



INSTALLATION VERIFICATION

Safety Tips

- This generator set is intended for outdoor use only; it must never be installed indoors.
- These instructions are generic. Be sure to follow all state and local codes and regulations.
- Always install this generator set's service regulator above the expected snow line.
- Do not modify this generator set.

General Items Checklist

	Generator set output is sufficient to handle maximum anticipated load.
	Proper clearance is provided around the entire generator set for service and ventilation: <ul style="list-style-type: none"> • All parts of the generator set enclosure must be at least 1524 mm (60 inches) from any openings in walls of structures that may be occupied. Examples of wall openings include but are not limited to: operable windows, doors, dryer vents, fresh air intake for heaters, etc. • The engine side and alternator side of the generator set must be located as follows: <ul style="list-style-type: none"> ○ One side (either engine or alternator) must be located not less than 458 mm (18 inches) from any structures having combustible walls. This space must be free of any obstructions for service access. ○ The opposite side must be located not less than 1524 mm (60 inches) from any structures having combustible walls. A minimum of 458 mm (18 inches) of unobstructed space is required for service access. • The intake (cooling air inlet) side of the generator set must be located not less than 762 mm (30 inches) from any structures having combustible walls. This space must be free of obstructions to air flow and service access. • The generator set must be located such that exhaust gases are not able to accumulate in an occupied area. The air discharge side must always be unobstructed and spaced a minimum of 1524 mm (60 inches) from any structures having combustible walls. A minimum of 915 mm (36 inches) must be free of any combustible items, and unobstructed for service access. • Locate and position the generator set so that prevailing winds carry exhaust gases and potential fuel leaks away from the house or occupied area.
	The generator set is located in an area not subject to flooding.
	All operating personnel have read and are familiar with the generator set operator manual, all health and safety procedures, and all other documentation supplied with the generator set.
	All operators have been thoroughly briefed on preventive maintenance procedures.
	Proper clearance to openings in nearby structures is provided. Clearance around and over the generator set is provided for operation, service and maintenance.

GENERATOR SET PAD

Generator Set Pad Requirements

1. Level the ground, and make sure that the subgrade is compacted and settled. Local soil condition may dictate the need for addition of sub-base and base material layers above the subgrade. Consult with your local building officials for requirements and recommendations for your area.
2. Either pour a concrete slab, or set a prefabricated pad on the prepared surface.
 - The concrete slab should be constructed of concrete with a 28-day compressive strength of at least 17,200 kPa (2500 psi). (Typical bagged concrete mix meets this requirement.)
 - The slab should be a minimum of 76.2 mm (3 inches) thick.
 - The slab should be at least 50.8 mm (2 inches) larger in length and width than the generator set base.
3. Place the generator set on the pad and secure it to the mounting surface using the mounting spacers (provided) and appropriate fasteners. See the generator set installation manual for more information.

Generator Set Mounting Pad Checklist

	The earth on which the generator set mounting pad rests is strong enough and will not allow shifting or movement. Observe local codes on soil bearing capacity.
	The generator set is properly supported and attached to an approved base.
	The supporting base is non-combustible and is at least as large as the generator set base.
	The generator set is located to comply with applicable codes and standards.

Generator Set Size (All Models)

Dimension	mm	in
L x W x H	865 x 915 x 694	34.1 x 36 x 27.3

Generator Set Weight (Including Battery)

Models	kg	lbs
C13N6H	218	479
C17N6H, C20N6H	241	531

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

Additional Information

If you have any questions regarding the installation, contact your nearest authorized Cummins distributor or dealer. For additional information, refer to the A053X172 Installation Manual. For more information on Cummins products and services, go to power.cummins.com.

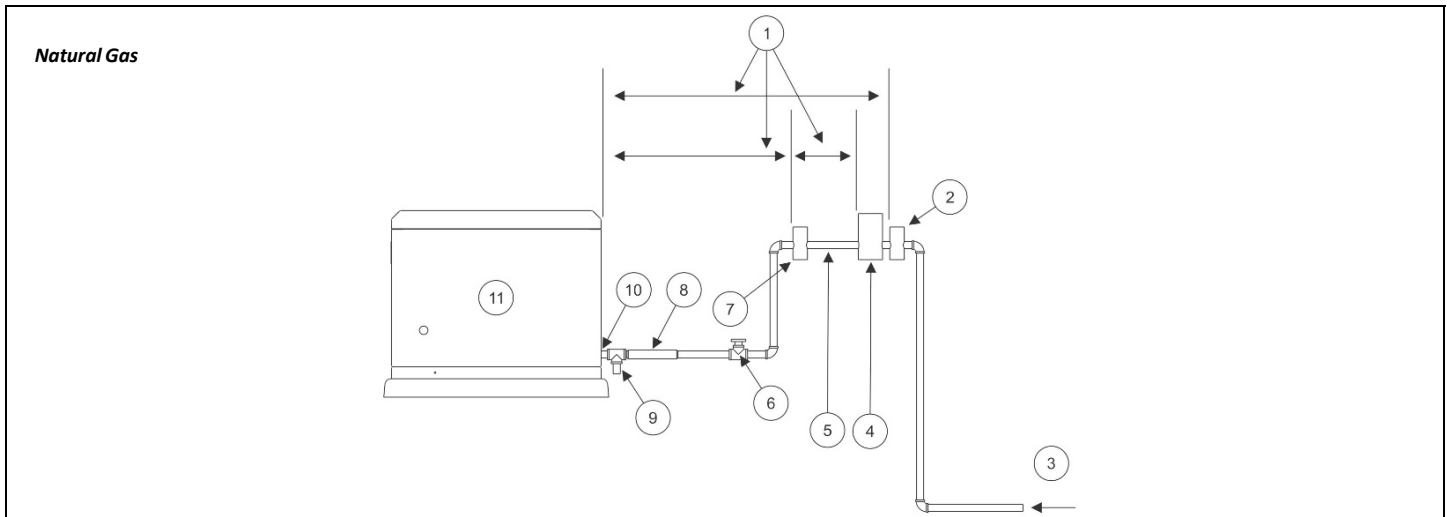
Generator Set Support Checklist

	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 2 inches (50.8 mm) all around the generator set.

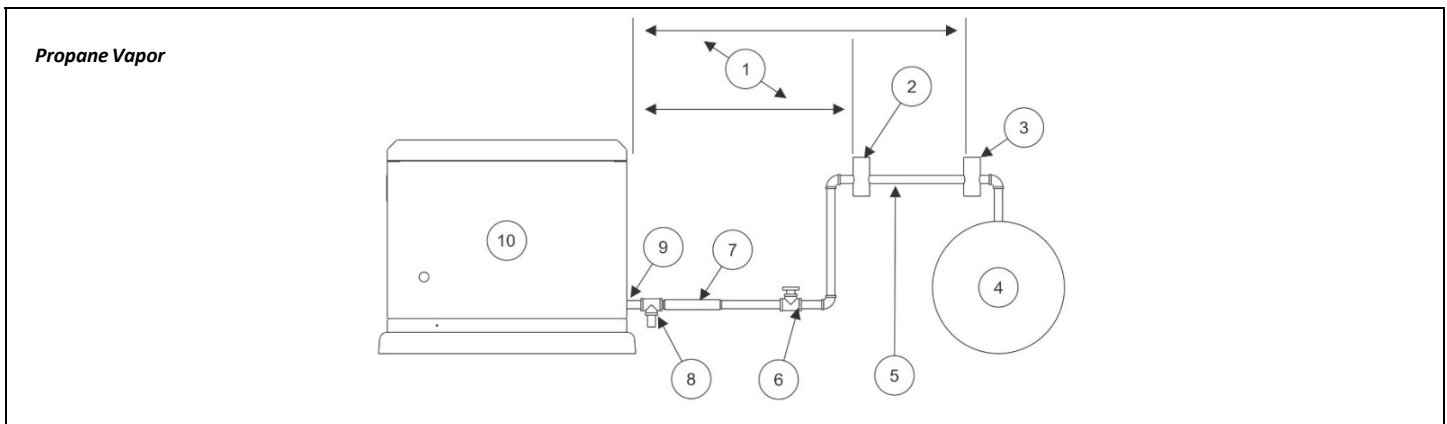
FUEL

Note: Incorrect fuel line sizing and regulation are the most common reasons that generator sets do not perform as designed. Refer to installation manual for instructions on properly sizing the generator set fuel line.

Typical System Components



No.	Description	No.	Description
1	Distance as Required by Code and/or Component Suppliers	6	Full Flow Manual Shutoff Valve
2	Primary Service Pressure Regulator	7	Secondary Service Pressure Regulator (if Required)
3	Natural Gas Supply	8	Flexible Fuel Line
4	Gas Meter	9	Sediment Trap
5	Note: A branch in the fuel line to the generator set may allow selection of a smaller diameter line size to the generator set and remainder of gas appliances.	10	Fuel Line Connection at Generator Set
		11	Generator Set

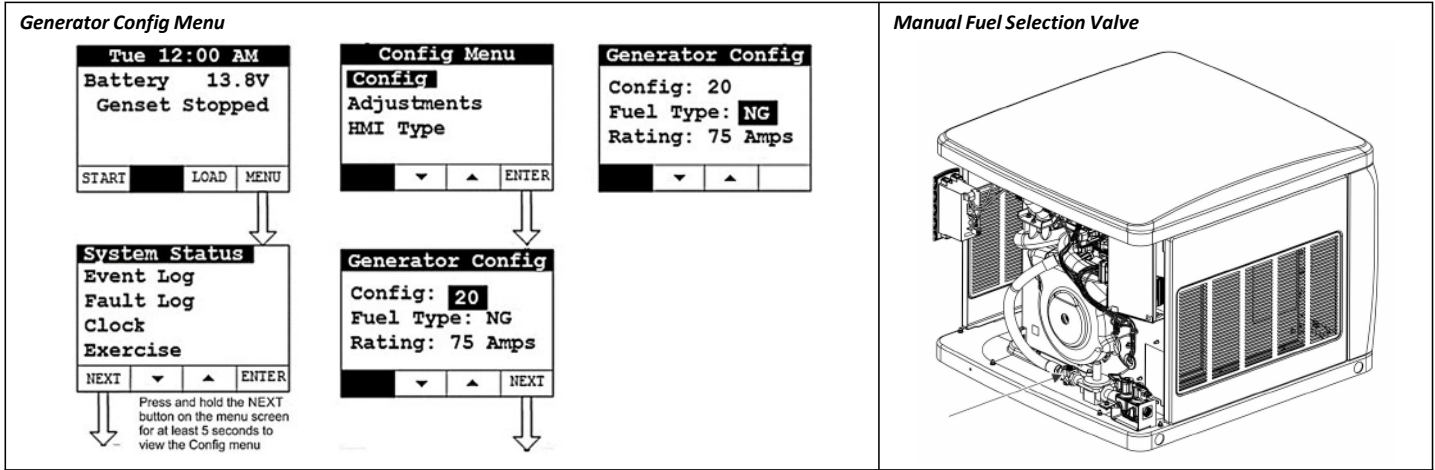


No.	Description	No.	Description
1	Distance as Required by Code and/or Component Suppliers	6	Full Flow Manual Shutoff Valve
2	Secondary Service Pressure Regulator	7	Flexible Fuel Line
3	Primary Service Pressure Regulator	8	Sediment Trap
4	Liquid Propane Fuel Tank	9	Fuel Line Connection at Generator Set
5	Note: A branch in the fuel line to the generator set may allow selection of a smaller diameter line size to the generator set and remainder of gas appliances.	10	Generator Set

Selecting the Fuel Type

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:

- From the display, navigate to the **Fuel Type** field under Generator Config, and use an arrow to select "LP".
Note: Do not change the number in the Config field.
- Change the manual fuel selection valve to LP.



Fuel Consumption Specifications (at Full Load)

Type	C13N6H		C17N6H		C20N6H, C20N6HC		Fuel Pressure	
	scfh	BTU/hr	scfh	BTU/hr	scfh	BTU/hr	kPa	inch water column
Natural Gas	203	203,000	263	263,000	278	278,000	0.9 - 3.0	3.5 - 12
Propane	87	217,500	109	272,500	126	315,000	1.5 - 3.0	6 - 12
Note: Maximum pressure for either fuel under any condition: 3.2 kPa (13 inch water column)								

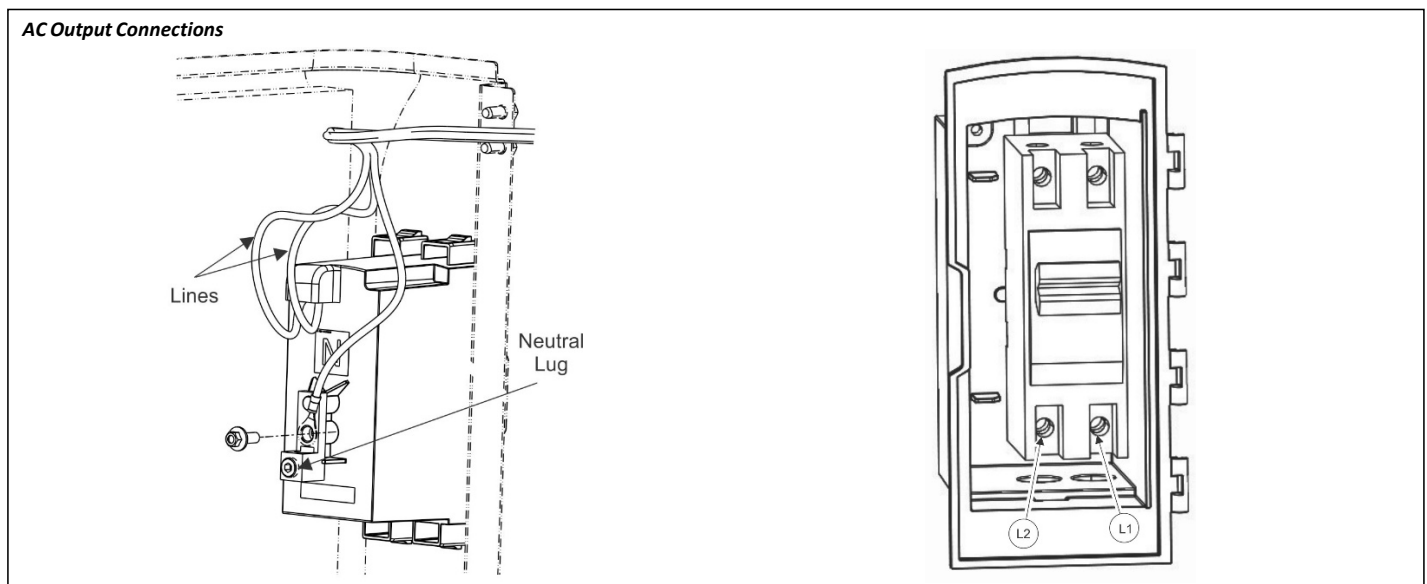
Natural Gas and LP Vapor Fuel System Checklist

Verify that the generator set is configured to the fuel being used. (See the generator set installation manual.)
Verify that the fuel line has proper volume capability.
Verify that the fuel pressure is correct: <ul style="list-style-type: none"> • <i>Natural gas:</i> 0.9 - 3.0 kPa (3.5 - 12 in water column) • <i>Propane:</i> 1.5 - 3.0 kPa (6 - 12 in water column)
Verify the fuel pressure at the generator set connection does not drop below the range listed above during startup and full load operation and does not exceed 3.2 kPa (13 in water column).
Verify that all fuel connections are tight.
Verify there are no gas leaks in the fuel system.
All electrical and fuel lines are properly separated.
An approved flexible fuel line is properly installed between the generator set fuel inlet connection and the fuel supply line.

ELECTRICAL

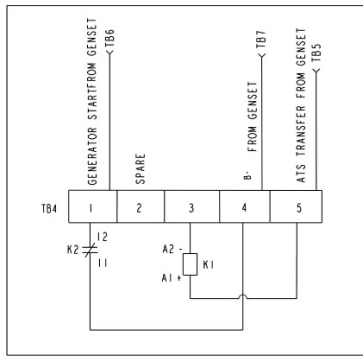
Note: For most applications, three DC control wires (customer-supplied) will be adequate to start and stop a generator. Additional DC control wires will be required if there are accessories, such as a remote display, etc.

Customer Connections

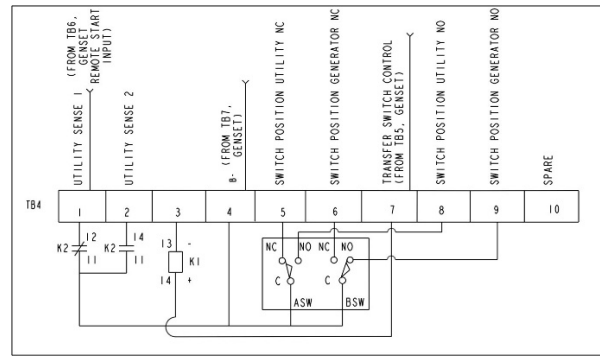


DC Controls (Interconnects)

RA Series Transfer Switch (RA112L1)



RA Series Transfer Switch (100/100SE/200/200SE/400/400SE)



Note: The transfer switch TB4 jumper must be installed in the RA series transfer switch between TB4-3 and TB4-4 according to the interconnect diagram in the RA series transfer switch owner manual. (Both the jumper and the diagram are supplied with the generator set.)

DC System Specifications

Nominal Battery Voltage	12 VDC
Battery Group	51 R
Battery Type	Lead acid
Min. Cold Crank Amps	450

AC and DC Wiring Checklist

Wire sizes, insulation, conduits and connection methods all meet applicable codes.
All load, line and generator connections are well-made and correct.
Flexible conduit is used between the generator set and the building or surrounding structure.
A transfer switch has been installed properly to prevent connecting the generator set to the utility.
Verify that 120 VAC power has been provided to the power battery charger and other AC accessories on the generator set.

STARTUP

Generator Set Pre-Start Checklist

The generator set engine is properly serviced with oil.
All generator set and ATS covers and safety shields are installed correctly.
All fuel shutoff valves are operational and in the open position.
The installation meets all applicable local, state, and federal codes.

Setting the Date, Time and Exercise Mode

- From the Main screen of the local display, select **Menu**.
- Use the arrow keys to highlight **Clock**. Select the **ENTER** key.
- Use the arrow and **NEXT** keys to set the date and time.
- Follow the Exercise menu to set up the exercise mode. See the installation manual for more information.

Setting the Remote and Standby Modes

Enable/Disable Remote or Standby (Local Display)	Enable/Disable Standby (Remote Display)
<ol style="list-style-type: none"> From any screen, select the Mode key to get to the Mode screen. Use the arrow keys to enable or disable the Remote mode. Select the Next key to go to the next screen. Use the arrow keys to enable or disable the Standby mode. Whenever Standby is enabled, the Remote mode will also automatically be enabled. Keep pressing the Back button to save the settings and return to the Main screen. 	<ol style="list-style-type: none"> From any screen, select the Mode key to get to the Mode screen. Use the arrow keys to enable or disable the Standby mode. (Local display needs to be in remote to enable or disable Standby.) Keep pressing the Back button to save the settings and return to the Main screen.

Control Checklist

Verify that the display has been configured to "local", and that the clock, exerciser and correct fuel type are set.
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Manual Starting and Stopping

Action	Manual Start (Local)	Manual Start (Remote)
Start	<ol style="list-style-type: none"> From the Main screen, select the START key. A second screen appears notifying the operator that Standby will be disabled. Select the START key again to start the generator set. After the generator set reaches rated voltage and frequency, the transfer switch transfers the building load to the generator set. The building's electrical power is now provided by the generator set. 	Remote mode must be enabled on the local display to allow manual start and stop from the Remote display. The manual start and stop sequences are the same for the Remote display and the Local display.
Stop	<p>Press the red STOP button on the local display. The generator set will stop immediately and the building load will be transferred to the utility.</p> <p>Note: For normal operation to resume, Standby will need to be enabled.</p>	

Note: Press the generator set's red **STOP** button on the local display to stop the generator set, which will disable both Remote and Standby Modes.