

OPERATOR'S MANUAL

HPL 600 D7

MOBILE DIESEL FIRED
HEAT POWER LIGHT PLANT



hermannelson.com

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AEROTECH
HERMAN
NELSON
INTERNATIONAL INC.

IMPORTANT SAFETY INFORMATION

EXPLOSION HAZARD

Do not operate the unit in explosive vapor areas.

EXHAUST FUMES

- Do not operate unit in enclosed spaces.
- Adequate ventilation is required to prevent buildup of exhaust fumes which can be toxic in concentrated amounts.
- Exhaust gases from the combustion chamber and diesel engine contain poisonous carbon monoxide gas.
- Exhaust stack must always be properly installed during operation of heater to prevent exhaust gases from entering intake.
- The heater unit is designed to operate outdoors with heated air ducted into or toward area to be heated.
- Lack of combustion air can cause a dirty fire, odours in enclosed spaces, and backdrafting, potentially resulting in nausea or asphyxiation of the occupants.

ELECTRICITY

Shock or injury may result from working on electrical components. Take care to ground parts and not make physical or bodily contact.

FIRE EXTINGUISHER

Regularly check that the fire extinguisher is sufficiently charged.

CAUTION

Fuel filter warmer use not recommended above 0°C (32°F)

LIGHT TOWERS & LED PANELS

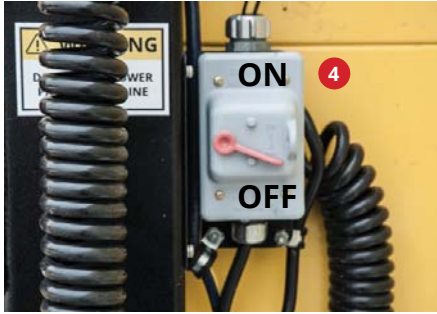
Completely retract light tower and correctly position the LED's panels parallel to ground. Make sure to properly fix and secure them in position, prior to towing.



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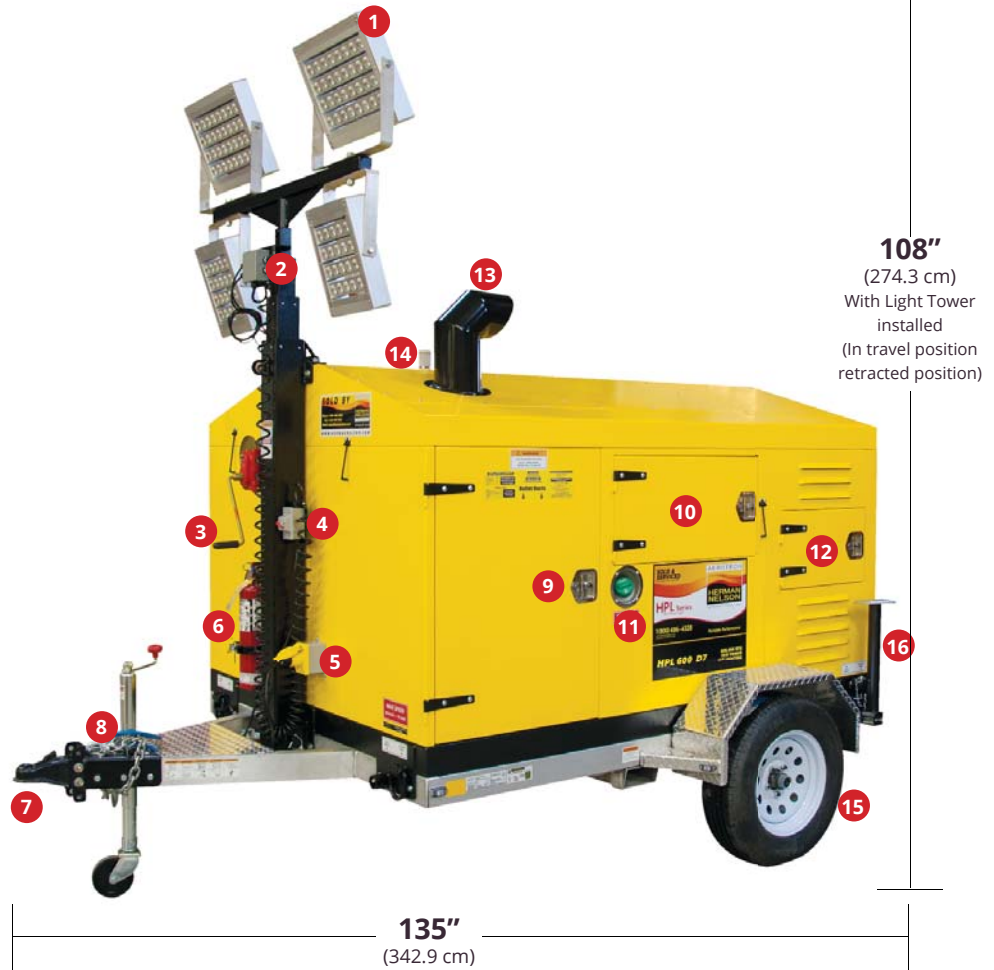
UNIT OVERVIEW FRONT AND LEFT SIDE (HEATER OUTLET VIEW)



LED Light System On/Off Switch



Trailer Electrical Hook-Up
(6 Rounds)



108"
(274.3 cm)
With Light Tower
installed
(In travel position
retracted position)

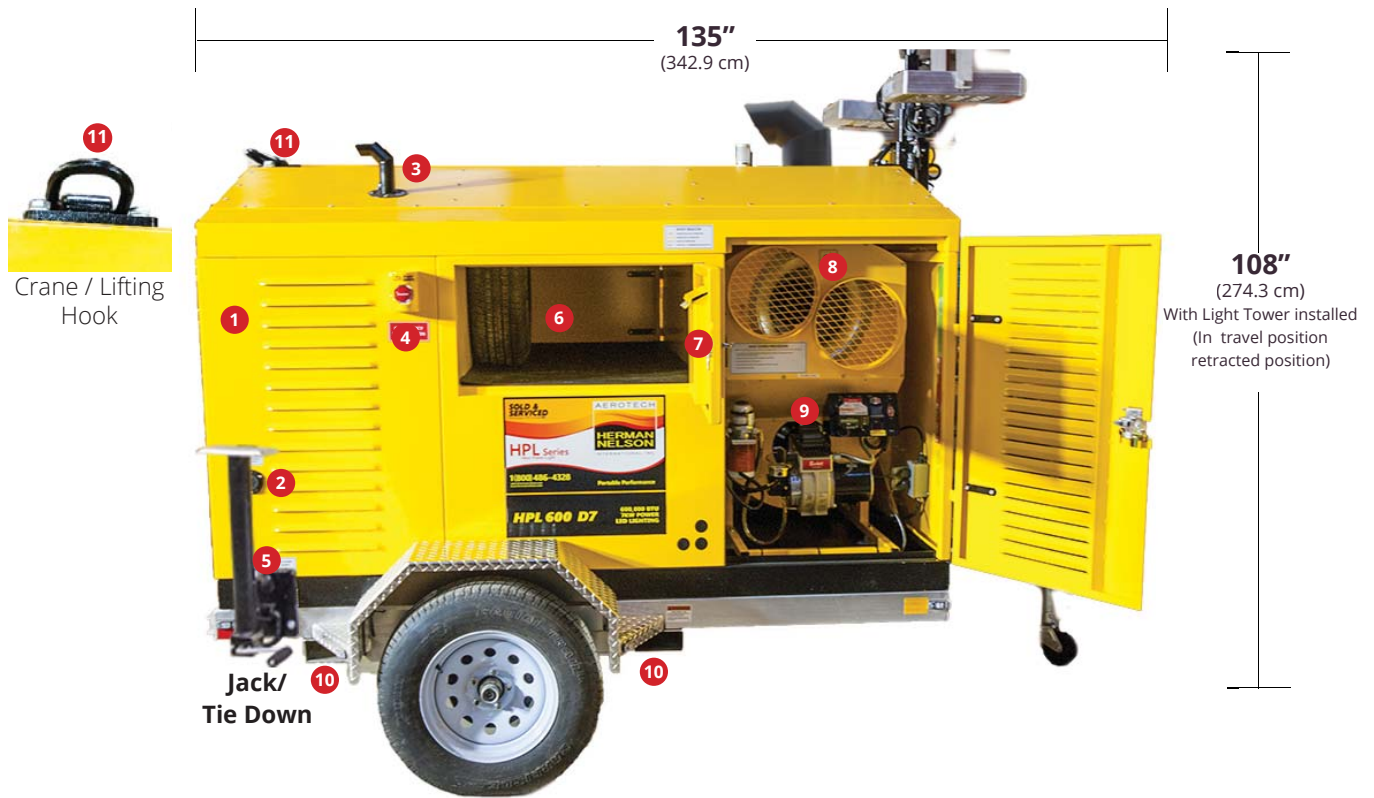
135"
(342.9 cm)

- 1. LED Lighting System
- 2. LED Junction Box
- 3. LED Light Tower Hand Crank
- 4. LED Light System On/Off Switch
- 5. LED Power Supply
- 6. Fire Extinguisher
- 7. Trailer Hitch (2-5/16")
- 8. Trailer Electrical Hook up (6 Round)
- 9. Heat Outlet door (Duct Outlet)
- 9a. Heat Ducts
- 10. Storage Compartment with Spare Tire
- 11. Fuel Filler Cap (Diesel Fuel Only)
- 12. Generator Side Access Door
- 13. Heater Exhaust Stack
- 14. Operational Beacon Lights
- 15. Tire ST205/75R15 recommended tire pressure is 345 KPA (50 PSI)
- 16. Jack Mounts & Tie Down



Heat Outlet Door
2 x 12" Outlets

UNIT OVERVIEW RIGHT SIDE (HEATER RECIRCULATION INLET VIEW)



1. Generator Air Intake Louvered Panel
2. Generator Block Heater Cord
3. Generator Exhaust Stack
4. Emergency Shut Down
5. Jack Mounts & Tie Down
6. Storage Compartment & Spare Tire
7. Manual Storage Compartment
8. Heater - Recirculation Inlet (See Insert)
9. Heater System Control Panel
10. Fork Lift Pockets
11. Crane / Lifting Hook
12. Ducts (Part#TDC012TR)

Heater System Control Panel



Manual Storage Compartment



Fork Lift Pockets



Recirculation Inlet Mode



Ducts (Part#TDC012TR)



Please Note:

The HPL unit can operate without being in the recirculation mode. The recirculation mode offers higher efficiency of the HPL unit resulting in fuel cost savings.

UNIT OVERVIEW REAR VIEW

1. Rear Generator Access Door
2. LED Running Lights
3. Generator Multiquip
4. License Plate Holder



Dry Weight	2610lbs (1186 kg) with light tower
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HPL START-UP CHECKLIST

1. Ensure trailer is on level ground.
2. Check and refill oil, fuel and coolant levels.
3. Make sure the battery is fully charged and the terminals are tight.
4. Check unit has been properly shut down from last use.
 - Heater selector switch in "OFF" position.
 - LED Light switch is in "OFF" position.
5. Make sure area is clear of electrical power lines before raising light tower, ensure level ground and adequate ventilation before starting. Not recommended for use indoors without proper exhaust ventilation.
6. Wear approved ear protection equipment within 10ft (3.05 m) of operating heater.



IMPORTANT NOTE

If outside temperatures are below 0 °C (32 °F) Block Heater MUST be plugged in for at least 2 hours prior to starting generator.

When operating in extreme cold conditions without heater operating, the Block Heater supply cord can be plugged directly into a generator outlet to add load and help engine maintain proper operating temperatures.

If engine fails to start refer to engine manual trouble shooting guide. If generator fails to operate refer to generator trouble shooting guide.



BATTERY WARNING

The generator set requires a 12V DC-35Ah battery. Battery strength and performance will diminish in low temperatures. Use a battery blanket in conjunction with your block heater to ensure trouble free start up.

HPL OPERATING INSTRUCTIONS - GENSET

The steps below highlight the general procedures for starting up and shutting down your HPL600 D7 unit. For specific procedures on each component, please refer to manufacturers manual.

GENERATOR START UP

1. Open rear generator access door and panel. Check fluid levels if you have not already done so. Turn fuel cock to the "ON" position. Replace rear panel and close rear doors.
2. Open side access panels insert the key into the starter switch and turn it to the "RUN" position. Ensure the oil pressure lamp and battery lights on the "Warning lamp unit" are lit.
3. Turn the key to the PRE-HEAT position. The preheat light should illuminate on the "Warning lamp unit". When the light goes out, turn the key to the "START" position. As soon as the engine starts, release the key. The key will return to the "RUN" position. If the engine does not start within 10 seconds wait for about 30 seconds then repeat step 3 above. Do not crank engine for extended periods. Once the engine starts, the oil pressure and charge light will go out.
4. If the lights stay on, immediately stop the engine and refer to the engine operation manual.
5. Close generator access door when AC volt meter reads 110 volts.



Fuel Cock ("ON" position)



Key Position



Voltage Meter



Warning lamp unit

- 1 Oil Pressure Lamp
- 2 Battery Lamp
- 3 Preheat Lamp

HPL OPERATING INSTRUCTIONS - HEATER

HEATER START UP

1. Open Heater outlet door and install ducts (**Heater Outlet doors must be open at all times when operating the heater**).
2. Open heater inlet door where control panel is located. Install recirculating ducts.
3. Turn "Selector Switch" to "ON" position this will initiate burner startup. When heat rise is to approximately 90°F degrees fahrenheit, or in 1 minute the fan will engage.

Heater Control Panel



OPTIONAL REMOTE THERMOSTAT

An optional remote thermostat "STAT" is available for temperature control for the space being heated. To connect the stat, simply plug the stat cord into the outlet marked "Remote Stat". Make sure selector is in the "STAT ON" position. Place the stat into the space that is being heated. The unit will now shut down at the stat temperature setting.

IF HEATER FAILS TO START

1. Press and hold the red button on the Beckett Genisys controller located on the control panel for 3 seconds to reset.
2. Check fuel level, filter, nozzle and suction tubing.
3. Ensure proper power supply and wire gauge is being used.
4. If heater fails to ignite after 3 attempts, call your supplier for service.
5. Refer to heater manual trouble shooting guide.

HPL OPERATING INSTRUCTIONS - LIGHTS

LED LIGHT TOWER

The HPL 600 D7 is equipped with up to 4 LED panels.

Follow the steps below to ensure the light tower of your HPL 600 D7 is safely set to operate.



1. Starting from the travel position.
2. Tilt the LED's to your desired position.
3. Turn on LED's to ensure all connections are secured.
4. Extend the LED retractable light stand by turning the crank. Locking will occur automatically.
5. Turn on the LED's by moving the lever to the "ON" position
6. The HPL 600 D7 LED's are now ready to be used.
7. Do not position light tower under electrical power lines
8. Do not move unit with lights extended or heater generator operating.
9. Do not extend tower past yellow line.



Please refer to towing instructions prior to moving.

DANGER

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

DO NOT POSITION LIGHT TOWER UNDER ELECTRICAL POWER LINES

WARNING

DO NOT LIFT TOWER PAST YELLOW LINE

HPL OPERATING INSTRUCTIONS - SHUT DOWN



IMPORTANT NOTICE

Failure to allow the fan to cool the heat exchanger after use can damage the heat exchanger. Do not shut "OFF" generator until supply fan has stopped running.

SHUT DOWN PROCEDURES

1. Flip Heater selector switch to "OFF" position. The supply fan will continue to operate until the heat exchanger has sufficiently cooled to 80°F. (Remove ducting and store in storage area while heater is cooling down).
2. When heater fan has stopped, turn off LED panels and any auxilliary loads from the generator, then place both the main and GFCI circuit breakers to the "OFF" position.
3. Run the engine with no load and idle switch in the "ON" position for three to five minutes.
4. Turn the key to the "STOP" position. Idle switch to "OFF" position.
5. Lower light tower after use and before transport.
6. Close all doors and lock.

Proper Travel Position



Remove LED heads, secure and protect all wiring for extended transportation or extreme terrain

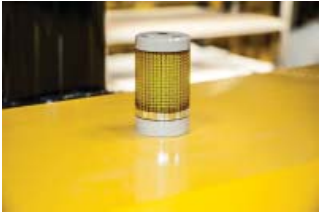


OPERATIONAL BEACON LIGHTS

BEACON LIGHTS CODE



Light off: Heater and generator are not operating.



Amber light: Generator is operating. Heater is not operating.



Green light: Heater is operating and generator is operating.



Slow red flashing light: 10% or less fuel remaining in fuel tank.

Fast red flashing light: * the optional gas detector indicates a warning level of a flammable gas that has been detected.

* If equipped with Optional Gas Detector

EMERGENCY SHUT DOWN SWITCH



Push to Stop unit in emergency situation

DUCTING & RECIRCULATION SETUP



IMPORTANT NOTICE

Maximum overall ducting length is 150ft with 25ft maximum on recirculation. *(i.e. If running 25ft recirculation the supply will need to be a max of 125ft)* Ducting should never be allowed to kink or obstruct air flow. Keep length's straight.



Heat Outlet

2 x 12" Outlets

The HPL can be configured with up to 150' feet of ducting for heat without recirculation



Recirculation Air Inlet

2 x 12" Outlets

The recirculation can be configured to pull air up to 25' feet.



CAUTION

To avoid serious injury or damage to the HPL 600 D7 make sure the heater outlet doors are open during operation.

TOWING INSTRUCTIONS

Follow the steps below to ensure your HPL600 D7 is safely set and tow ready.



1. Shut down all heater operation/place LED lights to travel position.
2. Remove all ducting and safely store in storage compartment.
3. Close and secure (lock) all doors.
4. Check all tires and air pressure.
5. Connect hitch to towing vehicle; Ensure proper fastening.
6. Attach safety chains to towing vehicle; Ensure proper affixment.
7. Retract all jack mounts completely and lock into position with lock pin.
8. Attach electrical hook-up to tow vehicle. Check brake and signal lights to ensure proper operation.

MAX SPEED
80 km/h — 50 mph

When towing the unit do not exceed the maximum allowed speed of 80km/h (50 mph)

FUEL & REFUELING

FUEL AND REFUELING

- Always maintain adequate fuel supply.
- Do not refuel during operation.
- Do not overfill fuel. Tank-overfilling can cause fuel spills. Fuel expands in warmer temperatures.
- Make sure a fire extinguisher is within easy reach.
- Avoid open flame near fuel tank filler neck.
- Fill the fuel tank with NO.2 Diesel fuel.
- Do not use gasoline.

DIESEL FUEL ONLY

SPECIFICATIONS

All-in-one HPL600-D7 Details		
Unit	588,000 BTU/h	172.3 kW
Heated Air Output	5500 CFM	9345 M ³ /H
Static Pressure	3" W.C.	0.75 kPa
Heat Rise	220 °F	104 °C
Fuel Usage	4.0 gal/h max.	15.1 L/h Max (DIESEL FUEL ONLY)

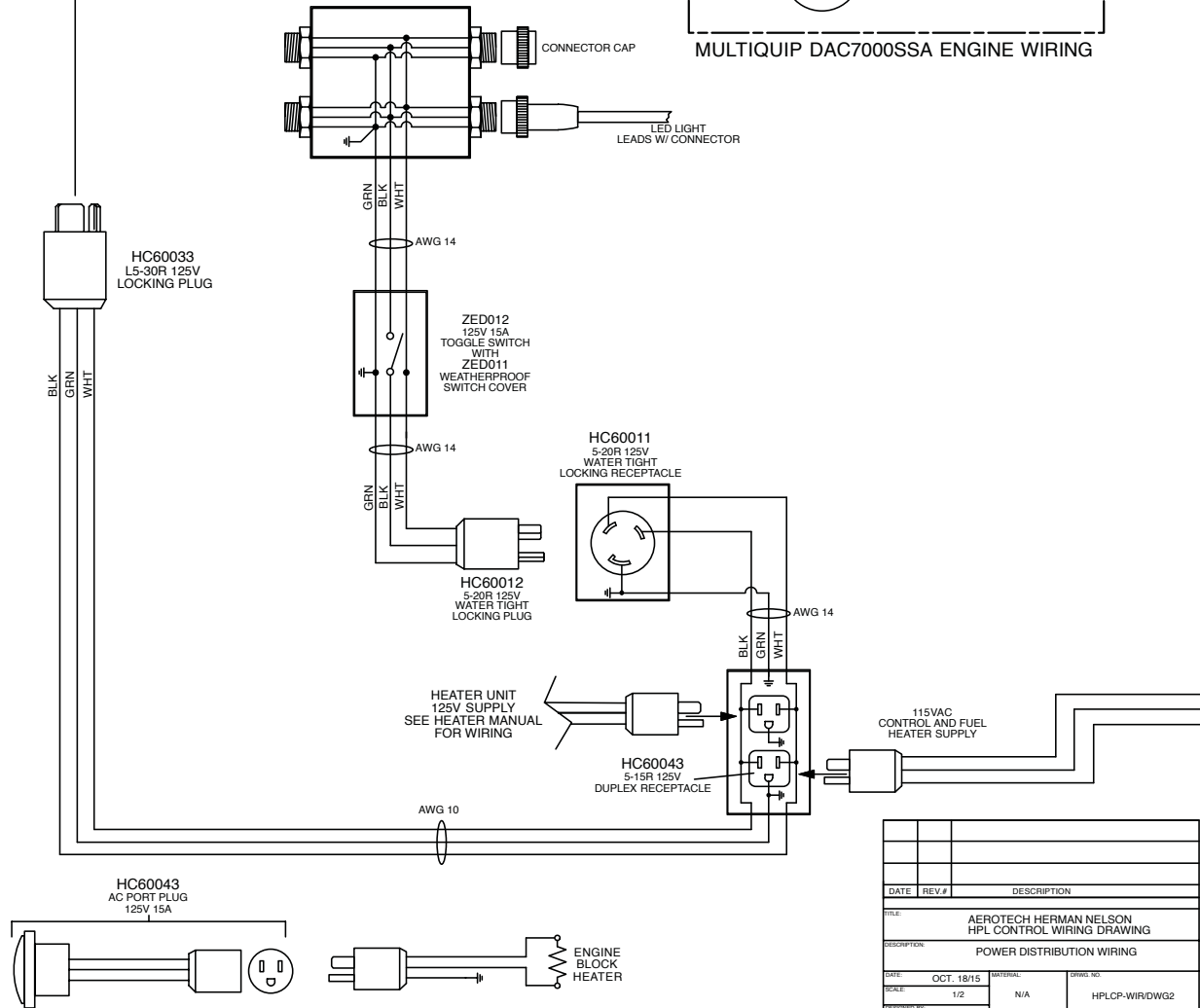
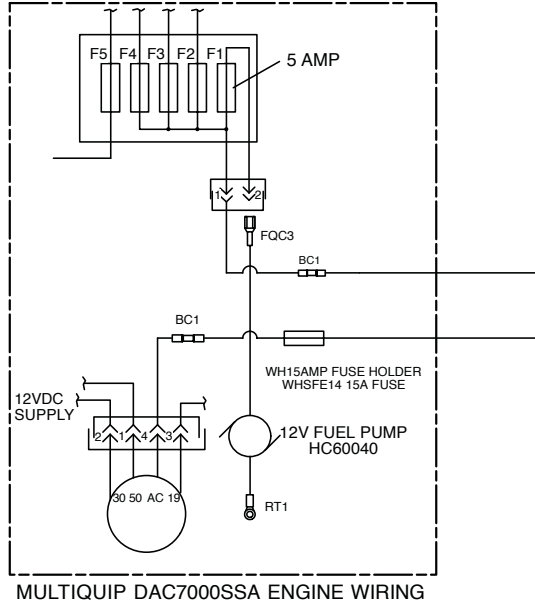
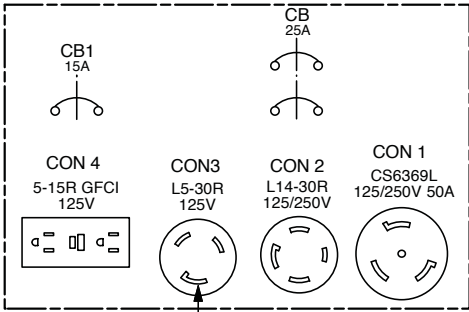
ACCESSORY & RECOMMENDED SPARE PARTS LIST

ITEM DESCRIPTION	PART NUMBER	REMARKS
Ducting	TDC012TR	12" ducting 2 pin style
Remote Thermostat	ECO90052	50' Remote thermostat
GENSET		
Fan Belt (Genset)	1980572530	
Fuel Filter (Genset)	1523143560	
Air Filter (Genset)	1556211081	
Oil Filter (Genset)	7000015241/HH150-32430	
HEATER		
Fuel Nozzle	ECO89567	
Fuel Filter	ECO90023	
Electrode	ECO51859	
High Limit Switch	ECO90041	
2 AMP fuse	ECO90039	
Coupling	ECO2433	

WIRING DIAGRAMS

HPL WIRING DIAGRAM PART 1

MULTIQUIP DAC7000SSA GENERATOR WIRING

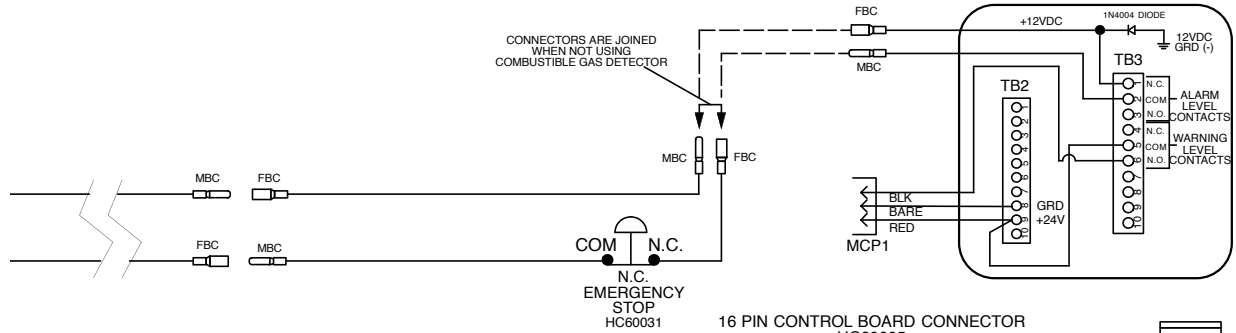


DATE	REV.#	DESCRIPTION
TITLE: AEROTECH HERMAN NELSON HPL CONTROL WIRING DRAWING		
DESCRIPTION: POWER DISTRIBUTION WIRING		
DATE: OCT. 18/15	MATERIAL: N/A	DWG. NO: HPLCP-WIR/DWG2
SCALE: 1/2		
DESIGNED BY: E. HAAK		

WIRING DIAGRAMS

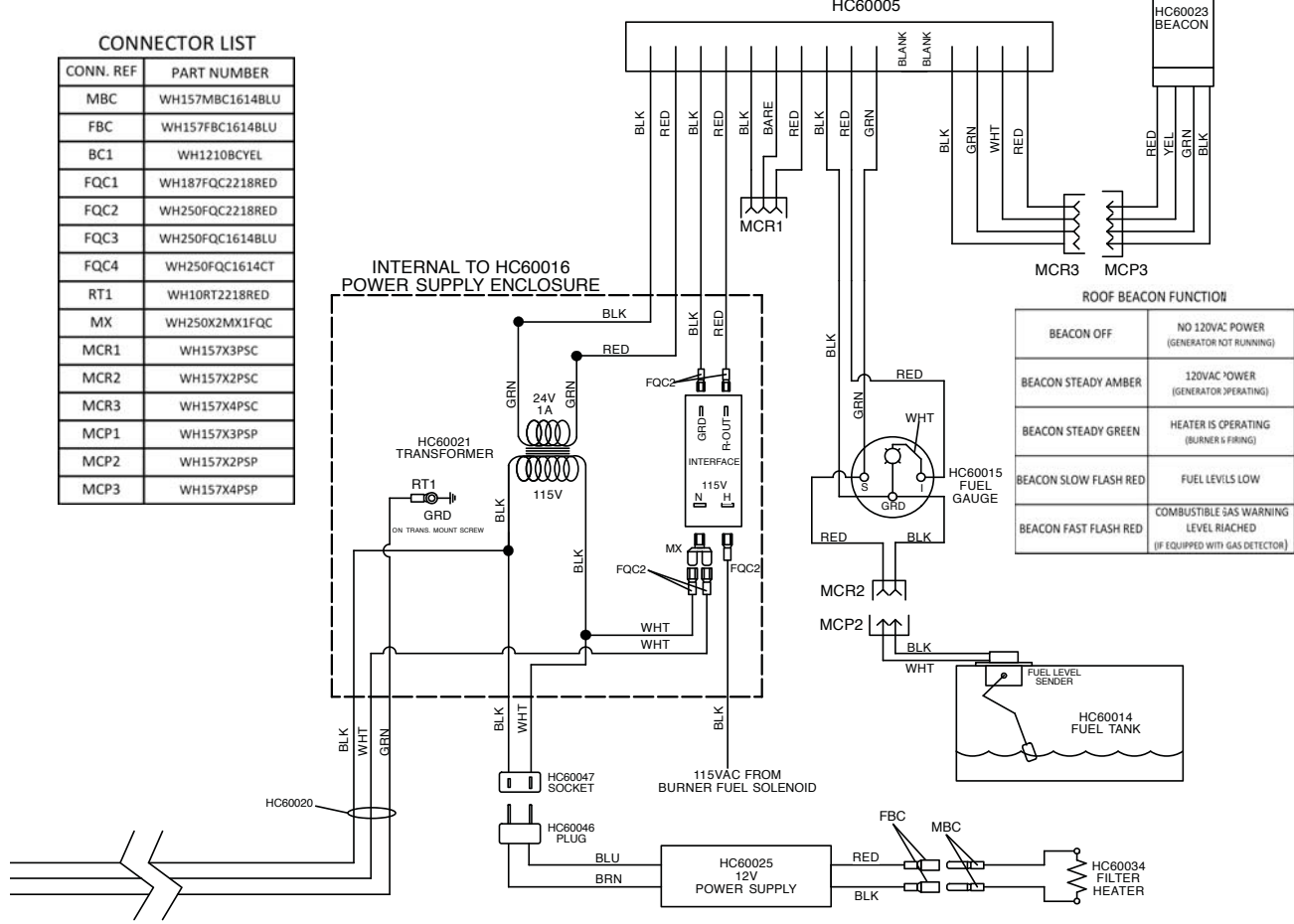
HPL WIRING DIAGRAM PART 2

OPTIONAL GENERAL MONITORS S4000CH COMBUSTIBLE GAS DETECTOR



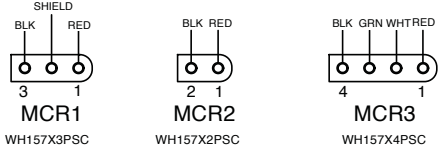
CONNECTOR LIST

CONN. REF	PART NUMBER
MBC	WH157MBC1614BLU
FBC	WH157FBC1614BLU
BC1	WH1210BCYEL
FQC1	WH187FQC2218RED
FQC2	WH250FQC2218RED
FQC3	WH250FQC1614BLU
FQC4	WH250FQC1614CT
RT1	WH10RT2218RED
MX	WH250X2MX1FQC
MCR1	WH157X3PSC
MCR2	WH157X2PSC
MCR3	WH157X4PSC
MCP1	WH157X3PSP
MCP2	WH157X2PSP
MCP3	WH157X4PSP



ROOF BEACON FUNCTION

BEACON OFF	NO 120VAC POWER (GENERATOR NOT RUNNING)
BEACON STEADY AMBER	120VAC POWER (GENERATOR OPERATING)
BEACON STEADY GREEN	HEATER IS OPERATING (BURNER & FIRING)
BEACON SLOW FLASH RED	FUEL LEVELS LOW
BEACON FAST FLASH RED	COMBUSTIBLE GAS WARNING LEVEL REACHED (IF EQUIPPED WITH GAS DETECTOR)



CONNECTORS VIEWED OPPOSITE WIRE SIDE

DATE	REV.#	DESCRIPTION
TITLE: AEROTECH HERMAN NELSON HPL CONTROL WIRING DRAWING		
DESCRIPTION: CONTROL WIRING		
DATE: OCT. 18/15	DRAWN BY: N/A	DRAWING NO: HPLCP-WIR/DWG2
SCALE: 1/2		
DESIGNED BY: E. HAAK		

Quick Service Guide

SERVICE INTERVALS - GENERATOR

PLEASE REFER TO MULTIQUIP OPERATION MANUAL FOR FULL SERVICE RECOMMENDATION + WARRANTY REQUIREMENTS

Oil Change - FIRST OIL CHANGE DUE AT 50 HOURS OF OPERATION

Every 100 hours: Change the engine oil after the first 50 hours of operation. Always check the crankcase oil level prior to each use, or when the fuel tank is filled. Insufficient oil may cause severe damage to the engine. Make sure the generator is level when checking the oil level. The oil level must be between the two notches on the dipstick.

Oil Cartridge

Replace the engine oil filter cartridge after every 200 hours of operation.



REMINDER

Change oil after the first 50 hours of operation

Recommended Motor Oil	
Below 32°F (0 °C)	SAE10 or SAE10W~30/ SAE10W-40

HEATER MAINTENANCE

PLEASE REFER TO YOUR BLAZE 600 D-OIL FIRED SPACE HEATER INSTALLATION + INSTRUCTIONS MANUAL MAINTENANCE PARTS LIST

Fuel filter should be changed every 6 months of normal usage.

SERVICING MULTIQUIP MODEL DAC-7000SSA A.C. GENERATOR

PLEASE REFER TO MULTIQUIP OPERATION MANUAL FOR FULL SERVICE RECOMMENDATION + WARRANTY REQUIREMENTS

Proper care maintenance of your equipment will lead to longer service life and operation

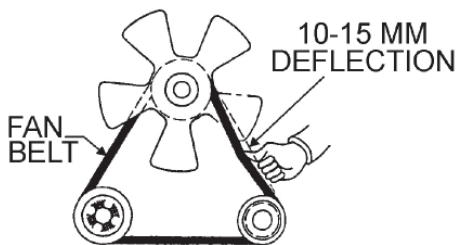
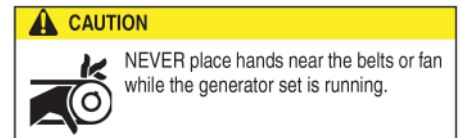


Figure 12. Fan Belt Tension

Fan Belt Tension

A slack fan belt may contribute to overheating, or to insufficient charging of the battery. Inspect the fan belt for damage and wear and adjust it in accordance with the Kubota Engine Owner's Manual. The fan belt tension is proper if the fan belt bends 10 to 15 mm (Figure 12) when depressed with the thumb as shown below.



Contact Aerotech Herman Nelson

HOW TO GET HELP

Please have the model and serial number on-hand when calling

100 Eagle Drive, Winnipeg, MB, Canada R2R 1V5

Local: 1 (204) 633-1999 (24 hr.)

Toll Free: 1 (800) 486-4328

Fax: 1 (204) 694-1612 or 1(204) 632-4441

Email: sales@hermannelson.com

Website: www.hermannelson.com



WARNING

Before operation carefully read this operator's manual to familiarize yourself with the HPL 600D7 unit

For your own safety and longer product life, follow the instruction notices in this manual.

Keep this Operator Manual and the following manuals in the unit at all times

- Multiquip Parts and Operation Manual
- Kubota Diesel Engine Operation Manual
- Kubota Illustrated Parts Breakdown
- Blaze 600D - Oil Fired Space Heater Installation Instructions Manual Maintenance - Part List

Please visit www.heatpowerlight.com or www.hermannelson.com for training videos specifically designed to help you better understand how to use your HPL 600 D7 unit.