

INSTALLATION VERIFICATION

Safety Tips

- This generator set is intended for outdoor use only.
- These instructions are generic. Be sure to follow state and local codes and regulations.
- Always install this generator set service regulator above the snow line.
- Do not modify this generator set.

General Items Checklist

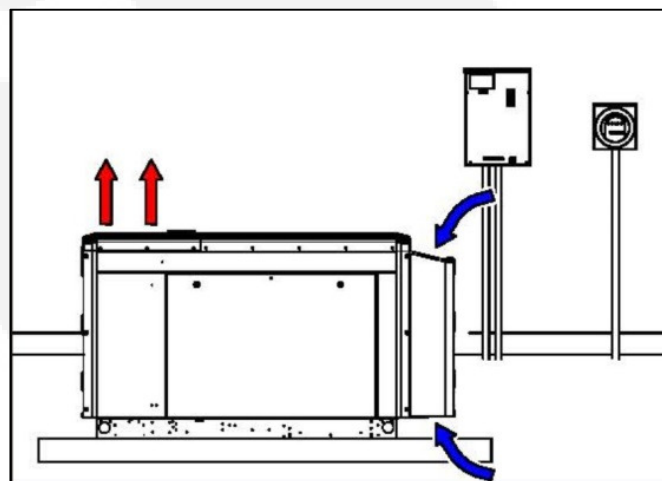
	Generator set wattage capacity is sufficient to handle maximum anticipated load.
	At least 5 feet of clearance to combustible materials is provided. At least 3 feet of clearance is provided around the entire generator set for service and ventilation.
	The generator set is located in an area not subject to flooding.
	All installers have read and are familiar with the Generator Set Installation manual and the Health and Safety manual.
	All installers have been thoroughly briefed on preventative maintenance procedures.
	All installers have read and understand all important safety instructions.

GENERATOR PAD

Generator Pad Requirements

1. Clear obstructions, and make sure that there is adequate clearance for access.
2. Level the ground, and make sure that the ground is compact and settled. Ensure that it is stable ground, not subject to flooding.
3. Prepare the concrete pad: The pad should be constructed of reinforced concrete with a 28-day compressive strength of at least 2500-psi (17240 kPa). The pad should be at least 5 inches (127 mm) deep and extend at least 6 inches (150 mm) beyond the skid on all sides.
4. For generator sets with utility powered accessories (such as coolant heater, battery chargers, etc.), 120 VAC Utility power must be wired to the stub-up location shown as item #5 in the *Concrete Pad Preparation* image below.
5. Generally, 3 separate conduits will be required for the installation: AC utility power to the generator set, AC power output from the generator set, and DC control and monitoring wires.

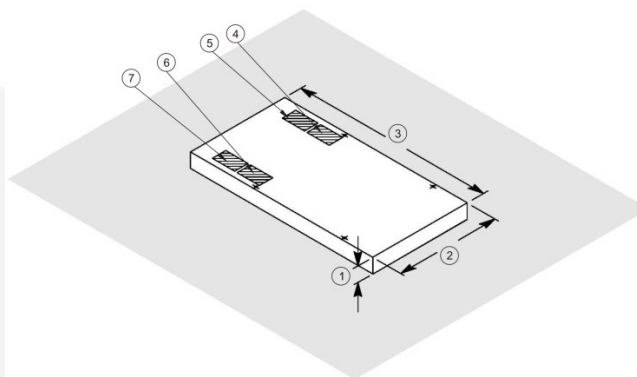
Generator Set Location



Note: The generator set is shown with a sound level 2 enclosure.

Note: Red arrows show discharge direction of cooling and engine exhaust air exiting the enclosure. Blue arrows show flow path of air entering the enclosure.

Concrete Pad Preparation



No.	Description	No.	Description
1	Pad Thickness (at least 5 in)	5	Accessory 120 VAC, 20 A Max Wire Stub-Up
2	Width (pad should extend at least 6 in beyond skid)	6	Circuit Breaker 2 Stub-Up (Optional)
3	Length (pad should extend at least 6 in beyond skid)	7	Circuit Breaker 1 Stub-Up (Standard)
4	Generator Set Control Wire Stub-Up (DC)		

Additional Information

If you have any questions regarding the installation, contact your nearest authorized Cummins distributor or dealer. For additional information, refer to the A045R241 Installation Manual. For more information on Cummins products and services, go to www.power.cummins.com.

Generator Set Size

	Size with Sound Level 1 Enclosure (L x W x H)	
20-25 kW 1800 RPM and 30 kW 3600 RPM	72 x 34 x 45.2 in	1830 x 864 x 1152 mm
30-40 kW 1800 RPM and 36-60 kW 3600 RPM	94 x 34 x 45.2 in	2384 x 864 x 1152 mm

Note: Refer to the installation manual for stub-up locating dimensions.

Generator Set Weight (Pounds)

	C20 N6	C22 N6	C25 N6	C30 N6	C36 N6	C40 N6
1800 RPM Models						
Sound level 1 (wet)	1109	1109	1147	1279	1356	1424
	C30 N6H	C36 N6H	C40 N6H	C45 N6H	C50 N6H	C60 N6H
3600 RPM Models						
Sound level 1 (wet)	1134	1249	1399	1399	1399	1429

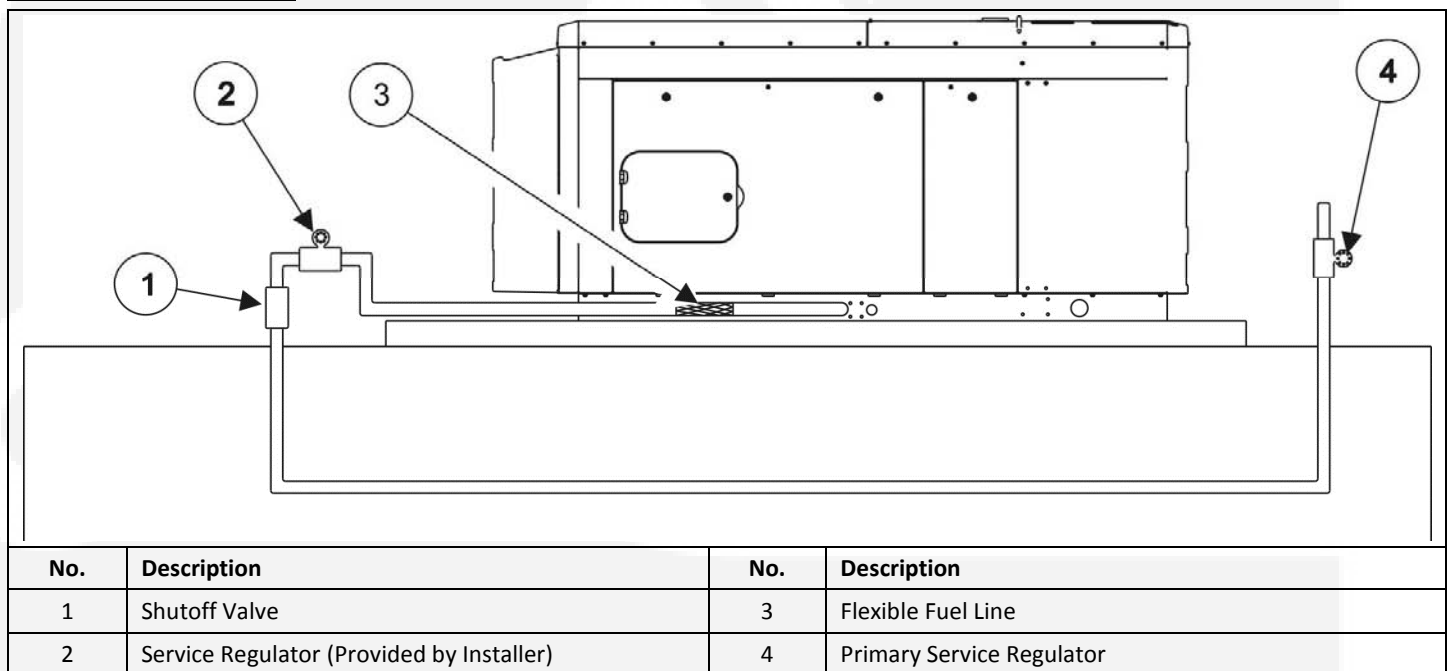
Generator Set Support Checklist

	The floor, roof or earth on which the generator set rests is strong enough and will not allow shifting or movement. Local codes for soil bearing capacity were followed.
	The generator set is properly supported and secured to an approved base.
	The supporting base is of non-combustible material and extends 6 inches all around the generator set.

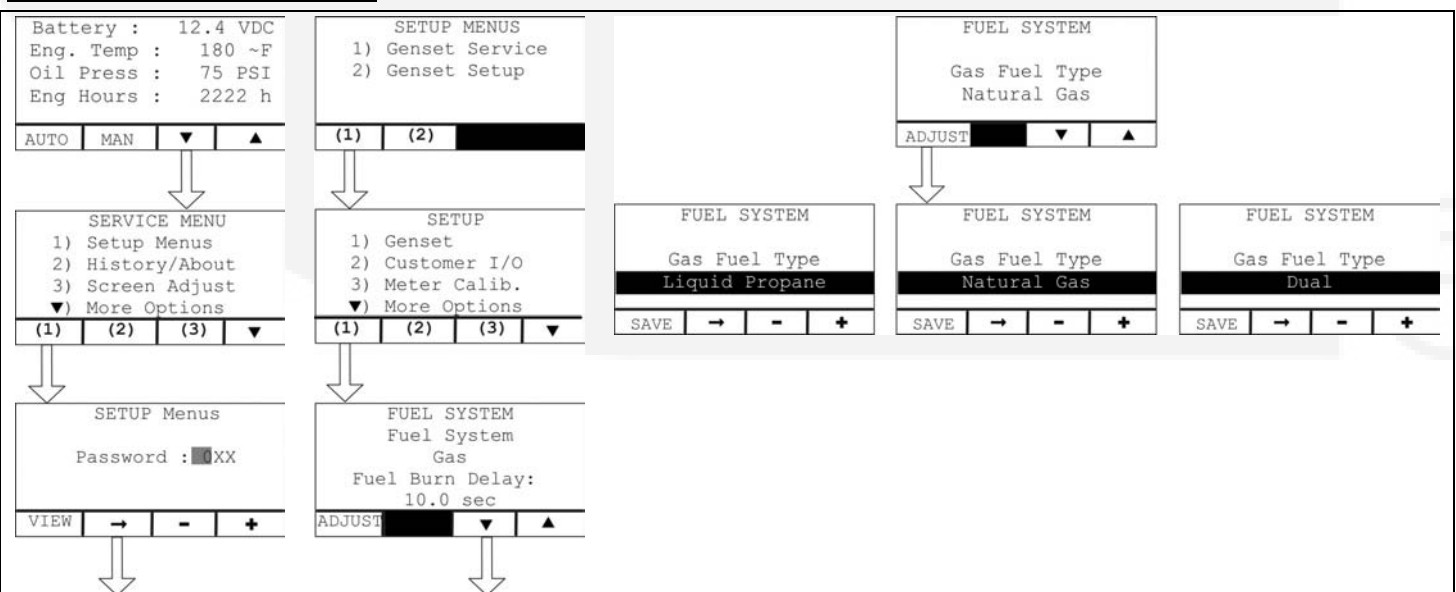
FUEL

Note: Incorrect fuel line sizing and regulation is the most common reason that generator sets do not perform as designed.

Typical System Components



Selecting the Fuel Type (Text Mode)



Fuel Pressure Requirements

A minimum of 6 inches water column (1.5 kPa) fuel pressure must be supplied at the generator set fuel connection when the generator set is operating at full rated load. Maximum fuel pressure at the generator set fuel connection is 14 inches water column (3.5 kPa).

Note: This generator set can run on either natural gas or propane vapor fuel. All generator sets come from the factory adjusted to run on natural gas. To run on propane fuel, the "Gas Fuel Type" setting in the control must be set to propane-

Fuel Consumption

Model	C20 N6		C22 N6		C25 N6		C30 N6		C36 N6		C40 N6	
	scfh	BTU/hr	scfh	BTU/hr	scfh	BTU/hr	scfh	BTU/hr	scfh	BTU/hr	scfh	BTU/hr
Full load (propane)	105	265,000	112	285,000	125	315,000	164	410,000	182	460,000	193	490,000
Full load (natural gas)	259	270,000	278	290,000	309	320,000	380	395,000	472	490,000	519	540,000
Model	C30N6H		C36N6H		C40N6H		C45N6H		C50N6H		C60N6H	
	scfh	BTU/hr	scfh	BTU/hr	scfh	BTU/hr	scfh	BTU/hr	scfh	BTU/hr	scfh	BTU/hr
Full load (propane)	195	490,000	219	550,000	236	595,000	256	645,000	289	725,000	324	820,000
Full load (natural gas)	476	495,000	533	555,000	573	595,000	623	645,000	704	730,000	814	840,000
Fuel pressure	6 - 14 inch water column (1.5 - 3.5 kPa)											

Natural Gas and LP Vapor Fuel System Checklist

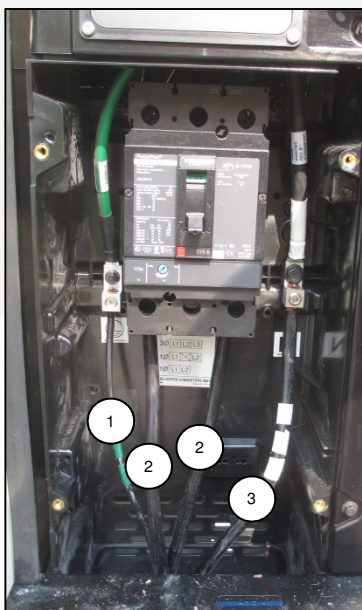
	Fuel line size has been verified for generator set fuel consumption and pressure.
	Approved flexible fuel line is installed between main fuel supply and the generator set's fuel system near the generator set
	Fuel lines are properly installed, supported and protected against damage.
	Fuel supply shutoff valves are installed to turn off fuel flow in case of leaks.
	No leaks are found in fuel supply line as a result of leak testing fuel systems.
	The inside of all fuel supply lines is free of contaminants.
	Fuel pressure is between 6 and 14 inches water column.
	Fuel pressure maintains 6 inches water column (1.5 kPa) when generator set is at rated load.
	The installation is in compliance with all regulations and state and local codes and regulations.

ELECTRICAL

Note: For most applications, 4 DC control wires will be adequate to start and stop a generator. Additional DC control wires will be required if there are accessories, such as remote monitoring, annunciator, etc.

Customer Connections

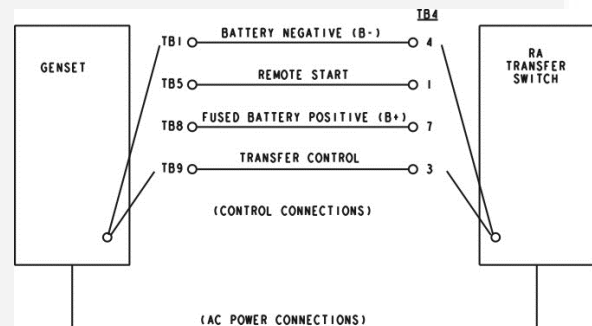
AC Output Connections



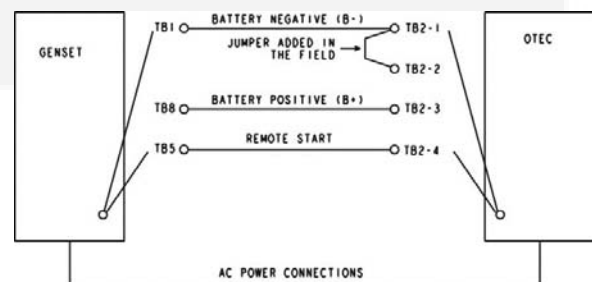
No.	Description	No.	Description	No.	Description
1	Ground Wire	2	Load Wire	3	Neutral Wire

DC Controls (Interconnects)

RA Transfer Switch:



OTEC:



DC System Specifications (All Models)

Nominal battery voltage	12 VDC
Battery group size	26 standard, 24 high capacity*
Battery Type	Maintenance free
Minimum cold crank amps	545 standard, 850 high capacity*

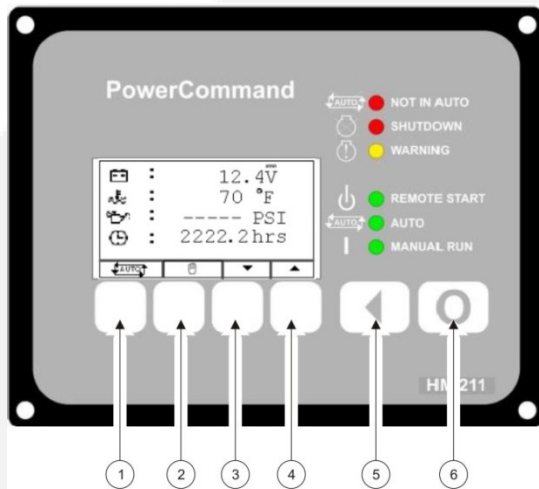
*Note: A high capacity battery requires an accessory battery tray.

AC and DC Wiring Checklist

	Wire sizes, insulation, conduits and connection methods all meet applicable codes.
	AC and DC wires are separated in their own conduit to prevent electrical induction.
	All load, line and generator connections are well made and correct.

STARTUP

Standard Control Panel in Symbol Mode



No.	Description
1	Auto Mode Button
2	Manual Start Button
3	Down Arrow Button
4	Up Arrow Button
5	Back Button
6	Off Button

Generator Set Pre-Start Checklist

	A safety check was performed just before starting.
	Generator set engine is properly serviced with oil and coolant.
	Battery is properly installed, serviced and charged.
	Battery charger and engine coolant heater are connected and operational, if applicable.
	All generator set covers and safety shields are installed correctly.
	Fuel supply is turned on.
	All fuel shutoff valves are operational.
	The date and time have been set in the generator set control (see below).
	The generator set operating mode has been selected (see below).

Setting the Date and Time

- Access the *Time Setup Menu* by selecting *Clock Exerciser* on the *Genset Service Menu*.
- Select *Adjust*. When updating these settings, the key functions are as follows:
 - Horizontal right arrow*: Use to select successive blocks for editing settings on the screen.
 - Left arrow*: Use to return to the previous screen.
 - Plus (+) or minus (-)*: Use to adjust values.
 - Save*: Press to save any changes. After saving, the *Save* button changes to the *Adjust* button.

Selecting an Operating Mode

Note: When changing operating modes, the generator set can start or stop without warning (for example if *Auto Mode* is selected and utility power is not connected, the generator set will attempt to start). Make sure there is no danger to personnel or equipment if the generator set starts or stops when changing modes.

Manual Run Mode

- Make sure that it is safe to do so before proceeding to change the mode.
- Press the *Manual Run* button on any of the *Operator* menus.

To disable *Manual Run* mode, press the *Off* button.

Auto Mode

- Make sure that it is safe to do so before proceeding to change the mode.
- Press the *Auto* button on any of the *Operator* menus.

To disable *Auto* mode, press the *Off* button.

Note: Prior to starting, verify that the installation is compliant with state and local codes and regulations.