

Protector® QS Series

GENERAC®

PROTECTOR® QS SERIES Standby Generators Liquid-Cooled Gaseous Engine

INCLUDES:

- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese) with external viewing window for easy indication of generator status and breaker position.
- True Power™ Electrical Technology
- Isochronous Electronic Governor
- Sound Attenuated Enclosure
- Closed Coolant Recovery System
- Smart Battery Charger
- UV/Ozone Resistant Hoses
- ±1% Voltage Regulation
- Natural Gas or LP Operation
- 5 Year Limited Warranty
- UL 2200 Listed

Standby Power Rating

- Model RG022 (Aluminum - Gray) - 22 kW 60 Hz
- Model RG027 (Aluminum - Gray) - 27 kW 60 Hz
- Model RG032 (Aluminum - Gray) - 32 kW 60 Hz
- Model RG038 (Aluminum - Gray) - 38 kW 60 Hz
- Model RG048 (Aluminum - Gray) - 48 kW 60 Hz



QUIET-TEST™

Meets EPA Emission Regulations
 22 & 27 kW are CA/MA emissions compliant
 48 kW meets CA/MA emissions requirements with optional catalyst
 32 & 38 kW not for sale in CA/MA

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.
- **TEST CRITERIA:**
 - ✓ PROTOTYPE TESTED
 - ✓ SYSTEM TORSIONAL TESTED
 - ✓ NEMA MG1-22 EVALUATION
 - ✓ MOTOR STARTING ABILITY
- **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. Digital voltage regulation at ±1%.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive dealer 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 that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

GENERAC®



22 • 27 • 32 • 38 • 48 kW**GENERATOR SPECIFICATIONS**

| | |
|-------------------------------------|---|
| Type | Synchronous |
| Rotor Insulation Class | H (22 & 27 kW) or F (32, 38 & 48 kW) |
| Stator Insulation Class | H |
| Telephone Interference Factor (TIF) | <50 |
| Alternator Output Leads 1-Phase | 4 wire |
| Alternator Output Leads 3-Phase | 6 wire |
| Bearings | Sealed Ball |
| Coupling | Flexible Disc |
| Excitation System | Direct |

VOLTAGE REGULATION

| | |
|------------|--------------|
| Type | Electronic |
| Sensing | Single Phase |
| Regulation | ± 1% |

GOVERNOR SPECIFICATIONS

| | |
|-------------------------|-------------|
| Type | Electronic |
| Frequency Regulation | Isochronous |
| Steady State Regulation | ± 0.25% |

ELECTRICAL SYSTEM

| | |
|--|---|
| Battery Charge Alternator | 12 Volt 30 Amp |
| Static Battery Charger | 2.5 Amp |
| Recommended Battery (battery not included) | Group 26 (22, 27, 32 & 38 kW) or Group 24F (48 kW), 525CCA |
| System Voltage | 12 Volts |

GENERATOR FEATURES

| |
|---|
| <p>Revolving field heavy duty generator Directly connected to the engine Operating temperature rise 120 °C above a 40 °C ambient Class H insulation is NEMA rated Class F insulation is NEMA rated All models fully prototyped tested</p> |
|---|

ENCLOSURE FEATURES

| | |
|---------------------------------------|--|
| Aluminum weather protective enclosure | Ensures protection against mother nature. Electrostatically applied textured epoxy paint for added durability. |
| Enclosed critical grade muffler | Quiet, critical grade muffler is mounted inside the unit to prevent injuries. |
| Small, compact, attractive | Makes for an easy, eye appealing installation. |
| SAE | Sound attenuated enclosure ensures quiet operation. |

ENGINE SPECIFICATIONS: 22, 27, 32 & 38 kW

| | |
|-----------------------|---|
| Make | Generac |
| Model | In-line |
| Cylinders | 4 |
| Displacement (Liters) | 2.4 |
| Bore (in/mm) | 3.41/86.5 |
| Stroke (in/mm) | 3.94/100 |
| Compression Ratio | 9.5:1 |
| Intake Air System | Naturally Aspirated (22 & 27 kW) or Turbocharged/Aftercooled (32 & 38 kW) |
| Lifter Type | Hydraulic |

ENGINE SPECIFICATIONS: 48 kW

| | |
|-----------------------|---------------------|
| Make | Generac |
| Model | V-Type |
| Cylinders | 8 |
| Displacement (Liters) | 5.4 |
| Bore (in/mm) | 3.55/90.2 |
| Stroke (in/mm) | 4.17/105.9 |
| Compression Ratio | 9:1 |
| Intake Air System | Naturally Aspirated |
| Lifter Type | Hydraulic |

ENGINE LUBRICATION SYSTEM

| | |
|---------------------------|--|
| Oil Pump Type | Gear |
| Oil Filter Type | Full flow spin-on cartridge |
| Crankcase Capacity (qt/l) | 4/3.8 (22, 27, 32 & 38 kW) or 6/5.7 (48 kW) |

ENGINE COOLING SYSTEM

| | |
|----------------------|---|
| Type | Closed |
| Water Pump | Belt driven |
| Fan Speed (rpm) | 1980 - 22 & 27 kW 1500 - 32 & 38 kW 1954 - 48 kW |
| Fan Diameter (in/mm) | 18.1/459.7 (22 & 27 kW) or 22/558.8 (32, 38 & 48 kW) |
| Fan Mode | Pusher (22 & 27 kW) or Puller (32, 38 & 48 kW) |

FUEL SYSTEM

| | |
|--------------------------|-------------------------------|
| Fuel Type | Natural gas, propane vapor |
| Carburetor | Down Draft |
| Secondary Fuel Regulator | Standard |
| Fuel Shut Off Solenoid | Standard |
| Operating Fuel Pressure | 5-14" water column/9-26 mm HG |

22 • 27 • 32 • 38 • 48 kW

GENERATOR OUTPUT VOLTAGE/kW - 60 Hz

| | | kW LPG | Amp LPG | kW Nat. Gas | Amp Nat. Gas | CB Size (Both) |
|-------|-----------------------|--------|---------|-------------|--------------|----------------|
| RG022 | 120/240 V, 1Ø, 1.0 pf | 22 | 92 | 22 | 92 | 100 |
| | 120/208 V, 3Ø, 0.8 pf | 22 | 76 | 22 | 76 | 80 |
| | 120/240 V, 3Ø, 0.8 pf | 22 | 66 | 22 | 66 | 80 |
| RG027 | 120/240 V, 1Ø, 1.0 pf | 27 | 113 | 25 | 104 | 125 |
| | 120/208 V, 3Ø, 0.8 pf | 27 | 94 | 25 | 87 | 100 |
| | 120/240 V, 3Ø, 0.8 pf | 27 | 81 | 25 | 75 | 90 |
| RG032 | 120/240 V, 1Ø, 1.0 pf | 32 | 133 | 32 | 133 | 150 |
| | 120/208 V, 3Ø, 0.8 pf | 32 | 111 | 32 | 111 | 125 |
| | 120/240 V, 3Ø, 0.8 pf | 32 | 96 | 32 | 96 | 100 |
| | 277/480 V, 3Ø, 0.8 pf | 32 | 48 | 32 | 48 | 60 |
| RG038 | 120/240 V, 1Ø, 1.0 pf | 38 | 158 | 38 | 158 | 175 |
| | 120/208 V, 3Ø, 0.8 pf | 38 | 132 | 38 | 132 | 150 |
| | 120/240 V, 3Ø, 0.8 pf | 38 | 114 | 38 | 114 | 125 |
| | 277/480 V, 3Ø, 0.8 pf | 38 | 57 | 38 | 57 | 60 |
| RG048 | 120/240 V, 1Ø, 1.0 pf | 48 | 200 | 48 | 200 | 200 |
| | 120/208 V, 3Ø, 0.8 pf | 48 | 167 | 48 | 167 | 175 |
| | 120/240 V, 3Ø, 0.8 pf | 48 | 144 | 48 | 144 | 150 |
| | 277/480 V, 3Ø, 0.8 pf | 48 | 72 | 48 | 72 | 80 |

SURGE CAPACITY IN AMPS

| | | Voltage Dip @ < .4 pf | |
|-------|---------------|-----------------------|-----|
| | | 15% | 30% |
| RG022 | 120/240 V, 1Ø | 55 | 135 |
| | 120/208 V, 3Ø | 40 | 92 |
| | 120/240 V, 3Ø | 35 | 80 |
| RG027 | 120/240 V, 1Ø | 62 | 170 |
| | 120/208 V, 3Ø | 70 | 120 |
| | 120/240 V, 3Ø | 61 | 103 |
| RG032 | 120/240 V, 1Ø | 75 | 180 |
| | 120/208 V, 3Ø | 87 | 210 |
| | 120/240 V, 3Ø | 75 | 182 |
| | 277/480 V, 3Ø | 36 | 87 |
| RG038 | 120/240 V, 1Ø | 75 | 180 |
| | 120/208 V, 3Ø | 87 | 210 |
| | 120/240 V, 3Ø | 75 | 182 |
| | 277/480 V, 3Ø | 36 | 87 |
| RG048 | 120/240 V, 1Ø | 85 | 195 |
| | 120/208 V, 3Ø | 90 | 218 |
| | 277/480 V, 3Ø | 36 | 87 |

ENGINE FUEL CONSUMPTION

| | | Natural Gas | | Propane | | |
|-------|--------------------|-------------|---------|----------|--------|----------|
| | | (ft³/hr) | (m³/hr) | (gal/hr) | (l/hr) | (ft³/hr) |
| RG022 | Exercise cycle | 42 | 1.2 | 0.44 | 1.7 | 16 |
| | 25% of rated load | 100 | 2.8 | 1.1 | 4.2 | 40 |
| | 50% of rated load | 190 | 5.4 | 2.1 | 7.8 | 75 |
| | 75% of rated load | 255 | 7.2 | 2.8 | 10.5 | 101 |
| | 100% of rated load | 316 | 9 | 3.4 | 13 | 125 |
| RG027 | Exercise cycle | 42 | 1.2 | 0.44 | 1.7 | 16 |
| | 25% of rated load | 108 | 3.1 | 1.2 | 4.5 | 43 |
| | 50% of rated load | 197 | 5.6 | 2.1 | 8.1 | 78 |
| | 75% of rated load | 287 | 8.2 | 3.1 | 11.8 | 114 |
| | 100% of rated load | 359 | 10.2 | 3.9 | 14.8 | 143 |
| RG032 | Exercise cycle | 79 | 2.2 | 0.8 | 3.2 | 30 |
| | 25% of rated load | 144 | 4.1 | 1.7 | 6.3 | 60 |
| | 50% of rated load | 226 | 6.4 | 2.7 | 10.3 | 97 |
| | 75% of rated load | 298 | 8.4 | 3.7 | 13.9 | 132 |
| | 100% of rated load | 375 | 10.6 | 4.6 | 17.5 | 166 |
| RG038 | Exercise cycle | 83 | 2.3 | 0.9 | 3.2 | 31 |
| | 25% of rated load | 162 | 4.6 | 1.7 | 6.6 | 62 |
| | 50% of rated load | 255 | 7.2 | 2.9 | 10.8 | 103 |
| | 75% of rated load | 345 | 9.8 | 4 | 15 | 142 |
| | 100% of rated load | 437 | 12.4 | 5.2 | 19 | 185 |
| RG048 | Exercise cycle | 95 | 2.7 | 1 | 3.9 | 38 |
| | 25% of rated load | 204 | 5.8 | 2.16 | 8.5 | 82 |
| | 50% of rated load | 392 | 11.1 | 4.14 | 15.7 | 151 |
| | 75% of rated load | 547 | 15.5 | 5.8 | 22.8 | 220 |
| | 100% of rated load | 756 | 21.5 | 7.96 | 31.3 | 302 |

Note: **Fuel pipe must be sized for full load.**

For Btu content, multiply ft³/hr x 2520 (LP) or ft³/hr x 1000 (NG)

For megajoule content, multiply m³/hr x 93.15 (LP) or m³/hr x 37.26 (NG)

Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes.

STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

22 • 27 • 32 • 38 • 48 kW

operating data

ENGINE COOLING

| | 22 kW | 27 kW | 32 & 38 kW | 48 kW |
|---|--------------|---------------|-----------------------|---------------|
| Air flow (inlet air including alternator and combustion air in cfm/cmm) | 2400/68 | 2400/68 | 2200/62.3 | 4350/123.2 |
| System coolant capacity (gal/liters) | 2.5/9.5 | 2.5/9.5 | 2.5/9.5 | 3/11.4 |
| Heat rejection to coolant (BTU per hr/MJ per hr) | 99,000/104.5 | 105,000/110.8 | 145,000/153 | 186,000/196.2 |
| Maximum operation air temperature on radiator (°C/°F) | 60/150 | | | |
| Maximum ambient temperature (°C/°F) | 50/140 | | | |

COMBUSTION REQUIREMENTS

| | | | | |
|-------------------------------|--------|--------|-------|---------|
| Flow at rated power (cfm/cmm) | 68/1.9 | 68/1.9 | 106/3 | 163/4.6 |
|-------------------------------|--------|--------|-------|---------|

SOUND EMISSIONS

| | | | | |
|---|----|----|----|----|
| Sound output in dB(A) at 23 ft (7 m) with generator in exercise mode* | 61 | 61 | 58 | 63 |
| Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load* | 70 | 70 | 64 | 68 |

*Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters.

EXHAUST

| | | | | |
|---|---------|----------|----------|----------|
| Exhaust flow at rated output (cfm/cmm) | 165/4.7 | 180/5.1 | 300/8.5 | 414/11.7 |
| Exhaust temperature at muffler outlet (°C/°F) | 482/900 | 538/1000 | 579/1075 | 552/1025 |

ENGINE PARAMETERS

| | |
|-----------------------|------|
| Rated Synchronous rpm | 1800 |
|-----------------------|------|

POWER ADJUSTMENT FOR AMBIENT CONDITIONS

Temperature Deration3% for every 10 °C above 25 °C or 1.65% for every 10 °F above 77 °F
 Altitude Deration (22, 27 & 48 kW)1% for every 100 m above 183 m or 3% for every 1000 ft above 600 ft
 Altitude Deration (32 & 38 kW)1% for every 100 m above 915 m or 3% for every 1000 ft above 3000 ft

CONTROLLER FEATURES

2-Line Plain Text LCD DisplaySimple user interface for ease of operation.
 Mode Switch: AutoAutomatic Start on Utility failure. 7 day exerciser
 OffStops unit. Power is removed. Control and charger still operate.
 ManualStart with starter control, unit stays on. If utility fails, transfer to load takes place.
 Programmable start delay between 10-30 secondsStandard
 Engine Start SequenceCyclic cranking: 16 sec on, 7 rest (90 sec maximum duration)
 Engine Warm-up5 sec
 Engine Cool-Down1 min
 Starter Lock-outStarter cannot re-engage until 5 sec after engine has stopped.
 Smart Battery ChargerStandard
 Automatic Voltage Regulation with Over and Under Voltage ProtectionStandard
 Automatic Low Oil Pressure ShutdownStandard
 Overspeed ShutdownStandard, 72 Hz
 High Temperature ShutdownStandard
 Overcrank ProtectionStandard
 Safety FusedStandard
 Failure to Transfer ProtectionStandard
 Low Battery ProtectionStandard
 50 Event Run LogStandard
 Future Set Capable ExerciserStandard
 Incorrect Wiring ProtectionStandard
 Internal Fault ProtectionStandard
 Common External Fault CapabilityStandard
 Governor Failure ProtectionStandard

| Model # | Product | Description |
|--|-----------------------------------|--|
| 006463-3 | Mobile Link™ | Generac's Mobile Link allows you to check the status of your generator from anywhere that you have access to an Internet connection from a PC or with any smart device. You will even be notified when a change in the generator's status occurs via e-mail or text message. Note: Harness Adapter Kit required. Available in the U.S. only. |
| 006478-0 | Harness Adapter Kit | The Harness Adapter Kit is required to make liquid-cooled units compatible with Mobile Link™. |
| 005630-1 - 22, 27, 32 & 38 kW 005632-1 - 48 kW | Cold Weather Kit | If the temperature regularly falls below 32 °F (0 °C), install a cold weather kit to maintain optimal battery temperature. Kit consists of battery warmer with thermostat built into the wrap. |
| 005616-0 - 22, 27, 32 & 38 kW 006204-0 - 48 kW | Extreme Cold Weather Kit | Recommended where the temperature regularly falls below 32 °F (0 °C) for extended periods of time. For liquid cooled units only. |
| 005651-0 | Base Plug Kit | Add base plugs to the base of the generator to keep out debris. |
| 005704-0 | Paint Kit | 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 properly maintain or touch-up a generator enclosure. |
| 005656-0 - 22 & 27 kW 005984-0 - 32 & 38 kW 006205-0 - 48 kW | Scheduled Maintenance Kit | The Liquid-Cooled Scheduled Maintenance Kits offer all the hardware necessary to perform complete maintenance on Generac liquid-cooled generators. |
| 006664-0 | Local Wireless Monitor | Completely wireless and battery powered, Generac's wireless remote monitor provides you with instant status information without ever leaving the house. |
| 006665-0 | Wireless Remote Extension Harness | Recommended for use with the Wireless Remote on units up to 60 kW, required for use on units 70 kW or greater. |
| 006873-0 | Smart Management Module (50 Amps) | Smart Management Modules are used in conjunction with the Automatic Transfer Switch to increase its power management capabilities. It provides additional power management flexibility not found in any other power management system. |
| 006510-0 | E-Stop | E-stop allows for immediate fuel shutoff and generator shutdown in the event of an emergency. |

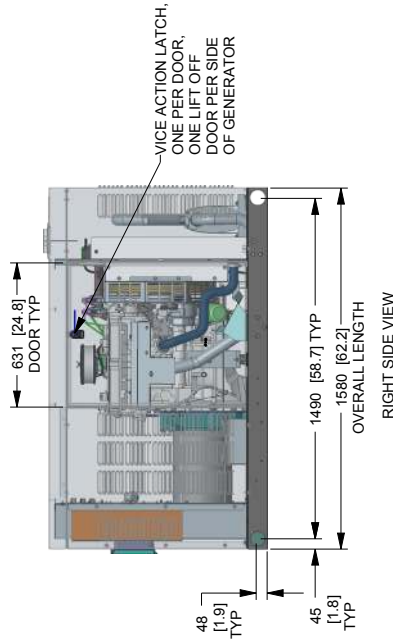
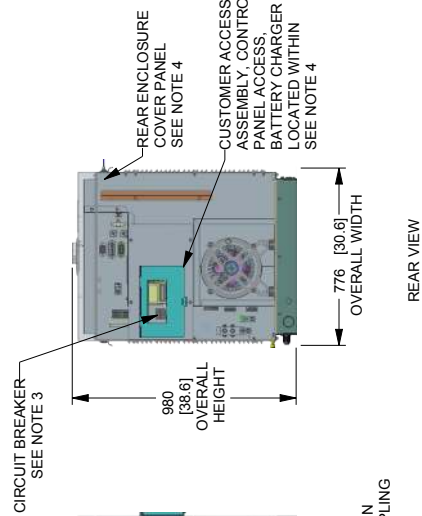
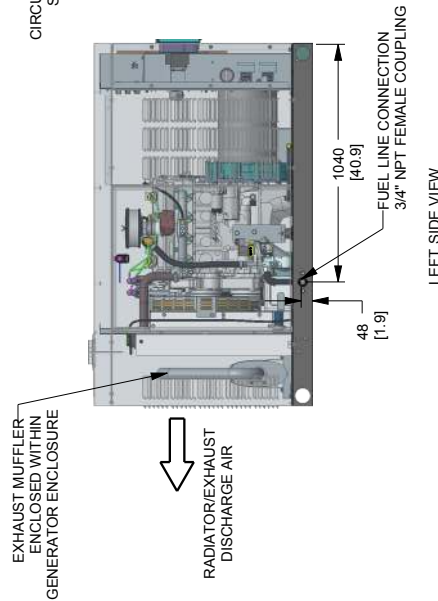
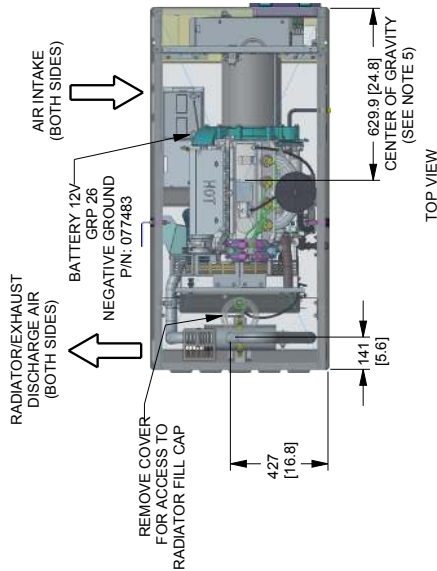
22 & 27 kW

Drawing #0K8624-A (1 of 2)

| SERVICE ITEM | 2.4L |
|-------------------------|-------------|
| OIL FILL CAP | EITHER SIDE |
| OIL DIP STICK | RIGHT SIDE |
| OIL FILTER | RIGHT SIDE |
| OIL DRAIN HOSE | LEFT SIDE |
| RADIATOR DRAIN | LEFT SIDE |
| COOLANT RECOVERY BOTTLE | LEFT SIDE |
| RADIATOR FILL CAP | ROOF TOP |
| AIR CLEANER ELEMENT | LEFT SIDE |
| SPARK PLUGS | LEFT SIDE |
| MUFFLER | SEE NOTE 11 |
| DRIVE BELT | EITHER SIDE |
| FAN BELT | SEE NOTE 11 |
| BATTERY | LEFT SIDE |

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.

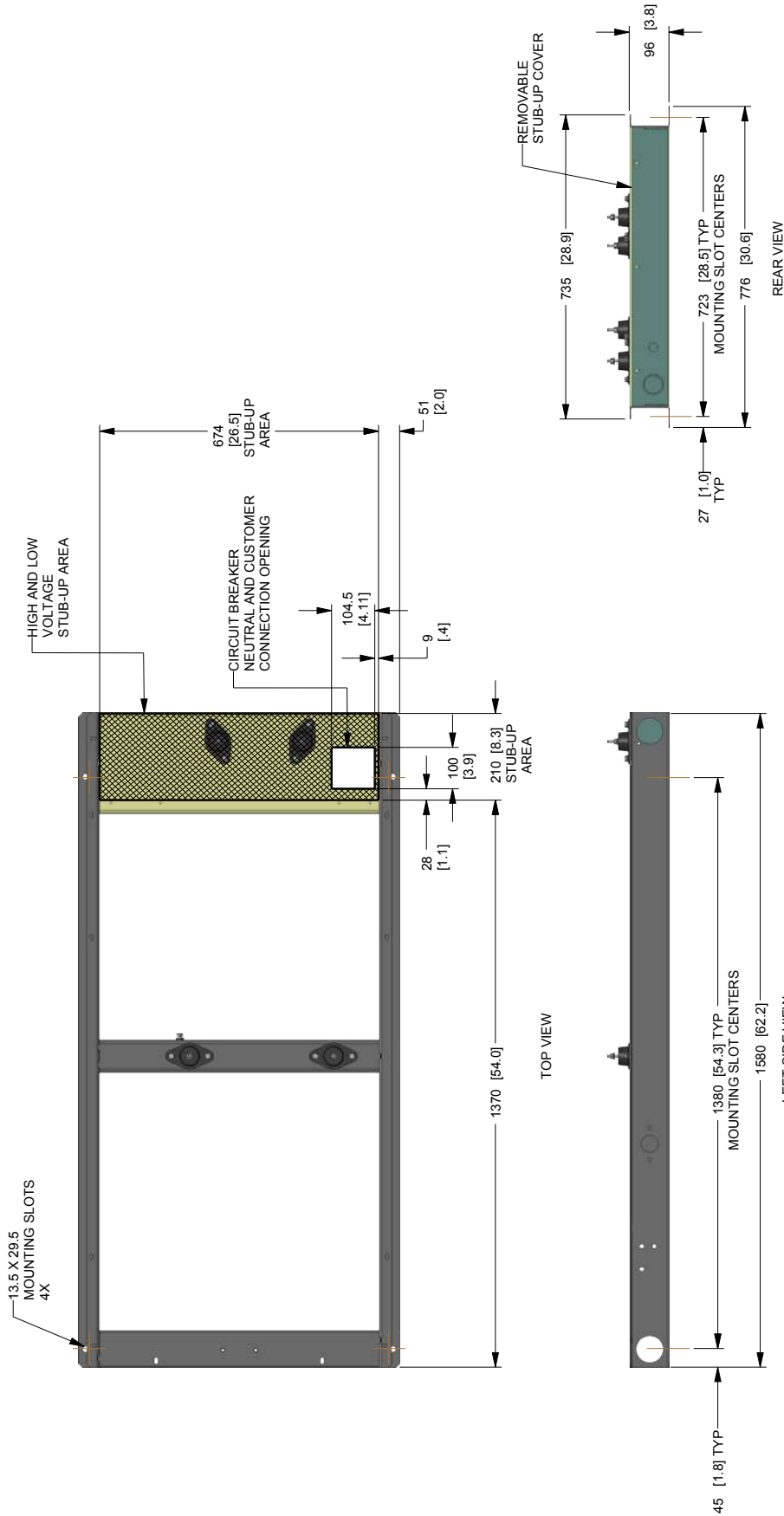
- NOTES:
1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1092 (43") WIDE X 1885 (74.2") LONG. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES
 2. ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
 3. CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
- SEE SPECIFICATION SHEET OR OWNERS MANUAL
- ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
- HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD, CONDUIT CONNECTION
- NEUTRAL CONNECTION, BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION.
- LOW VOLTAGE CONNECTION INCLUDING TRANSFER SWITCH CONTROL WIRES.
 5. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
 6. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
 7. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
 8. MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)
 9. MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
 10. GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED.
 11. EXHAUST MUFFLER AND FAN BELT ENCLOSED WITHIN GENERATOR ENCLOSURE, REMOVE FRONT PANEL TO ACCESS.



| ENGINE/KW | ENCLOSURE MATERIAL | WEIGHT DATA | | | |
|-----------|--------------------|----------------------|----------------------|--------------------------|--------------------------|
| | | WEIGHT ONLY KG [LBS] | WEIGHT SKID KG [LBS] | SHIPPING WEIGHT KG [LBS] | SHIPPING WEIGHT KG [LBS] |
| 2.4L 22KW | AL | 410.5 [905] | 30 [66] | 440 [971] | 440 [971] |
| 2.4L 27KW | AL | 426 [940] | 30 [66] | 456 [1006] | 456 [1006] |

DIMENSIONS: MM [INCH]

22 & 27 kW



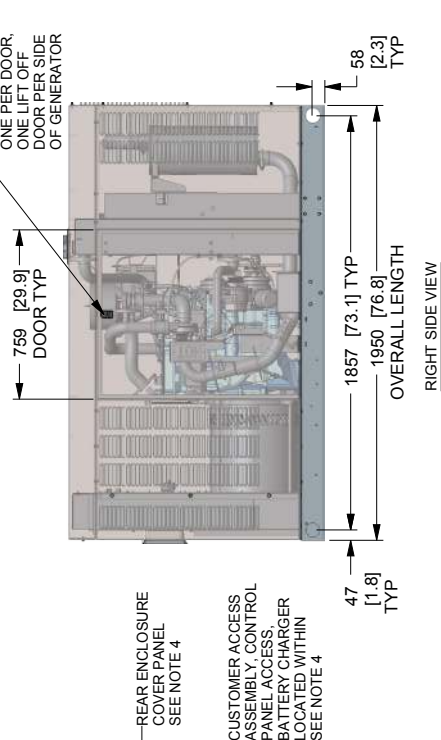
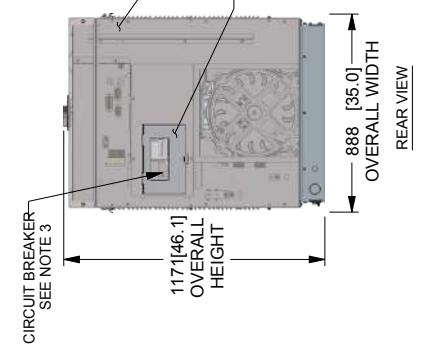
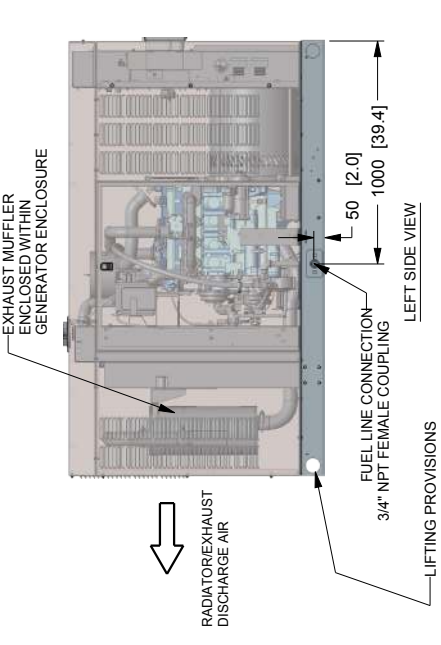
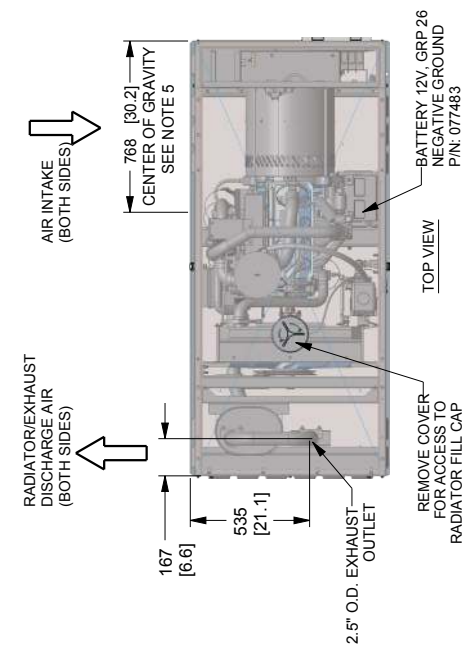
32 & 38 kW

Drawing #0K9268-A (1 of 2)

- NOTES:**
- MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1194 (47") WIDE X 2265 (88 8") LONG. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES.
 - ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE 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.
 - CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
 - SEE SPECIFICATION SHEET OR OWNERS MANUAL
 - ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR.
 - REMOVE THE REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
 - HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD, CONDUIT CONNECTION, NEUTRAL CONNECTION, AND BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION.
 - LOW VOLTAGE CONNECTION INCLUDING TRANSFER SWITCH CONTROL WIRES.
 - CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
 - BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
 - REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
 - MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)
 - MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
 - GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED.
 - EXHAUST MUFFLER AND FAN BELT ARE ENCLOSED WITHIN GENERATOR ENCLOSURE. REMOVE FRONT PANEL TO ACCESS.

| SERVICE ITEM | 2.4L |
|--------------------------|-------------|
| OIL FILL CAP | EITHER SIDE |
| OIL DIP STICK | RIGHT SIDE |
| OIL FILTER | RIGHT SIDE |
| OIL DRAIN HOSE | RIGHT SIDE |
| RADIATOR DRAIN HOSE | LEFT SIDE |
| COOLANT RECOVERY BOTTLE | LEFT SIDE |
| RADIATOR FILL CAP ACCESS | ROOF TOP |
| AIR CLEANSER ELEMENT | RIGHT SIDE |
| SPARK PLUGS | LEFT SIDE |
| MUFFLER | SEE NOTE 11 |
| DRIVE BELT | EITHER SIDE |
| FAN BELT | SEE NOTE 11 |
| BATTERY | LEFT SIDE |

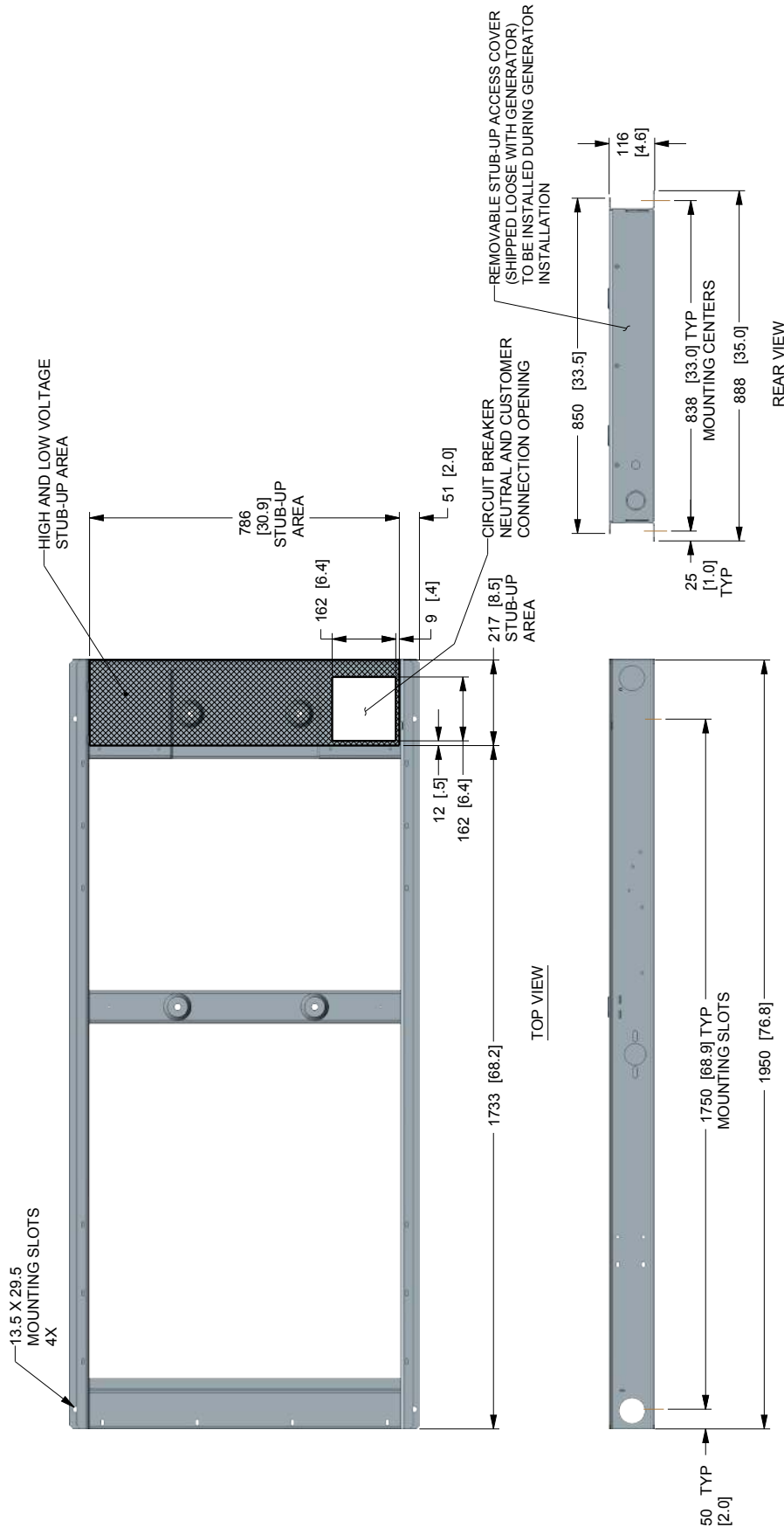
REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.



| ENGINE/KW | ENCLOSURE MATERIAL | WEIGHT DATA | |
|-----------|--------------------|-----------------------------|-------------------------------|
| | | WEIGHT GENSET ONLY KG (LBS) | WEIGHT SHIPPING SKID KG (LBS) |
| 2.4L 32KW | AL | 556 [1225] | 44 [98] |
| 2.4L 38KW | AL | 560 [1235] | 44 [98] |
| | | | 605 [1333] |

DIMENSIONS: MM (INCH)

32 & 38 kW

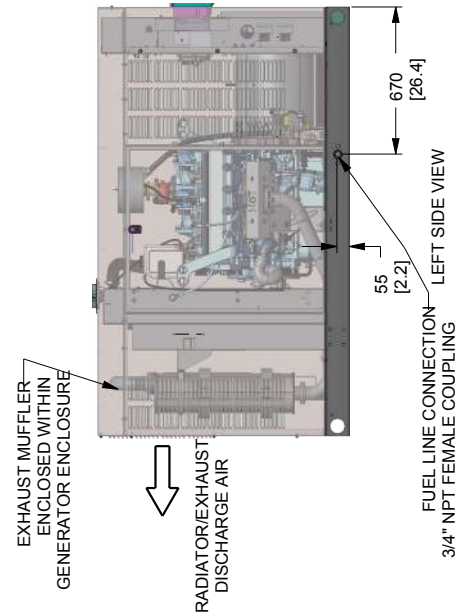
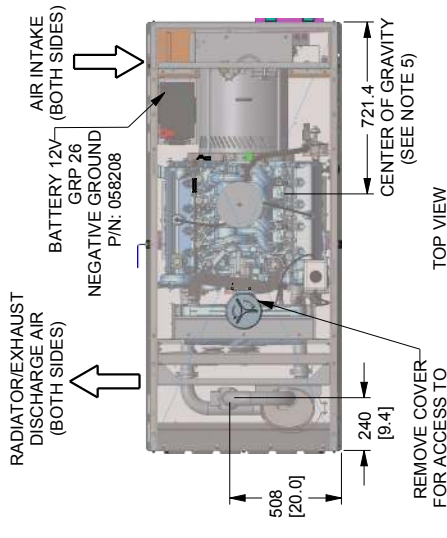


48 kW

Drawing #0K9243-A (1 of 2)

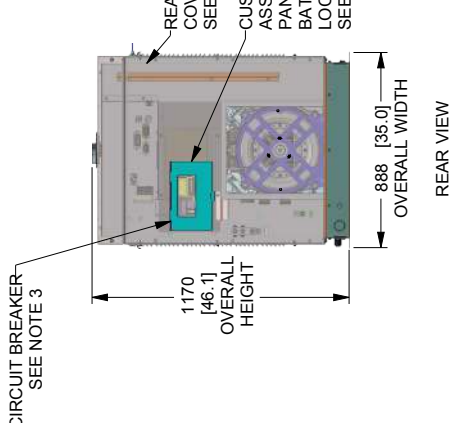
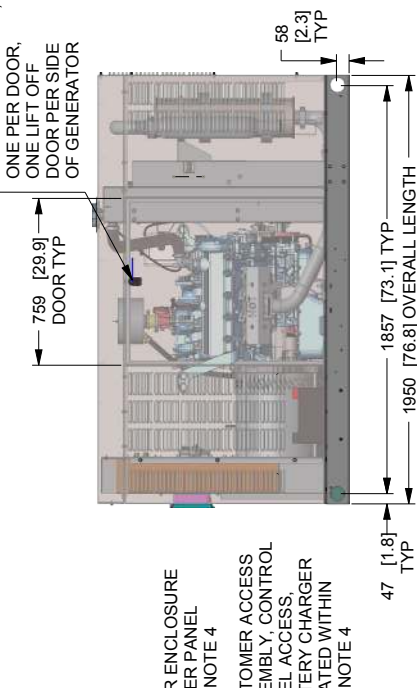
| | |
|-------------------------|-------------|
| SERVICE ITEM | 5.4L |
| OIL FILL CAP | RIGHT SIDE |
| OIL DIP STICK | LEFT SIDE |
| OIL FILTER | LEFT SIDE |
| OIL DRAIN HOSE | RIGHT SIDE |
| RADIATOR DRAIN HOSE | LEFT SIDE |
| COOLANT RECOVERY BOTTLE | LEFT SIDE |
| RADIATOR FILL CAP | ROOF TOP |
| AIRCLENER ELEMENT | EITHER SIDE |
| SPARK PLUGS | EITHER SIDE |
| MUFFLER | SEE NOTE 11 |
| DRIVE BELT | EITHER SIDE |
| FAN BELT | SEE NOTE 11 |
| BATTERY | RIGHT SIDE |

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.



NOTES:

- MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1194 (47") WIDE X 2256 (88.8") LONG. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES.
- ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE 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.
- CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
 - SEE SPECIFICATION SHEET OR OWNERS MANUAL.
 - ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR.
- REMOVE THE REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
 - HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONDUIT CONNECTION
 - NEUTRAL CONNECTION, BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION.
 - CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
 - BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
- REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
- MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)
- MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
- GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED.
- EXHAUST MUFFLER AND FAN BELT ENCLOSED WITHIN GENERATOR ENCLOSURE. REMOVE FRONT PANEL TO ACCESS.



| WEIGHT DATA | | | |
|--------------------|----------------------------------|-------------------------------|----------------------------|
| ENCLOSURE MATERIAL | WEIGHT GENERATOR ONLY (KG [LBS]) | WEIGHT SHIPP. SKID (KG [LBS]) | SHIPPING WEIGHT (KG [LBS]) |
| 5.4L/48KW AL | 705 [1555] | 44 [98] | 750 [1653] |

48 kW

