base frame of the Genset.

Do not service the Genset if clothing or skin is wet.

Always take precautions to ensure safety of service personnel.

Whenever possible, perform maintenance indoors, out of weather.

Keep the Genset and all its components clean.



▲ WARNING





- Keep hands, feet, hair, and loose clothing away from moving parts on engine and generator.
- Shut down engine before servicing.





2.4.2 During servicing

Keep hands, feet, and loose clothing away from moving parts on engine and generator.

When hoisting or loading the Skid-Mounted Generator:

Ensure devices such as slings, chains, hooks, ramps, and jacks are secure and will bear the weight of the Skid-Mounted Generator.

Be aware and cautious of people's proximity to the Skid-Mounted Generator. Always ensure the safety of nearby people.





Table 2-1 Label samples and descriptions continued

Ref.* Label Description

Α



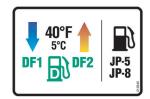


Oil / Coolant Drain Ports

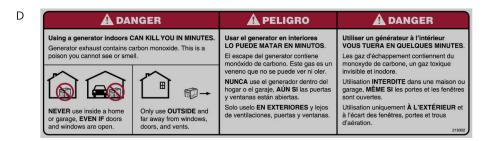


Danger: Electrocution

C



Fuel Type



Danger: Carbon Monoxide

Ε



Engine Oil Fill Location

^{*}Reference Figure 2-1 for label location.





2.5 Labels

Labels provide instructions and information. They also warn of hazards. For convenience and safety, keep all labels in legible condition, replacing labels when damaged or missing. Replacement labels are available from the factory.

Label locations are indicated in Figure 2-1. Samples of labels and their descriptions are provided in Table 2-1.

Figure 2-1 Label locations

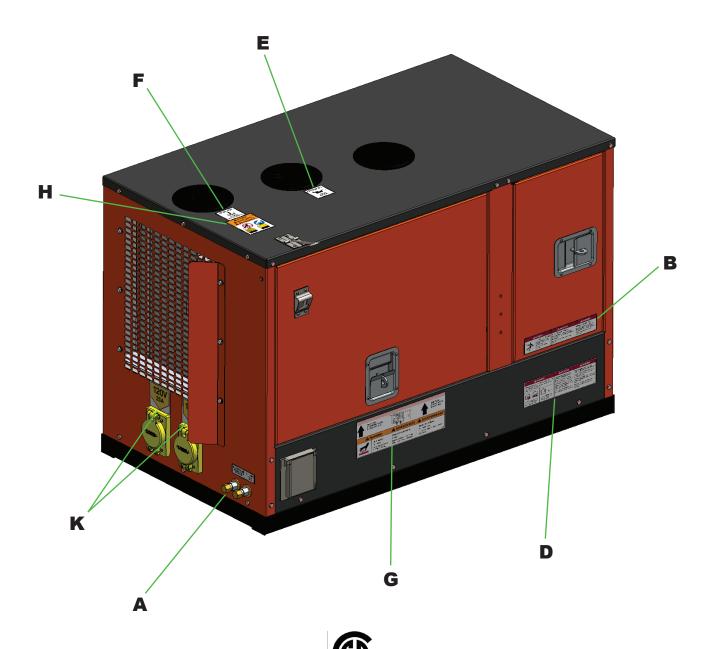




Table 2-1 Label samples and descriptions continued

Ref.* Label Description

F



Coolant Fill Location

G



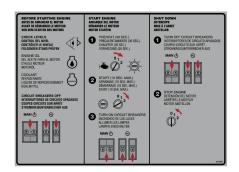
Warning: Hot Surface

Н



Warning: Coolant Hot

J



Operating Instructions

Κ



Receptacle Voltage

^{*}Reference Figure 2-1 for label location.





Table 2-1 Label samples and descriptions continued

Ref.*	Label	Description
M	DIESEL	Diesel Fuel Only
N		Lift Hook
	AWARNING ADVERTENCIA AVERTISSEMENT AWARNUNG	Warning: Fan Blades (Inside Cabinet)

* Reference Figure 2-1 for label location



3 Operation

3.1 Safety

Before operating the Skid-Mount Generator, read and be familiar with this instruction manual. Read and follow all safety instructions (see Section 2.1, page 2).

3.2 Control panels

The Genset control panel comprises:

Circuit breakers for engaging power

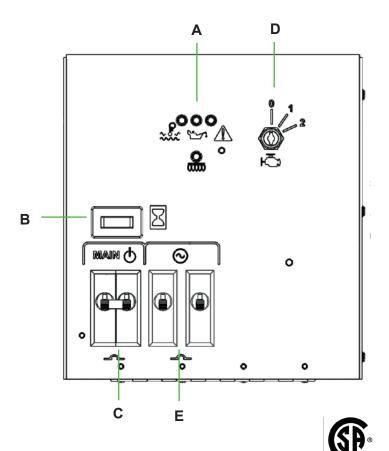
Engine starting switch

A key switch for starting and stopping the engine and indicator lights

■ An hour meter to track engine use

For engine operating instructions, see Section 3.3, page 13.

Figure 3-1 Main Control panel





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3.3 Engine Operation

3.3.1 Starting the engine

- 1. Before starting the engine:
 - a. Follow all engine safety requirements in Section 2.4, page 6.
 - b. Check engine oil, fuel, and coolant levels. Use the proper diesel fuel.
 - c. If the external fuel tank was drained or run dry, it might be necessary to prime the fuel lines. Refer to the engine manual for instructions. (The engine manual is available for download from the engine manufacturer's website.)
 - d. Ensure all circuit breakers on the Genset control panel are in the OFF position.

2. To start the engine:

a. Insert the engine key into the key slot on the Genset control panel and turn the key to the number 1 position. The engine-preheat indicator (Figure 3-2, page 14) will light and remain lit for 30 seconds. Do not proceed while this indicator is lit.

CAUTION

Starting the engine under load could damage the Genset.

Before starting the engine, ensure all power switches (circuit breakers) are in the OFF position.

b. When the engine-preheat indicator light goes out, immediately turn and hold the key at the number 2 position until the engine starts. Release the key as soon as the engine starts, or after 10 seconds if the engine does not start.

CAUTION

The engine can overheat and damage the start motor.

Do not hold the engine key at position 1 longer than 10 seconds, regardless of whether the engine starts. After 10 seconds, return the key to position 0 and wait 15 to 30 seconds to cool the starter before attempting to start the engine again.



3. After starting the engine, or attempting to start it:

If the engine does not start, return the key to position 0 before trying to start the engine again. If the engine key is left in position 1 and the engine is not started, all indicator lights (Figure 3-2, page 14) will blink continuously until the key is turned to position 0.

If the engine does not gain sufficient oil pressure within 30 seconds of starting, the automatic shutdown system will engage. Beforeattempting to restart the engine, return the key to position 0 to reset the internal 30-second timer.

Allow the engine to warm up before engaging power to the receptacles

Before leaving the Genset running, ensure the gull-wing door is closed

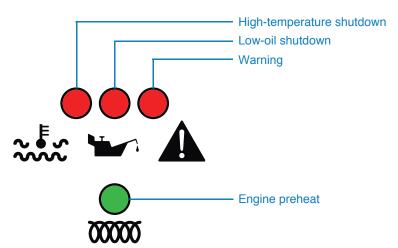


Figure 3-2. Indicator lights on main control panel

3.3.2 Stopping the engine

To stop the engine:

- 1. Toggle all circuit breakers to OFF, which shuts down power to any external devices plugged into the power receptacles.
- 2. Turn the engine key to the number 0 position.



Location 3.4

To reduce the risk of personal injury, ensure the surrounding area is in good order and free of debris.

To reduce the risk of shifting, rolling, or overturning, locate the Skid-Mount Generator on a firm, level surface.

Ensure convenient access to earth ground.



△ DANGER



Electric shock hazard.

Contact with electrical power lines will cause serious injury or death.

Do not position the Skid-Mounted Generator near power lines.



Maintenance

Safety 4.1



DANGER



Contact with live electrical circuits will result in severe injury or death.

Before servicing any component on the trailer generator, turn off power, then disconnect cable from battery.

Only a qualified electrician should service the trailer generator electrical system.



CAUTION



During maintenance, adverse weather conditions can cause equipment damage and injury.

Whenever possible, perform maintenance indoors.

CAUTION

Pressure wash could damage control panel and electronics.

Use a slightly damp, soft cloth to clean control panel when necessary.

The engine is permanently grounded to the skid frame. NEVER perform even routine service before disconnecting cable from positive (+) battery terminal. Before performing any type of service or maintenance, read and follow all safety instructions. See Section 2.3, page 6.

4.2

Daily inspection

Before performing any type of service or maintenance, read and follow all safety instructions. See Section 2.4, page 6.

When the Genset is in regular use, the following items should be checked daily:

Check fluid levels and look for leaks. Refill fluids if necessary. Repair leaks before using Genset.

Inspect all exposed wiring for damage, worn insulation, and cuts. Repair or replace if necessary.

Repair or replace worn and damaged components immediately. Never use any equipment that is damaged or in need of repair.





4.3 Engine maintenance

4.3.1 Servicing the engine

Before performing any type of service or maintenance, read and observe all service safety instructions. See Section 2.4, page 6.

For engine-related maintenance and servicing, see the engine instruction manual.

4.4 Replacement parts

For replacement parts, visit www.heat-king.ca or contact the Heat King service department. (See section 1.2, "Where to obtain service", page 1).

Wiring diagrams

4.5



DANGER

High voltage.

Contact with live electrical circuits will cause severe injury or death.

Before servicing any component on the trailer generator, turn off power, then disconnect cables from battery.

Only a qualified electrician should service the light tower electrical system.

The engine is permanently grounded to the Skid Frame . NEVER perform even routine service before disconnecting cable from positive (+) battery terminal. Before performing any type of service or maintenance, read and observe all service safety instructions. See Section 2.4, page 6.



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3.5.2 Servicing the engine

Before servicing

Before performing any type of service or maintenance, read and observe all safety instructions. See Section 2, page 3.

For engine-related maintenance and servicing, see the engine instruction manual. The engine instruction manual is included with the unit at time of shipping.

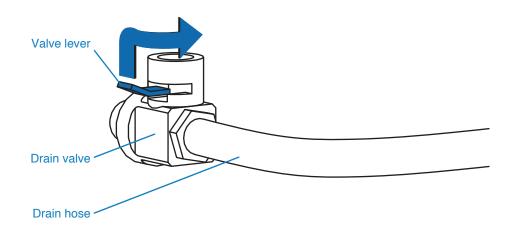
To drain engine oil, see below.

To drain coolant, see below.

Draining engine oil

- 1. Start the engine and allow it to warm up. For engine operating instructions, See Section 3.3.1, page 13.
- Locate the engine-oil drain valve, which is connected to the bottom of the engine block inside the equipment cabinet.
- 3. Locate the oil drain port, which is located on the back of the unit near the receptacles.
- 4. Place oil-drain pan, bucket, or other container to capture the engine oil when the plug is removed.
- 5. Remove the plug from the end of the drain port
- 6. Open the drain valve on the engine using the valve lever on the valve. The lever moves in two directions, as indicated in Figure 3-8. The oil will drain from the engine through the drain port into your container.
- 7. When the engine oil has finished draining:
 - a. Close the drain valve.
 - b. Reinstall the plug at the end of the drain port.
 - c. Refill the engine with oil. Refer to engine manual for instructions.

Figure 3-8. Engine-oil drain valve





3.5.2 Servicing the engine continued

Draining Engine coolant

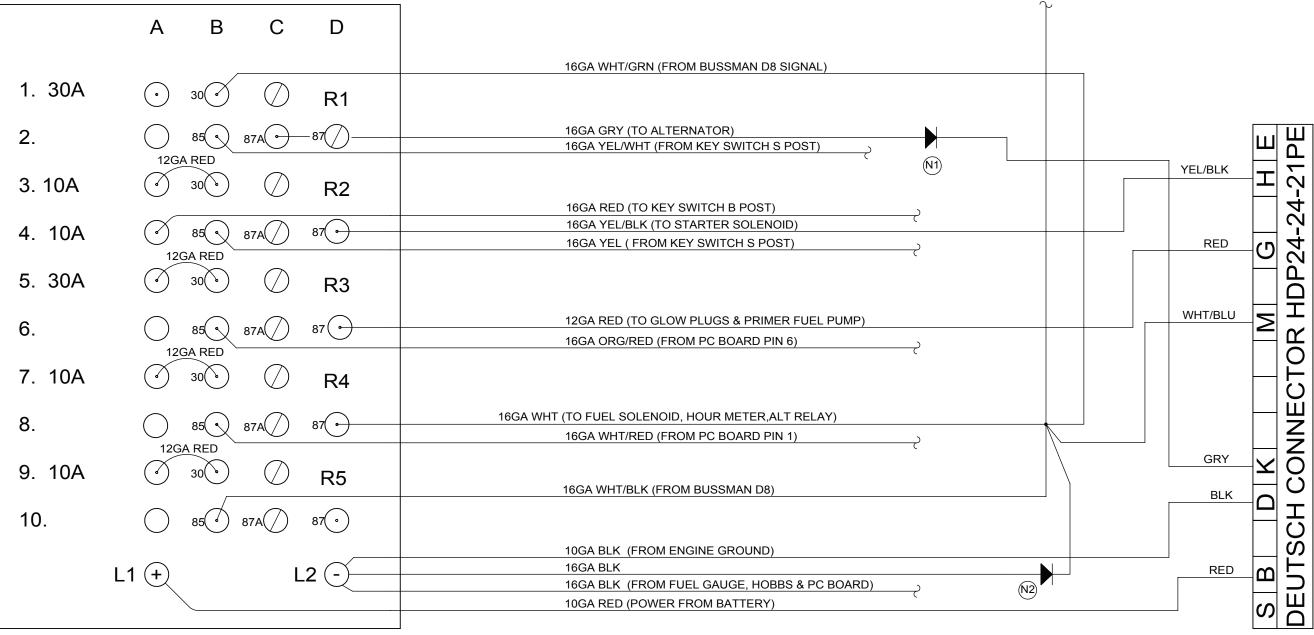
- 1. Stop the engine and allow it to cool down. For engine operating instructions, See Section 3.3.2, page 14.
- 2. Locate the coolant drain valve, which is connected to the bottom of the radiator inside the equipment cabinet.
- 3. Locate the coolant drain port, which is located on the back of the unit near the receptacles.
- 4. Place drain pan, bucket, or other container to capture the engine coolant when the plug is removed.
- 5. Remove the plug from the end of the drain port.
- 6. Open the drain valve on the radiator using the valve lever on the valve. The lever moves in two directions, as indicated in Figure 3-8. The coolant will drain from the radiator through the drain port into your container.
- 7. When the coolant has finished draining:
 - a. Close the drain valve.
 - b. Reinstall the plug at the end of the drain port.
 - c. Refill radiator with coolant.



Skid-Mount Generator Parts Manual

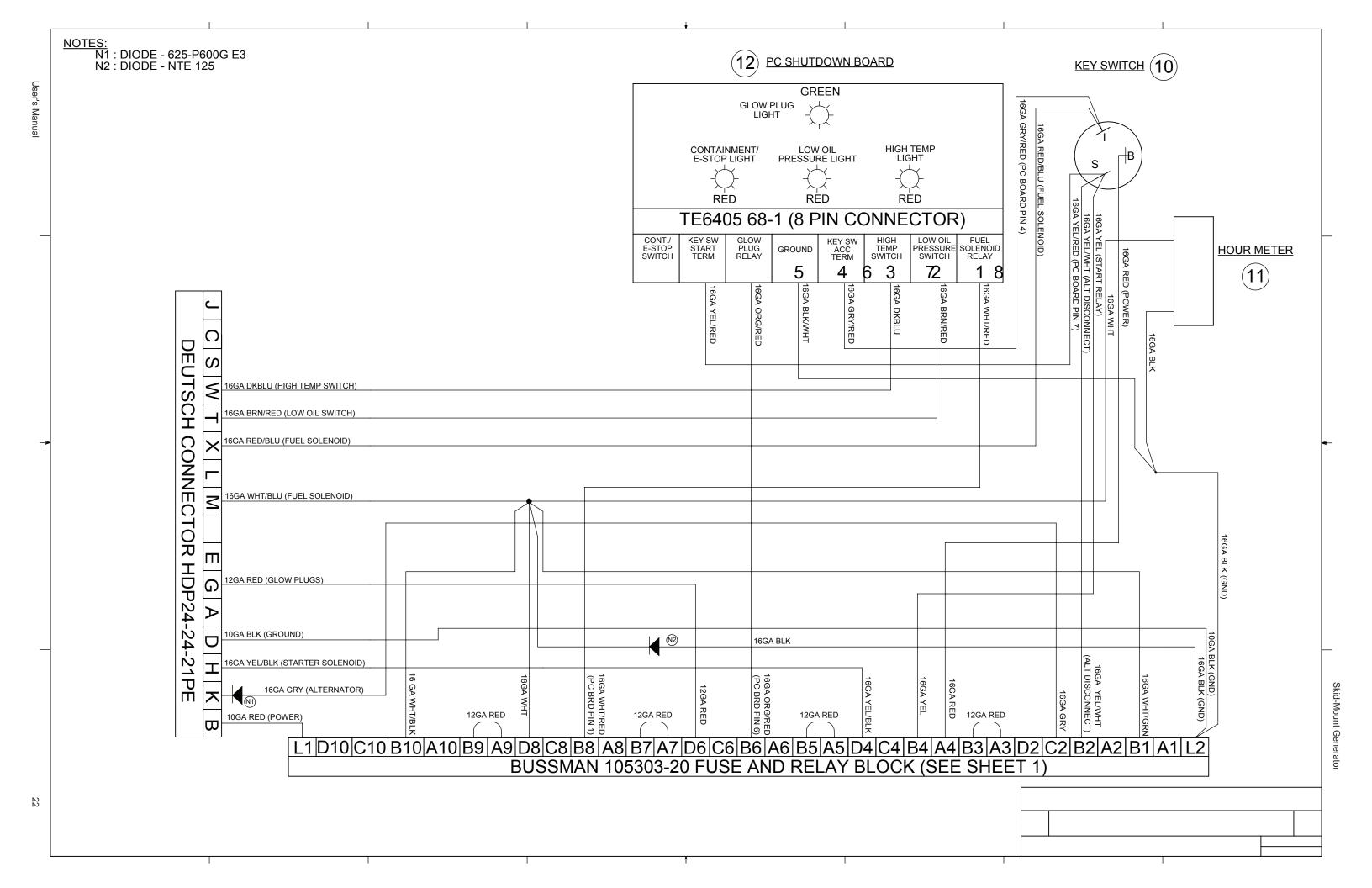


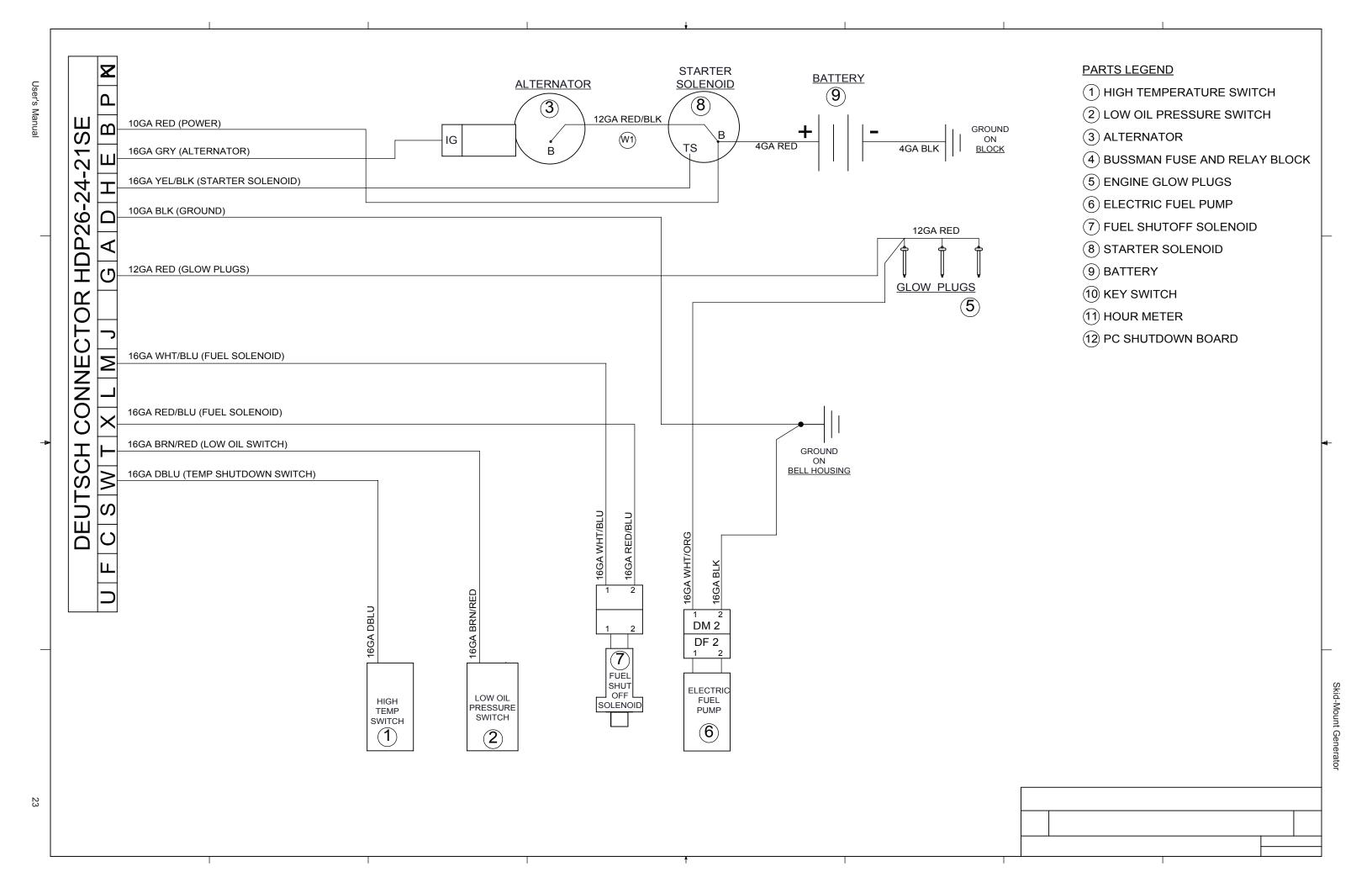
BUSSMAN 15303-2 FUSE & RELAY BLOCK C В

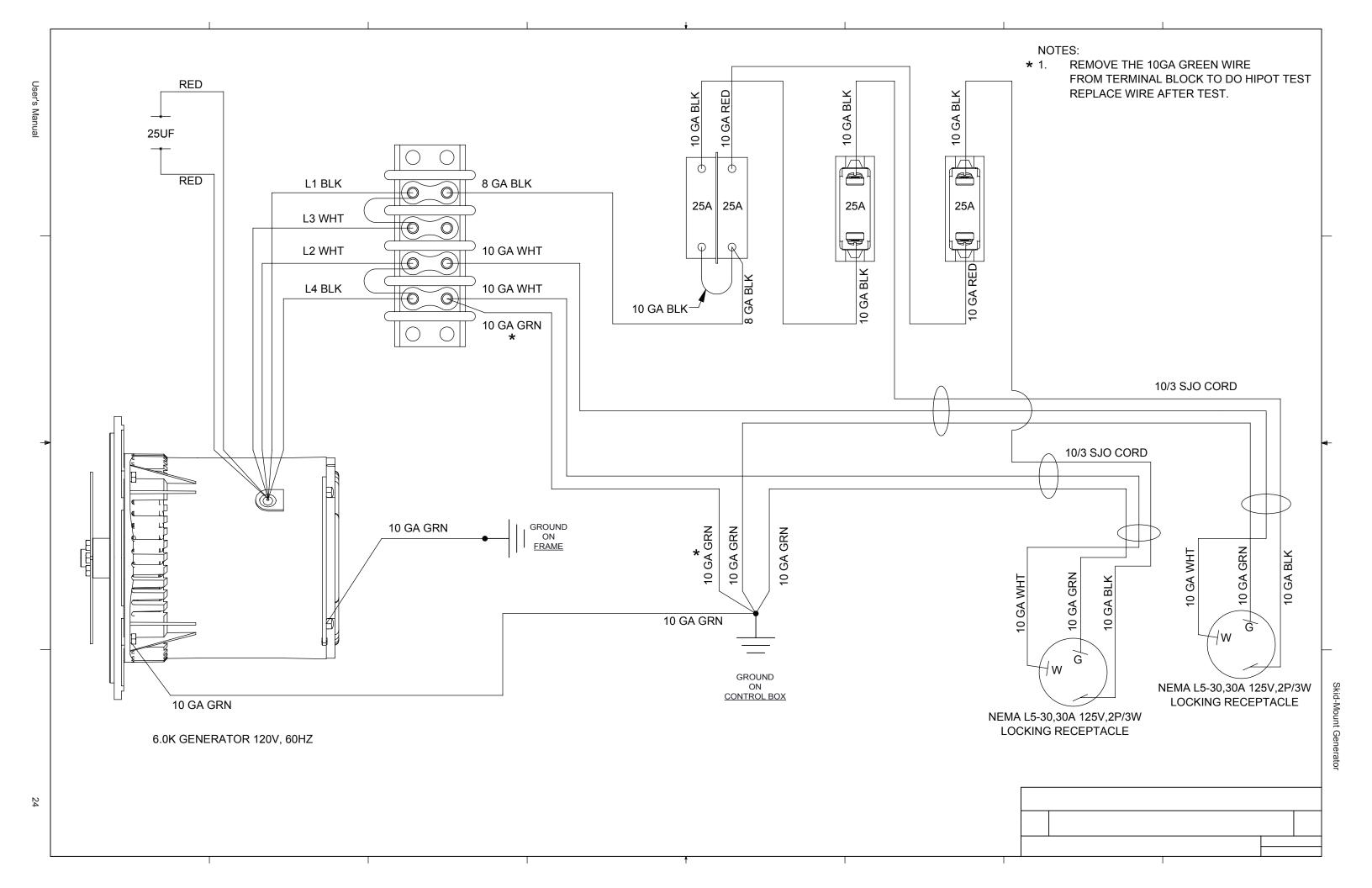


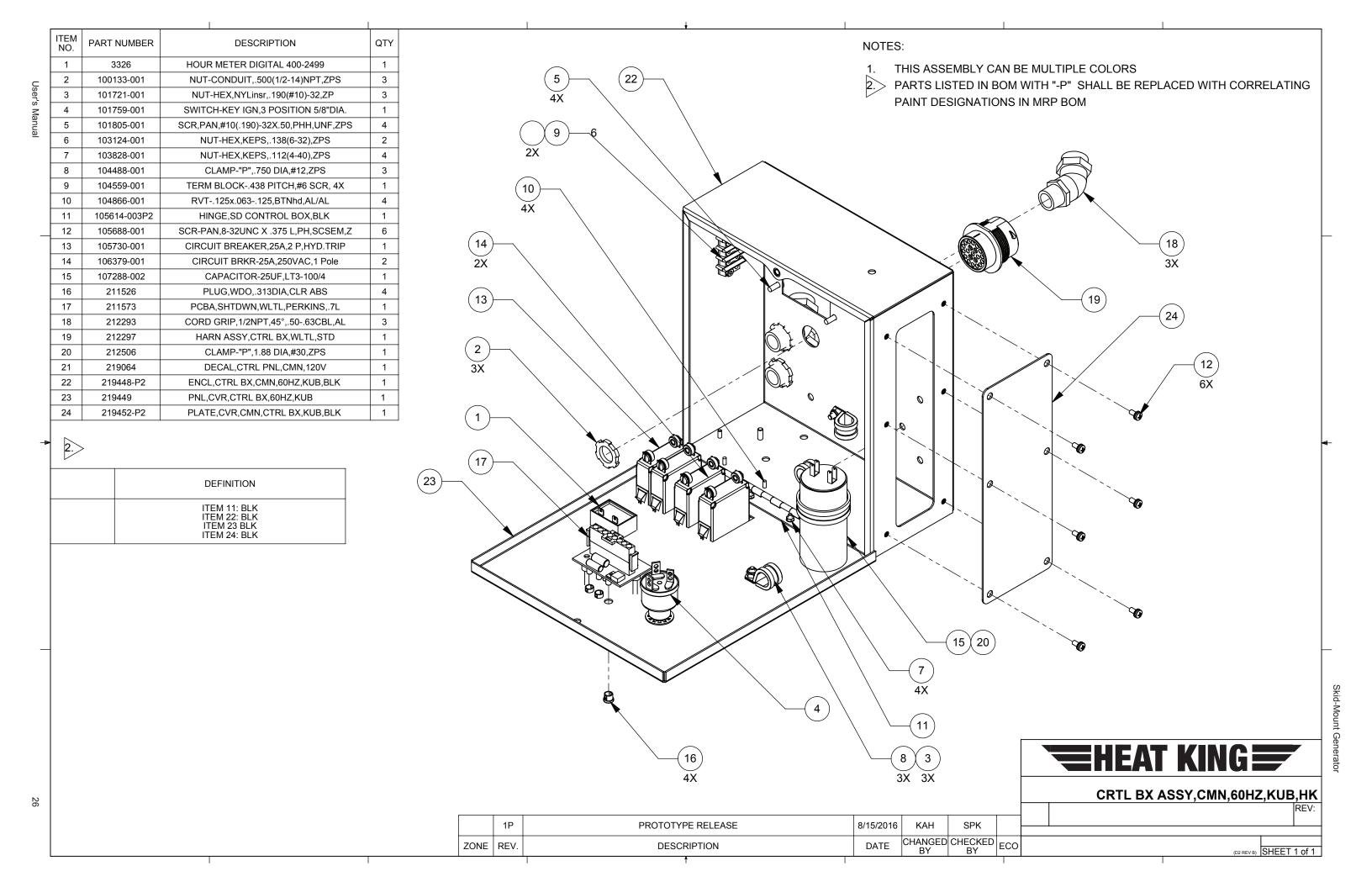
WHT TO **HOUR METER** (SEE SHEET 2)

FUSES N1: DIODE - 625-P600G E3 **RELAYS** 1. SPARE R1 ALTERNATOR START DISCONNECT N2 : DIODE - NTE 125 2. EMPTY R2 STARTER 3. STARTER RELAY **RELAY 86 IS BUSS GROUNDED TO** R3 GLOW PLUGS 4. KEY SWITCH POWER L2 COMMON GROUND R4 FUEL SOLENOID 5. GLOW PLUG RELAY 6. EMPTY 7. FUEL SOLENOID RELAY 8. EMPTY 9. SPARE 10. EMPTY L1 12 VOLTS POSITIVE BUSS L2 GROUND BUSS









6KW-LR Generator

Maintenance Chart

Description	Operation	First 50 Hours	Every 50 Hours	Every 400 Hours	Every 1000 Hours	Monthly	Annually
Engine oil	Change	Х			Х		
Engine Oil filter	Change	Х			Х		
Engine Air Filter*	Change Clean					Х	Х
Engine Fuel filter	Change			Х			

^{*} If working in dusty conditions check and clean more often*

Service Parts

Description	Part Number/ Type
Engine Oil	10W/30
Engine Oil Filter	LF16157
Engine Air Filter (inner)	AF25967
Engine Air Filter (outer)	AF25550
Engine Fuel Filter	FS19838

^{*} Refer to Engine manual manual for greater detail *



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