

GENERAC®

Protector® Series Standby Generators Liquid-Cooled Gaseous Engine

RG Protector® Series

STANDARD FEATURES

- Power Zone® 410 controller
 - Cellular Connectivity for Mobile Link and Fleet¹
 - Quiet Operation
 - Corrosion Resistant Aluminum Enclosure
 - 5 Year/2,000 Hour Limited Warranty
 - High Motor-Starting & Surge Capacity
 - <5% Total Harmonic Distortion Power Quality
 - Model-Specific Fuel - Propane or Natural Gas
 - EPA Emissions Certified
 - CA & MA Exhaust Emission Compliant
 - UL 2200 Listed
- 1 - Cellular service for the US, Canada, and other supported countries

OPTIONAL FIELD-INSTALLABLE FEATURES

- Available as field-installable kits
- Push Button Emergency Stop
 - NFPA 110 System Control & Remote Annunciation
 - Cold Weather Operation Aids

STANDBY POWER RATING

Model RG13090 - 130 kW, 60 Hz Emergency Standby Generator
Model RG15090 - 150 kW, 60 Hz, Emergency Standby Generator



Product may vary from above image.



EPA Emissions Certified; CA & MA Exhaust Emissions Compliant

FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **MOBILE LINK® CONNECTIVITY:** Standard Wi-Fi & Ethernet connectivity included with every 22-100 kW RG generator and Cellular connectivity included with every 130-150 kW RG generator. Mobile Link allows users to monitor generator status from anywhere in the world using a smart phone, tablet, or PC. Easily access information such as the current operating status and maintenance alerts. Users can connect an account to an authorized service provider for fast, and proactive service. With Mobile Link, users are taken care of before the next power outage.
- **TRUE POWER™ ELECTRICAL TECHNOLOGY:** Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION:** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive service network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- **GENERAC TRANSFER SWITCHES:** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is the GENERAC product line is offered with its own transfer systems and controls for total system compatibility.

GENERATOR SPECIFICATIONS

GENERATOR OUTPUT

PROPANE

Voltage	RG13090		RG15090	
	Power (kW)	Current (A)	Power (kW)	Current (A)
120/240 V 1-Phase	130	542	134	558
208/120 V 3-Phase	130	451	140	486
240/120 V 3-Phase	130	391	140	421
480/277 V 3-Phase	130	195	140	210

NATURAL GAS

Voltage	RG13090		RG15090	
	Power (kW)	Current (A)	Power (kW)	Current (A)
120/240 V 1-Phase	130	542	144	600
208/120 V 3-Phase	130	451	150	520
240/120 V 3-Phase	130	391	150	451
480/277 V 3-Phase	130	195	150	226

Emergency Standby Power (ESP) Rating: Standby ratings apply to installations served by a reliable utility source. The ESP rating is applicable to varying loads for the duration of a power outage. The average power output over 24 hours shall not exceed 70% of the ESP rating.

VOLTAGE REGULATION

Type	Digital
Sensing	1-Phase
Regulation	±1%

ALTERNATOR SYSTEM

	RG13090	RG15090
Circuit Breaker (CB) Size (A)	120/240 V 1-Phase	700
	208/120 V 3-Phase	600
	240/120 V 3-Phase	500
	480/277 V 3-Phase	225
Alternator Type	Synchronous	Synchronous
Stator Insulation Class	H	H
Stator Insulation Class	H	H
Telephone Interference Factor (TIF)	<50	<50
Bearings	Sealed Ball	Sealed Ball
Coupling	Flexible Disc	Flexible Disc
Excitation System	Synchronous Brushless	Synchronous Brushless
Total Harmonic Distortion	<5%	<5%

SURGE CAPACITY

Surge Amps at <0.4 Power Factor	RG13090	RG15090
	30% Voltage Dip (A)	30% Voltage Dip (A)
120/240 V 1-Phase	900	900
208/120 V 3-Phase	816	816
240/120 V 3-Phase	707	707
480/277 V 3-Phase	351	351

GENERATOR SPECIFICATIONS
ENGINE SYSTEM

		RG13090	RG15090
Make		Generac	
Model		9 L, V-type 8-Cylinder, Turbocharged & Aftercooled	
Compression Ratio		9.1:1	
Lifter Type		Hydraulic	
Oil Pump Type		Gear	
Oil Filter Type		Full Flow Spin-on Cartridge	
Crankcase Capacity (qt (L))		10.5 (9.9)	
Temperature Derate	LP Fuel	3.3% per 10 °F above 77 °F (3% per 5 °C above 25 °C)	22% per 10 °F above 77 °F (19.8% per 5 °C above 25 °C)
	NG Fuel		16% per 10 °F above 77 °F (14.4% per 5 °C above 25 °C)
Altitude Derate		3% per 1,000 ft above 600 ft (1% per 100 m above 183 m)	2.1% per 1,000 ft above 600 ft (0.7% per 100 m above 183 m)
Exercise Speed (rpm)		1,500	
Operating Speed (rpm)		1,800	

GOVERNOR

Type	Electronic
Frequency Regulation	Isochronous
Steady State Regulation	±0.25%

COOLING SYSTEM

Coolant	50/50 (50% Ethylene Glycol)
Coolant System Capacity (US gal (L))	6.3 (24)
Water Pump Type	Belt Driven
Fan Type	Belt Driven
Fan Quantity	1
Exhaust Flow at Rated Output (CFM (m ³ /min))	1,200 (34.0)
Maximum Ambient Air Temperature (°F (°C))	122 (50)

GENERATOR SPECIFICATIONS

FUEL SYSTEM

Usable Fuels	Liquid Propane (LP) Vapor or Natural Gas (NG)
Fuel Type Configuration	Model-Specific, Not Selectable
LP Vapor Pressure (in H ₂ O (kPa))	7-11 (1.74-2.74)
NG Pressure (in H ₂ O (kPa))	7-11 (1.74-2.74)
Fuel Shutoff Solenoid	Standard

FUEL CONSUMPTION

LIQUID PROPANE

Rated Load	RG13090		RG15090	
	(US gph)	(L/h)	(US gph)	(L/h)
25%	4.7	17.9	5.1	19.4
50%	7.6	28.9	8.4	31.8
75%	10.6	40.0	11.9	44.9
100%	13.5	51.1	15.3	58.1

Propane - 91,452 BTU/US gal (25.5 MJ/L); 36 ft³/US gal (0.27 m³/L); 2,516 BTU/ft³ (93.7 MJ/m³); 4.24 lb/US gal (0.508 kg/L).

NATURAL GAS

Rated Load	RG13090		RG15090	
	(CFH)	(m ³ /h)	(CFH)	(m ³ /h)
25%	509	14.4	562	15.9
50%	858	24.3	964	27.3
75%	1,204	34.1	1,353	38.3
100%	1,554	44.0	1,769	50.1

Natural Gas - 1,036 BTU/ft³ (37.3 MJ/m³).

See Emissions Data Sheets for maximum fuel flow for EPA and SCAQMD permitting purposes.

ELECTRICAL SYSTEM

System Voltage (V)	12
Charge Alternator (A)	40
Battery Charger (A)	5
Recommended Battery (included)	Group 31, 925 CCA Minimum

ENCLOSURE

	RG13090	RG15090
Sound Level at Operating Speed & No Load (dB(A) @23 ft (7 m))	75	80

POWER ZONE 410 CONTROLLER



016030

Standard Features

- 128 x 64 Graphical Display with Heater
- Multi-Lingual
 - English
 - French
 - Spanish
 - Portuguese
- Three Phase Sensing Digital Voltage Regulator
- Full Range Standby Operation
- Full System Status
 - Three Phase AC Voltage
 - Three Phase Current
 - Power
 - Power Factor
 - Oil Pressure
 - Engine Coolant Temperature
 - Oil Temperature (check for oil temp sensor)
 - Fuel Pressure
 - Engine Speed
 - Battery Voltage
 - Output Frequency
 - Time
 - Date
 - Load On Line Power and Gen Power
 - Hourmeter
 - Service Reminders
 - Fault History (Alarm Log)
- Remote Communications
- Programmable Auto Crank
- Emergency Stop
- Not in Auto Flashing Light
- Selectable Low Speed Exercise
- NFPA 110 System Control Capable
- 5A Integrated Battery Charger

Standard Protections

- Low Oil Pressure
- Low Coolant Level
- High/Low Coolant Temperature
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current

- Overload
- Battery Voltage
- Battery Charger Current
- Phase-to-Phase and Phase-to-Neutral Short Circuits (I²T Algorithm)
- Ground Fault

Display

- Easy Menu Structure
- Multi-Lingual (English, Spanish, French, and Portuguese)
- On Screen Editable Parameters
- Key Function Monitoring
 - Three Phase Voltage, Amperage, Power, Apparent Power, Reactive Power
 - Selectable Average or Line-to-Neutral Voltage Measurements
 - Frequency
 - Engine Speed
 - Engine Coolant Temperature
 - Oil Pressure
 - Battery Voltage
 - Warning and Alarm Indication
 - Diagnostics
 - Maintenance Events/Information
 - Hourmeter

Control Panel

- AUTO/OFF/MANUAL
 - Operation Through Onboard Buttons or Optional Key Switch
 - Indication Through Display Screen and LEDs

- Audible Alarm and Silence
- Auxiliary Shutdown Rocker Switch (on controller)
- Not-in-Auto Indication

Voltage Regulation

- Digital Control
- Three-Phase Sensing
- Variable V/F Slope Settings
- Negative Power Limit
- Loss of Sensing Protection
- Fault Protection (I²T Function)
- High Voltage Limit
- Low Voltage Limit
- Maximum Power Limit

Governor Functionality

- Speed Control through ECM Integration

Communications Ports

- 1 CANbus Port
- 1 USB Port (for Configuration Transfer and Firmware Upgrades)
- 1 RS-485 Modbus Master Port (for External RAP/RRP/External I/O Modules)
- 1 RS-485 Modbus Slave Port (for other uses, e.g. Building Management)
- 2 RS-232 Communication Ports (for connectivity device or other uses)

Codes And Standards

- UL 6200
- CE
- NFPA 110

AVAILABLE ACCESSORIES

PRODUCT	PART NUMBER	DESCRIPTION
Control System Kits		
Generac Generator Connectivity Accessory Cellular	G0072150	The GGCAC provides a reliable cellular connection for the generator. Monitoring of the generator is possible for the owner using Mobile Link and for the servicer using Fleet. Generator owners will have peace-of-mind knowing the generator status at any time and be able to get support when needed. RG13090 and RG15090 generators which do not already have the GGCAC <u>require</u> the A0005792571 Wire Harness to install it; NEW RG13090 and RG15090 generators <u>INCLUDE</u> the GGCAC as standard.
RG13090–RG15090 GGCAC Wire Harness	A0005792571	Wire harness <u>required</u> to connect the G0072150 Generac Generator Connectivity Accessory Cellular to the Power Zone 410 controller in the RG13090 and RG15090.
Enclosure Mounted Emergency Stop Kit	G0065100	Emergency Stop consists of a red push button switch; mounts to the exterior of the generator enclosure; replaces the Generator Emergency Shutdown rocker switch in the same location.
Remote Emergency Stop Kit, Surface Mount	G0099250	Emergency Stop consists of a red push button switch with a twist release; switch has an aluminum enclosure which can be mounted extending out from a surface; mounts remote from generator such as near an electrical panel.
Remote Emergency Stop Kit, Flush Mount	G0099260	Emergency Stop consists of a red push button switch with twist release; switch has an aluminum enclosure which can be mounted flush; mounts remote from generator such as near an electrical panel.
Remote Emergency Stop Kit, Break Glass	G0099270	Emergency Stop consists of a spring-loaded switch; switch is behind breakable glass in an aluminum enclosure; glass can be broken with a tethered hammer; mounts remote from generator such as near an electrical panel.
Generac Load Manager, 50 A	G0070001	50 A Load Manager helps optimize the performance of the standby generator by managing large electrical loads upon startup and shed them to aid in recovery when overloaded.
Generac Load Manager, 100 A	G0070061	100 A Load Manager helps optimize the performance of the standby generator by managing large electrical loads upon startup and shed them to aid in recovery when overloaded.
Generac LTE Propane Tank Fuel Level Monitor	G0070090	The Propane Tank Fuel Level Monitor connects to 4G LTE cellular service to measure and report the amount of LP fuel remaining in the tank. The app alerts the user of both remaining LP fuel levels and usage reports, offering the ultimate peace of mind.
400 A CB Kit	G0098850	400 A Circuit Breaker Kit designed for three-phase products built with a factory installed circuit breaker greater than 400 A.
Power Zone Kits		
NFPA 110 Controller Kit	A0003134325	Includes module with Key Switch, Alarm Horn, and E-stop Switch which connects to power Zone 410 controller; also includes 10 A battery charger; requires G0098511, G0098521, or G0098531 Panel to be considered for NFPA 110 system control and remote annunciation.
Remote Annunciator Panel with 8 Relays	G0098511	Remote annunciator panel with relays; mounts in the structure which is connected to backup power.
Remote Relay Panel	G0098521	Remote relay panel without LED's or keypad; mounts in the structure which is connected to backup power.
Remote Annunciator Panel without Relays	G0098531	Remote annunciator panel without relays; mounts in the structure which is connected to backup power.
Power Zone 410/I/O Extender Kit	G0098370	Expands I/O for the Power Zone 410 controller to provide connections for additional accessories; plugs directly into controller.
Power Zone Gateway Kit	G0089370	Provides an Ethernet connection port for the generator for a Building Management System (BMS); NOT intended for or able to be used with Mobile Link or Fleet.
Operating Environment Kits		
Battery Heater Kit	G0098830	Recommended for operating environments where the temperature drops below 32 °F (0 °C) ; externally powered by 120 VAC, 60 Hz.
Engine Block Heater Kit	G0098840	Recommended for operating environments where the temperature drops below 0 °F (-18 °C) ; externally powered by 120 VAC, 60 Hz.

Installation Kits		
Base Plug Kit	G0056510	Base plugs to fit in the lifting holes of the baseframe to keep debris out.
Maintenance Kits		
9 L Gaseous Engine Regular Maintenance Kit	G0098820	Regular maintenance kit includes oil filter, oil funnel, air filter, and spark plugs.
Bisque Paint Kit	G0057030	If the generator enclosure is scratched or damaged, it is important to touch-up the paint to protect from future corrosion. The paint kit includes the necessary paint to correctly maintain or touch-up a generator enclosure.
Transfer Switch Kits		
3-Phase Voltage Sensing Kit for 208/120 & 240/120V RTS Transfer Switch	G0074110	3-Phase Voltage Sensing Kit <u>required</u> for RTS Transfer Switches <u>when used with</u> the Power Zone 410 controller for 'G' 208/120 or 'J' 240/120 V 3-phase voltage; applies to three-phase RG13090 and RG15090 models with 'G' or 'J' voltage.
3-Phase Voltage Sensing Kit for 480/277 V RTS Transfer Switch	G0074120	3-Phase Voltage Sensing Kit <u>required</u> for RTS Transfer Switches <u>when used with</u> the Power Zone 410 controller for 'K' 480/277 V 3-phase voltage; applies to three-phase RG13090 and RG15090 models with 'K' voltage.

INSTALLATION LAYOUT

130 KW

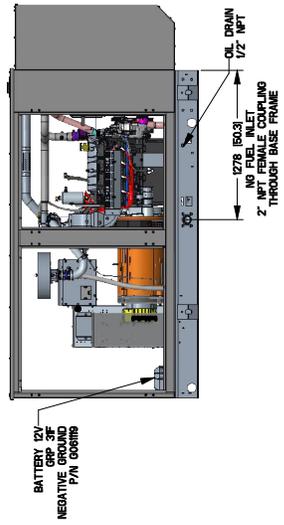
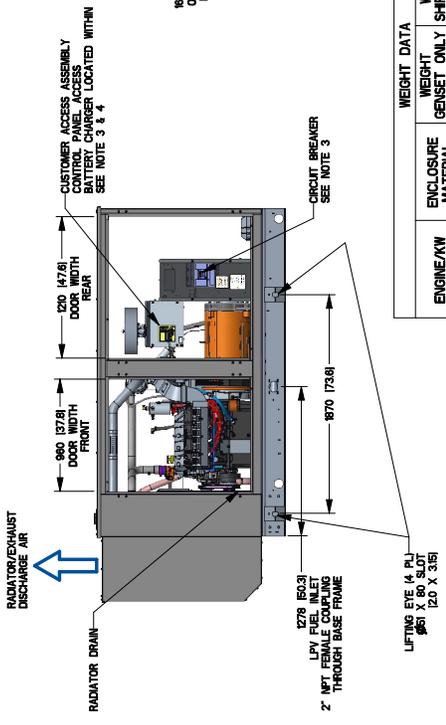
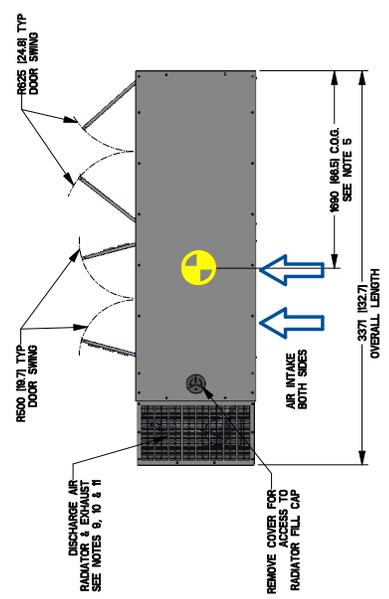
Drawing #A0001618959 (1 of 2)

NOTES:

1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 16" LARGER PER SIDE THAN FRAME
2. 8065 (827" WIDE X 300 (1227) LONG)
3. REFER TO INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD DIMENSIONS
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10. REFER TO INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD DIMENSIONS

SERVICE ITEM	QTY
OIL FILL CAP	1
OIL DIP STICK	1
OIL FILTER	1
OIL DRAIN HOSE	1
RADIATOR DRAIN HOSE	1
COOLANT RECOVERY BOTTLE	1
RADIATOR FILL CAP	1
AIR CLEANER ELEMENT	1
SPARK PLUGS	1
MUFFLER	1
FAN BELT	1
BATTERY	1

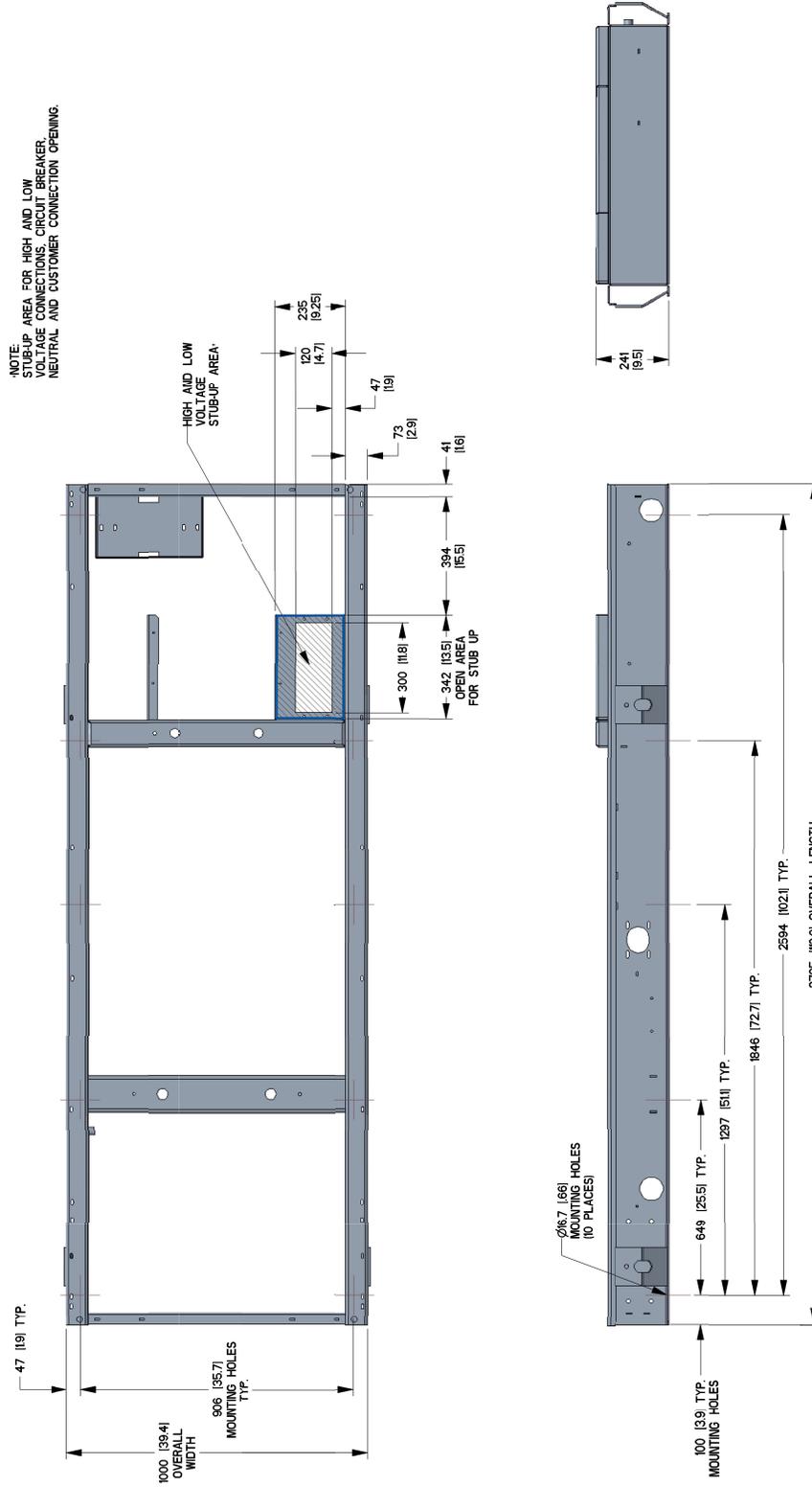
REFER TO OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.



WEIGHT DATA			
ENGINE/KW	WEIGHT GENSET ONLY (KG (LBS))	WEIGHT SHIPPING SKID (KG (LBS))	WEIGHT SHIPPING WEIGHT (KG (LBS))
80L/130KW	1385 (3009)	80 (176)	1445 (3185)

DIMENSIONS: MM INCH

Drawing #A0001618959 (2 of 2)



INSTALLATION LAYOUT

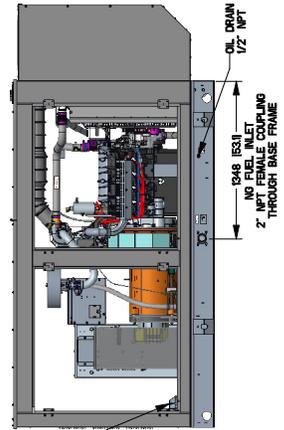
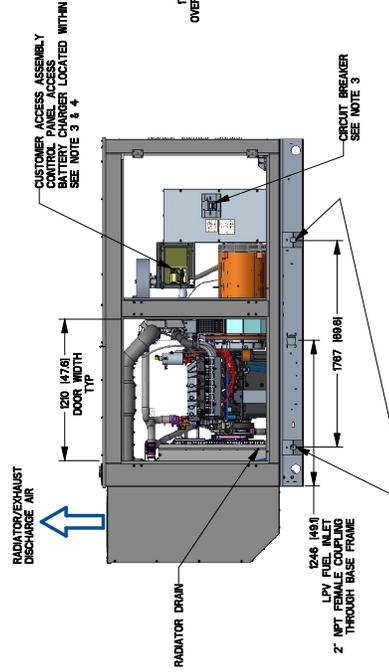
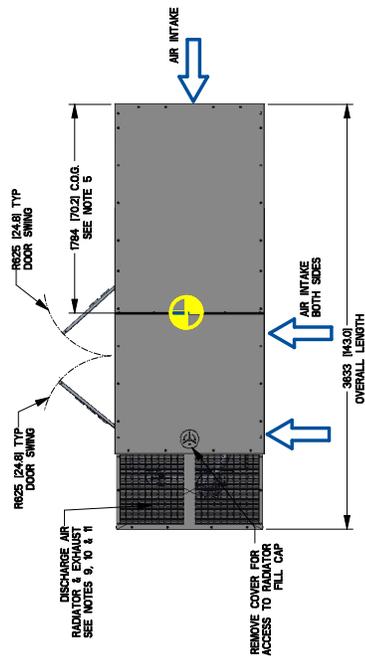
150 KW

Drawing #A0001618957 (1 of 2)

- NOTES:**
1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 16" LARGER PER SIDE THAN FRAME (854 (827) WIDE 3285 (1287) LONG).
 2. REMOVE SIDE INSTALLATION GUIDE SPACERS WITH UNIT FOR CONCRETE PAD GUIDELINES. REMOVE SIDE INSTALLATION GUIDE SPACERS WITH UNIT FOR CONCRETE PAD GUIDELINES. REMOVE SIDE INSTALLATION GUIDE SPACERS WITH UNIT FOR CONCRETE PAD GUIDELINES.
 3. AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES. SEE SPECIFICATION SHEET OR OWNER'S MANUAL.
 4. ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY ON LEFT SIDE OF GENERATOR. REMOVE FRONT END PANEL TO ACCESS. REMOVE FRONT END PANEL TO ACCESS. REMOVE FRONT END PANEL TO ACCESS.
 5. BATTERY CHARGER 20 VOLT AC IS AMP MAX CONNECTION AND ACCESS TO TRANSFER SWITCH CONTROL WIRES. REMOVE REAR COVER FOR ACCESS.
 6. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS. REFER TO THE REFRIGERATION OF DISCHARGE AIR AND/OR IMPROVED COOLING AIR FLOW. REFRIGERATION OF DISCHARGE AIR AND/OR IMPROVED COOLING AIR FLOW.
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 8. REFER TO OWNER'S MANUAL FOR LIFTING WARNINGS.
 9. MOUNTING BELTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8" I.D. GRADE 5.
 10. MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
 11. UNIT MUST BE INSTALLED ON A LEVEL SURFACE. REFER TO THE REFRIGERATION OF DISCHARGE AIR AND/OR IMPROVED COOLING AIR FLOW.
 12. UNIT THAT DISCHARGE AIR FROM RADIOS IS NOT RECOMMENDED.
 13. REMOVE FRONT END PANEL TO ACCESS EXHAUST MUFFLER ACCESS AVAILABLE THROUGH DOOR TO FAN BELT.

SERVICE ITEM	9.0L
OIL FILL CAP	RIGHT SIDE
OIL DIP STICK	RIGHT SIDE
OIL FILTER	RIGHT SIDE
OIL DRAIN HOSE	RIGHT SIDE
RADIATOR DRAIN HOSE	RIGHT SIDE
COOLANT RECOVERY BOTTLE	RIGHT SIDE
RADIATOR FILL CAP	ROOF TOP
AIR CLEANER ELEMENT	RIGHT SIDE
SPARK PLUGS	RIGHT SIDE
MUFFLER	RIGHT SIDE
FAN BELT	RIGHT SIDE
BATTERY	RIGHT SIDE

REFER TO OWNER'S MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.



DIMENSIONS: MM INCH

WEIGHT DATA			
ENGINE/KW	WEIGHT GENSET ONLY	WEIGHT SHIPPING SKID	WEIGHT SHIPPING SKID
	KG (LBS)	KG (LBS)	KG (LBS)
9.0L/150KW	1487 (3278)	131 (289)	1618 (3560)

ENCLOSURE MATERIAL	AL
WEIGHT GENSET ONLY	1487 (3278)
WEIGHT SHIPPING SKID	131 (289)
WEIGHT SHIPPING SKID	1618 (3560)

INSTALLATION LAYOUT

Drawing # A0001618957 (2 of 2)

