Start-Up Instructions & Warranty Validation

BLUE STAR Power Systems Inc.

Start-Up Date: _____ / _____ / _____

This form must be filled out completely by factory authorized representative during the startup and returned to Blue Star Power Systems, Inc. to activate the factory warranty. Signing this form represents acceptance of unit and that all information on the start-up is correct. The factory authorized representative signature acknowledges review and understanding of this Start-Up Instructions and Warranty Validation form. Please return a copy of the completed form to Blue Star Power Systems, Inc. within 30 days of start-up.

AUTHORIZED BLUE STAR POWER SYSTEMS, INC. REPRESENTATIVE PERFORMING START-UP			OWNER/SITE LOCATION		
Company Name:			Company/Site Name:		
Street Address:			Street:		
City:	State:	Zip:	City:	State:	Zip:
Phone:	Email:		Phone:	Email:	
Technician Name:			Owner or Owner's Representative Name:		

GENSET DATA		ENGINE DATA	
Model Number:		Engine Model:	
Serial Number:		Engine Serial Number (Found on Engine Block):	
Application: ☐ Stationary ☐ Mobile		Fuel Type:	Fuel Pressure:
Rating: ☐ Standby ☐ Prime		AUTOMATIC TRANSFER SWITCH DATA	
RPM:	Hz:	Manufacturer:	
kWe:	kVa:	Model Number:	
Volts:	Phase:	Serial Number (Found on ATS Cabinet):	
Amps Per Terminal:		UTILITY SERVICE DATA	
GENERATOR/ALTERNATOR DATA		Volts:	Phase:
Generator Model Number:		Phase Rotation	Amps:
Generator Serial Number:		Monitoring System (If Applicable):	
Phase Rotation:		Serial Number (If Applicable):	

The Blue Star Power Systems, Inc. Warranty will be void if the installation does not meet the general guidelines, standards and recommendations as laid out in the Installation Guide (provided with generator set) and all local standards and codes applicable in the location of the installation.

Note - The start of the warranty period can be adjusted to the date of the unit start-up (limited to 180 days from invoice date) provided that the following information is provided to Blue Star Power Systems, Inc. within 30 days of start-up: (1) A copy of the Blue Star Power Systems, Inc. start-up instructions & warranty validation forms must be properly and completely filled out and returned to Blue Star Power Systems, Inc. (2) The engine manufacturer engine registration form must be completed and returned to the engine manufacturer as stated in the instructions with the registration form.

** Upon completion, return the original white copy or digital copy of this form to Blue Star Power Systems, Inc. to activate product warranty. The yellow copy is to be retained by the factory authorized representative performing the start-up, and the pink copy is to be left with the customer.**

This agreement is deemed made and executed in North Mankato, Nicollet County, Minnesota and shall be construed and interpreted in accordance with the laws of the state of Minnesota without giving effect to its conflicts of laws principals. Each of the parties submits to the exclusive personal jurisdiction and venue with respect to any action or proceeding arising out of, in connection with, relating to, or by reason of this agreement before the district court of the state of Minnesota, located in Nicollet County and agrees that all claims in respect of the action or proceeding may be heard and determined in any such court.

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Installation Checks

Yes No N/A

MOUNTING

☐ ☐ ☐ 1. Wood shipping skid removed.

☐ ☐ ☐ 2. Mounting structure constructed of non-combustible material.

☐ ☐ ☐ 3. Mounting surface level.

☐ ☐ ☐ 4. Vibration isolation mounts installed between unit and mounting structure.

☐ ☐ ☐ 5. Anchor bolts installed, tightened down and double nutted.

ENVIRONMENTAL

☐ ☐ ☐ 6. Equipment room protected from freezing temperatures during unit operation (water lines Etc).

☐ ☐ ☐ 7. Adequate clearance around the unit for service and proper operation.

☐ ☐ ☐ 8. Equipment room protected with a fire suppression system.

☐ ☐ ☐ 9. Adequate ventilation for engine starting battery(ies).

COOLING SYSTEM

☐ ☐ ☐ 10. Ample inlet and outlet airflow (motorized louvers adjusted and ventilation fan motor(s) connected to an available source of power of the correct voltage.

☐ ☐ ☐ 11. Radiator ductwork properly sized and connected to the air vent or exhaust louver to prevent air recirculation and transmission of vibration.

☐ ☐ ☐ 12. Flexible connectors installed in the cooling water lines (remote radiator applications).

FUEL SYSTEM

☐ ☐ ☐ 13. Adequate dedicated fuel supply of proper type, volume and pressure. Record type and pressure above.

☐ ☐ ☐ 14. Fuel filters/drain leg installed.

☐ ☐ ☐ 15. Adequate fuel transfer pump lift capacity (diesel units).

☐ ☐ ☐ 16. Fuel transfer pump connected to available source of power with the correct voltage (diesel units).

☐ ☐ ☐ 17. Flexible connectors installed in fuel piping (supply and return and diesel systems).

☐ ☐ ☐ 18. Diesel fuel storage tanks properly installed and vented according to local codes.

Yes No N/A

EXHAUST SYSTEM

☐ ☐ ☐ 19. Flexible connector installed in extended exhaust piping.

☐ ☐ ☐ 20. Condensation trap with drain installed.

☐ ☐ ☐ 21. Silencer installed, hanger and mounting hardware tight and secure.

☐ ☐ ☐ 22. Heat-isolating wall thimble (per local code) installed where exhaust piping penetrates combustible walls.

☐ ☐ ☐ 23. Exhaust piping free of excessive bends and restriction.

☐ ☐ ☐ 24. Exhaust installed with a downward slope away from the engine.

☐ ☐ ☐ 25. Exhaust piping wall penetration protected from entry of rain, snow, and pests.

☐ ☐ ☐ 26. Exhaust outlet termination suitable to prevent entrance of rain and pests (Rain cap Etc)

☐ ☐ ☐ 27. Exhaust outlet termination location prevents re-entry of exhaust gases into buildings or structures.

☐ ☐ ☐ 28. Personnel protection from hot surfaces and gases installed or accounted for.

ELECTRICAL

☐ ☐ ☐ 29. Generator and transfer switch nameplate electrical data matches normal/utility source ratings.

☐ ☐ ☐ 30. Generator set load conductors are of adequate ampacity and are correctly connected to the output means and the emergency side terminals of the transfer switch.

☐ ☐ ☐ 31. Generator load conductors, remote start contacts, battery charger, engine heater and remote monitoring panel wiring installed in separate conduits.

☐ ☐ ☐ 32. Battery charger AC supply connected to a circuit of the proper voltage and amperage, and energized.

☐ ☐ ☐ 33. Engine jacket water heater AC supply connected to a circuit of the proper voltage and amperage and energized.

☐ ☐ ☐ 34. Engine starting battery(ies) fully charged and connected to the engine and battery charger.

☐ ☐ ☐ 35. Transient Voltage Surge Suppression protection devices installed to protect the equipment against voltage spikes.

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Pre-Start/Running Checks

Yes No N/A

- ☐ ☐ ☐ 1. Inspect unit for freight damage (ensure components are tight).
- ☐ ☐ ☐ 2. Engine is filled with oil, cooling system is filled with coolant/antifreeze and the battery(ies) are filled with acid.
- ☐ ☐ ☐ 3. Inspect belts, hoses and clamps for proper alignment and tension.
- ☐ ☐ ☐ 4. Gas solenoid valve functions when energized.
- ☐ ☐ ☐ 5. Inspect all electrical connections to verify tightness and security.
- ☐ ☐ ☐ 6. Open all water and fuel valves. Temporarily remove the radiator cap to eliminate air in the cooling system.
- ☐ ☐ ☐ 7. Prime the fuel system.
- ☐ ☐ ☐ 8. Place the generator set engine control switch in the OFF/RESET position. Observe Not-In-Auto display and alarm, if equipped on the controller.
- ☐ ☐ ☐ 9. Open the generator main line circuit breakers.
- ☐ ☐ ☐ 10. Verify power to the water/oil heaters and fuel lift pumps.
- ☐ ☐ ☐ 11. Place the generator set engine control switch in the RUN position. Allow the engine to start and run.
- ☐ ☐ ☐ 12. Check the battery charging voltmeter for battery charging indication.
- ☐ ☐ ☐ 13. Verify sufficient oil pressure.
- ☐ ☐ ☐ 14. If the speed is unstable, adjust.
- ☐ ☐ ☐ 15. Adjust the AC output voltage to match the utility voltage using the voltage adjusting control on the automatic voltage regulator.
- ☐ ☐ ☐ 16. Allow the engine to reach normal operating temperature. Check for oil, coolant, and exhaust leaks. Check and tighten all hose connectors and clamps.
- ☐ ☐ ☐ 17. Check the operating temperature on city water-cooled models and adjust the thermostatic valve as necessary.
- ☐ ☐ ☐ 18. Manually overspeed (if applicable) the engine to cause an engine shutdown. Place the generator set in the OFF/RESET position.
- ☐ ☐ ☐ 19. Check the coolant level, add coolant as necessary, and replace the radiator cap. Verify that all hose clamps are tight and secure.
- ☐ ☐ ☐ 20. Place generator set in the RUN position.
- ☐ ☐ ☐ 21. Verify the engine low oil pressure and high coolant temperature shutdowns.
- ☐ ☐ ☐ 22. Check the overcrank shutdown.
- ☐ ☐ ☐ 23. Check and verify any additional protection devices. List them:_____,_____,_____

Yes No N/A

- ☐ ☐ ☐ 24. Check the utility source voltage, frequency, and phase sequence on three-phase models. The generator set must match the utility source and load.
- ☐ ☐ ☐ 25. Place the generator set engine control switch in the OFF/RESET position.
- ☐ ☐ ☐ 26. Close the generator set main line circuit breakers connected to the transfer switch.
- ☐ ☐ ☐ 27. Place the generator set engine control switch in the RUN position.
- ☐ ☐ ☐ 28. Check the generator set voltage, frequency, and phase sequence on three-phase models. The generator set must match utility source and load.
- ☐ ☐ ☐ 29. Place the generator set engine control switch in the OFF/RESET position.
- ☐ ☐ ☐ 30. Record fuel pressure while running _____.
- ☐ ☐ ☐ 31. Place the transfer switch in the Test Position. NOTE: Obtain permission from the building authority before proceeding. This procedure tests transfer switch operation and connects building load to generator set power.
- ☐ ☐ ☐ 32. Re-adjust frequency to 60 Hz with total building loads. Verify no load frequency to be no more than 62.0. Adjust if necessary (Mechanical governor only).
- ☐ ☐ ☐ 33. Verify that the AC current is balanced for three phase systems and record. L1_____L2_____L3_____.
- ☐ ☐ ☐ 34. Release the transfer switch test switch. The transfer switch should retransfer to the utility source after appropriate time delay(s).
- ☐ ☐ ☐ 35. Allow the generator set to run and shut down automatically after the appropriate cool down time delay(s).
- ☐ ☐ ☐ 36. Perform a proper fuel system setup with a wide range O2 sensor. Record air/fuel ratio (AFR) NO LOAD_____ BUILDING or FULL LOAD_____ With Load Bank_____. If Building Load used list AMPS_____(only required on gas units 80 kilowatts and larger).
- ☐ ☐ ☐ 37. If equipped, set the plant exerciser with load to the customer's required exercise period.
- ☐ ☐ ☐ 38. Verify that all options on transfer switch are adjusted and functional per the customer's requirements. Transfer Switch delay setting: TDES____TDE____TDN____TDEC____.
- ☐ ☐ ☐ 39. In phase monitor ON____ Setting_____OFF____ .
- ☐ ☐ ☐ 40. If possible, run the building loads with the generator set or perform the load bank test if required.
- ☐ ☐ ☐ 41. Verify that the customer has the appropriate engine/generator set and transfer switch literature and manuals. Instruct the customer in the operation and maintenance of the system.

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Running Checks

Time of Day	Gen. Amps	Gen. Volts	Gen Freq.	Amb. Temp.	Oil Press.	DC Charg. Volts.	Water Temp.	Run Time Meter	Notes:

Was the mode switch left in the automatic position for auto start? Yes_____ No_____(Explain)

GENERATOR SET OR SITE NOTES

Signature Confirmation

I ACKNOWLEDGE THAT I HAVE RECEIVED TRAINING ON THIS UNIT ☐ SERVICE CONTRACT ☐ DELAYED TRAINING

_____	_____	_____	_____
Please Print Customer Name	Company Name	Customer Signature	Date

I ACKNOWLEDGE THAT I HAVE ADMINISTERED TRAINING TO THE CUSTOMER ON THIS UNIT Yes_____ No_____ ☐ SERVICE CONTRACT

_____	_____	_____	_____
Please Print Factory Authorized Representative Name	Company Name	Factory Authorized Representative Signature	Date

THIS UNIT HAS BEEN INSTALLED TO FACTORY SPECIFICATIONS

_____	_____	_____	_____
Please Print Factory Authorized Representative Name	Company Name	Factory Authorized Representative Signature	Date