

MODEL: 3190290100

TYPE: SG065

ENGINE: 5.7G

Standby Generator Set

OWNER'S MANUAL

GENERAC[®]

POWER SYSTEMS, INC.

**This manual should
remain with the unit.**

Printed in U.S.A.

INTRODUCTION

Thank you for purchasing this model of the standby generator set product line by Generac Power Systems.

Every effort was expended to make sure that the information and instructions in this manual were both accurate and current at the time the manual was written. However, the manufacturer reserves the right to change, alter or otherwise improve this product(s) at any time without prior notice.

◆ READ THIS MANUAL THOROUGHLY

If you do not understand any portion of this manual, contact Generac or your nearest Generac Authorized Service Dealer for starting, operating and servicing procedures.

Throughout this publication, and on tags and decals affixed to the generator, DANGER, WARNING, CAUTION and NOTE blocks are used to alert you to special instruction about a particular service or operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. Their definitions are as follows:



After this heading, you can read instructions that, if not strictly complied with, will result in personal injury or property damage.



After this heading, you can read instructions that, if not strictly complied with, may result in personal injury or property damage.




After this heading, you can read instructions that, if not strictly complied with, could result in damage to equipment and/or property.


NOTE:

After this heading, you can read explanatory statements that require special emphasis.

These safety warnings cannot eliminate the hazards that they indicate. Common sense and strict compliance with the special instructions while performing the service are essential to preventing accidents.

Four commonly used safety symbols accompany the DANGER, WARNING and CAUTION blocks. The type of information each indicates is as follows:

 This symbol points out important safety information that, if not followed, could endanger personal safety and/or property of you and others.

 This symbol points out potential explosion hazard.

 This symbol points out potential fire hazard.

 This symbol points out potential electrical shock hazard.

The operator is responsible for proper and safe use of the equipment. We strongly recommend that the operator read this Owner's Manual and thoroughly understand all instructions before using this equipment. We also strongly recommend instructing other users to properly start and operate the unit. This prepares them if they need to operate the equipment in an emergency.

◆ OPERATION AND MAINTENANCE

It is the operator's responsibility to perform all safety checks, to make sure that all maintenance for safe operation is performed promptly, and to have the equipment checked periodically by a Generac Authorized Service Dealer. Normal maintenance service and replacement of parts are the responsibility of the owner/operator and, as such, are not considered defects in materials or workmanship within the terms of the warranty. Individual operating habits and usage contribute to the need for maintenance service.

Proper maintenance and care of your generator ensure a minimum number of problems and keep operating expenses at a minimum. See your Generac Authorized Service Dealer for service aids and accessories.

Operating instructions presented in this manual assume that the standby electric system has been installed by a Generac Authorized Service Dealer or other competent, qualified contractor. Installation of this equipment is not a "do-it-yourself" project.

◆ HOW TO OBTAIN SERVICE

When your generator requires servicing or repairs, simply contact a Generac Authorized Service Dealer for assistance. Service technicians are factory-trained and are capable of handling all of your service needs.

When contacting a Generac Authorized Service Dealer or the factory about parts and service, always supply the complete model number of your unit as given on the front cover of this manual or on the DATA CARD affixed to the unit.

AUTHORIZED SERVICE DEALER LOCATION

To locate the GENERAC AUTHORIZED SERVICE
DEALER nearest you, please call this number:

1-800-333-1322

DEALER LOCATION INFORMATION
CAN BE OBTAINED AT THIS NUMBER.

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Important Safety Instructions

Generac Standby Generator Sets

SAVE THESE INSTRUCTIONS – The manufacturer suggests that these rules for safe operation be copied and posted in potential hazard areas. Safety should be stressed to all operators, potential operators, and service and repair technicians for this equipment.



WARNING:



The engine exhaust from this product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.



WARNING:



This product contains or emits chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

Study these SAFETY RULES carefully before installing, operating or servicing this equipment. Become familiar with this Owner's Manual and with the unit. The generator can operate safely, efficiently and reliably only if it is properly installed, operated and maintained. Many accidents are caused by failing to follow simple and fundamental rules or precautions.

Generac cannot possibly anticipate every possible circumstance that might involve a hazard. The warnings in this manual, and on tags and decals affixed to the unit are, therefore, not all-inclusive. If a procedure, work method or operating technique is used that Generac does not specifically recommend, satisfy yourself that it is safe for you and others. Also make sure the procedure, work method or operating technique chosen does not render the generator unsafe.

— **DANGER** —



Despite the safe design of this generator, operating this equipment imprudently, neglecting its maintenance or being careless can cause possible injury or death. Permit only responsible and capable persons to install, operate or maintain this equipment.



Potentially lethal voltages are generated by these machines. Ensure all steps are taken to render the machine safe before attempting to work on the generator.



Parts of the generator are rotating and/or hot during operation. Exercise care near running generators.



GENERAL HAZARDS



- For safety reasons, Generac recommends that this equipment be installed, serviced and repaired by a Generac Authorized Service Dealer or other competent, qualified electrician or installation technician who is familiar with applicable codes, standards and regulations. The operator also must comply with all such codes, standards and regulations.
- Installation, operation, servicing and repair of this (and related) equipment must always comply with applicable codes, standards, laws and regulations. Adhere strictly to local, state and national electrical and building codes. Comply with regulations the Occupational Safety and Health Administration (OSHA) has established. Also, ensure that the generator is installed, operated and serviced in accordance with the manufacturer's instructions and recommendations. Following installation, do nothing that might render the unit unsafe or in non-compliance with the aforementioned codes, standards, laws and regulations.
- The engine exhaust fumes contain carbon monoxide gas, which can be DEADLY. This dangerous gas, if breathed in sufficient concentrations, can cause unconsciousness or even death. For that reason, adequate ventilation must be provided. Exhaust gases must be piped safely away from any building or enclosure that houses the generator to an area where people, animals, etc., will not be harmed. This exhaust system must be installed properly, in strict compliance with applicable codes and standards.
- Keep hands, feet, clothing, etc., away from drive belts, fans, and other moving or hot parts. Never remove any drive belt or fan guard while the unit is operating.
- Adequate, unobstructed flow of cooling and ventilating air is critical in any room or building housing the generator to prevent buildup of explosive gases and to ensure correct generator operation. Do not alter the installation or permit even partial blockage of ventilation provisions, as this can seriously affect safe operation of the generator.
- Keep the area around the generator clean and uncluttered. Remove any materials that could become hazardous.
- When working on this equipment, remain alert at all times. Never work on the equipment when physically or mentally fatigued.
- Inspect the generator regularly, and promptly repair or replace all worn, damaged or defective parts using only factory-approved parts.



- Before performing any maintenance on the generator, disconnect its battery cables to prevent accidental start-up. Disconnect the cable from the battery post indicated by a NEGATIVE, NEG or (–) first. Reconnect that cable last.
- Never use the generator or any of its parts as a step. Stepping on the unit can stress and break parts, and may result in dangerous operating conditions from leaking exhaust gases, fuel leakage, oil leakage, etc.

ELECTRICAL HAZARDS

- All generators covered by this manual produce dangerous electrical voltages and can cause fatal electrical shock. Utility power delivers extremely high and dangerous voltages to the transfer switch as well as the standby generator. Avoid contact with bare wires, terminals, connections, etc., on the generator as well as the transfer switch, if applicable. Ensure all appropriate covers, guards and barriers are in place before operating the generator. If work must be done around an operating unit, stand on an insulated, dry surface to reduce shock hazard.
- Do not handle any kind of electrical device while standing in water, while barefoot, or while hands or feet are wet. DANGEROUS ELECTRICAL SHOCK MAY RESULT.
- If personnel must stand on metal or concrete while installing, operating, servicing, adjusting or repairing this equipment, place insulative mats over a dry wooden platform. Work on the equipment only while standing on such insulative mats.
- The National Electrical Code (NEC) requires the frame and external electrically conductive parts of the generator to be connected to an approved earth ground. This grounding will help prevent dangerous electrical shock that might be caused by a ground fault condition in the generator set or by static electricity. Never disconnect the ground wire.
- Wire gauge sizes of electrical wiring, cables and cord sets must be adequate to handle the maximum electrical current (ampacity) to which they will be subjected.
- Before installing or servicing this (and related) equipment, make sure that all power voltage supplies are positively turned off at their source. Failure to do so will result in hazardous and possibly fatal electrical shock.
- Connecting this unit to an electrical system normally supplied by an electric utility shall be by means of a transfer switch so as to isolate the generator electric system from the electric utility distribution system when the generator is operating. Failure to isolate the two electric system power sources from each other by such means will result in damage to the generator and may also result in injury or death to utility power workers due to backfeed of electrical energy.
- Generators installed with an automatic transfer switch will crank and start automatically when normal (utility) source voltage is removed or is below an acceptable preset level. To prevent such automatic start-up and possible injury to personnel, disable the generator's automatic start circuit (battery cables, etc.) before working on or around the unit. Then, place a "Do Not Operate" tag on the generator control panel and on the transfer switch.
- In case of accident caused by electric shock, immediately shut down the source of electrical power. If this is not possible, attempt to free the victim from the live conductor. AVOID DIRECT CONTACT WITH THE VICTIM. Use a nonconducting implement, such as a dry rope or board, to free the victim from the live conductor. If the victim is unconscious, apply first aid and get immediate medical help.
- Never wear jewelry when working on this equipment. Jewelry can conduct electricity resulting in electric shock, or may get caught in moving components causing injury.

FIRE HAZARDS

- Keep a fire extinguisher near the generator at all times. Do NOT use any carbon tetra-chloride type extinguisher. Its fumes are toxic, and the liquid can deteriorate wiring insulation. Keep the extinguisher properly charged and be familiar with its use. If there are any questions pertaining to fire extinguishers, consult the local fire department.

EXPLOSION HAZARDS

- Properly ventilate any room or building housing the generator to prevent build-up of explosive gas.
- Do not smoke around the generator. Wipe up any fuel or oil spills immediately. Ensure that no combustible materials are left in the generator compartment, or on or near the generator, as FIRE or EXPLOSION may result. Keep the area surrounding the generator clean and free from debris.
- Generac generator sets may operate using one of several types of fuels. All fuel types are potentially FLAMMABLE and/or EXPLOSIVE and should be handled with care. Comply with all laws regulating the storage and handling of fuels. Inspect the unit's fuel system frequently and correct any leaks immediately. Fuel supply lines must be properly installed, purged and leak tested according to applicable fuel-gas codes before placing this equipment into service.
- Diesel fuels are highly FLAMMABLE. Gaseous fluids such as natural gas and liquid propane (LP) gas are extremely EXPLOSIVE. Natural gas is lighter than air, and LP gas is heavier than air; install leak detectors accordingly.

IDENTIFICATION RECORD

◆ DATA PLATE

Every generator set has a metal DATA PLATE that contains important information pertinent to the generator. The data plate, which can be found attached to the generator's lower connection box, lists the unit's serial number and its rated voltage, amps, wattage capacity, phase, frequency, rpm, power factor, etc.

GENERATOR SET DATA					
045452		MADE IN USA			
TYPE CODE	00000000000000000000000000000000				
MODEL	000000000000	SERIAL	000000000000		
RATED KW	8888	RATED KVA	8888.8	UPSIZE ALT.KW	8888
VOLTS	000/000/000		AMPS	0000/0000/0000	
PHASE	1/3	POWER FACTOR	1.0/0.8	HERTZ	60
ALT. R.P.M.	1800	ENG. R.P.M.	1800	PROD. DATE	00/00/00
GENERAC POWER SYSTEMS, INC. WAUKESHA, WI CLASS F WINDING INSULATION AT 40° AMBIENT					

◆ DATA CARD

A DATA CARD is also affixed to the lower connection box of each standby generator set. A second, matching card is located under the control panel cover. Like the data plate, this card also contains valuable information pertaining to the generator. When requesting information, ordering replacement parts, asking for service, etc., the information from this card is needed (see page 19 for example of generator set data card). It provides the following information:

- Generator Model Number
- Date of Manufacture
- Generator Identification Code
- Generator Assembly Groups

NOTE:

The above is a generic representation of a data card. For actual information related to this particular model, please refer to the “construction document” located at the end of this manual, or to the data cards affixed to the unit.

► Generator Model Number

This number is the key to numerous engineering and manufacturing details pertaining to your unit. Always supply this number when requesting service, ordering parts or seeking information.

► Identification Code

Use this code to obtain important information about the generator. For example, if the code is ...

SD 100 - A 1 6 5.0 D 18 CB Y N C

– identify the generator as follows:

- SD – Standby diesel generator (“SG” indicates a standby gaseous fuel unit).
- 100 – Rated output is 100,000 watts (100 kW).
- A – Voltage code (see “Voltage Codes” on this page).
- 1 – Indicates single-phase unit (3 – indicates three-phase unit).
- 6 – Indicates unit rated 60 Hertz (Hz) (5 – indicates 50 Hz).
- 5.0 – Engine is 5.0 liter (304 cubic inches).
- D – Unit has diesel fuel system (“N” means natural gas; “L” means LP Liquid Withdrawal; “V” means LP Vapor Withdrawal).
- 18 – Alternator rpm rating (1,800 rpm); “36” means 3,600 rpm.
- C – Unit has an option “C” control panel (option “D” and “E” panels also are available).
- B – means a brushless unit (“D” means a direct excited unit with brushes and slip rings; “P” means a permanent magnet excitation).
- Y – Unit is equipped with a standard enclosure (“N” means no enclosure; “S” means unit has an acoustic enclosure).
- N – Unit does not have an exhaust muffler (“Y” means a muffler has been mounted; “L” means a muffler has been shipped loose with the unit).
- Y – Unit has a main line circuit breaker (“C” means unit has a UL-listed circuit breaker; “N” means no circuit breaker has been mounted).

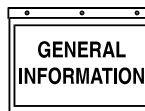
► Groups and Assembly Numbers

The data card lists the groups and corresponding assembly numbers for each unit. The assembly numbers refer to exploded view drawing numbers that are applicable to the specific generator model. These drawings are located in the back half of this manual.

► Voltage Codes

The identification code letter following the unit's kilowatt rating is the generator's “voltage code.” Any one of the following voltage codes may be listed.

- | | |
|-----|--|
| A – | 120/240 volts, single-phase, four-lead, 60 Hz |
| D – | 120/240 volts, single- and three-phase, 12-lead, 60 Hz |
| G – | 120/208 volts, three-phase, 12-lead, 60 Hz Broad Range |
| J – | 120/240 volts, three-phase, 12-lead, 60 Hz Broad Range |
| K – | 277/480 volts, three-phase, 12-lead, 60 Hz Broad Range |
| L – | 346/600 volts, three-phase, six-lead, 60 Hz |
| M – | 110/220 volts, single-phase, four-lead, 50 Hz |
| N – | 115/200 volts, three-phase, 12-lead, 50 Hz Broad Range |
| P – | 100/200 volts, three-phase, 12-lead, 50 Hz Broad Range |
| R – | 231/400 volts, three-phase, 12-lead, 50 Hz Broad Range |
| S – | 277/480 volts, three-phase, six-lead, 50 Hz |



EQUIPMENT DESCRIPTION

This equipment is a revolving field, alternating current generator set. The generator was designed to supply electrical power for the operation of compatible electrical loads when the UTILITY power supply is not available or has dropped to an unacceptable level.

The generator's revolving field is directly connected to and driven by an engine by means of flexible discs or a gearbox coupling assembly. Units with a four-pole rotor are driven at rated speeds of 1,800 rpm to supply a frequency of 60 Hz, or at 1,500 rpm for a frequency of 50 Hz.

Refer to the data plate on this specific generator or to the data card affixed to the unit for rated AC voltage, wattage, amperage, number of phases, etc. See "Identification Code" on Page 4 for an explanation of the way to identify the unit's features.

◆ STANDARD GENERATOR FEATURES

This generator incorporates the following generator features:

- The rotor insulation system is Class "H" rated, and the stator insulation is Class "H" rated as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- The generator is self-ventilated and drip-proof constructed.
- The voltage waveform deviation, total harmonic content of the AC waveform and "telephone influence factor" have been evaluated and are acceptable according to NEMA MG1-22.
- All prototype tested models have passed three-phase symmetrical short circuit test to ensure system protection and reliability.

ENGINE PROTECTIVE DEVICES

The standby generator may be required to operate for long periods of time without an operator on hand to monitor such engine conditions as coolant temperature, oil pressure or rpm. For that reason, the engine has several devices designed to protect it against potentially damaging conditions by automatically shutting down the unit when the oil pressure is too low, the coolant temperature is too high, the coolant level is too low, or the engine is running too fast.

NOTE:

Engine protective switches and sensors are mentioned here for the reader's convenience. Also refer to the applicable control panel manual for additional automatic engine shutdown information.

◆ HIGH COOLANT TEMPERATURE SWITCH

This normally open (N.O.) switch closes to automatically shut down the engine if the engine coolant temperature rises above a safe level.

◆ LOW COOLANT LEVEL SENSOR

Should the engine coolant level drop below the level of the high coolant temperature switch, it is possible for the engine to overheat without automatic shutdown. To prevent such overheating, the engine has a low coolant level sensor. If the level of engine coolant drops below the level of the low coolant level sensor, the engine automatically shuts down.

◆ LOW OIL PRESSURE SWITCH

This normally closed (N.C.) switch is held open by engine oil pressure during operation. If oil pressure drops below a safe level, the switch contacts close, automatically shutting down the engine.

◆ OVERSPEED SHUTDOWN

A speed circuit controls engine cranking, start-up, operation and shutdown. Engine speed signals are delivered to the circuit board whenever the unit is running. Should the engine overspeed above a safe, preset value, the circuit board initiates an automatic engine shutdown.

◆ OVERCRANK SHUTDOWN

After a prespecified duration of cranking, this function ends the cranking if the engine has failed to start.

◆ RPM SENSOR LOSS SHUTDOWN

If the speed signal to the control panel is lost, engine shutdown will occur.

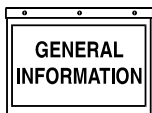
FUEL SYSTEM

◆ FUEL REQUIREMENTS

The standby generator may be equipped with one of the following fuel systems:

- Diesel fuel system
- Liquid propane (LP) fuel system
- Propane vapor (PV) fuel system
- Natural gas fuel system
- Combination LP/natural gas fuel system

The data card that is affixed to the unit includes the "Identification Code," which may be used to identify the type of fuel system installed on the unit. See Page 4.



Section 1 – General Information

Generac Standby Generator Sets

NOTE:

It is the responsibility of the installer to make sure that only the correct recommended fuel is supplied to the generator fuel system. Thereafter, the owner/operator must make certain that only the proper fuel is supplied.

For further information on the various types of fuel systems, refer to Engine-Generator Standby Electric Power Systems Installer's Guide and Reference Manual (part #46622).

◆ DIESEL FUEL SYSTEM

Diesel fuel is generally supplied to the generator set from a suitable day tank or base-mounted fuel tank. Either of these tanks may be used in conjunction with a main (bulk) supply tank.

Diesel fuels are less volatile than gaseous fuels, however, careless installation can lead to safety hazards and/or serious problems with engine/generator performance and reliability.

NOTE:

Appropriate care must be taken in applications where extremely low ambient temperatures are possible. Ensure the temperature of the diesel fuel is not allowed to fall below levels where “gelling” could occur.

◆ LP FUEL SYSTEM

LP is supplied as a liquid in pressure tanks. It is usually made up of propane, butane, or a mixture of the two gases. Propane tends to vaporize readily even at temperatures as low as -20° F (-29° C). However, butane reverts to its liquid state when temperatures drop below 32° F (0° C).

LP in a liquid withdrawal system must be converted to its gaseous state before it is introduced into the engine carburetor. A vaporizer-converter is generally used to accomplish this. In such a converter, heated engine coolant is ported through the converter to provide the necessary heat for conversion of the fuel from a liquid to a gaseous state.

NOTE:

On units with LP gas liquid withdrawal fuel systems, a block heater is included as standard equipment. The heater is powered by the UTILITY power source during nonoperating periods. Thus, heated coolant is always available to aid the fuel vaporization process.

◆ NATURAL GAS FUEL SYSTEM

Natural gas is supplied in its vapor state. In most cases, the gas distribution company provides piping from the main gas distribution line to the standby generator site. The following information applies to natural gas fuel systems.

- Gas pressure in a building is usually regulated by national, state and local codes.
- To reduce gas pressure to a safe level before the gas enters a building, a primary regulator is needed. The natural gas supplier may or may not supply such a regulator.
- It is the responsibility of the gas supplier to make sure sufficient gas pressure is available to operate the primary regulator.
- Gas pressure at the inlet to the fuel shutoff solenoid should not exceed approximately 15 inches water column (0.75 psi). Optimum pressure at the fuel shutoff solenoid is 11 inches water column (0.4 psi).

◆ COMBINATION LP/NATURAL GAS FUEL SYSTEM

In some areas, the cost of natural gas may be reduced considerably by procuring the gas on “interrupted service” rates. Such rates may be obtained by using LP gas as an emergency fuel when natural gas is not available. Automatic changeover is accomplished by using two regulators, i.e., a line pressure regulator and a vacuum-operated regulator for natural gas. The difference in pressure compensates for the greater Btu value of LP gas.

During operation on natural gas, a positive pressure exists in the common line to the carburetor. This pressure closes the LP gas regulator and stops the flow of LP gas. Loss of natural gas pressure causes a partial vacuum in the line, and the LP gas regulator then opens to admit LP gas into the system. Adjusting a separate power mixture in the LP gas line permits precise setting of air-to-fuel ratios on each of the fuels. Changeover is automatic with the engine operating.

◆ PROPANE VAPOR WITHDRAWAL FUEL SYSTEM

This type of system utilizes the vapors formed above the liquid fuel in the supply tank. Approximately 10 to 20 percent of the tank capacity is needed for fuel expansion from the liquid to the vapor state. The vapor withdrawal system is generally best suited for smaller engines that require less fuel. The installer should be aware of the following:

- The Generac natural gas and LP gas systems are similar. However, the natural gas system delivers gas at a pressure of approximately five inches water column to the carburetor. The LP gas system delivers gas at a slightly negative pressure (about negative one inch) to the engine carburetor.
- When ambient temperatures are low and engine fuel consumption is high, the vapor withdrawal system may not function efficiently.

- Ambient temperatures around the supply tank must be high enough to sustain adequate vaporization, or the system will not deliver the needed fuel volume.
- In addition to the cooling effects of ambient air, the vaporization process itself provides an additional cooling effect.

SPECIFICATIONS

◆ GENERATOR

Refer to the data plate on this particular generator for rated watts, amperes, frequency, voltage, phase and other pertinent information.

Also refer to “Identification Code” on Page 4 for information on determining unit specifications.

◆ ENGINE

General:

Cylinders and Arrangement	V-8
Displacement	5.7 L (350 in ³)
Bore	101.6 mm (4.0 in.)
Stroke	88.4 mm (3.48 in.)
Compression Ratio	9.4-to-1
Number of Main Bearings	5
Type of Main Bearing Caps	2 Bolt
Aspiration	Naturally Aspirated
Governed Engine Speed	See DATA Plate
Type of Valve Lifters	Hydraulic Roller
Cylinder Head	Cast Iron
Pistons	8-Notched Head, Aluminum Alloy
Crankshaft	Nodular Iron
Number of Flywheel Teeth	168

Engine Lubrication System:

Type of Oil Pump	Gear
Oil Filter	Full Flow, Cartridge
Crankcase Oil Capacity	4.75 L (5.0 U.S. qts.)

Fuel System:

Type of Fuel	Natural Gas/LP Vapor
Consumption:*	

Type	Rated Freq.	Fuel System	25% Load	50% Load	75% Load	100% Load
SG080	50 Hz	NG/LP	168/67.5	336/135	504/202.4	672/269.9
SG080	60 Hz	NG/LP	134.4/54	268.8/108	403.2/161.9	537.6/215.9

*Given in ...

Diesel: gal/h; Natural Gas (NG): cfh; Liquid Propane Vapor (LP): cfh

Cooling System:

Type	Pressurized, Closed Recovery
Coolant Capacity	
System	19 L (5 U.S. gals.)
Coolant Flow Per Minute (1,500 rpm / 1,800 rpm)	75 L (20 U.S. gals.) / 90 L (24 U.S. gals.)
Heat Rejection to Coolant (50 Hz and 60 Hz)	
SG080	341,000/272,800 Btu/h
Cooling Fan	Puller Type
Diameter of Fan	550 mm (23 in.)
Cooling Airflow Required (50 Hz and 60 Hz)	
SG080	9,025 cfm/10,830 cfm
Recommended Coolant	See “Coolant” on Page 8
Combustion Airflow Required (50 Hz / 60 Hz)	
SG080	129 cfm (3.7 m ³ /min.) / 155 cfm (4.4 m ³ /min.)

Exhaust System:

Exhaust Flow at Rated Output at 50 Hz / 60 Hz	
SG080	447 cfm / 537 cfm
Exhaust Outlet Size	(2)-2.5 in.
Exhaust Temperature at Rated Output	
SG080	(760° C) 1,400° F

Engine Electrical System:

DC Alternator Output	15 amps at 12 volts
Starter Motor	12-volt DC, 3 kW
Recommended Battery	12-volt, 90 Ah, 27 F
Ground Polarity	Negative (–)

◆ ENGINE OIL RECOMMENDATIONS

The unit has been filled with “break in” engine oil at the factory. Use a high-quality detergent oil classified “For Service CC, SD, SE or SF.” Detergent oils keep the engine cleaner and reduce carbon deposits. Use oil having the following SAE viscosity rating, based on the ambient temperature range anticipated before the next oil change:

Temperature	Oil Grade (Recommended)
Above 75° F (24° C)	SAE 30W
40° to 75° F (4.4° to 24° C)	SAE 20W or 15W-40
10° to 40° F (-12° to 4.4° C)	SAE 10W or 15W-40
Below 10° F (-12° C)	SAE 5W or 5W-20

◆ COOLANT

Use a mixture of half low silicate, ethylene glycol base antifreeze and half deionized water. Use only soft water and only low silicate antifreeze. A high quality rust inhibitor is recommended to add to the coolant mixture. When adding coolant, always add the recommended 50-50 mixture.

⚠ DANGER ⚠

⚠ Do not remove the radiator pressure cap while the engine is hot or serious burns from boiling liquid or steam could result.

⚠ Ethylene glycol base antifreeze is poisonous. Do not use mouth to siphon coolant from the radiator, recovery bottle or any container. Wash hands thoroughly after handling. Never store used antifreeze in an open container because animals are attracted to the smell and taste of antifreeze even though it is poisonous to them.

⚠ CAUTION ⚠

⚠ Do not use any chromate base rust inhibitor with ethylene glycol base antifreeze, or chromium hydroxide (“green slime”) will form and cause overheating. Engines that have been operated with a chromate base rust inhibitor must be chemically cleaned before adding ethylene glycol base antifreeze. Using any high silicate antifreeze boosters or additives also will cause overheating. We also recommend that any soluble oil inhibitor is NOT USED for this equipment.

◆ GEARBOX LUBRICATION

If the generator set is equipped with a gearbox, the appropriate lubrication is SAE 90 gear lubricant.

◆ FUEL SYSTEM REQUIREMENTS AND RECOMMENDATIONS

- **Diesel Fuel System:** See Chapter 8 of *Engine-Generator Standby Electric Power Systems Installer's Guide and Reference Manual* (part no. 46622).
- **Gaseous Fuel System:** See Chapter 9 of *Engine-Generator Standby Electric Power Systems Installer's Guide and Reference Manual* (part no. 46622).

GENERATOR AC LEAD CONNECTIONS

See “Voltage Codes” on Page 4. This generator may be rated at any one of several voltages, either single-phase or three-phase. The electrical wires in the unit's AC connection (lower) panel should be installed according to the number of leads and the voltage/phase required for the application. If there is any question regarding lead connection, refer to the wiring diagrams at the back of this manual.

Voltage codes apply to the type of stator assembly installed on a particular generator.

◆ FOUR-LEAD, SINGLE-PHASE STATOR

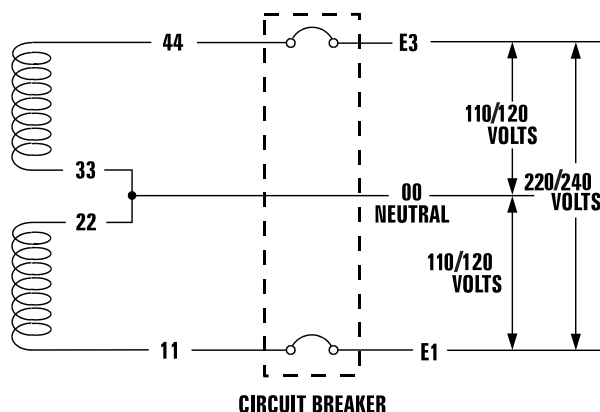
Four-lead generators are dual voltage coils or windings (Figure 1.1). Units may be assigned any of the following voltage codes:

- “A” units are rated 120/240 volts, single-phase, 60 Hertz.
- “M” units are rated 110/220 volts, single-phase, 50 Hertz.

Each stator winding in this case delivers a 110- or 120-volt AC output; connecting the two windings series results in a 220- or 240-volt AC output.

The neutral line is formed by a junction of stator leads 22 and 33. Therefore, connection of 120-volt (60 Hz) or 110-volt (50 Hz) loads across leads 11 and neutral, or across leads 44 and neutral can be made.

Figure 1.1 – Four-lead, Single-phase Stator



◆ 12-LEAD, BROAD RANGE STATORS

This type of stator winding forms a 12-lead configuration and has six coils or windings.

► High Wye Stator Connection

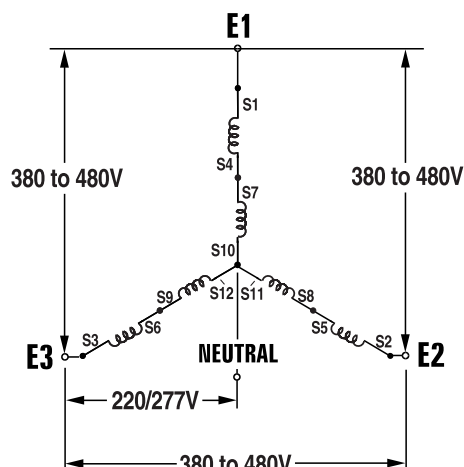
Units with this broad range stator connection may be assigned any of the following voltage codes (Figure 1.2):

- “K” units are rated 277/480 volts, three-phase, 60 Hz.
- “R” units are rated 231/400 volts, three-phase, 50 Hz.

NOTE:

Different voltage ratings are available from the same stator connection by adjusting the voltage regulator.

Figure 1.2 – High Wye Stator Connection



► Low Wye Stator Connection

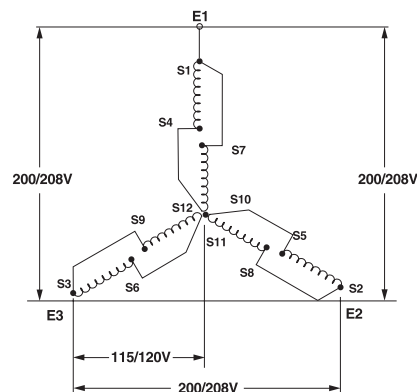
Units with this broad range stator connection may be assigned any of the following voltage codes (Figure 1.3):

- “G” units are rated 120/208 volts, three-phase, 60 Hz.
- “N” units are rated 115/200 volts, three-phase, 50 Hz.

NOTE:

Different voltage ratings are available from the same stator connection by adjusting the voltage regulator.

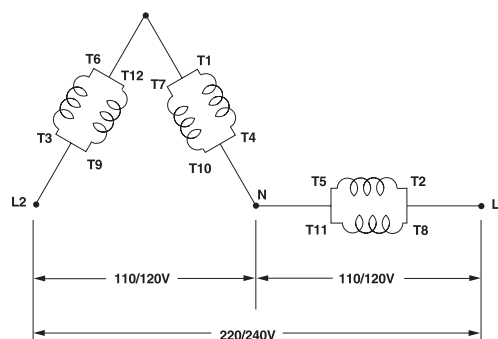
Figure 1.3 – Low Wye Stator Connection



► Zigzag Stator Connection

This type of stator has six coils connected in a zigzag fashion (Figure 1.4). This type of stator connection does not have an assigned Generac voltage code.

Figure 1.4 – Zigzag Stator Connection

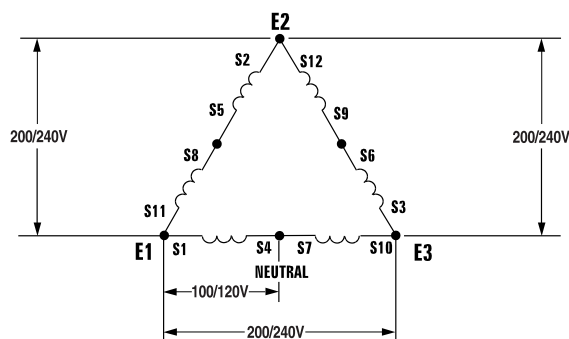


► Three-phase Delta Stator Connection

This type of stator has six coils and 12 leads (Figure 1.5). Units may be assigned any of the following voltage codes:

- “J” units are rated 120/240 volts, three-phase, 60 Hz.
- “P” units are rated 100/200 volts, three-phase, 50 Hz.

Figure 1.5 – Three-phase Delta Stator Connection



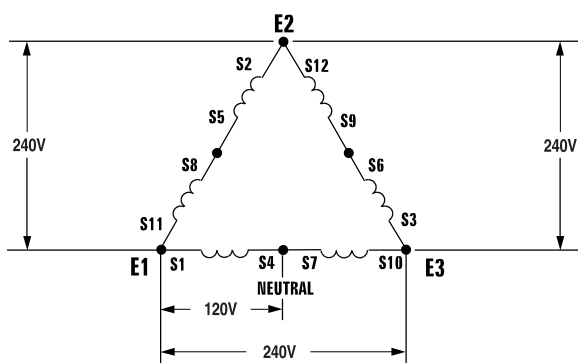
◆ LOW-VOLTAGE STATOR

► Three-/Single-phase Delta Stator Connection

This type of stator has six coils and 12 leads (Figure 1.6). Two coils/windings are wound with additional copper to allow for operation at full rated kW, single-phase. Units may be assigned any of the following voltage codes:

- “D” units are rated 120/240 volts, three-phase, 60 Hz.

Figure 1.6 – Three-/Single-phase Delta Stator Connection



NOTE:

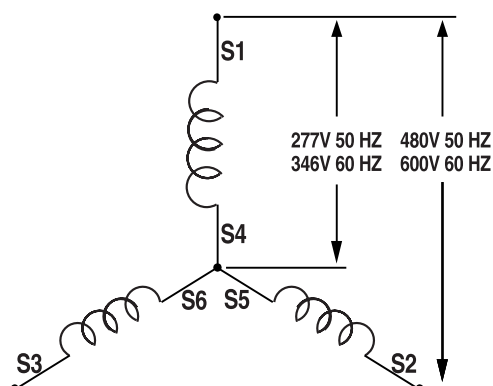
Single-phase loads should be connected to E1, E3 and Neutral.

◆ SIX-LEAD, 600-VOLT, THREE-PHASE STATOR

This type of stator has three coils and six leads (Figure 1.7). Units may be assigned any of the following voltage codes:

- “L” units are rated 346/600 volts, three-phase, 60 Hz.
- “S” units are rated 277/480 volts, three-phase, 50 Hz.

Figure 1.7 – Six-lead Stator Connection



OPTIONAL VOLTAGE SELECTOR SWITCHES

Some generators may be equipped with an optional two- or three-position switch designed for easy selection of the desired voltage and phase. Switches are available in a variety of voltage/phase options.

A typical two-position selector switch is shown in Figure 1.8.

Figure 1.8 – Typical Two-position Switch

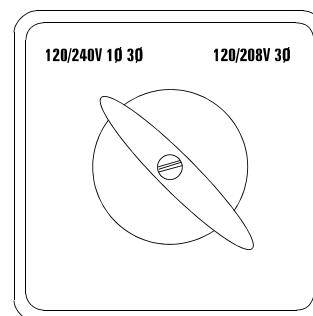
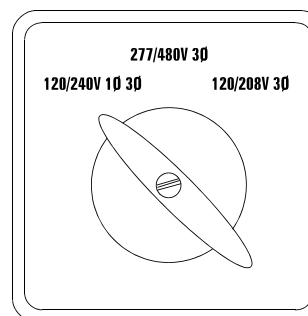


Figure 1.9 illustrates a typical three-position voltage selector switch.

Figure 1.9 – Typical Three-position Switch



GENERATOR AND LOAD COMPATIBILITY

The generator must be fully compatible with the rated voltage, phase and frequency of the connected electrical loads. The generator, connected electrical devices, or both, can be damaged if voltage, phase and frequency are not compatible.

NOTE:

This manual assumes that the standby generator has been properly selected, installed and interconnected by a competent, qualified electrician or installation contractor. Once the installation is complete, do nothing that may result in noncompatibility between the generator and connected electrical loads.

STARTING AIDS

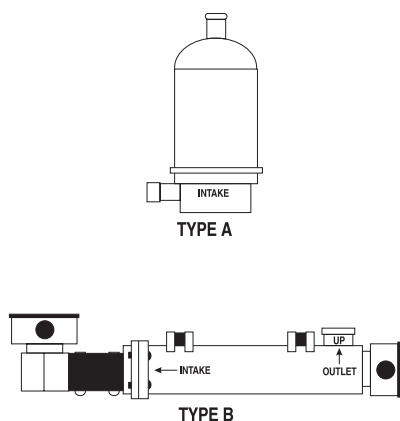
The standby generator may be equipped with one or more starting aids that serve to provide quicker, easier starts under varying climactic conditions.

This generator may have been mounted with (a) an engine coolant heater, (b) an engine oil heater, (c) a battery warmer or (d) a battery charger. These aids are powered by a normal (utility) power source during nonoperating periods.

◆ ENGINE COOLANT HEATERS

If the unit is equipped with an engine coolant (block) heater (Figure 1.10), it is powered by a circuit normally fed by the utility power supply. This heats the engine coolant when the unit is not operating. This action keeps the engine warm even in cold weather, helping ensure quicker starts. Heated coolant in the engine rises continuously drawing cold coolant into the heater, therefore making certain of a constant flow of warm coolant through the engine.

Figure 1.10 – Typical Engine Coolant Heaters



◆ ENGINE OIL HEATER

The engine oil heater is designed for installations where the engine oil must be kept near operating temperature at all times. If included with this unit, a low-watt density heater and thermostat are permanently mounted in the engine's oil sump. The heater and thermostat do not require maintenance.

◆ BATTERY WARMERS

When used in conjunction with a coolant (block) heater, battery warmers aid in ensuring that the engine will reach maximum cranking speed.

◆ BATTERY CHARGERS

There are two types of battery chargers available, two amp and 10 amp (nine amp UL) rated. Each is available as 12V or 24V, as appropriate for the engine's DC system voltage. These chargers are UL component recognized for use on Generac generator sets.

Both of the chargers are fully automatic float types. They are fully fuse protected (input and output). They have automatic current limiting to reduce risk of overcharging, and have automatic maintenance of charge voltage. Therefore, they can be connected to the batteries continuously.

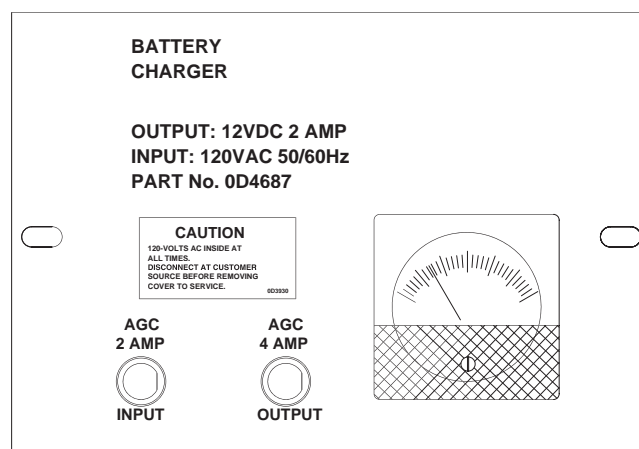
The chargers require the connection of a battery in order to turn on. The battery provides boost voltage for the charger, so a completely dead battery will not allow the charger to operate. The boost required is approximately nine to 11 volts for a 12V system and 18 to 22 volts for a 24V system. If the battery is below the boost voltage, it needs to be replaced.

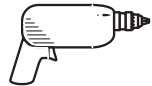
Both chargers are housed in vented, convection-cooled NEMA 1 boxes. They are not water resistant, so they must be installed within a rain resistant enclosure. Knockouts are provided for electrical connection of the 120 VAC input as well as the 12V or 24V DC output. There are clearly marked terminal strips inside for convenient connection.

► Two-amp Battery Charger

A typical two amp charger is shown in Figure 1.11. This is a basic charger that will meet the needs of most applications. A DC ammeter is included on the front panel to indicate charge rate.

Figure 1.11 – Typical Two-amp Battery Charger

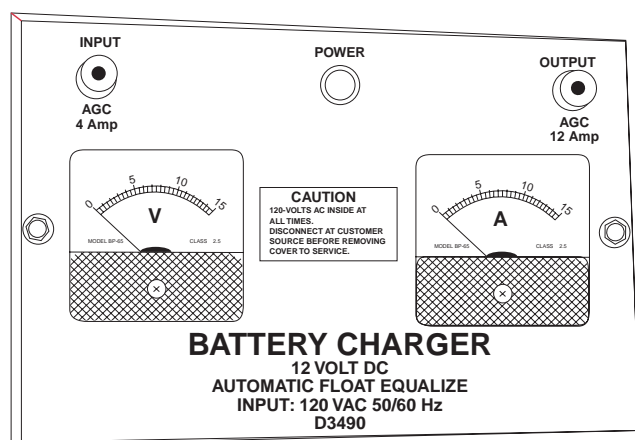




► 10 Amp Battery Charger

A typical 10 amp charger is shown in Figure 1.12. This is a dual rate charger with a higher output than the two amp for more demanding applications. This charger features both a DC ammeter and a voltmeter on the front panel.

Figure 1.12 – Typical 10 Amp Battery Charger



STANDBY GENERATOR INSTALLATION



Connecting this generator to an electrical system normally supplied by an electric utility shall be by means of a transfer switch (such as the Generac “GTS” type transfer switch), so as to isolate the electric system from the utility distribution system when the generator is operating. Failure to isolate the electric system by these means will result in damage to the generator and may also result in injury or death to utility workers due to backfeed of electrical energy.

Only qualified, competent installation contractors or electricians thoroughly familiar with applicable codes, standards and regulations should install this standby electric power system. The installation must comply strictly with all codes, standards and regulations pertaining to the installation.

This genset must be installed on a level surface. The base frame must be level within two inches all around.



After the system has been installed, do nothing that might render the installation in noncompliance with such codes, standards and regulations.

NOTE:

For more information about the installation of a standby system, order the **Engine-Generator Standby Electric Power Systems Installer’s Guide and Reference Manual (part #046622)** from a Generac Authorized Service Dealer.

◆ NFPA STANDARDS

The following published standards booklets pertaining to standby electric systems are available from the National Fire Protection Association (NFPA), Batterymarch Park, Quincy, MA 02269:

- NFPA No. 37, STATIONARY COMBUSTION ENGINES AND GAS TURBINES.
- NFPA No. 76A, ESSENTIAL ELECTRICAL SYSTEMS FOR HEALTH CARE FACILITIES.
- NFPA No. 220, STANDARD TYPES OF BUILDING CONSTRUCTION
- NFPA No. 68, GUIDE FOR EXPLOSION VENTING
- NFPA No. 70, NATIONAL ELECTRICAL CODE.
- NFPA No. 30, FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE.
- NFPA No. 10, INSTALLATION, MAINTENANCE AND USE OF PORTABLE FIRE EXTINGUISHERS.

◆ OTHER PUBLISHED STANDARDS

In addition to NFPA standards, the following information pertaining to the installation and use of standby electric systems is available:

- Article X, NATIONAL BUILDING CODE, available from the American Insurance Association, 85 John Street, New York, N.Y. 10038.
- AGRICULTURAL WIRING HANDBOOK, obtainable from the Food and Energy Council, 909 University Avenue, Columbia, MO, 65201.
- ASAE EP-364.2, INSTALLATION AND MAINTENANCE OF FARM STANDBY ELECTRIC POWER, available from the American Society of Agricultural Engineers, 2950 Niles Road, St. Joseph, MI 49085.
- A52.1, AMERICAN NATIONAL STANDARD FOR CHIMNEYS, FIREPLACES AND VENTING SYSTEMS, available from the American National Standard Institute, 1430 Broadway, New York, N.Y. 10018.

BASIC STANDBY ELECTRIC SYSTEM

Figure 2.1 shows a schematic diagram of a basic standby electric system. Both the UTILITY power supply and the STANDBY (generator) output are connected to an approved transfer switch. The transfer switch is required by electrical code and serves the following functions:



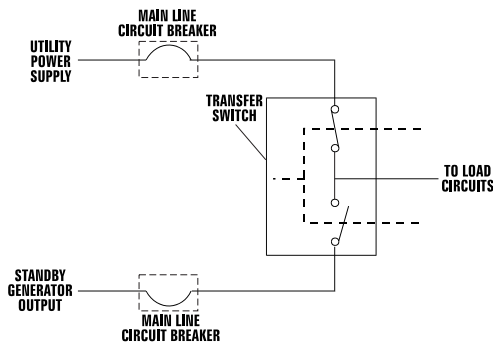
- Permits the LOAD circuits to be connected to only one power supply at a time.
- Prevents electrical backfeed between the generator and the UTILITY power circuits.

Notice that both the STANDBY and the UTILITY power supplies to the transfer switch are protected against overload by a main line circuit breaker.

NOTE:

Generac recommends the use of a Generac Power Systems “GTS” type transfer switch in conjunction with this generator.

Figure 2.1 – Basic Standby Electric System



EMERGENCY CIRCUIT ISOLATION METHOD

This prevents overloading the generator by keeping electrical loads below the wattage/amperage capacity of the generator. If the generator is powering only critical loads, within the wattage/amperage capacity, during utility power outages, consider using the emergency circuit isolation method.

Critical electrical loads are grouped together and wired into a separate “Emergency Distribution Panel.” Load circuits powered by that panel are within the wattage/amperage capacity of the generator set. When this method is used, it is difficult to overload the generator. The transfer switch must meet the following requirements:

- It must have an ampere rating equal to the total amperage rating of the emergency distribution panel circuit.
- Have it installed between the building’s main distribution panel and the emergency distribution panel.

TOTAL CIRCUIT ISOLATION METHOD

When a generator capable of powering all electrical loads in the circuit is to be installed, use the “Total Circuit Isolation Method.” It is possible for the generator to be overloaded when this isolation method is employed. The following apply to the transfer switch in this type of system.

- Ampere rating of the transfer switch must equal the ampere rating of the normal incoming utility service.
- The transfer switch is installed between the utility service entrance and the building distribution panel.

GROUNDING THE GENERATOR

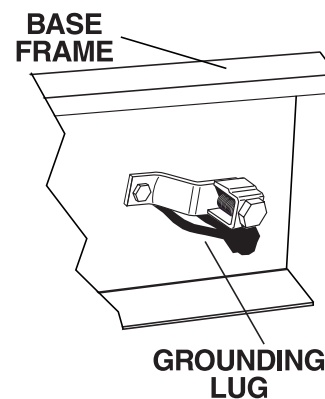
The National Electrical Code requires the frame and external electrically conductive parts of this equipment to be properly connected to an approved earth ground. For that purpose, a GROUND LUG (Figure 2.2) is provided on the generator mounting base. Consult a qualified electrician for grounding requirements in the area. Grounding procedures must meet local regulations.



Do not connect the ground wire to any pipe that carries a flammable or explosive substance. FIRE or an EXPLOSION may result.

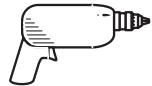
Proper grounding helps protect personnel against electrical shock in the event of a ground fault condition in the generator or in connected electrical devices. In addition, grounding helps dissipate static electricity that often builds up in ungrounded devices.

Figure 2.2 – Generator Grounding Lug (typical)



GENERATOR AC NEUTRAL CONNECTIONS

Generac uses an UNGROUNDED AC neutral. Grounding is recommended only at the main service entrance. If the neutral wire is grounded and one of the phase loads becomes grounded, the excessive current opens the load circuit breaker or collapses the generator field. The actual result depends on the electrical characteristics of the particular installed generator. Follow federal, state, and local electrical codes and standards.

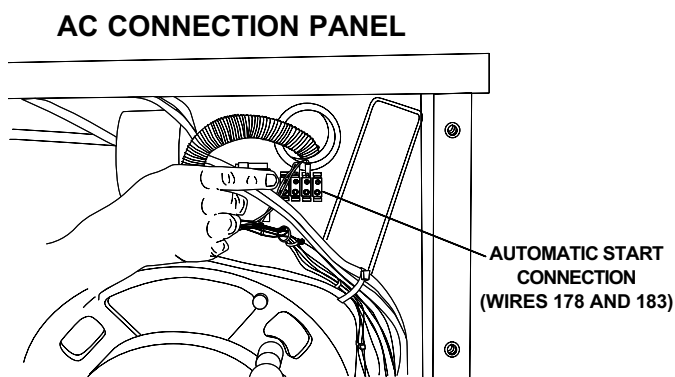


TRANSFER SWITCH START SIGNAL CONNECTIONS

If the generator is to be installed with an automatic transfer switch, such as a Generac GTS-type switch, it will be necessary to connect the two-wire start control system.

Connect the two-wire start signal from the automatic transfer switch to the automatic start connection, which is located in the center and to the front of the AC connection panel (see Figure 2.3). Match wires 178 and 183 in the transfer switch to 178 and 183 on the terminal strip in the control panel. The conductors for the two-wire start circuit must be in their own conduit.

Figure 2.3 – Start Signal Connections



BATTERY INSTALLATION



Standby generators installed with automatic transfer switches will crank and start automatically when normal (utility) source voltage is removed or is below an acceptable preset level. To prevent such automatic start-up and possible injury to personnel, do not connect battery cables until certain that normal source voltage at the transfer switch is correct and the system is ready to be placed into operation.

Storage batteries give off explosive hydrogen gas. This gas can form an explosive mixture around the battery for several hours after charging. The slightest spark can ignite the gas and cause an explosion. Such an explosion can shatter the battery and cause blindness or other injury. Any area that houses a storage battery must be properly ventilated. Do not allow smoking, open flame, sparks or any spark producing tools or equipment near the battery.

⚠ Battery electrolyte fluid is an extremely caustic sulfuric acid solution that can cause severe burns. Do not permit fluid to contact eyes, skin, clothing, painted surfaces, etc. Wear protective goggles, protective clothing and gloves when handling a battery. If fluid is spilled, flush the affected area immediately with clear water.



- ⚠** Do not dispose of the battery in a fire. The battery is capable of exploding.
- ⚠** Do not open or mutilate the battery. Released electrolyte can be toxic and harmful to the skin and eyes.
- ⚠** The battery represents a risk of high short circuit current. When working on the battery, always remove watches, rings or other metal objects, and only use tools that have insulated handles.

For recommended batteries, see “Specifications.” All batteries must be at 100 percent state-of-charge before they are installed on the generator.

When using maintenance-free batteries, it is not necessary to check the specific gravity or electrolyte level. Have these procedures performed at the intervals specified in Section 4, “Maintenance.” A negative ground system is used. Battery connections are shown on the wiring diagrams. Make sure all batteries are correctly connected and terminals are tight. Observe battery polarity when connecting batteries to the generator set.

NOTE:

Damage will result if the battery connections are made in reverse.

PREPARATION BEFORE START-UP

The instructions in this section assume that the standby generator has been properly installed, serviced, tested, adjusted and otherwise prepared for use by a competent, qualified installation contractor. Be sure to read the “Safety Rules” on Pages 2 and 3, as well as all other safety information in this manual, before attempting to operate this (and related) equipment.

◆ PRIOR TO INITIAL START-UP



⚠ Prior to initially starting the generator, it must be properly prepared for use. Any attempt to crank or start the engine before it has been properly serviced with the recommended types and quantities of engine fluids (oil, coolant, fuel, etc.) may result in an engine failure.



Before starting the generator for the first time, the installer must complete the following procedures. For follow-up maintenance information and/or service intervals, please refer to Section 4, “Maintenance,” and the “Service Schedule” on Page 17.

► Transfer Switch

If this generator is used to supply power to any electrical system normally powered by an electric utility, the National Electrical Code requires that a transfer switch be installed. The transfer switch prevents electrical backfeed between two different electrical systems. (For additional information, see the applicable transfer switch manual for this unit.) The transfer switch, as well as the generator and other standby components, must be properly located and mounted in strict compliance with applicable codes, standards and regulations.

► Fuel System

Make sure the fuel supply system to the generator (a) delivers the correct fuel at the correct pressure and (b) is properly purged and leak tested according to code. No fuel leakage is permitted. See “Specifications” (Page 7) for more information.

If the unit has been idle for a long period of time, or if the fuel lines or system components have been removed and reinstalled, the fuel system may require bleeding to remove air from the system. Air in the fuel system causes hard starting and rough operation. All fuel system lines must be installed and must be tight. A loose line may show no sign of leakage, but may draw air into the system.



▲ Use a suitable container to catch the fuel that will spill during system bleeding process. Clean up all spilled fuel after bleeding.

► Generator Set Lubrication

Check the engine crankcase oil level before operating and add oil to the proper level – the dipstick “FULL” mark. Never operate the engine with the oil level below the dipstick “ADD” mark. See “Specifications” (Page 7) and “Engine Oil Recommendations” (Page 8).

NOTE:

This engine is shipped from the manufacturer with “break-in” oil. This oil should be changed after 30 hours of operation.

Check the oil level in the generator gearbox (if so equipped) prior to initial use and at the intervals indicated by the “Service Schedule.” The recommended oil is SAE 90 gear lubricant.

Also, if the engine is equipped with a mechanical governor, make sure the governor is properly lubricated with clean engine oil.

► Engine Coolant

Have the engine cooling system properly filled with the recommended coolant mixture. Check the system for leaks and other problems. See “Specifications” (Page 7) and “Coolant” (Page 8).

► Belt Tension

Check the engine fan belt tension and condition prior to placing the unit into service and at recommended intervals. Belt tension is correct when a force of approximately 22 pounds (10 kg), applied midway between pulleys, deflects the belt about 3/8- to 5/8-inch (10 to 16 mm).

► Electrical System

Make sure the generator is properly connected to an approved earth ground.

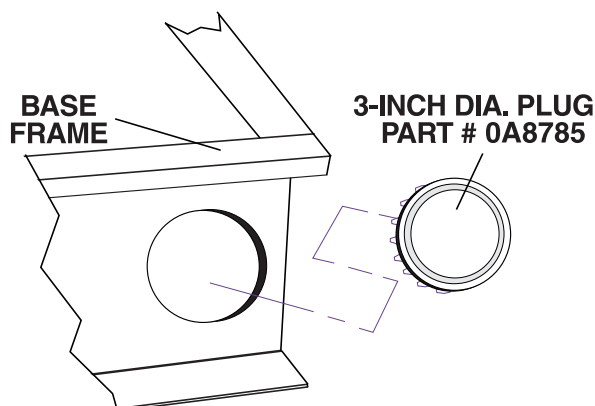
Make sure the generator battery is fully charged, properly installed and interconnected, and ready for use.

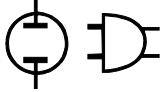
Check to ensure that there are no loose electrical connections. Restrain any loose wires to keep them clear of any moving generator set components.

► Rodent Protection

- Make sure the four 3-inch diameter cap plugs (part no. 0A8785) are properly installed in the tie-down holes in the side rails of the unit's base frame (Figure 2.4). The cap plugs are shipped in a plastic bag located in the lower connection box. These plugs are needed to prevent rodents from accessing the interior of the generator set. On acoustic units, cap plugs also are needed to stay within noise specification limits.

Figure 2.4 – Base Frame Cap Plugs





◆ START-UP INSPECTION

A standard three-part form titled “Start-up Inspection for Standby Power Systems” (part no. 067377) should be completed by the installation technician or engineer. As stated on the form, inspections are to be accomplished only by factory-trained personnel. The installer should complete the form and disseminate copies as follows:

- White copy: Mail to Generac Warranty Department, P.O. Box 340, 211 Murphy Dr., Eagle, WI 53119-2062.
- Pink Copy: For service file of installing dealer.
- Yellow Copy: For the customer’s records.

GENERATOR CONTROL AND OPERATION

Refer to the appropriate control panel operator’s manual for this unit.

OPERATING UNIT WITH MANUAL TRANSFER SWITCH

If the generator was installed in conjunction with a transfer switch capable of manual operation only, the following procedure applies. A manually operated transfer switch is one that will not provide automatic start-up and does not include an intelligence circuit.

◆ ENGINE START-UP AND TRANSFER

For additional information, refer to the applicable control panel manual for this unit, as well as any literature pertaining to the specific transfer switch.



⚠ The Safety Disconnect Switch and the Auto/Off/Manual switches (if so equipped) must be set properly, or the generator will crank and start as soon as the utility power to the transfer switch is turned off. Refer to applicable control panel and transfer switch manuals for more information.

⚠ Do not proceed until certain that utility source voltage is available to the transfer switch and the transfer switch main contacts are set to “Utility.”

⚠ Do not attempt manual operation until all power supplies to the transfer switch have been positively turned off, or extremely dangerous - possibly lethal - electrical shock will result.

⚠ Transfer switch enclosure doors should be kept closed and locked. Only authorized personnel should be allowed access to the transfer switch interior. Extremely high and dangerous voltages are present in the transfer switch.

In order to transfer load from the utility source to the generator, follow these directions:

- Turn OFF or disconnect the utility power circuit to the transfer switch, using the means provided (such as the utility source main line circuit breaker).
- Set the transfer handle to its “Utility” (normal) position with load circuits connected to the utility power supply.
- Set the standby generator’s main line circuit breaker to its OFF (or open) position.
- Start the generator.



⚠ Do not crank the engine continuously for longer than 30 seconds, or the heat may damage the starter motor.

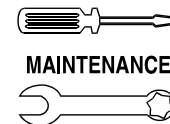
- Let engine stabilize and warm up.
- Check all applicable instrument and gauge readings. When certain that all readings are correct, move the transfer switch manual handle to its “Standby” (generator) position, i.e., load circuits supplied by the generator.
- Set the standby generator’s main line circuit breaker to its ON (or closed) position.
- Load circuits are now powered by the standby generator.

◆ RETRANSFER AND SHUTDOWN

For additional information, refer to the applicable control panel manual for this unit, as well as any literature pertaining to the specific transfer switch.

To transfer the load back to the utility power source and shut down the generator, follow these directions:

- Set the standby generator’s main line circuit breaker to its OFF (or open) position.
- Manually move the transfer switch handle to its “Utility” (normal) position, i.e., load circuits connected to the utility.
- Turn ON the utility power supply to the transfer switch, using the means provided (such as the utility power source main line circuit breaker).
- Let the generator run at no-load for a few minutes to stabilize internal temperatures.
- Shut down the generator.



OPERATING UNIT WITH AUTOMATIC TRANSFER SWITCH

If the generator has been installed with an automatic transfer switch, such as a Generac GTS type switch, the engine may be started and stopped automatically or manually.

NOTE:

Refer to the applicable manual for your transfer switch and to “Transfer Switch Start Signal Connections” (Page 13). In addition, please note the dangers under “Engine Start-up and Transfer.”

SERVICE SCHEDULE

◆ AUTHORIZED OPERATOR MAINTENANCE FUNCTIONS

Every Month or 100 Hours

(whichever comes first)

- Test standby generator system.
- Inspect battery and cables.
- Check engine oil level.
- Check gearbox oil level (if so equipped).
- Check engine coolant level.
- Check generator ground connections.
- Test/inspect starting aids.

Every Three Months or Every 120 Hours

(whichever comes first)

- Inspect and test fuel system and connections.
- Inspect exhaust system.
- Inspect/test fuel supply system.

◆ AUTHORIZED SERVICE TECHNICIAN MAINTENANCE FUNCTIONS

After First 30 Hours of Operation

- Inspect wiring.
- Change engine crankcase oil and oil filter.
- Inspect engine fan belts.
- Inspect battery and cables.

Every Six Months or Every 100 Hours

(whichever comes first)

- Change engine oil and filter.
- Lubricate engine controls.
- Service engine air cleaner.
- Service engine fuel filter.
- Inspect AC generator.
- Test engine safety controls.
- Inspect fan belts.
- Check engine coolant level.
- Inspect engine cooling system hoses.
- Check optional starting aids.
- Check battery.
- Check engine compression.
- Check electrical connections.
- Check/test annunciator panel.
- Perform operational test.

Annually or Every 600 Hours

(whichever comes first)

- Check engine valve clearance.
- Test fuel injection nozzles.
- Test injection timing.
- Inspect all wiring.
- Test engine starter operation.
- Drain water from fuel tank.
- Retorque fan bolts.
- Drain and refill gearbox (if so equipped)

Every Two Years

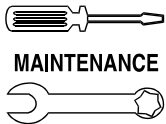
- Replace all rubber hoses.
- Replace engine fan belts.
- Inspect the Standby Generator System.
- Drain, flush, refill cooling system.

Every 1,000 Operating Hours

- Inspect engine DC alternator.
- Inspect engine starter.
- Retorque engine mounting brackets.
- Remove/test fuel injection pump.
- Remove/test cooling system thermostat.

As Required

- Bleed engine fuel system.



PERIODIC MAINTENANCE

A rigorous program of scheduled periodic maintenance should be established and maintained. Such a program, if adhered to diligently, will provide added assurance that the power system functions properly when it is needed.

Keeping a “Maintenance Log” is highly recommended. Such a log should be a continuous record of repairs, parts replacements, gauge and instrument readings during operational tests, etc.

Generac recommends that a “Customer Maintenance Inspection Agreement” be established between the user of this equipment and the installing Generac Authorized Service Dealer. Under this agreement, (Part No. 053263), a Generac Authorized Service Technician performs prestart and engine running tests and checks at six-month and one-year intervals. Ask a Generac Authorized Service Dealer about this agreement.

The tasks listed in the “Service Schedule” (Page 17) cover the minimum recommended maintenance requirements for this equipment.

Note that many of the tests and checks listed in the schedule are to be performed only by a Generac Authorized Service Technician. Fluid capacities and recommendations, as well as other applicable specifications, are listed in “Specifications” (Page 7).

◆ TEST STANDBY GENERATOR SYSTEM OPERATION AND COMPONENTS

An authorized operator should test the operation of the standby generator system and inspect its components monthly (or at every 100 hour intervals). This should include inspecting the transfer switch for evidence of arcing, and pitted or burned contacts; inspecting wiring and grounding connections (see “Grounding the Generator,” Page 13); and ensuring that starting devices are operational. During this operational test, all instrument and gauge readings should be recorded in a “Maintenance Log.” The transfer system also should be tested at this time; the engine should be run at least 30 minutes and any discrepancies corrected immediately.

Every six months (or at every 200 hour intervals), a Generac Authorized Service Technician should perform a system operational test.

◆ INSPECT BATTERY



- ▲ Standby generators installed with automatic transfer switches will crank and start automatically when normal (utility) source voltage is removed or is below an acceptable preset level. To prevent such automatic start-up and possible injury to personnel, do not connect battery cables until certain that normal source voltage at the transfer switch is correct and the system is ready to be placed into operation.
- ▲ Storage batteries give off explosive hydrogen gas. This gas can form an explosive mixture around the battery for several hours after charging. The slightest spark can ignite the gas and cause an explosion. Such an explosion can shatter the battery and cause blindness or other injury. Any area that houses a storage battery must be properly ventilated. Do not allow smoking, open flame, sparks or any spark producing tools or equipment near the battery.
- ▲ Battery electrolyte fluid is an extremely caustic sulfuric acid solution that can cause severe burns. Do not permit fluid to contact eyes, skin, clothing, painted surfaces, etc. Wear protective goggles, protective clothing and gloves when handling a battery. If fluid is spilled, flush the affected area immediately with clear water.



- ▲ Do not dispose of the battery in a fire. The battery is capable of exploding.
- ▲ Do not open or mutilate the battery. Released electrolyte can be toxic and harmful to the skin and eyes.
- ▲ The battery represents a risk of high short circuit current. When working on the battery, always remove watches, rings or other metal objects, and only use tools that have insulated handles.

An authorized operator should inspect the engine battery system monthly (or at every 100 hour intervals). At this time, the battery fluid level should be checked and distilled water added if needed. Battery cables and connections also should be inspected for cleanliness and corrosion.

Once every six months (or at every 200 hour intervals), a Generac Authorized Service Technician should inspect the battery system. At this time the battery condition and state of charge should be checked using a battery hydrometer. The battery should be recharged or replaced as required.

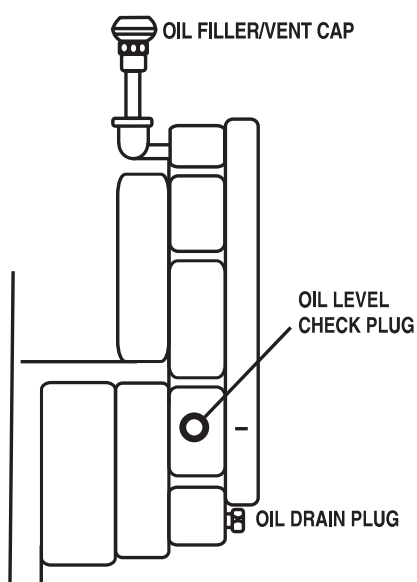


◆ CHECK FLUIDS

An authorized operator should check the levels of engine oil, gearbox oil (if so equipped) and engine coolant monthly (or at every 100 hour intervals). The oil level should be maintained between the “FULL” and “ADD” marks on the engine dipstick. Recommended fluids are listed in “Specifications” (Page 7).

Once annually (or at every 600 hour intervals), an authorized service technician should completely drain and refill the gearbox (if so equipped) using the following procedure (Figure 4.1):

Figure 4.1 – Gearbox Oil Servicing Points



1. Remove the oil filler/vent cap.
2. Remove the drain plug and drain the oil into an appropriate container. Dispose of or recycle the oil properly.
3. Reinstall the oil drain plug.
4. To add oil to the gearbox, remove the oil level check plug.
5. Add the recommended oil until it just starts to flow from the oil level check plug opening.
6. Finally, install and tighten the oil filler/vent cap and oil level check plug.

◆ INSPECT EXHAUST SYSTEM

Every three months (or at every 120 hour intervals), an authorized operator should inspect the entire exhaust system. Abnormal noise levels heard during each operational test may indicate a defective exhaust pipe or muffler. Any defective or leaking component should be repaired or replaced immediately by a Generac Authorized Service Technician.

◆ INSPECT/TEST FUEL SUPPLY SYSTEM

Every three months (or at every 120 hour intervals), an authorized operator should inspect and test the fuel supply system, as well as all fuel system connections. All connections must be tight and in good condition. A loose fuel system line may show no signs of leakage, but may draw air into the system causing rough operation and starting difficulties. Any defective or leaking component should be repaired or replaced immediately by a Generac Authorized Service Technician.

REPAIR PARTS

The latter portion of this manual consist of exploded views, parts lists and electrical data pertaining to this generator set. The parts lists consist of (a) an item number, (b) a part number, (c) the quantity required, and (d) a description of the part. The item number corresponds to an identical number on the exploded view drawing.

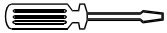
◆ GENERATOR SET DATA CARD

Every generator set has a DATA CARD is affixed to the lower connection box. A second, matching card is located under the control panel cover. Additionally, a printed CONSTRUCTION DOCUMENT containing identical information can be found at the end of this manual.

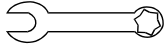
When requesting information, ordering replacement parts, asking for service, etc., one or more of the following may be needed:

- Generator Model Number
- Date of Manufacture
- Generator Identification Code
- Generator Assembly Groups

GENERAC POWER SYSTEMS				
MODEL NO. 00A 00000 S		DATE 00/00/03 (Generator ID Code)		
GROUP	DESCRIPTION	ASSEMBLY NUMBERS		
A	Generator	00000	00000	
B	Control Panel	00000	00000	00000
C	Mounting Base	00000	00000	00000
D	Engine & Accy.	00000	00000	
E	Fuel Systems	00000		
F	Compartments	00000	00000	
G	Wiring Diagrams	00000	00000	00000
H	Kits	00000	00000	
WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE ABOVE INFORMATION				



MAINTENANCE



Section 4 – Maintenance

Generac Standby Generator Sets

NOTE:

The above is a generic representation of a data card. For actual information related to this particular model, please refer to the “construction document” located at the end of this manual, or to the data cards affixed to the unit.

◆ HOW TO ORDER PARTS

To order a replacement part, locate the part in the applicable exploded view. Contact a Generac Authorized Service Dealer (call 800-333-1322 to locate one in the area) and provide the following information:

- The generator model number.
- The generator identification code, which indicates the specific generator assembly for each unit.
- The part number and corresponding description from the applicable parts list in this manual.
- The applicable exploded view “Group” letter (A-H) and drawing number (five-digit number), which can be found on the exploded view drawing.

NOTE:

In most cases, repair parts can be obtained by providing the Generac Authorized Service Dealer with the data card information and a description of the required part. If unable to locate either the data card or the construction document, simply describe the part needed and provide the unit’s model number. This number can be found on the metal DATA PLATE attached to the generator’s lower connection box.



GENERAC POWER SYSTEMS STANDARD TWO-YEAR LIMITED WARRANTY FOR STANDBY POWER SYSTEMS

NOTE: ALL UNITS MUST HAVE A STARTUP INSPECTION PERFORMED BY AN AUTHORIZED GENERAC DEALER.

For a period of 2 (two) years or 2,000 (two thousand) hours of operation from the date of sale, whichever occurs first, Generac Power Systems, Inc. will, at its option, repair or replace any part(s) which, upon examination, inspection, and testing by Generac Power Systems or a Generac Power Systems Authorized Warranty Service Facility, is found to be defective under normal use and service, in accordance with the warranty schedule set forth below. Any equipment that the purchaser/owner claims to be defective must be returned to, and examined by the nearest Generac Power Systems Authorized Warranty Service Facility. All transportation costs under the warranty, including return to the factory, are to be borne and prepaid by the purchaser/owner. This warranty applies only to Generac Power Systems Generators used in "Standby" applications, as Generac Power Systems, Inc. have defined Standby, provided said generator has been initially installed and inspected on-site by a Generac Power Systems Authorized Service Dealer or branch thereof. A scheduled maintenance agreement with a local Authorized Generac Power Systems Dealer is highly recommended to verify adequate service has been performed on the unit throughout the warranty period. Limited to, and available only on Liquid-cooled units.

WARRANTY SCHEDULE

YEAR ONE — 100% (one hundred percent) coverage on mileage*, labor, and parts listed.

• ALL COMPONENTS

YEAR TWO — 100% (one hundred percent) coverage on parts listed.

• ALL COMPONENTS — *PARTS ONLY

- *Travel allowance is limited to 300 miles maximum, or 7.5 hours maximum (per occurrence), **round trip**, to the nearest authorized Generac Service Facility, and only applies to permanently wired and mounted units.
- A Generac Power Systems, Inc. Transfer Switch is highly recommended to be used in conjunction with the genset. If a Non - Generac Power Systems, Inc. Transfer Switch is substituted for use and directly causes damage to the genset, no warranty coverage shall apply.
- All warranty expense allowances **are** subject to the conditions defined in Generac Power Systems Warranty, Policies, and Procedures Flat Rate Manual.
- Units that have been resold **are not** covered under the Generac Power Systems Warranty, as this Warranty **is not** transferable.

GEAR BOX EQUIPPED UNITS — Limited Gearbox Coverage

YEARS ONE THROUGH FIVE — Parts and labor coverage on gearbox and components.

YEARS SIX THROUGH TEN — Parts only coverage on gearbox and components.

THIS WARRANTY SHALL NOT APPLY TO THE FOLLOWING:

1. Any unit built/manufactured prior to January 1, 2002.
2. Unit enclosure is only covered against rust or corrosion the first year of the warranty provision.
3. Costs of normal maintenance i.e. tune-ups, associated part(s), adjustments, loose/leaking clamps, installation and start-up.
4. Use of Non-Generac replacement part(s) will void the warranty in its entirety.
5. Any failure caused by contaminated fuels, oils, coolants/antifreeze or lack of proper fuels, oils or coolants/antifreeze.
6. Units sold, rated or used for "Prime Power", "Trailer Mounted" or "Rental Unit" applications as Generac Power Systems have defined Prime Power, Trailer Mounted or Rental Unit. Contact a Generac Power Systems Distributor for Prime Power, Trailer Mounted or Rental Unit definition and warranty.
7. Failures due, but not limited to, normal wear and tear, accident, misuse, abuse, negligence, or improper installation or sizing.
8. Failures caused by any external cause or act of God such as collision, fire, theft, freezing, vandalism, riot or wars, lightning, earthquake, windstorm, hail, volcanic eruption, water or flood, tornado, hurricane, terrorist acts or nuclear holocaust.
9. Products that are modified or altered in a manner not authorized by Generac Power Systems in writing.
10. Any incidental, consequential or indirect damages caused by defects in materials or workmanship, or any delay in repair or replacement of the defective part(s).
11. Failure due to misapplication, misrepresentation, or bi-fuel conversion.
12. Telephone, telegraph, teletype or other communication expenses.
13. Living or travel expenses of person(s) performing service, except as specifically included within the terms of a specific unit warranty period.
14. Rental equipment used while warranty repairs are being performed i.e. rental generators, cranes, etc..
15. Overtime labor or more than one person performing repairs.
16. Any and all expenses incurred investigating performance complaints unless defective Generac materials and or workmanship were the direct cause of the problem.
17. *Engine coolant heaters (block-heaters), heater controls and circulating pumps after the first year.
18. *Starting batteries, fuses, light bulbs, engine fluids, and overnight freight cost for replacement part(s).

THIS WARRANTY IS IN PLACE OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, SPECIFICALLY, GENERAC POWER SYSTEMS MAKES NO OTHER WARRANTIES AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

GENERAC POWER SYSTEMS ONLY LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF PART(S) AS STATED ABOVE. IN NO EVENT SHALL GENERAC POWER SYSTEMS BE LIABLE FOR ANY INCIDENTAL, OR CONSEQUENTIAL DAMAGES, EVEN IF SUCH DAMAGES ARE A DIRECT RESULT OF GENERAC POWER SYSTEMS, INC. NEGLIGENCE.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. Purchaser/owner agrees to make no claims against Generac Power Systems, Inc. based on negligence. This warranty gives you specific legal rights. You also may have other rights that vary from state to state.

GENERAC® POWER SYSTEMS, INC. • 211 MURPHY DR. • P.O. BOX 310 • EAGLE, WI 53119
PH: [262] 544-4811 • FAX: [262] 544-4851

Bulletin 0166290SBY / Printed in USA 6.02



Section 5 – Warranty

Generac Standby Generator Sets

NOTE: This Emission Control Warranty Statement applies only to mobile (trailerized) non-road diesel engine powered generators (model year 2000) as follows: The EPA portion of this statement pertains to this product; The CARB portion of this statement pertains to this product only IF the generator size is (1) 15 kW or below OR (2) 130 kW or greater.

CALIFORNIA AND FEDERAL EMISSION CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board (CARB) and the United States Environmental Protection Agency (EPA), together with Generac Power Systems, Inc. (Generac), are pleased to explain the Emission Control System Warranty on your new non-road diesel engine.* New non-road diesel engines must be designed, built and equipped to meet stringent anti-smog standards for the state of California and the federal government. Generac will warrant the emission control system on your non-road diesel engine for the periods of time listed below provided there has been no abuse, neglect, unapproved modification or improper maintenance of your non-road diesel engine.

Your emission control system may include such parts as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies. Generac will repair your non-road diesel engine at no cost to you for diagnosis, replacement parts and labor, should a warrantable condition occur.

MANUFACTURER'S EMISSION CONTROL SYSTEM WARRANTY COVERAGE:

Emission control systems on 1996 and later model year non-road diesel engines are warranted for five years, or 3,000 hours of use, whichever occurs first. In the absence of an hourmeter, the said coverage is five years. If, during said warranty period, any emission-related component or system on your engine is found to be defective in materials or workmanship, repairs or replacement will be performed by a Generac Authorized Warranty Service Facility.

PURCHASER'S/OWNER'S WARRANTY RESPONSIBILITIES:

As the non-road diesel engine purchaser/owner, you are responsible for the completion of all required maintenance as listed in your factory supplied Owner's Manual. For warranty purposes, Generac recommends that you retain all receipts covering maintenance of your non-road diesel engine. However, Generac cannot deny warranty solely due to lack of receipts or for your failure to ensure the completion of all scheduled maintenance.

As the non-road diesel engine purchaser/owner, you should, however, be aware that Generac may deny any and/or all warranty coverage or responsibility if your non-road diesel engine, or a part/component thereof, has failed due to abuse, neglect, improper maintenance or unapproved modifications., or the use of counterfeit and/or "grey market" parts not made, supplied or approved by Generac.

Your engine is designed to operate on diesel fuel only. Use of any other fuel may result in your engine no longer operating in compliance with federal or California emission requirements.

You are responsible for contacting a Generac Authorized Warranty Service Facility as soon as a problem occurs. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

Warranty service can be arranged by contacting either your selling dealer or a Generac Authorized Warranty Service Facility. To locate the Generac Authorized Warranty Service Facility nearest you, call our toll-free number:

1-800-333-1322

IMPORTANT NOTE: This Warranty statement explains your rights and obligations under the Emission Control System Warranty (ECS Warranty), which is provided to you by Generac pursuant to federal and California law. See also the "Generac Limited Warranties for Generac Power Systems, Inc.," which is enclosed herewith on a separate sheet, also provided to you by Generac. The ECS Warranty applies **only** to the emission control system of your new non-road diesel engine. If there is any conflict in terms between the ECS Warranty and the Generac Warranty, the ECS Warranty shall apply except in circumstances where the Generac Warranty may provide a longer warranty period. Both the ECS Warranty and the Generac describe important rights and obligations with respect to your new non-road diesel engine.

Warranty service can be performed only by a Generac Authorized Warranty Service Facility. When requesting warranty service, evidence must be presented showing the date of sale to the original purchaser/owner.

If you have any questions regarding your warranty rights and responsibilities, you should contact Generac at the following address:

**ATTENTION WARRANTY DEPARTMENT
GENERAC POWER SYSTEMS, INC.
211 MURPHY DRIVE
EAGLE, WI 53119**



EMISSION CONTROL SYSTEM WARRANTY

Emission Control System Warranty (ECS Warranty) for 1996 and later model year non-road diesel engines:

- (a) Applicability: This warranty shall apply to 1996 and later model year non-road diesel engines. The ECS Warranty shall begin on the date the new engine or equipment is purchased by/delivered to its original, end-use purchaser/owner and shall continue for 60 months, or 3,000 hours of use, thereafter, whichever occurs first.
- (b) General Emissions Warranty Coverage: Generac warrants to the original, end-use purchaser/owner of the new non-road diesel engine or equipment, and to each subsequent purchaser/owner, that each non-road diesel engine is ...
- (1) Designed, built and equipped so as to conform with all applicable regulations adopted by the EPA and CARB pursuant to their respective authority, and
 - (2) Free from defects in materials and workmanship, which, at any time during the ECS Warranty Period, may cause a warranted emission-related part to fail to be identical in all material respects to the part as described in the engine manufacturer's application for certification.
- (c) The ECS Warranty pertains only to emissions-related parts on your non-road diesel engine, as follows:
- (1) Any warranted, emissions-related parts that are not scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the ECS Warranty Period. If any such part fails during the ECS Warranty Period, it shall be repaired or replaced by Generac according to Subsection (4) below. Any such part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period.
 - (2) Any warranted, emissions-related part that is scheduled only for regular inspection as specified in the Owner's Manual shall be warranted for the ECS Warranty Period. A statement in such written instructions to the effect of "repair or replace as necessary" shall not reduce the ECS Warranty Period. Any such part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period.
 - (3) Any warranted, emissions-related part that is scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part shall be repaired or replaced by Generac according to Subsection (4) below. Any such emissions-related part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period prior to the first scheduled replacement point for such emissions-related part.
 - (4) Repair and replacement of any warranted, emissions-related part under this ECS Warranty shall be performed at no charge to the owner by a Generac Authorized Warranty Service Facility.
 - (5) When the engine is inspected by a Generac Authorized Warranty Service Facility, the owner shall not be held responsible for diagnostic costs if the repair is deemed warrantable.
 - (6) Generac shall be liable for damages to other original engine components or approved modifications proximately caused by a failure under warranty of any emissions-related part covered by the ECS Warranty.
 - (7) Throughout the ECS Warranty Period, Generac shall maintain a supply of warranted emissions-related parts sufficient to meet the expected demand for such emission-related parts.
 - (8) Any Generac authorized and approved emission-related replacement part may be used in the performance of any ECS warranty maintenance or repairs and will be provided without charge to the owner. Such use will not reduce Generac's ECS Warranty obligations.
 - (9) Unapproved, add-on, modified, counterfeit and/or "grey market" parts may not be used to modify or repair a Generac non-road diesel engine. Such use voids this ECS warranty and shall be sufficient grounds for disallowing an ECS Warranty claim. Generac shall not be held liable hereunder for failures of any warranted parts of a Generac non-road diesel engine caused by the use of such an unapproved, add-on, modified, counterfeit and/or "grey market" part.

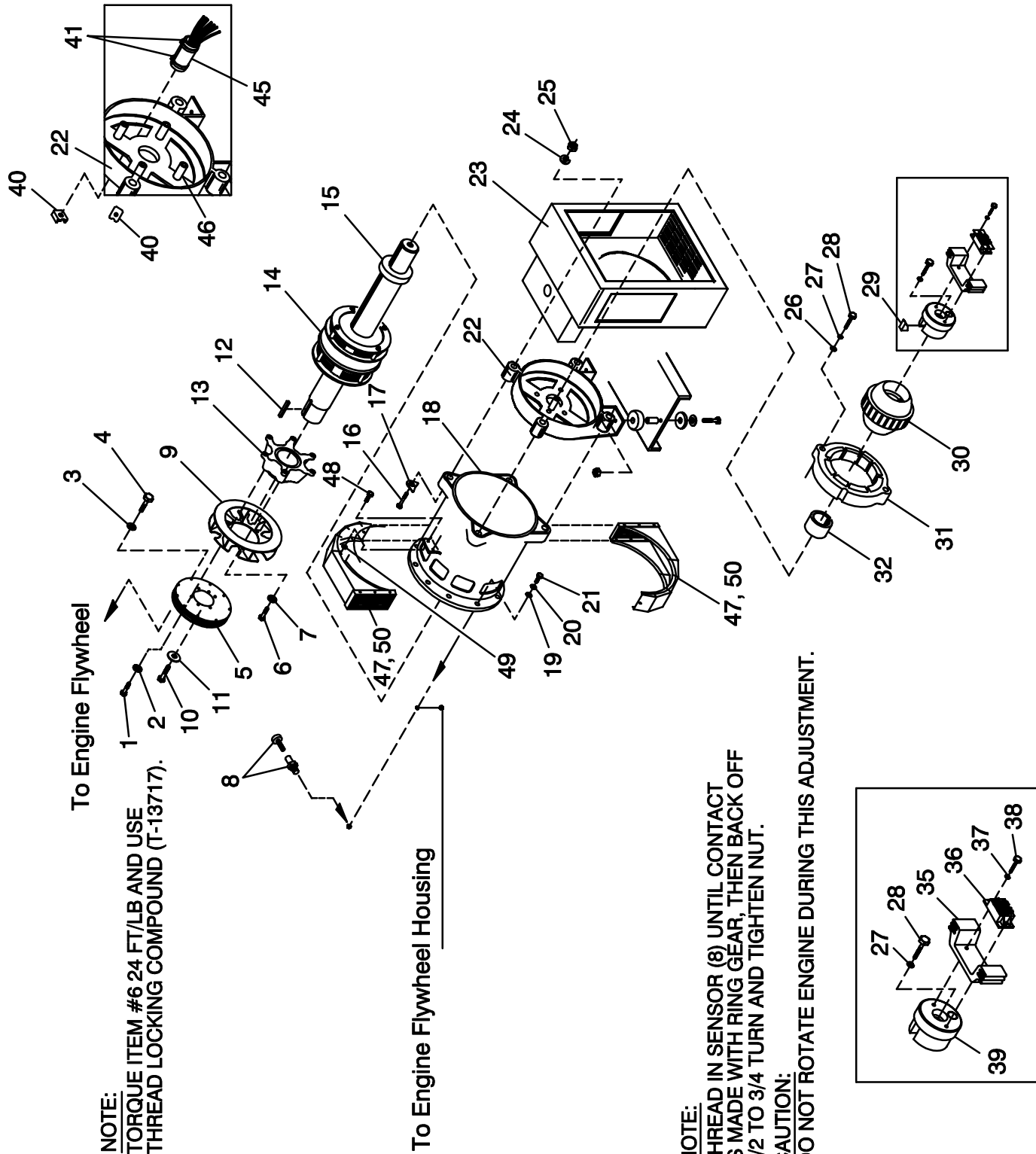
EMISSION RELATED PARTS INCLUDE THE FOLLOWING:

- | | |
|--|---|
| 1) Fuel Metering System: | 3) Exhaust System: |
| a) Fuel injection system | a) Exhaust manifold and gasket (turbocharged engines only) |
| 2) Air Induction System: | b) Catalytic converter (if so equipped) |
| a) Intake manifold and gasket | 4) Miscellaneous Items used in above systems: |
| b) Turbocharger systems (if so equipped) | a) Hoses, connectors, assemblies, clamps, fittings, tubing, sealing gaskets or devices, and mounting hardware |
| c) Charge air cooling systems (if so equipped) | |

*Generac non-road diesel engine types covered by this warranty statement include the following:

- 1) Standby Generator

Part 2



EXPLODED VIEW: GENERATOR-BRUSHLESS
DRAWING #: 0A4342

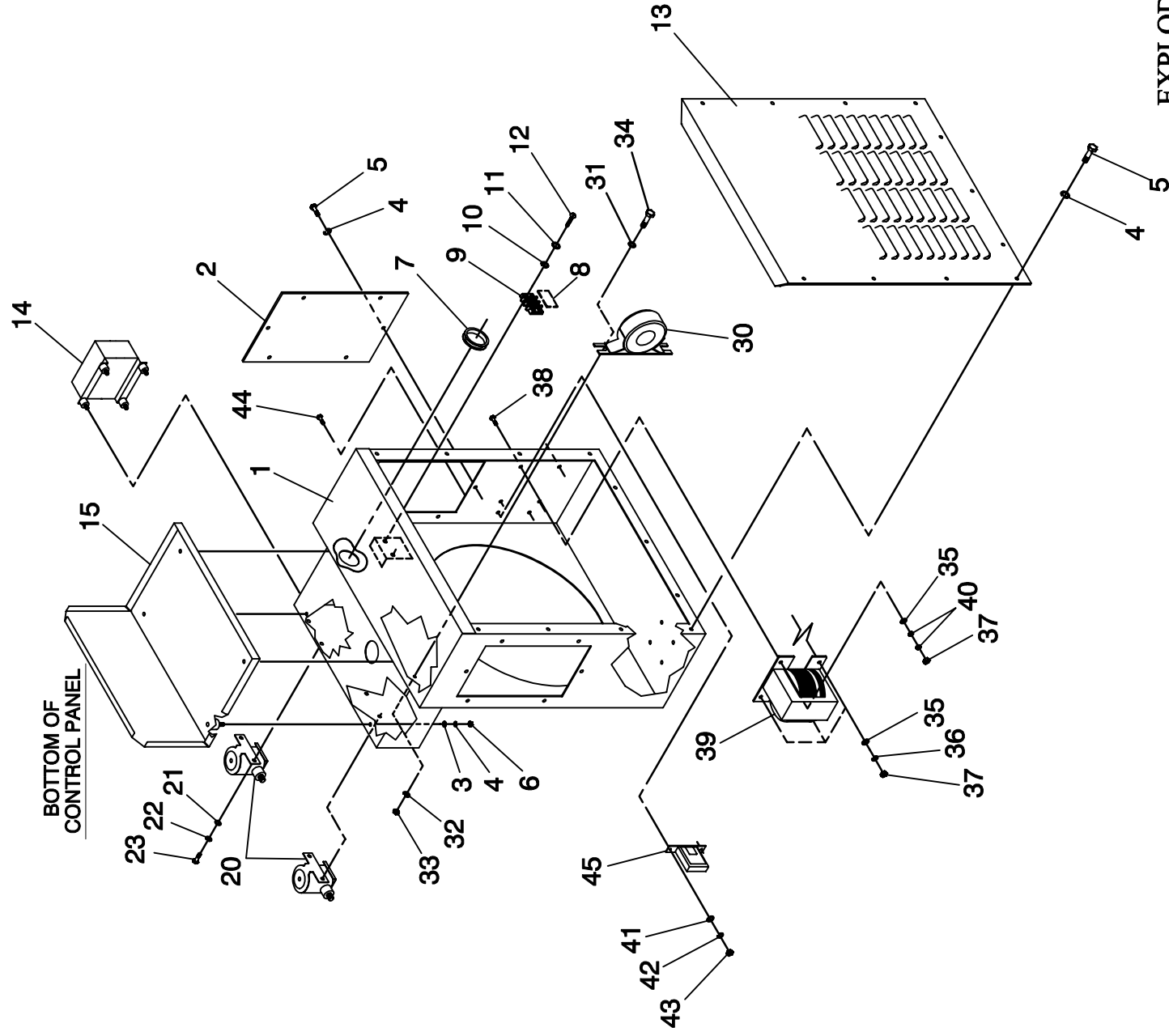
GROUP A

APPLICABLE TO:

ITEM	PART #	QTY.	DESCRIPTION
1	055420	6	SCREW HHC M12-1.75 X 25 G10.9
2	051769	6	WASHER LOCK M12
3	046526	8	WASHER LOCK M10
	022237	8	WASHER LOCK 3/8
4	052647	8	SCREW SHC M10-1.5 X 25 G12.9
	043097	8	SCREW SHC 3/8-16 X 1 G8.8 NZ
5	020604	2	FLEX PLATE-11-1/2 SAE
	0A3852	3	PLATE FLEX GM
	097514	3	PLATE FLEX SAE 3.0L GM
	0A8240	3	FLEX PLATE SAE10 (6.8L FORD)
6	055173	6	SCREW HHC M8-1.25 X 20 G10.9
7	022129	6	WASHER LOCK M8-5/16
8	082130C	1	ASSEMBLY MAG PICKUP 54"
	082130D	1	ASSEMBLY MAG PICKUP 72"
	0D2244M	1	ASSY MAG PICKUP 3/8-24 MALE (6.8L FORD)
9 *	0E2747	1	FAN S.A.E. ALTERNATOR
	0C4286	1	ASSEMBLY FAN W/PRESS DISC 10.75 X 3 (5.7L GM & 6.8L FORD)
10	0A2601	1	SCREW HHC M16-2 X 45 G8.8
11	0A2602	1	WASHER FLAT .688 ID X 3.25 OD
12	0A1138	1	KEY SQ 3/8 X 2-1/2 STEEL
13	021941	1	COUPLER 390 SAE
14	020804B	1	ROTOR 390 25KW 1/3P BRUSHLESS
	020806B	1	ROTOR 390 35KW 1/3P BRUSHLESS
	020807B	1	ROTOR 390 35KW 1/3P BRUSHLESS
	020808B	1	ROTOR 390 40KW 1/3P BRUSHLESS
	020809B	1	ROTOR 390 50KW 1P BRUSHLESS
	020810B	1	ROTOR 390 60KW 1P BRUSHLESS
	020811B	1	ROTOR 390 35KW 1/3P BRUSHLESS
	020812B	1	ROTOR 390 40KW 1/3P BRUSHLESS
	020813B	1	ROTOR 390 50KW 1P BRUSHLESS
	020814B	1	ROTOR 390 60KW 1P BRUSHLESS
	020815B	1	ROTOR 390 80KW 1P BRUSHLESS
	020816B	1	ROTOR 390 100KW 1P BRUSHLESS
	020817B	1	ROTOR 390 125KW 1P BRUSHLESS
	020804D	1	ROTOR 390 25KW BR BRUSHLESS
	020806D	1	ROTOR 390 35KW BR BRUSHLESS
	020807D	1	ROTOR 390 35KW BR BRUSHLESS
	020808D	1	ROTOR 390 40KW BR BRUSHLESS
	020809D	1	ROTOR 390 50KW BR BRUSHLESS
	020810D	1	ROTOR 390 60KW BR BRUSHLESS
	020811D	1	ROTOR 390 35KW BR BRUSHLESS
	020812D	1	ROTOR 390 40KW BR BRUSHLESS
	020813D	1	ROTOR 390 50KW BR BRUSHLESS
	020814D	1	ROTOR 390 60KW BR BRUSHLESS
	020815D	1	ROTOR 390 80KW BR BRUSHLESS
	020816D	1	ROTOR 390 100KW BR BRUSHLESS
	020817D	1	ROTOR 390 125KW BR BRUSHLESS
	020809G	1	ROTOR 390 50KW 3P LV BRUSHLESS
	020813G	1	ROTOR 390 50KW 3P LV BRUSHLESS
	020814G	1	ROTOR 390 60KW 3P LV BRUSHLESS
	020815G	1	ROTOR 390 80KW 3P LV BRUSHLESS
15	052624	1	BEARING BALL 6212 SEALED
16	0A5580	4	SCREW HHC M14-2 X 140 G8.8
17	0A1633	4	WASHER 390 SAE ALT
18	020715B	1	STATOR 390 25AP1 SAE
	020716B	1	STATOR 390 35AP1 SAE
	020728B	1	STATOR 390 35AP2 SAE
	020729B	1	STATOR 390 40AP2 SAE
	020730B	1	STATOR 390 50AP2 SAE
	020731B	1	STATOR 390 60AP2 SAE
	020717B	1	STATOR 390 35AP3 SAE
	020718B	1	STATOR 390 40AP3 SAE
	020719B	1	STATOR 390 50AP3 SAE
	020720B	1	STATOR 390 60AP3 SAE
	020721B	1	STATOR 390 80AP3 SAE
	020722B	1	STATOR 390 100AP3 SAE
	020732B	1	STATOR 390 125AP4 SAE
	020715D	1	STATOR 390 25KB1 SAE

ITEM	PART #	QTY.	DESCRIPTION
	020716D	1	STATOR 390 35KB1 SAE
	020728D	1	STATOR 390 35KB2 SAE
	020729D	1	STATOR 390 40KB2 SAE
	020730D	1	STATOR 390 50KB2 SAE
	020731D	1	STATOR 390 60KB2 SAE
	020717D	1	STATOR 390 35KB3 SAE
	020718D	1	STATOR 390 40KB3 SAE
	020719D	1	STATOR 390 50KB3 SAE
	020720D	1	STATOR 390 60KB3 SAE
	020721D	1	STATOR 390 80KB3 SAE
	020722D	1	STATOR 390 100KB3 SAE
	020732D	1	STATOR 390 125KB4 SAE
	020715G	1	STATOR 390 25DB1 SAE
	020716G	1	STATOR 390 35DB1 SAE
	020728G	1	STATOR 390 35DB2 SAE
	020729G	1	STATOR 390 40DB2 SAE
	020730G	1	STATOR 390 50DB2 SAE
	020717G	1	STATOR 390 35DB3 SAE
	020718G	1	STATOR 390 40DB3 SAE
	020719G	1	STATOR 390 50DB3 SAE
	020720G	1	STATOR 390 60DB3 SAE
	020721G	1	STATOR 390 80DB3 SAE
19	022131	12	WASHER FLAT M10-3/8 ZINC
20	046526	12	WASHER LOCK M10
21	057642	12	SCREW HHC M10-1.5 X 40 G10.9
22	068113	1	CARRIER REAR BEARING 15"
23	068115	1	PANEL LOWER 15"
	091065	1	PANEL LOWER 390MM
24	043123	4	WASHER LOCK M14
25	051779	4	NUT HEX M14-2.0 G8 YEL CHR
26	052259	2	WASHER FLAT M12
27	051769	3	WASHER LOCK M12
28	068406	3	SCREW HHC M12-1.75 X 60 G10.9
29	070274	1	KEY SQ 3/8 X 2-3/4 STEEL
30	087271	1	ASSEMBLY EXCITER 1.25" STK
	087272	1	ASSEMBLY EXCITER 2.00" STK
31	068404	1	EXCITER FIELD 1.25 STK
	068405	1	EXCITER FIELD 15" 2" LG
32	092950	1	COLLAR SLIP FIT 390MM
35	090063	1	DIODE BRIDGE SUPPORT 15"
36	090152	1	ASSEMBLY BRIDGE RECTIFIER
37	023365	2	WASHER SHAKEPROOF INT #8
38	033143	2	SCREW HHM #8-32 X 7/8
39	090064	1	CAP END ROTOR 390MM
40	083485	2	PLATE NUT
41	031980	2	TIE WRAP UL 14.6 X .14 NATL
45	083549	1	SLEEVE RUBBER
46	022392	2	PIN DOWEL 1/2 X 1-1/4
47	0A4089	1	ASSEMBLY SCROLL 390 SAE
48	0A2437	2	SCREW SWAGE 1/4-20 X 5/8 Z/YC
49	022473	2	WASHER FLAT 1/4 ZINC
50	056326	1	TRIM VINYL BLACK 1/8 GP (8.4")

GROUP A



**EXPLODED VIEW:
390 CONNECTION BOX
DRAWING #: 0D6156**

EXPLODED VIEW: 390 CONNECTION BOX

DRAWING #: 0D6156

GROUP A

APPLICABLE TO:

ITEM	PART #	QTY.	DESCRIPTION
1	068115	1	PANEL LOWER (390 B/D BOX)
	091065	1	PANEL LOWER (390 PME BOX)
2	068147	1	COVER LOWER PANEL BLANK (B/D)
	0A3134	1	COVER LOWER PANEL BLANK (PME)
3	022473	4	WASHER FLAT 1/4
4	022097	21	WASHER LOCK 1/4 (B/D)
		[23]	WASHER LOCK 1/4 (PME)
5	022287	17	SCREW HHC 1/4-20 X 3/4 G5 (B/D)
		[19]	SCREW HHC 1/4-20 X 3/4 G5 (PME)
6	022127	4	NUT HEX 1/4-20
7	023484N	1	BUSHING SNAP
8	0D3388	1	DECAL REMOTE START CONNECTION
9	048766	REF	BLOCK TERMINAL 2-CKT
10	022985	2	WASHER FLAT #6
11	022264	2	WASHER LOCK M4
12	0C2212	2	SCREW TAPTITE PH M4-0.7 X 16 ZYC
13	068116	1	COVER LOWER PANEL 15"
14	REF.	1	BATTERY CHARGER
15	REF.	1	ASSY. CONTROL PANEL
20 *	056739	1	RELAY SOLENOID 12VDC PANEL MOUNT
	082982	1	RELAY SOLENOID 24VDC
21 *	022473	2	WASHER FLAT 1/4 ZINC
22 *	022097	2	WASHER LOCK M6-1/4
23 *	022287	2	SCREW HHC 1/4-20 X 3/4 G5
30 +	061395	3	TRANSFORMER CURRENT-100/5
	058318	3	TRANSFORMER CURRENT-150/5
	058710	3	TRANSFORMER CURRENT-200/5
	058377	3	TRANSFORMER CURRENT-300/5
	057909	3	TRANSFORMER CURRENT-400/5
31 ++	022145	6	WASHER FLAT M8-5/16 ZINC
32 ++	022129	6	WASHER LOCK M8-5/16
33 ++	022259	6	NUT HEX 5/16-18 STEEL
34 ++	022142	6	SCREW HHC 5/16-18 X 3/4 G5
35 **	023897	4	WASHER FLAT #10 ZINC
36 **	022152	3	WASHER LOCK #10
37 **	022158	4	NUT HEX #10-32 STEEL
38 **	033141	4	SCREW HHM #10-32 X 3/4
39 **	072986A	1	TRANSFORMER 277/240/120V
40 **	022769	2	WASHER SHAKEPROOF INT #10
41 **	038150	2	WASHER FLAT #8 ZINC
42 **	022264	2	WASHER LOCK M4
43 **	022471	2	NUT HEX #8-32 STEEL
44 **	033140	2	SCREW HHM #8-32 X 3/4
45 **	072986	1	TRANSFORMER 400V TO 240V 20VA

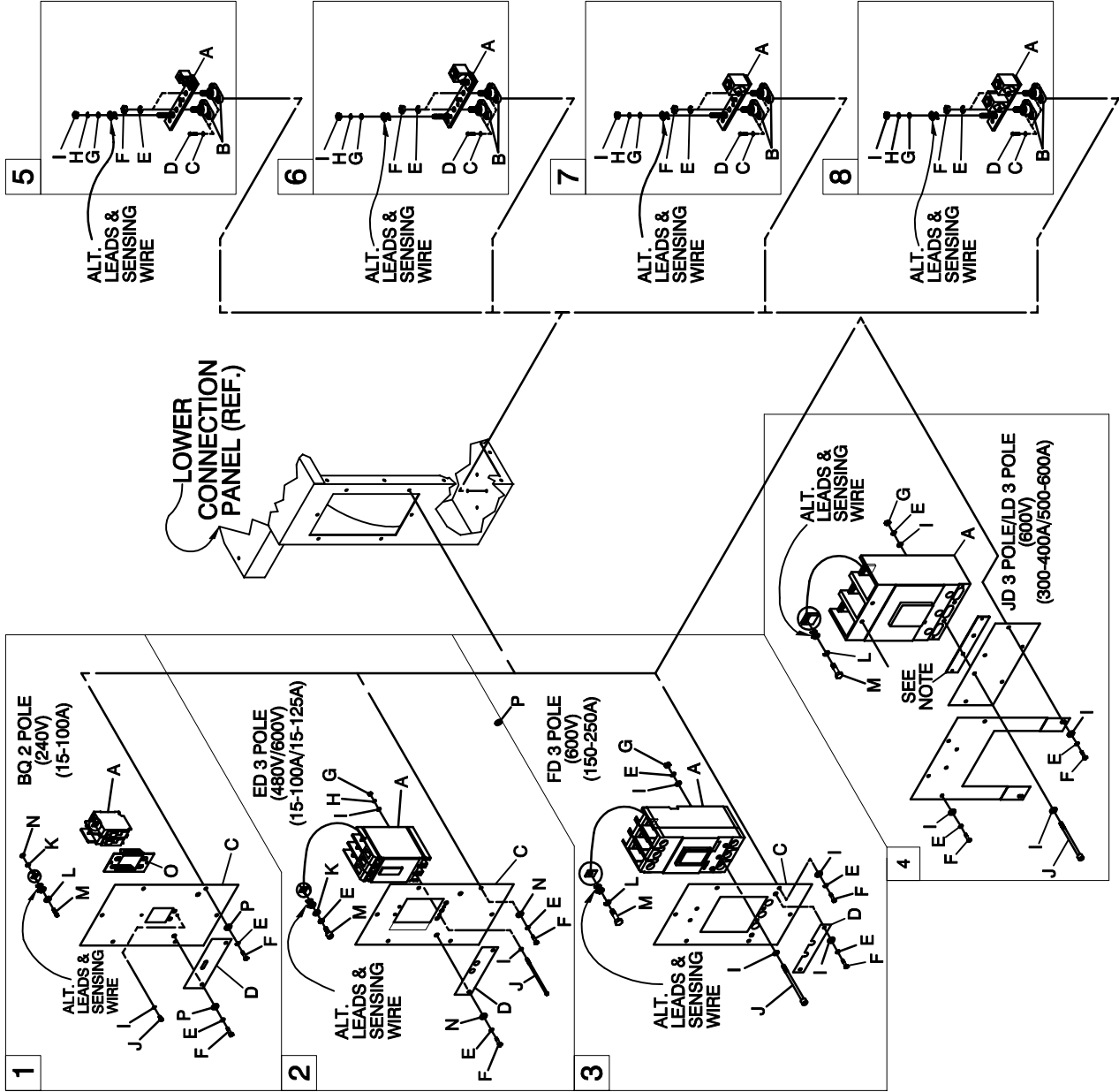
* QUANTITIES DOUBLE FOR DIESEL UNITS

** "R" VOLTAGE GENERATORS ONLY

+ QTY: 2 FOR SINGLE PHASE UNITS

++ QTY: 4 FOR SINGLE PHASE UNITS

GROUP A



AMPERAGE RATING	DESCRIPTION:	CABLE TORQUE:	WIRE SIZE RANGE
10-130A	LINE SIDE	72 IN/LB	#14 - #2 AWG
15-20A	LOAD SIDE	32 IN/LB	#12-#8 AWG Cu #12-#8 AWG AL
25-35A	LOAD SIDE	36 IN/LB	#8-#6 AWG Cu #8-#6 AWG AL
40-50A	LOAD SIDE	45 IN/LB	#8-#6 AWG Cu #8-#4 AWG AL
55-70A	LOAD SIDE	50 IN/LB	#8-#4 AWG Cu #8-#2 AWG AL
80-100	LOAD SIDE	60 IN/LB	#4-#1/0 AWG Cu #2-#1/0 AWG AL

BQ FRAME
2 POLE

AMPERAGE RATING	DESCRIPTION:	CABLE TORQUE:	WIRE SIZE RANGE
10-130A	LINE SIDE	72 IN/LB	#14 - #2 AWG
10-25A	LOAD SIDE	32 IN/LB	#14-10 AWG Cu #12-10 AWG AL
30-100A	LOAD SIDE	20 IN/LB 36 IN/LB 45 IN/LB 50 IN/LB 60 IN/LB	#10 AWG #8 AWG #6-4 AWG #3 AWG #2-1/0 AWG

ED FRAME
3 POLE

AMPERAGE RATING	DESCRIPTION:	CABLE TORQUE:	WIRE SIZE RANGE
150-200A	LINE SIDE	228 IN/LBS	(1-2) UP TO #4/0-500kcmil
150-200A	LOAD SIDE	275 IN/LBS	(1-2) #3/0-500kcmil (Cu) (1-2) #4/0-500kcmil (Al)

FD FRAME
3 POLE

AMPERAGE RATING	DESCRIPTION:	CABLE TORQUE:	WIRE SIZE RANGE
200-600A	LINE SIDE	228 IN/LBS	UP TO #4-350kcmil
200-600A	LOAD SIDE	300 IN/LBS	#6-350kcmil (Cu) #4-350kcmil (Al)

JD/LD FRAME
3 POLE

NOTE: ALWAYS REPLACE PLASTIC TERMINAL COVERS. DO NOT OPERATE GENERATOR WITHOUT ALL TERMINAL COVERS IN PLACE.

EXPLODED VIEW: UL CIRCUIT BREAKERS 390 BOX
DRAWING #: 0D6158

GROUP A

APPLICABLE TO:

ITEM	PART #	QTY.	DESCRIPTION
1)	N/A	N/A	UL CIRCUIT BREAKER SIEMENS (BQ2)
A	N/A	N/A	SEE TABLE
B	0D5593A	1	KIT CB MOUNT S (BQ 2P) 390S (B/D)
	0D5593B	1	KIT CB MOUNT S (BQ 2P) 390L (PME)
			PARTS SHOWN BELOW (I/N'S: C-P)
C	072868	1	COVER CIR BKR BQ2 (B/D)
	099227	1	COVER BQ2 CIRCUIT BR (PME)
D	068140	1	COVER CB TERMNAL BQ3
E	022097	6/8	WASHER LOCK M6-1/4
F	022287	6/8	SCREW HHC 1/4-20 X 3/4 G5
I	022264	2	WASHER LOCK M4
J	033133	2	SCREW HHM #8-32 X 3/8
K	022152	2	WASHER LOCK #10
L	0D5621	2	WASHER-STEP 5/8 X 3/8 X 1/4 STEEL
M	036935	2	SCREW PPHM #10-32 X 3/4
N	022158	2	NUT HEX #10-32 STEEL
O	039782	1	BRACKET MOUNTING CIRCUIT BRKR
P	022473	6/8	WASHER FLAT 1/4-M6 ZINC
2)	N/A	N/A	UL CIRCUIT BREAKER SIEMENS
			(ED4) & (ED6) W & W/O ACCESORIES
A	N/A	N/A	SEE TABLE
B	0D5594A	1	KIT CB MOUNT S (ED 3P) 390S (B/D)
	0D5594B	1	KIT CB MOUNT S (ED 3P) 390L (PME)
	0D5594O		KIT CB MOUNT S (ED 3PW/AC) 390S (B/D)
	0D5594P		KIT CB MOUNT S(ED 3PW/AC) 390L (PME)
			PARTS SHOWN BELOW (I/N'S: C-N)
C	0D5618	1	PLATE CB MOUNT S (ED) 390S
	0D5619	1	PLATE CB MOUNT S (ED) 390L
	0D5618A	1	PLATE CB MOUNT S (ED) 390S W/AC
	0D5619A	1	PLATE CB MOUNT S (ED) 390L W/AC
D	0D5620	1	COVER CB TERMINALS S (ED 3P)
E	022097	11/13	WASHER LOCK M6-1/4
F	022287	8/10	SCREW HHC 1/4-20 X 3/4 G5
G	022471	4	NUT HEX #8-32 STEEL
H	022264	4	WASHER LOCK M4
I	038150	8	WASHER FLAT #8 ZINC
J	066715	4	SCREW RHN #8-32 X 4 1/2
K	0D5621	3	WASHER-STEP 5/8 X 3/8 X 1/4 STEEL
M	0A8278	3	SCREW SHC 1/4-28 X 3/4 G8.8 NZ
N	022473	8/10	WASHER FLAT 1/4-M6 ZINC
3)	N/A	N/A	UL CIRCUIT BREAKER SIEMENS (FD6)
A	N/A	N/A	SEE TABLE
B	0D5595A	1	KIT CB MOUNT S (FD 3P) 390S (B/D)
	0D5595B	1	KIT CB MOUNT S (FD 3P) 390L (PME)
			PARTS SHOWN BELOW (I/N'S: C-M)
C	0D5689	1	PLATE CB MOUNT S (ED) 390S
	0D5690	1	PLATE CB MOUNT S (ED) 390L
D	0D5693	1	COVER CB TERMINALS S (FD 3P)
E	022097	12/14	WASHER LOCK M6-1/4
F	022287	8/10	SCREW HHC 1/4-20 X 3/4 G5
G	022127	4	NUT HEX 1/4-20 STEEL
I	022473	12	WASHER FLAT 1/4 ZINC
J	081320	4	SCREW SHC 1/4-20 X 4.5 G8.8 NZ
L	022237	3	WASHER LOCK 3/8
M	048527	3	SCREW SHC 3/8-16 X 3/4 G5
4)	N/A	N/A	UL CIRCUIT BREAKER SIEMENS (JD6/LD6)
A	N/A	N/A	SEE TABLE
B	0D5596B	1	KIT CB MOUNT S (JD/LD 3P) 390L (PME)
			PARTS SHOWN BELOW (I/N'S: C-M)
C	0D5720	1	PLATE CB MOUNT S (JD/LD) 390L
D	0D5723	1	COVER CB TERMINALS S(JD/LD 3P)

ITEM	PART #	QTY.	DESCRIPTION
E	022097	8	WASHER LOCK M6-1/4
F	022287	8	SCREW HHC 1/4-20 X 3/4 G5
G	022127	4	NUT HEX 1/4-20 STEEL
H	022264	4	WASHER LOCK 1/4
I	022473	12	WASHER FLAT 1/4 ZINC
J	081320	4	SCREW SHC 1/4-20 X 4.5 G8.8 NZ
L	022237	3	WASHER LOCK 3/8
M	048527	3	SCREW SHC 3/8-16 X 3/4 G5
5)	0D5463	1	KIT NEUTRAL BLOCK 390/UPTO125A
			PARTS SHOWN BELOW (I/N: A-I)
A	0D5464	1	NEUTRAL BLOCK 390/UPTO125A
B	057073	2	JUNCTION BLOCK 3/8-16
C	022152	4	WASHER LOCK #10
D	033530	4	SCREW PHM #10-32 X 5/8 CAD
E	022237	2	WASHER LOCK 3/8
F	022241	2	NUT HEX 3/8-16 STEEL
G	022145	1	WASHER FLAT 5/16 ZINC
H	022129	1	WASHER LOCK M8-5/16
I	045771	1	NUT HEX M8-1.25 G8 YEL CHR
6)	0D5463A	1	KIT NEUTRAL BLOCK 390/150-175A
			PARTS SHOWN BELOW (I/N: A-I)
A	0D5464A	1	NEUTRAL BLOCK 390/150-175A
B	057073	2	JUNCTION BLOCK 3/8-16
C	022152	4	WASHER LOCK #10
D	033530	4	SCREW PHM #10-32 X 5/8 CAD
E	022237	2	WASHER LOCK 3/8
F	022241	2	NUT HEX 3/8-16 STEEL
G	022145	1	WASHER FLAT 5/16 ZINC
H	022129	1	WASHER LOCK M8-5/16
I	045771	1	NUT HEX M8-1.25 G8 YEL CHR
7)	0D5463B	1	KIT NEUTRAL BLOCK 390/200-400A
			PARTS SHOWN BELOW (I/N: A-I)
A	0D5464B	1	NEUTRAL BLOCK 390/200-400A
B	057073	2	JUNCTION BLOCK 3/8-16
C	022152	4	WASHER LOCK #10
D	033530	4	SCREW PHM #10-32 X 5/8 CAD
E	022237	2	WASHER LOCK 3/8
F	022241	2	NUT HEX 3/8-16 STEEL
G	022145	1	WASHER FLAT 5/16 ZINC
H	022129	1	WASHER LOCK M8-5/16
I	045771	1	NUT HEX M8-1.25 G8 YEL CHR
8)	0D5463C	1	KIT NEUTRAL BLOCK 390/500-600A
			PARTS SHOWN BELOW (I/N: A-I)
A	0D5464C	1	NEUTRAL BLOCK 390/500-600A
B	057073	2	JUNCTION BLOCK 3/8-16
C	022152	4	WASHER LOCK #10
D	033530	4	SCREW PHM #10-32 X 5/8 CAD
E	022237	2	WASHER LOCK 3/8
F	022241	2	NUT HEX 3/8-16 STEEL
G	022145	1	WASHER FLAT 5/16 ZINC
H	022129	1	WASHER LOCK M8-5/16
I	045771	1	NUT HEX M8-1.25 G8 YEL CHR

CIRCUIT BREAKER PART NUMBER TABLE

CIRCUIT BREAKER TABLE			MAXIMUM VOLTAGE	P/N:
ED FRAME	POLES			
AMPS	POLES			
15	3	480V	OD5545	
20	3	480V	OD5546	
25	3	480V	OD5547	
30	3	480V	OD5548	
35	3	480V	OD5549	
40	3	480V	OD5550	
45	3	480V	OD5551	
50	3	480V	OD5552	
60	3	480V	OD5553	
70	3	480V	OD5554	
80	3	480V	OD5555	
90	3	480V	OD5556	
100	3	480V	OD5557	
125	3	480V	OD9693	
15	3	600V	OD5558	
20	3	600V	OD5559	
25	3	600V	OD5560	
30	3	600V	OD5561	
35	3	600V	OD5562	
40	3	600V	OD5563	
45	3	600V	OD5564	
50	3	600V	OD5565	
60	3	600V	OD5566	
70	3	600V	OD5567	
80	3	600V	OD5568	
90	3	600V	OD5569	
100	3	600V	OD5570	
125	3	600V	OD5571	

CIRCUIT BREAKER TABLE			MAXIMUM VOLTAGE	P/N:
BQ FRAME	POLES			
AMPS	POLES			
15	2	240V	OD5532	
20	2	240V	OD5533	
25	2	240V	OD5534	
30	2	240V	OD5535	
35	2	240V	OD5536	
40	2	240V	OD5537	
45	2	240V	OD5538	
50	2	240V	OD5539	
60	2	240V	OD5540	
70	2	240V	OD5541	
80	2	240V	OD5542	
90	2	240V	OD5543	
100	2	240V	OD5544	

NOTE: BQ BREAKERS NOT OFFERED WITH ACCESSORIES BY GENERAC.

CIRCUIT BREAKER TABLE			MAXIMUM VOLTAGE	P/N:
FD FRAME	POLES			
AMPS	POLES			
150	3	600V	OD5572	
175	3	600V	OD5573	
200	3	600V	OD5574	
225	3	600V	OD5575	
250	3	600V	OD5576	

CIRCUIT BREAKER TABLE			MAXIMUM VOLTAGE	P/N:
JD FRAME	POLES			
AMPS	POLES			
300	3	600V	OD5577	
350	3	600V	OD5578	
400	3	600V	OD5579	
450	3	600V	OD5585	

CIRCUIT BREAKER TABLE			MAXIMUM VOLTAGE	P/N:
LD FRAME	POLES			
AMPS	POLES			
500	3	600V	OD5580	
600	3	600V	OD5581	

CIRCUIT BREAKER TABLE			MAXIMUM VOLTAGE	P/N:
LMD FRAME	POLES			
AMPS	POLES			
700	3	600V	OD5582	
800	3	600V	OD5583	

CIRCUIT BREAKER TABLE			TRIP RATING PERCENTAGE	MAXIMUM VOLTAGE	P/N:
ND FRAME	POLES				
AMPS	POLES				
900	3	80%	600V	OD5584	
1000*	3	80%	600V	OA6219	
1000*	3	100%	600V	OA6220	
1200*	3	80%	600V	OA6141	
1200*	3	100%	600V	OA6142	

CIRCUIT BREAKER TABLE			TRIP RATING PERCENTAGE	MAXIMUM VOLTAGE	P/N:
PD FRAME	POLES				
AMPS	POLES				
1400*	3	80%	600V	OA6143	
1400*	3	100%	600V	OA6144	
1600*	3	80%	600V	OA6145	
1600*	3	100%	600V	OA6146	

FOR CIRCUIT BREAKERS WITH ACCESSORIES, ADD SUFFIXES* BELOW TO END OF PART NUMBER:
A - AUX. CONTACTS (DPDT)
F - ALARM CONTACTS
B - 12V SHUNT TRIP W/SPDT AUX CONTACTS
S - 12V SHUNT TRIP
C - 24V SHUNT TRIP W/SPDT AUX CONTACTS
T - 24V SHUNT TRIP
D - AUX. CONTACTS (SPDT)

*=FOR CIRCUIT BREAKERS 1000A AND OVER, USE ONLY SUFFIXES C & T.
FOR OTHER ACCESSORIES CONSULT GENERAC SERVICE DEPARTMENT.

EXPLODED VIEW:
CIRCUIT BREAKER P/N TABLE
DRAWING #: 0D8789

GROUP B

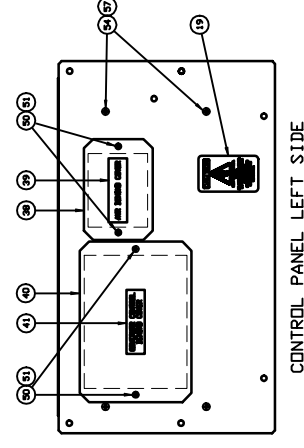
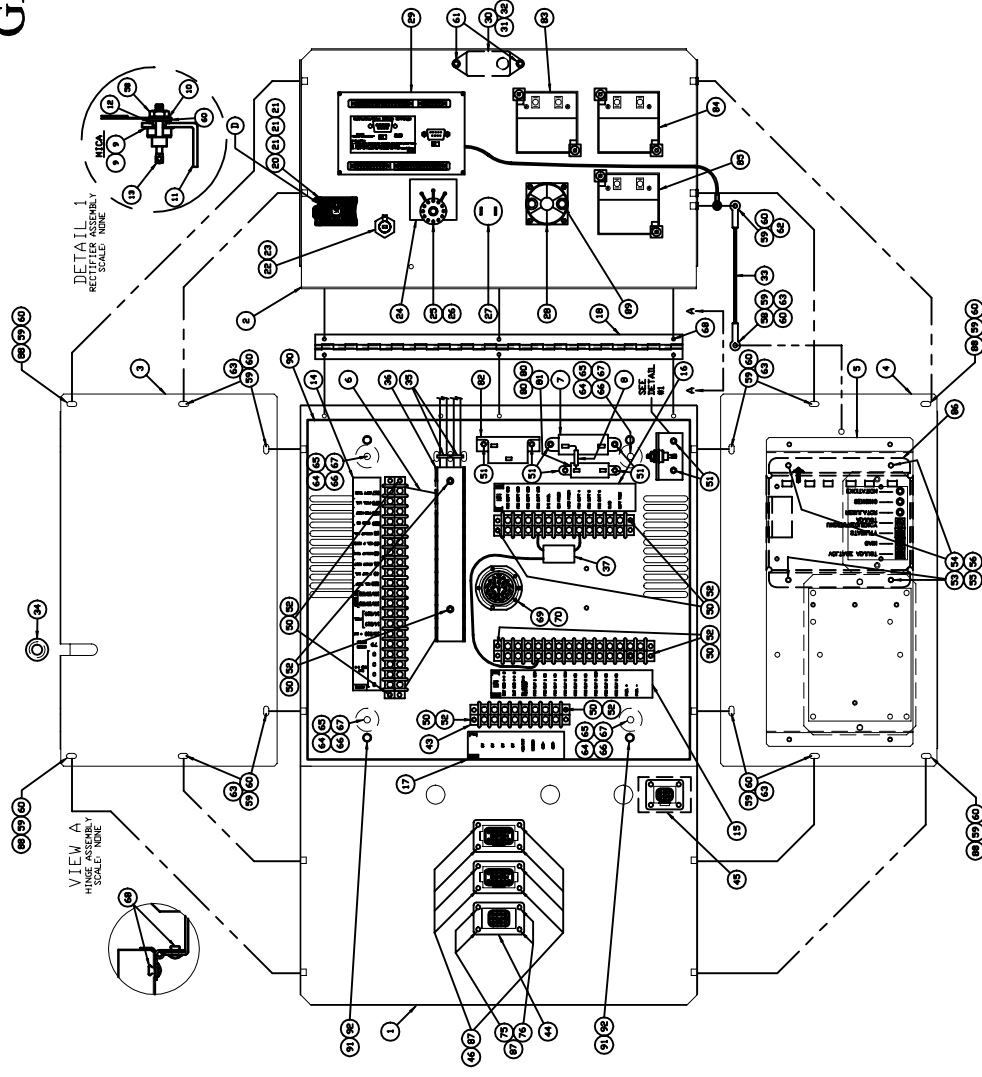


TABLE 6 R-AVR POWER(S) CIRCUIT BREAKER DATA

ALL DIRECTLY EXCITED MACHINES	7/A	048467
19 TO 25KVA	5/3A	054450
ALL BRUSHLESS & PHE MACHINES	6/3A	048450
19 TO 25KVA	6/3A	048450
ALL BRUSHLESS & PHE MACHINES	7/A	048450
19 TO 25KVA	7/A	048450
ALL BRUSHLESS & PHE MACHINES	7/A	048476
19 TO 25KVA	7/A	048476
ALL BRUSHLESS & PHE MACHINES	4/5A	048476
OVER 100KW	P/N	048476

TABLE A-1E.1 D BOND RESISTOR DATA

TABLE 1	TYPE	BOOST	RESISTOR DATA
ALL DIRECTLY EXCITED MACHINES		5 OHM 25W	
UPTO 100KW WITH 12 OR 24V DC SYSTEMS		P/N. 048352	
ALL BRUSHLESS & PNE MACHINES		25 OHM 25W	
UPTO 100KW WITH 12V DC SYSTEMS		P/N. 057405	
ALL BRUSHLESS & PNE MACHINES		50 OHM 25W	
UPTO 100KW WITH 24V DC SYSTEMS		P/N. 083364	
ALL BRUSHLESS & PNE MACHINES		75 OHM 25W	
OVER 100KW WITH 12 OR 24V DC SYSTEMS		P/N. 086266	

TABLE D: VOLTAGE METER

VOLT. CODE	VOL TAGE METER P/N	VOL TAGE RANGE
A	120/PAN1	1 PHASE
B	120/PAN1	1 PHASE
D	120/PAN1	1 PHASE
G	120/PAN1	1 PHASE
J	271/AMN3	3 PHASE
K	271/AMN3	3 PHASE
N	115/GPND	3 PHASE
P	107/GDN3	3 PHASE
R	107/GDN3	3 PHASE
L	60V/3 PHSE	3 PHASE

TABLE C: AMMETER

AMMETER	P/N	AMMETER RANGE
	070056	0-150A
	070057	0-300A
	070058	0-400A
	070059	0-600A
	070060	0-800A
	075323	0-1000A
	075324	0-1600A
	075325	0-2000A
	075326	0-3000A
	070045	0-200A

EXPLODED VIEW:
E-PANEL W/SEALED CONS (W/GNRC ALTNTRS)
DRAWING #: 0E3671

EXPLODED VIEW: E-PANEL W/SEALED CONS (W/GNRC ALTNTRS)

DRAWING #: 0E3671

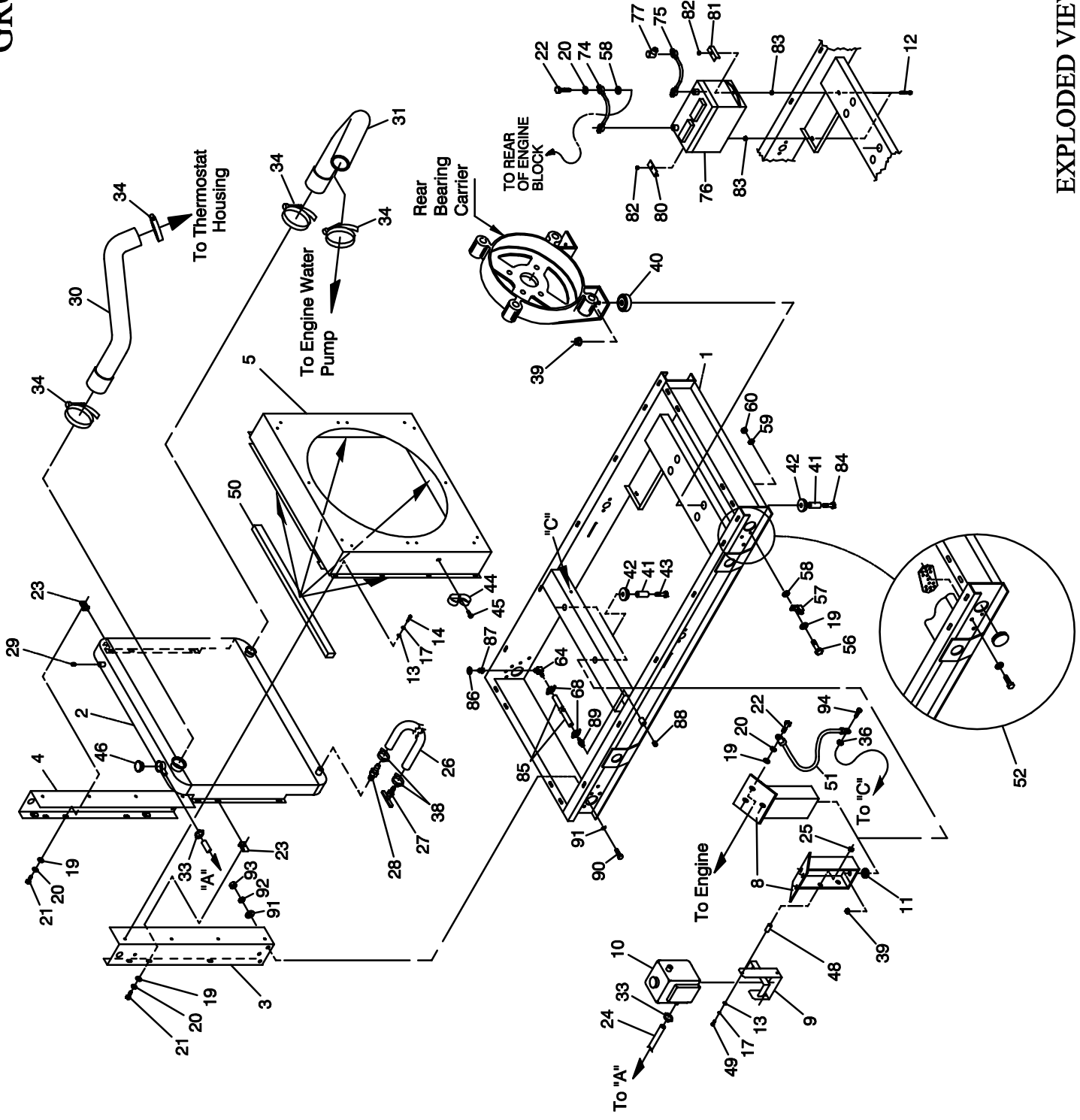
GROUP B

APPLICABLE TO: 3.9L VERIZON

ITEM	PART #	QTY.	DESCRIPTION
1	0E3681	1	PANEL,BACK & BOTTOM E-PNL VRZN
2	0E3679	1	E-PANEL FRONT, W/ SILK SCREEN
3	0E3683	1	PANEL RH SIDE, E-PNL VERIZON
4	0E3682	1	PANEL LH SIDE, E-PNL VERIZON
5	0E3550	1	CHASSIS, UNIVERSAL
6	0D2382	1	HARNESS E-PANEL W/SEALED CONS
7	044213	1	RES 10R 5% 12W
8	025192	1	RECTIFIER MSC 2A 600V 1N5062
9	070370	2	WASHER MICA .203
10	023762	1	WASHER SHAKEPROOF EXT #10 STL
11	055444	1	HEATSINK 13.3L
12	030468	1	WASHER STEP NYLON .20
13	049939	1	RECTIFIER MSC 12A 600V 1N1206R
14	0A3392	1	DECAL TERMINAL BLOCK
15	0C8229	1	DCL-E PNL TS#2 (W/FS)
16	0A6577	1	DECAL T STRIP 3 E PNL
17	0D3153	1	DECAL T STRIP TB4 W/SEALED CON
18	0D6947	1	HINGE CONTINUOUS
19	0C1229	1	DECAL CUST CONN BOX
20	0E2693A	1	SWITCH MUSHRM HEAD/ARROWS 40MM
21	0E2693C	3	CONTACT BLOCK D5-3 X 01 W/2 1417
22	032300	1	HOLDER FUSE
23	022676	1	FUSE 15A X AGC15
24	055349	1	INSULATOR
25	071361	1	POT 5K 10% 2.25W PNL
26	050123	1	KNOB PLASTIC .25 SHAFT
27	061286	1	SOUNALERT BUZZER
28	061945	1	SWITCH SELECTOR 6A AMP/V
29	0A4087	1	MASTER CTRL BOX E-PNL
30	0E3703	1	LIGHT PANEL WITH LUG
31	0C8481	1	BULB-PANEL LIGHT-12V
32	083288	1	LIGHT 28VDC .17A MIN BAYNT MNT
33	070082	1	BLOCKER LIGHT
34	0A2275	1	DOOR-STOP RAM PANEL
35	030809	1	GROMMET 11/16 X 1/8 X 7/16
36	028739	2	TIE WRAP 3.9" X .10" NAT'L UL
37	0A2400A	1	TRUNKING 180MM
38	0E4831	1	ASSY LOW FUEL PRES FILTER 3.9L
39	0E3685	1	COVER PLATE,VOLTAGE REG.VERIZN
40	0C1127	1	DECAL AVR COVER
41	0E3686	1	COVER PLATE,ELECT.GOVENOR VRZN
42	0A3394	1	DECAL ELEC GOVERNOR
43	0A5705	REF.	FUSE 5A X LTTL215005 (NOT SHOWN)
44	0D3243	1	CBL ASSY-RS485 E PNL W/SEALED
45	0D3471	2	DECAL COVER DEUTSCH (RECT)
46	0D3471	2	DECAL COVER DEUTSCH (RECT) (ELECTRONIC GOVERNOR HARNESS IF EQUIPPED)
47	0C5141	2	CONN DEUTSCH GASKET 8/12POS DT
48	022155	14	WASHER LOCK #6
49	0C2428	14	SCREW TAPTITE PH 6-32X1/2 Z/YC
50	0C2323	10	SCREW TAPTITE PH 6-32X5/8 ZYC
51	022471	4	NUT HEX #8-32 STEEL
52	022264	8	WASHER LOCK M4
53	038150	4	WASHER FLAT #8 ZINC
54	036918	4	SCREW PPHM #8-32 X 1/2
55	0A2284	4	SCREW SWAGE 8-32 X 1/2 Z/YC
56	022158	2	NUT HEX #10-32 STEEL
57	022152	14	WASHER LOCK #10
58	023897	15	WASHER FLAT #10 ZINC
59	024469	2	SCREW TAPTITE #10-32 X 3/8 BP
60	033120	1	SCREW HHC #10-32 X 3/8
61	033138	9	SCREW HHM #10-32 X 5/8
62	022507	4	SCREW HHC 1/4-20 X 1/2 G5
63	022097	4	WASHER LOCK M6-1/4
64	022473	4	WASHER FLAT 1/4 ZINC
65	040479	4	VIB MNT 1.0 X 1.0 X 1/4-20
66	064509	6	RIVET POP .125 X .375 AL
67	0C8243	1	WASHER LOCK HDPDEUTSCH
68	0C8244	1	NUT, HDP DEUTSCH

ITEM	PART #	QTY.	DESCRIPTION
--	-----	--	ADDITIONAL PARTS (BASE TANK UNITS)
75	0D3306	1	HARNESS BASETANK FOR E-PANEL
76	0C5141	1	CONN DEUTSCH GASKET 8/12 POS DT
--	-----	--	PANEL SPECIAL PARTS
80	064733	2	BRACKET RESISTOR MNTNG FOR 25W
81	SEE	1	RESISTOR #2
82	TABLE A	1	FIELD CIRCUIT BREAKER
83	SEE	1	AMMETER
84	TABLE C	1	VOLTMETER AC
85	SEE	1	METER FREQUENCY 55-65HZ
86	070042A	1	FREQUENCY METER 240V 45-55HZ
87	067680	1	ASSY VOLTAGE REGULATOR 60HZ
88	092952	1	ASSY VOLTAGE REGULATOR 50HZ
89	074908	12	SCREW HHTT M5-0.8 X 10 BP
90	033147	4	SCREW HHM #10-32 X 1
91	075476	2	SCREW PPHM M4-0.7 X 16
92	0E4103	1	SUB-PLATE, E-PANEL VERIZON
93	0A2312	4	SCREW SWAGE 10-32 X 1 Z/YC
94	029187	4	SPACER .19 X .31 X .50 PL

GROUP C



EXPLODED VIEW: MOUNTING BASE 5.7L STNDBY DIRECT DRIVE
DRAWING #: 0D2625

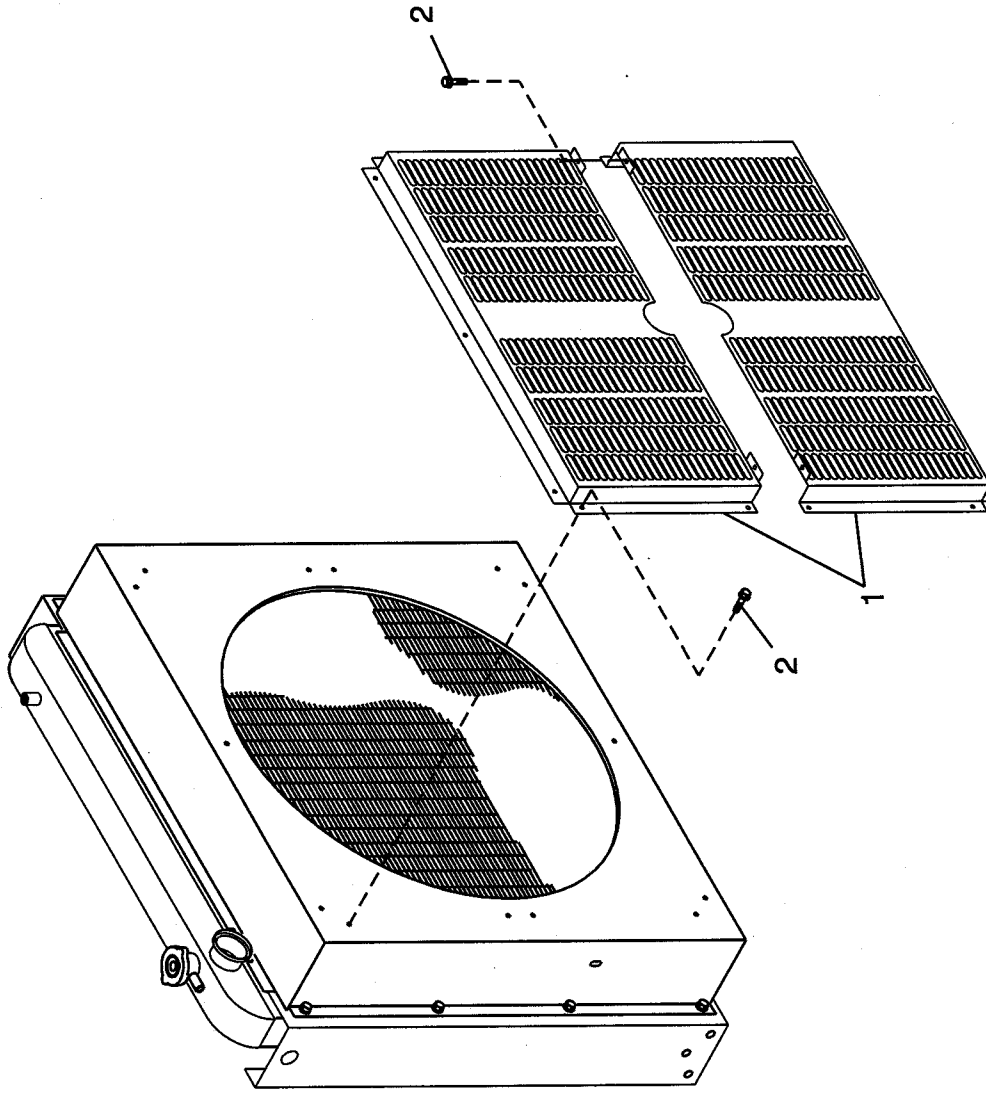
GROUP C

APPLICABLE TO: 5.7L IRRIGATION

ITEM	PART #	QTY.	DESCRIPTION
1	0D2399	1	BASE MOUNTING 5.7L
2	087871A	1	RADIATOR RIGHT HAND OUTLET
3	0D2426	1	RADIATOR SIDE SUPPORT LH
4	0D2427	1	RADIATOR SIDE SUPPORT RH
5	0D2428A	1	WELDMENT VENTURI 22" DIA FAN
8	0C4743	2	MOUNT ENGINE 5.7L
9	080712	1	BRACKET, COOLANT RECOVERY TANK
10	076749	1	TANK COOLANT RECOVERY
11	052251A	2	DAMPENER VIB 50 WHITE
12	0A4010	2	SCREW HHC M8-1.25 X 60 FTHD
13	022473	9	WASHER FLAT 1/4 ZINC
14	022287	8	SCREW HHC 1/4-20 X 3/4 G5
17	022097	9	WASHER LOCK M6-1/4
19	022131	13	WASHER FLAT 3/8 ZINC
20	022237	13	WASHER LOCK 3/8
21	023152	6	SCREW HHC 3/8-16 X 3/4 G5
22	036833	7	SCREW HHC 3/8-16 X 1 G8
23	099667D	6	NUT SPRINGCLIP 3/8-16
24	029032	54"	HOSE 9/32 ID
25	022127	1	NUT HEX 1/4-20 STEEL
26	047290	2'	HOSE RES 3/8 SINGLE BRAID
27	036865	1	DRAINCOCK
28	035461	1	STRAIGHT BRBD 1/4 NPT X 3/8
29	026073A	1	PLUG STD PIPE 1/4 STEEL SQ HD
30	0D2443	1	HOSE, RADIATOR UPPER 5.7L
31	0D2444	1	HOSE, RADIATOR LOWER 5.7L
33	048031C	2	CLAMP HOSE BAND 1/4
34	042561	4	CLAMP HOSE #36 1.88 - 2.75
36	027482	1	WASHER SHAKEPROOF EXT 5/16 STL
38	0C7649	2	CLAMP HOSE .38 - .87
39	052860	4	NUT LOCKING M12-1.75
40	052251	2	DAMPENER VIBRATION 40 BLUE
41	052257	4	SPACER .49 X .62 X 1.87 PWDR/ZNC
42	052252	4	DAMPENER VIBRATION
43	052891	2	SCREW HHC M12-1.75 X 80 G8.8
44	065852	1	SPRINGCLIP .37 - .62
45	0A2111	1	SCREW SWAGE 10-32 X 5/16 Z/YC
46	046627	1	CAP RADIATOR
48	033437	1	SPACER .41 X .75 X .56 ST/ZNC
49	022203	1	SCREW HHC 1/4-20 X 1-1/4 G5
50	052250	4	TAPE FOAM 1 X 1 (28" LONG)
51	0536210213	1	ASSY GRNDWIRE 11"/3/8&5/16 LUG
52	0D4239	1	KIT, VARMIT GUARD (FOR N/G, L/P VAPOR OR DUAL FUEL N/G-L/P LIQUID UNITS)
	0D4239A	1	KIT, VARMIT GUARD (FOR L/P LIQUID UNITS)
	0D4239B	1	KIT, VARMIT GUARD (FOR DUAL FUEL N/G-L/P VAPOR UNITS)
56	049814	1	SCREW HHC M10-1.5 X 25 G8.8
57	061383	1	LUG SLDLSS 3/0-#4 X 13/32 CU
58	025507	2	WASHER SHAKEPROOF EXT 7/16 STL
59	046526	1	WASHER LOCK M10
60	045772	1	NUT HEX M10-1.5 G8 YEL CHR
64	034339	1	BARBED ELBOW 90 3/8 NPT X 5/8
68	057822	2	CLAMP HOSE #8 .53 - 1.00
74	038805T	1	CABLE BATTERY BLACK #1 X 40.00
75	038804U	1	CABLE BATT RED #1 X 28.00
76	058665	1	BATTERY 12VDC 90-AH 27F
77	075763	1	BOOT BATTERY CABLE
80	061902	1	HOLD DOWN BATTERY
81	059473	1	HOLD DOWN BATTERY
82	049820	2	NUT LOCK HEX M8-1.25 NYL INSRT
83	052858	2	NUT LOCK FLANGE M8-1.25
84	055597	2	SCREW HHC M12-1.75 X 85 G8.8
85	065386	21"	HOSE 5/8 ID SAE100R6
86	052677	1	FW NYLON .50/.87/.06
87	077456	1	ADPTR.M12-1.75 3/8NP
88	024310	1	PLUG STD PIPE 1/2 STEEL SQ HD
89	044118	1	BARBED STR 1/2NPT X 5/8
90	051768	6	SCREW HHC M12-1.75 X 25 G8.8

ITEM	PART #	QTY.	DESCRIPTION
91	049808	12	WASHER FLAT M12
92	051769	6	WASHER LOCK M12
93	045773	6	NUT HEX M12-1.75 G8 YEL CHR
94	083512	1	SCREW HHTT M8-1.2 X 16 YC

GROUP C



EXPLODED VIEW:
FAN GUARD, KIT (DIRECT DRIVE)
DRAWING #: 0D8563

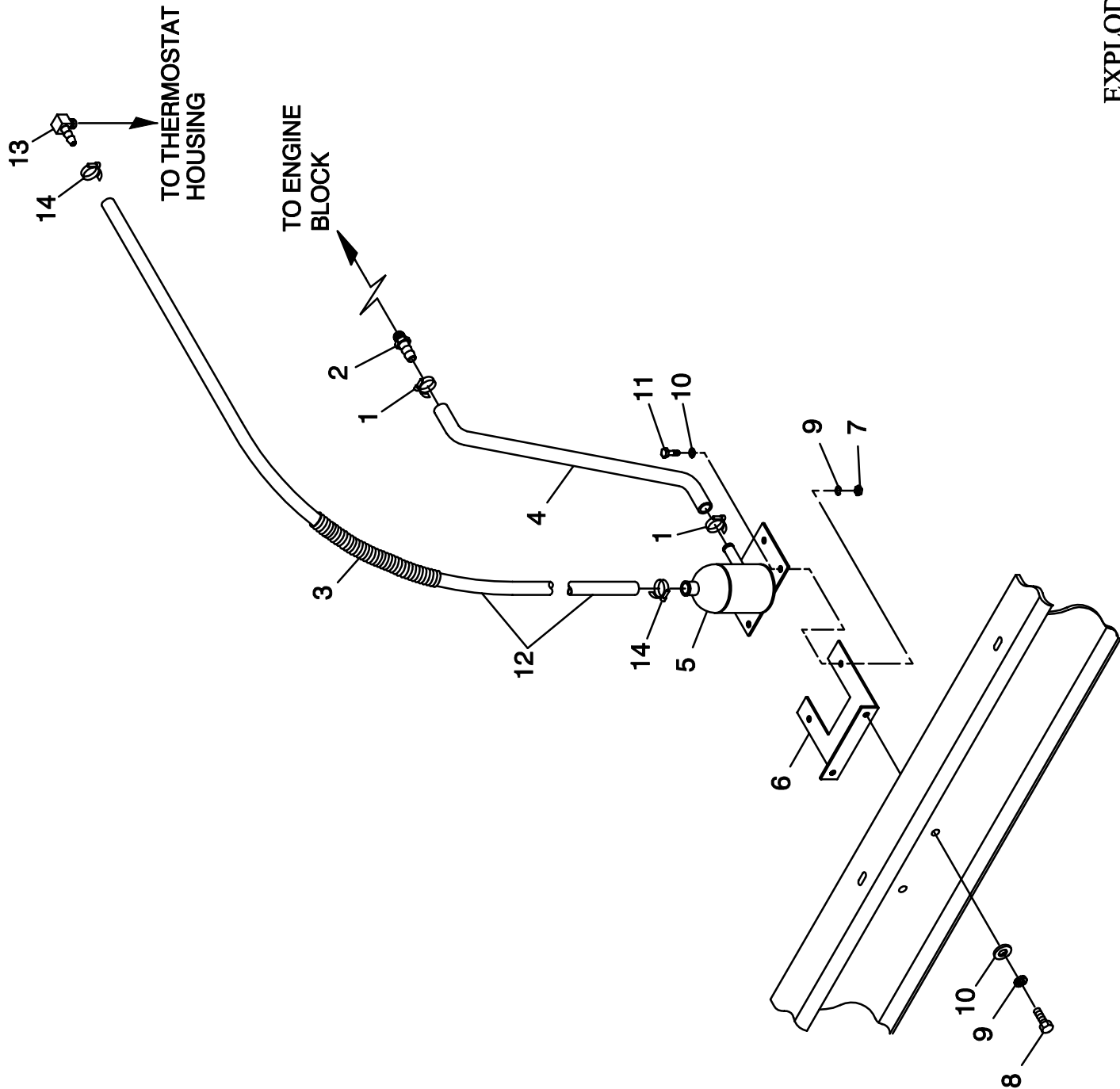
EXPLODED VIEW: FAN GUARD, KIT (DIRECT DRIVE)

DRAWING #: 0D8563

GROUP C

APPLICABLE TO:

ITEM	PART #	QTY.	DESCRIPTION
1	0D2429	2	GUARD FAN TOP 5.7L GEN 1 E
2	024912	16	SCREW HHTT 1/4-20 X 5/8 CZ



EXPLODED VIEW:
ENGINE COOLANT BLOCK HEATER
DRAWING #: 0D8692

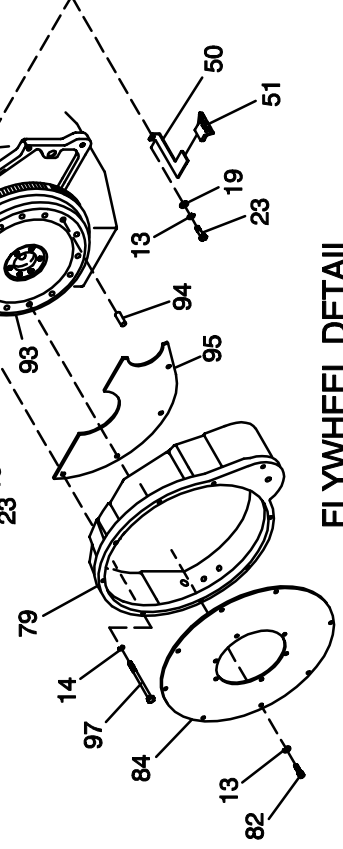
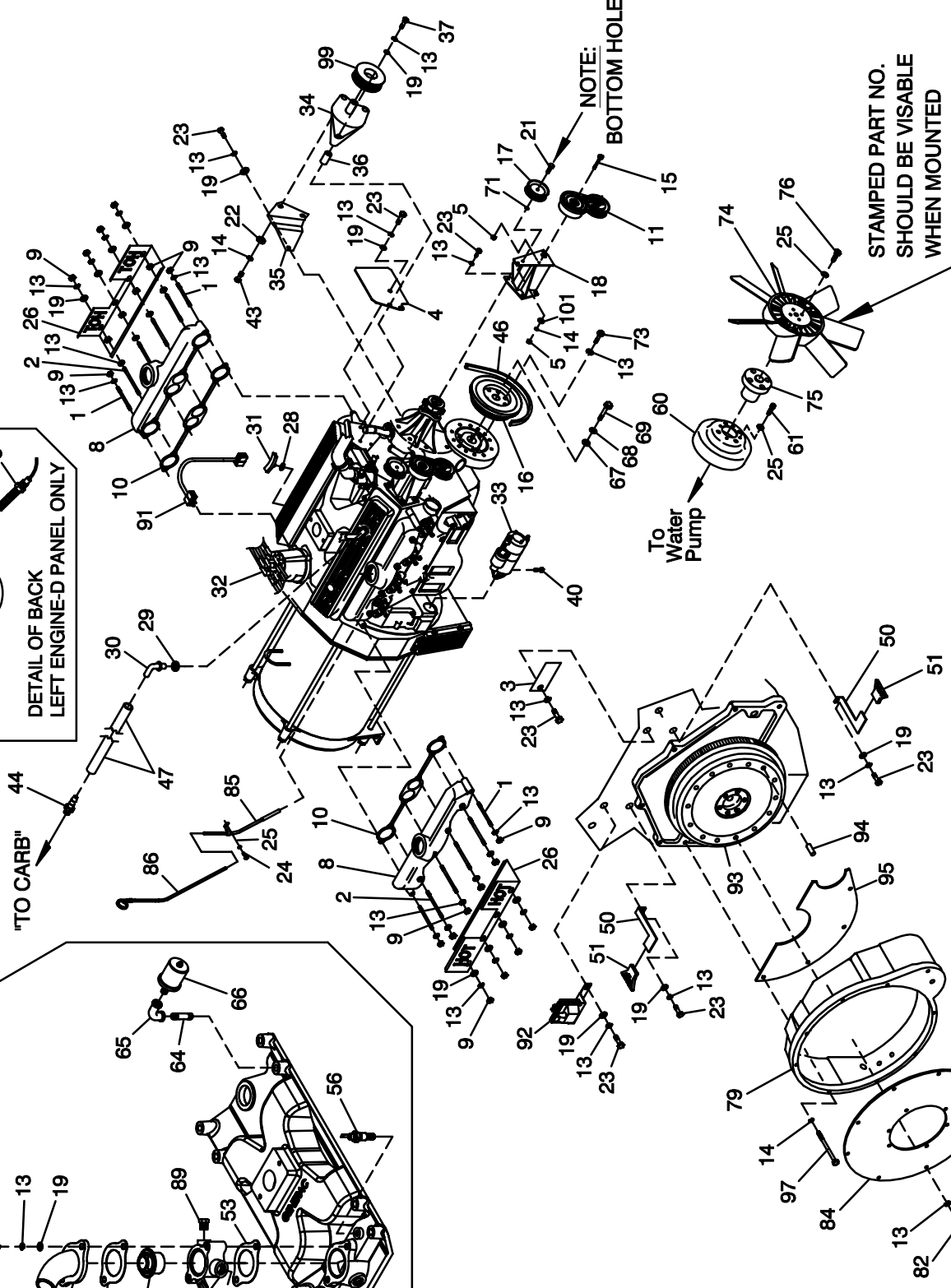
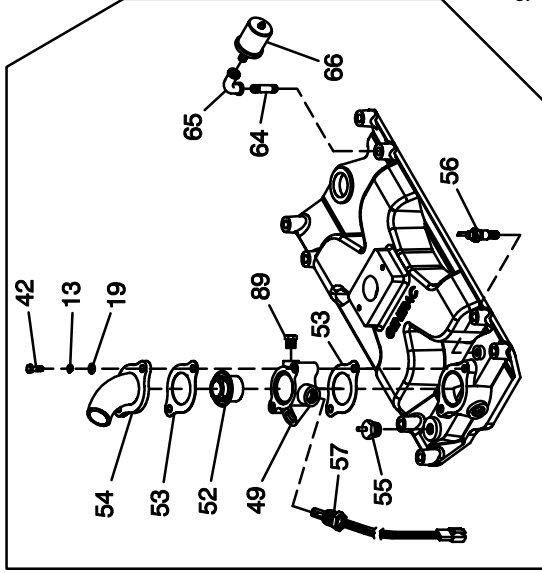
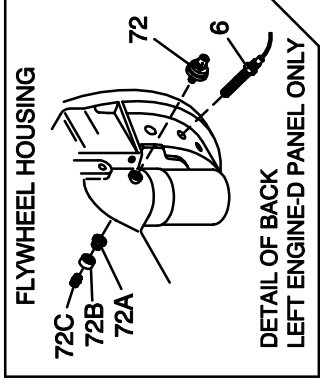
EXPLODED VIEW: ENGINE COOLANT BLOCK HEATER**DRAWING #: 0D8692****APPLICABLE TO: 5.7L****GROUP C**

ITEM	PART #	QTY.	DESCRIPTION
1	057822	2	CLAMP HOSE #8 .53 - 1.00
2	044117	1	BARBED STR 3/8 NPT X 5/8
3	** 077043E	1	CONDUIT FLEX 1" BLACK (26"LG)
4	050967	1	HOSE 5/8 ID RIA 250F(16"LG)
5	084918C	1	HEATER ENGINE 1800W 120V
	* 084918D	1	HEATER ENGINE 2000W 240V
6	084427	1	BRACKET HEATER
7	049813	2	NUT HEX M6-1.0 G8 YEL CHR
8	047411	2	SCREW HHC M6-1.0 X 16 G8.8
9	022097	4	WASHER LOCK M6-1/4
10	022473	4	WASHER FLAT 1/4 ZINC
11	042568	2	SCREW HHC M6-1.0 X 20 G8.8
12	** 050967	1	HOSE 5/8 ID RIA 250F (36"LG)
13	** 034339	1	BARBED EL 90 3/8 NPT X 5/8
14	** 057822	2	CLAMP HOSE #8 .53 - 1.00

* USED ON "R" VOLTAGE GENERATORS ONLY.

** USED ON NON-DUEL FUEL NATURAL GAS & LP VAPOR UNITS ONLY.

GROUP D



EXPLODED VIEW:
ENGINE COMMON PARTS (COMMON PARTS)
DRAWING #: 0D2542

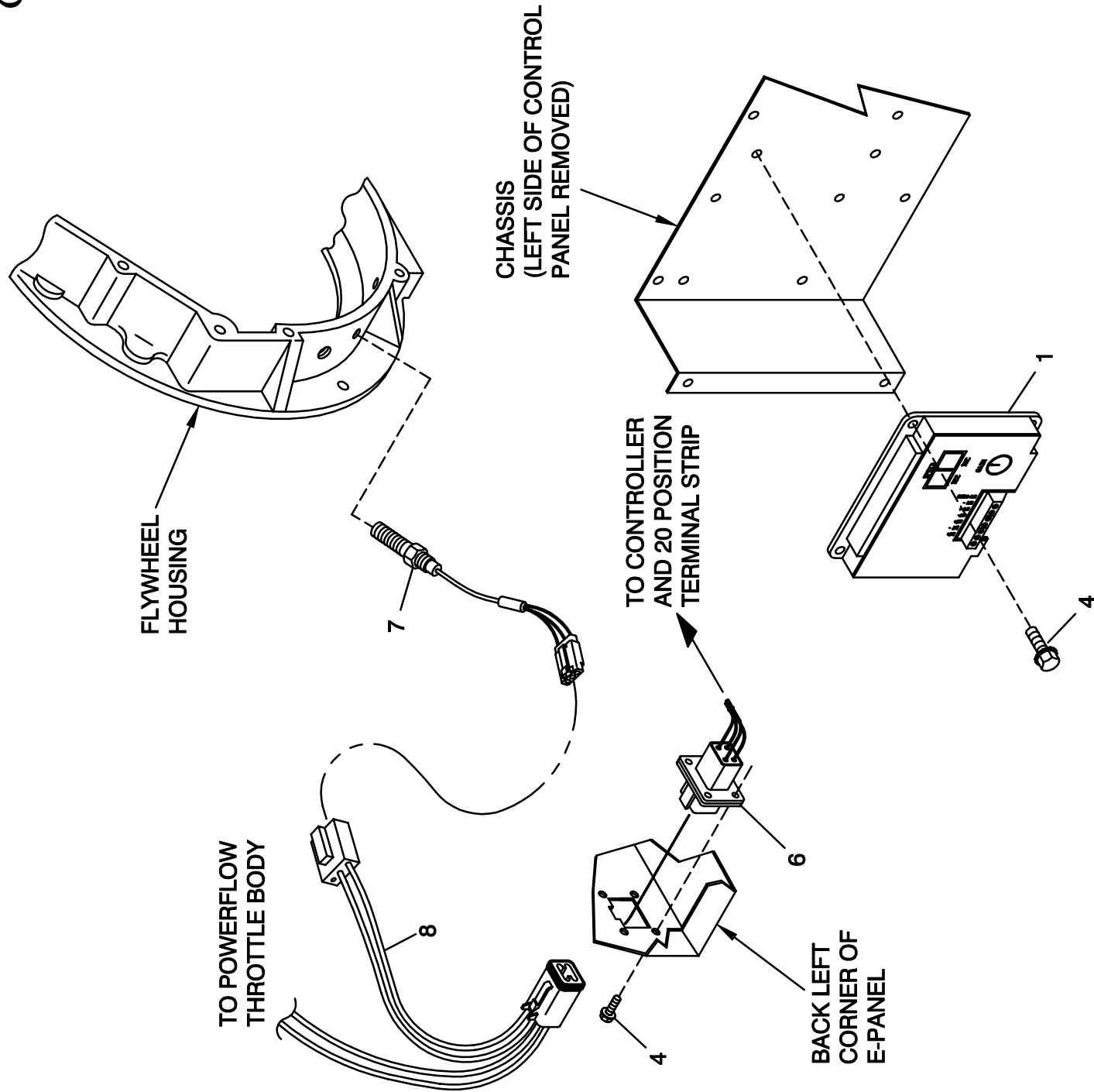
EXPLODED VIEW: ENGINE COMMON PARTS (COMMON PARTS)
DRAWING #: 0D2542

GROUP D

APPLICABLE TO:

ITEM	PART #	QTY.	DESCRIPTION
1	087099	4	STUD 3/8-16 X 4" SS
2	087099B	8	STUD 3/8-16 X 5.25" SS
3	0D3678	1	NAMEPLATE ENGINE 5.7L GEN 1 E
4	0E1183	REF.	EXHAUST HEAT SHIELD
5	045772	2	NUT HEX M10-1.5 G8 YEL CHR
6	0D2244M	1	ASSY MAGPICKUP(3/8-24 MALE)
8	082433	2	EXHAUST MANIFOLD
9	022241	20	NUT HEX 3/8-16 STEEL
10	055489	2	GASKET EXHAUST MANIFOLD
11	0C2885	1	PULLEY BELT TENSIONER
13	022237	44	WASHER LOCK 3/8
14	046526	9	WASHER LOCK M10
15	0C3756	1	BOLT TENSIONER PULLEY
16	0A4239	1	PULLEY CRANK SHAFT
17	0A4241	1	PULLEY GROOVED IDLER
18	0C6233	1	MOUNTING BRACKET PULLEY
19	022131	17	WASHER FLAT M10-3/8 ZINC
21	057645	1	SCREW HHC M10-1.5 X 50 G8.8
22	0A5768	2	WASHER FLAT M10 (HEAVY)
23	029745	10	SCREW HHC 3/8-16 X 1 G5
24	036223	1	SCREW HHC 5/16-18 X 1/2 G5
25	022129	9	WASHER LOCK M8-5/16
26	0D4510	2	EXHAUST SHIELD HOT PLATE 5.7L
28	0C5320	1	GROMMET CRANK CASE BREATHER (NOT USED ON TELECOM UNIT)
29	0C5318	1	GROMMET PCV
30	0A4121	1	VALVE PCV
31	069870	1	BREATHER CRANK CASE
32	0C7806	1	WIRE SET SPARK PLUG
33	059056A	1	STARTER MOTOR
34	0A1232	1	ASSEMBLY DC ALTERNATOR ASSEMBLY
35	0D6200	1	BRACKET ALT. SUPPORT
36	0A5737B	1	SPACER DC ALT. (25 LG)
37	033819	1	SCREW HHC 3/8-16 X 4 G5
40	058385A	2	BOLT STARTER
42	022400	2	SCREW HHC 3/8-16 X 3 G5
43	049814	2	SCREW HHC M10-1.5 X 25 G8.8
44	035461	1	BARBED STR 1/4 NPT X 3/8
46	0C9617	1	BELT 5.7L SEPENTINE
47	047290	1 FT.	HOSE RES 3/8 SINGLE BRAID
49	099729A	1	EXTENSION THERM HSG
50	044101	2	BRACKET SPARK PLUG WIRE
51	058030	2	RETAINER PLUG WIRES
52	075885	1	THERMOSTAT 195 DEG
53	0A2440	2	GASKET THERMOSTAT
54	069939	1	HOUSING THERMOSTAT
55	0A6751	1	SW-TMP 245 DEG 3/8 NPT
56	053667	1	SENDER WATER TEMP
57	0E0561	1	ASSEMBLY WATER LEVEL SENSOR C/E PL
60	0A4240	1	PULLEY WATER PUMP
61	042907	4	SCREW HHC M8-1.25 X 16 G8.8
64	039558	1	NIPPLE PIPE 1/8 NPT X 1-3/4
65	028405	1	ELBOW 90D 1/8 NPT
66	053666	1	SENDER OIL PRESSURE
67	052644	1	SPACER .5 X 1.5 X .25 STL/ZINC
68	022302	1	WASHER LOCK 7/16
69	037065	1	SCREW HHC 7/16-20 X 2-1/4 G5
71	052259	1	WASHER FLAT M12
72	0A8584	1	SWITCH OIL PRESSURE (USED ON "D" PANEL)
72A	035578	1	NIPPLE CLOSE 1/8 NPT
72B	029612	1	COUPLING FULL 1/8-27
72C	035579	1	BUSHING REDUCER 1/4 TO 1/8
73	042633	3	SCREW HHC 3/8-24 X 1 G5
74	0D3293A	1	FAN COOLING 22" DIA.
75	0A5640A	1	SPACER FAN 60.5 MM 5.7L
	0A5640	1	SPACER FAN 65MM-45KW (USED ON TELECOM UNIT)
76	022142	4	SCREW HHC 5/16-18 X 3/4 G5
79	098239	1	ADAPTOR CASTING SAE 3
82	043097	8	SCREW SHC 3/8-16 X 1 G8.8NZ

ITEM	PART #	QTY.	DESCRIPTION
84	0A3852	3	PLATE FLEX GM
85	058365	1	TUBE DIPSTICK OIL
86	058366	1	DIPSTICK OIL
87	074031	.001 QT	NEOPRENE LIQUID (NOT SHOWN)
88	0D3351	1	HARNESS ENGINE (NOT SHOWN)
89	061012	1	PLUG STD PIPE 1/8 SOCKET HEAD
91	0A4244	1	CONNECT COIL TO DIST
92	0C4385	1	COIL IGNITION
93	0C3154	1	FLYWHEEL
94	048191	2	PIN DOWEL M10 X 24
95	055474	1	FLYWHEEL COVER
97	0D6585	6	SCREW SHC 3/8-16 X 3.0 NZ
99	0A7801C	1	PULLEY POLY-V 97 OD.
100	056739	1	RELAY SOLENOID 12VDC PNL MNT (NOT SHOWN)
101	0A1646	1	WASHER FLAT M16



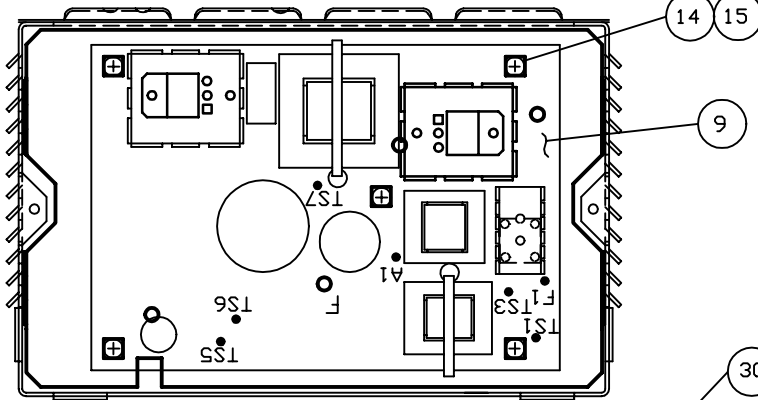
APPLICABLE TO:

ITEM	PART #	QTY.	DESCRIPTION
1	0D3440	1	CONTROLLER B-C
4	074908	8	SCREW HHTT M5-0.8 X 10 BP
6	0D3427	1	HARNESS, E-GOV 5.7L (E-PANEL) (5.7LGM-4.3LGM-3.0LGM)
7	0D2244M	1	ASSY MAGPICKUP (3/8-24 FEMALE)
8	0E1335	1	HARNESS, THROTTLE BODY 4.3L GM
	0E1335A	1	HARNESS, THROTTLE BODY 3.0L GM

NOTE: 5.7L THROTTLE BODY HARNESS IS LOCATED IN THE ENGINE HARNESS
P/N 0D3351.

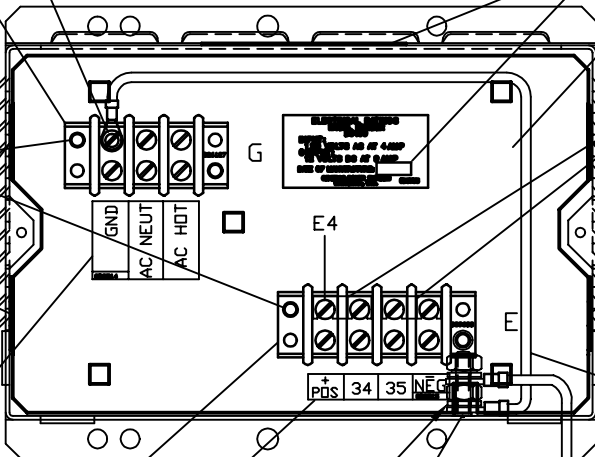
GROUP D

REAR CUTAWAY VIEW OF PC BOARD
MOUNTED TO BOTTOM OF INNER WALL



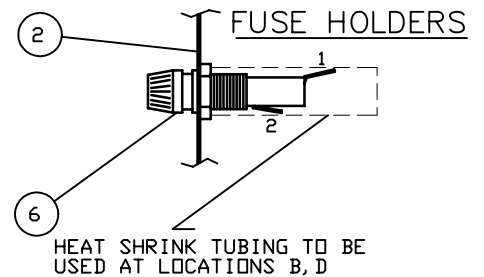
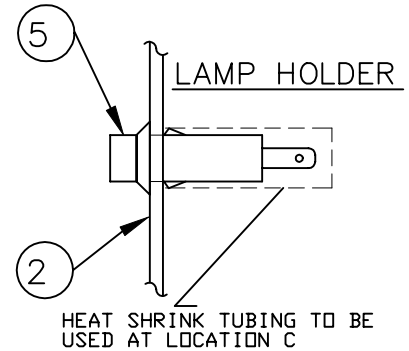
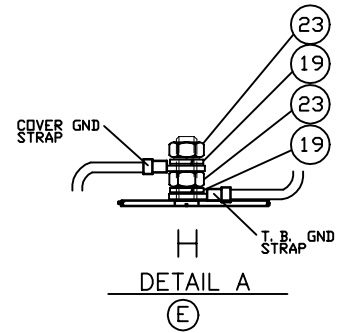
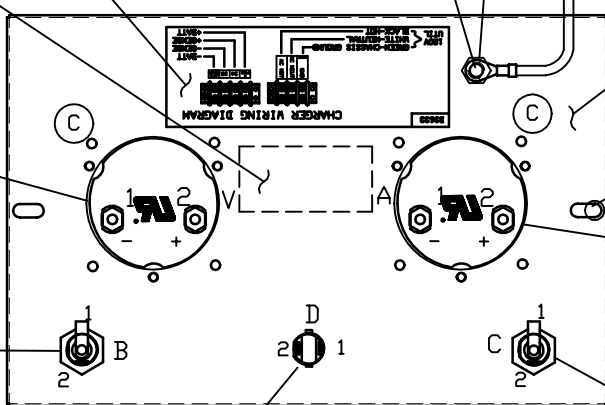
LOCATED ON
OUTSIDE TOP

FRONT VIEW OF INNER WALL WITH
TERMINAL BLOCK & DECAL



SEE DETAIL A

INSIDE OF FRONT COVER



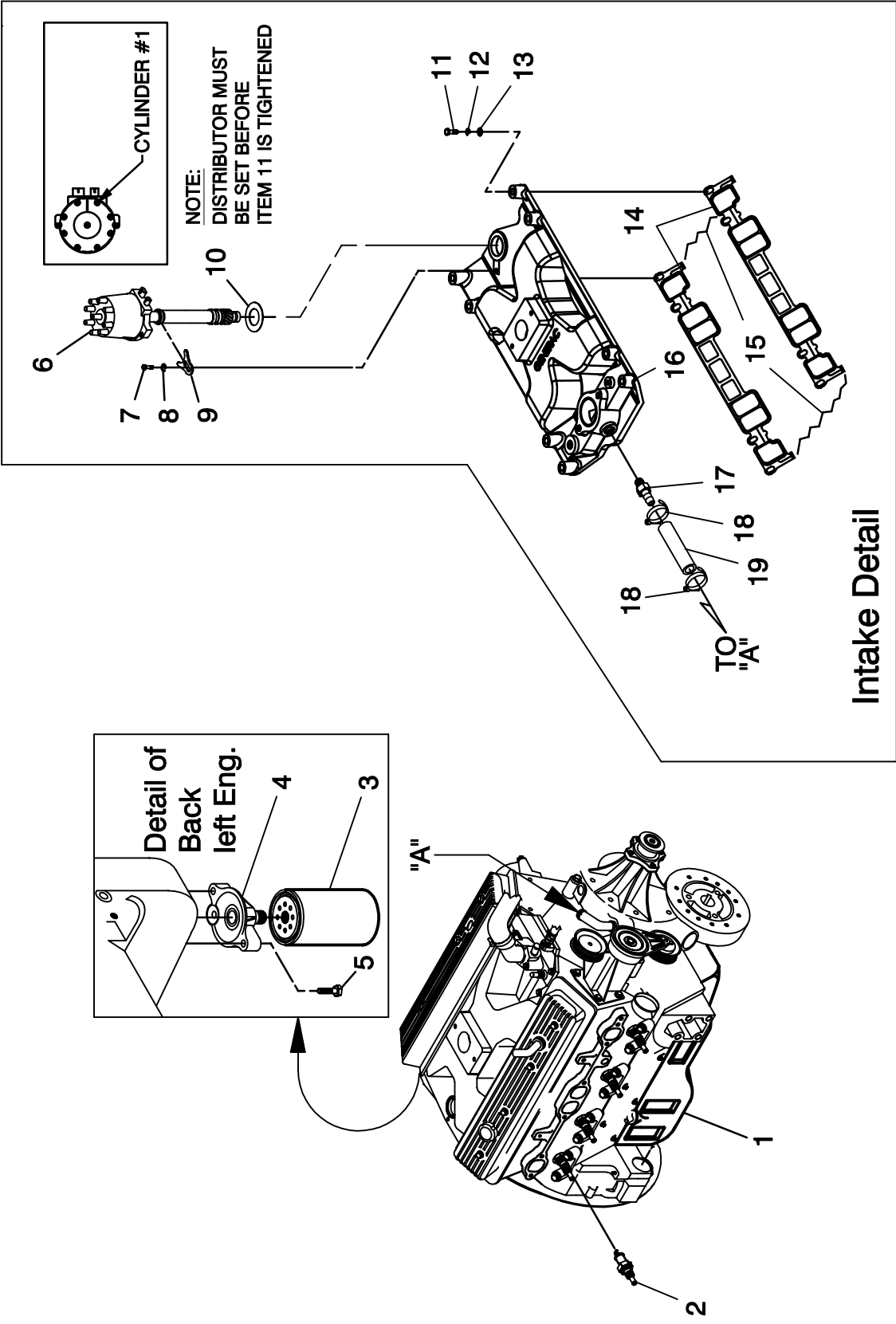
EXPLODED VIEW: BATTERY CHARGER 10A. 12V.

DRAWING #: 0D3490

GROUP D

APPLICABLE TO:

ITEM	PART #	QTY.	DESCRIPTION
1	0C2943	1	BATT. CHARGER BOX
2	0D5254	1	SILKSCREEN COVER DUAL METER 12
3	061526	1	AMMETER 0-15ADC 2-1/2"
4	061527	1	VOLTMETER 0-15VDC 2-1/2"
5	061525	1	LIGHT 120V NEON LAMP/HOLDER
6	032300	2	HOLDER FUSE
7	067682B	1	FUSE 4A SLO BLO GLASS
8	0D7178B	1	FUSE 12AMP LITT 3AB-12 314012
9	067666C	1	ASSY PCB BATT CHRG 10A 12/120V
10	024911	4	SCREW HHTT #8-32 X 3/8 CZ
11	039608	1	BLOCK TERM 30A 4 X 8 X 1600V
12	0D3615	1	DECAL,TB,4POS,BATCHRG,12&24V
13	0D3670	1	INNER WALL,12/24V,10A,BATCHRG
14	072566A	5	NUT,SPACER .375 PCB
15	079529	5	PPHTC SCREW M4.2X16
16	023827	2	BLOCK TERM JUMPER FOR S142/542
17	022158	4	NUT HEX #10-32 STEEL
18	022152	4	WASHER LOCK #10
19	022097	3	WASHER LOCK M6-1/4
20	036934	4	SCREW PPHM #10-32 X 5/8
21	0D3633	1	DECAL,BATTCHRG,12&24V,WIRING
22	056893	2	SCREW CRIMPTITE 10-24 X 1/2
23	049813	3	NUT HEX M6 X 1.0 G8 YEL CHR
24	080858	1	SHRINK TUBING .625"ID BLK(2-3/8"LG)
25	080858	1	SHRINK TUBING .625"ID BLK(1-3/4"LG)
26	080858	1	SHRINK TUBING .625"ID BLK(1-1/2"LG)
27	052621	2	WASHER NYLON .200
28	026127	1	BLOCK TERM 30A 3 X 8 X 1600V
29	0D3614	1	DECAL,TB,3POS,BATCHRG 12&24V
30	0D3733	1	DECAL,ELECTRIC,RATE,D3490 B.C
31	0D3930	1	DECAL, CAUTION BATT CHRG 12/24
32	0D3490W	1	WIRE-BATTERY CHARGER 12 VOLT
33	0D7551	1	DECAL WARNING BATTERY

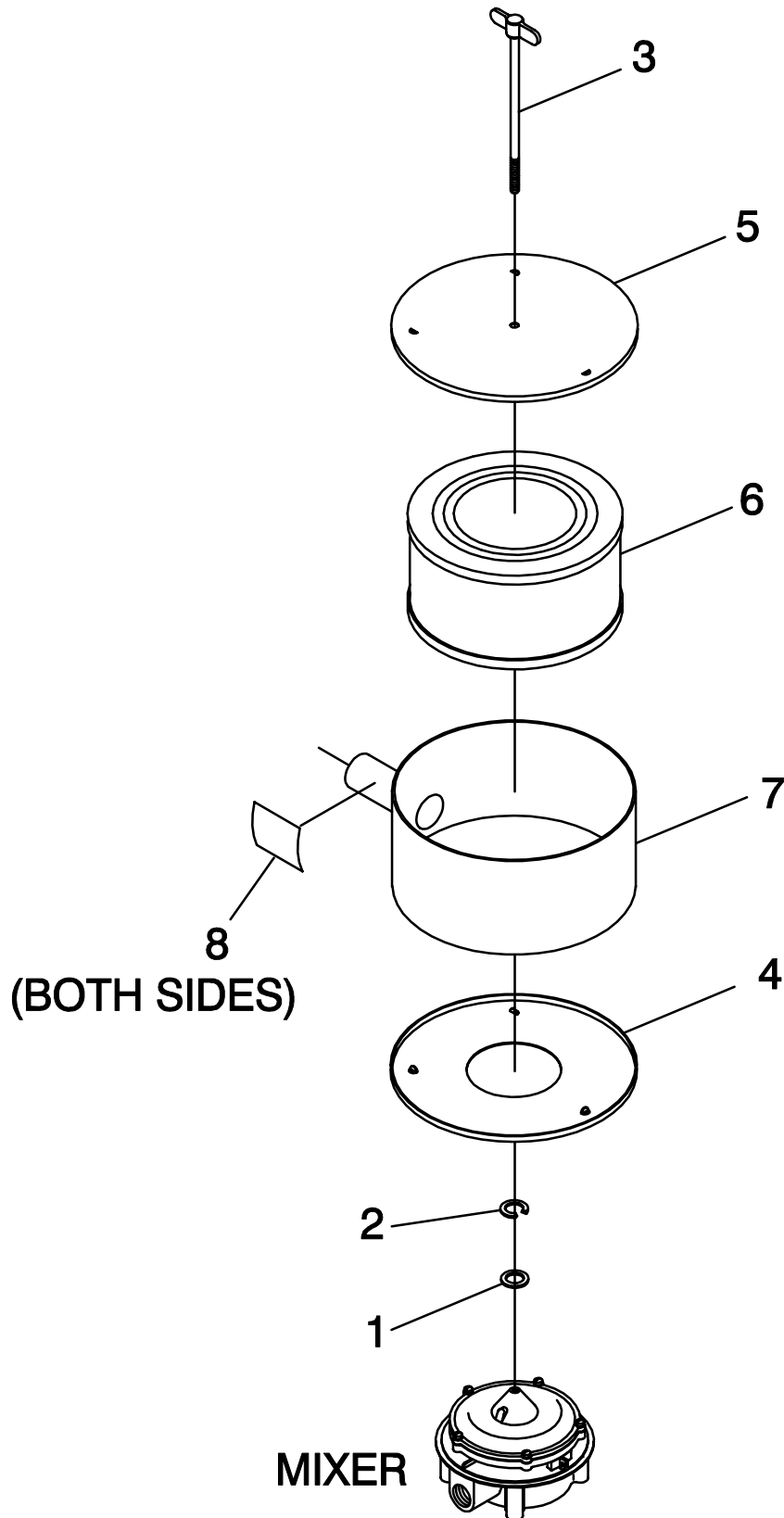


TORQUE SETTINGS *		TORQUE PATTERNS			
Intake Manifold	(I/N: 27)	(6)	(4)	(2)	(8)
1st Pass	3 N-M (2.2 lb-FT.)	(7)	(1)	(3)	(5)
2nd Pass	12 N-M (8.8 lb-FT.)				
Final Pass	15 N-M (11.1 lb-FT.)				

*Use Locktite (P/N 086495) on all Manifold Bolts

EXPLODED VIEW: ENGINE 5.7L GEN 1E**DRAWING #: 0D3683****GROUP D****APPLICABLE TO:**

ITEM	PART #	QTY.	DESCRIPTION
1	0C2398	1	ENGINE, 5.7L GM
2	0D2514	8	SPARK PLUG, 5.7L GM
3	0C3784	1	FILTER OIL
4	058008	1	ADAPTOR OIL FILTER
5	058007	2	BOLT OIL FILTER
6	0C4386	1	DISTRIBUTOR EST
7	029745	1	SCREW HHC 3/8-16 X 1 G5
8	022237	1	WASHER LOCK 3/8
9	0C4254	1	HOLD-DOWN DISTRIBUTOR
10	0C4389	1	GASKET DISTRIBUTOR
11	022403	8	SCREW HHC 5/16-18 X 2 G5
12	022129	8	WASHER LOCK M8-5/16
13	022145	8	WASHER FLAT 5/16 ZINC
14	0C4255	2	GASKET INTAKE
15	0C7980	A/R	RTV RED HITEMP 510
16	0C7754A	1	INTAKE MANIFOLD IMPREG 5.7L DD
	0D6345	1	INTAKE MANIFOLD 2116 GEARBOX
17	044117	1	BARBED STR 3/8 NPT X 5/8
18	035472	2	CLAMP HOSE #6 .43 - .78
19	0A6283	6"	HOSE PREFORMED BLOCK HEATER



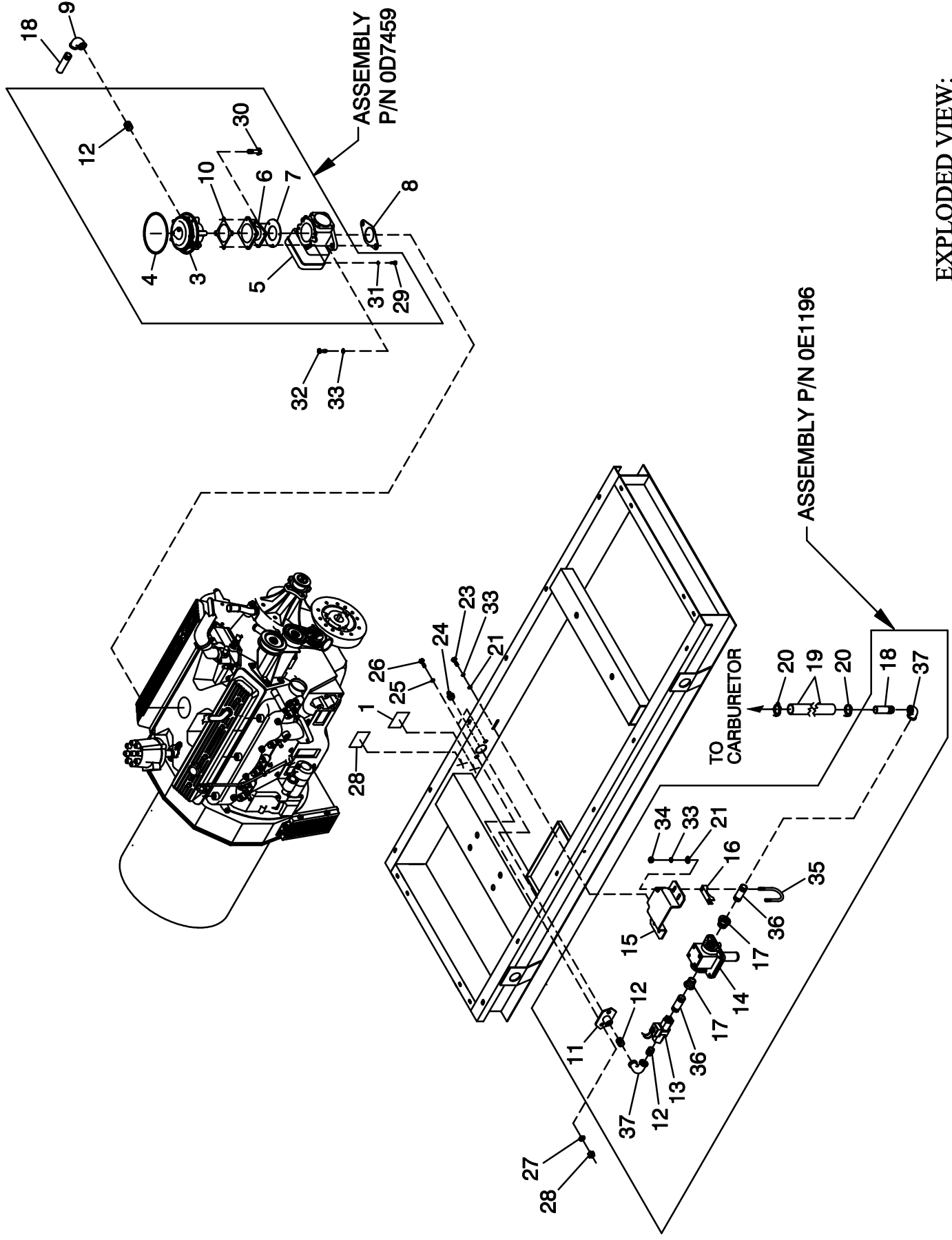
EXPLODED VIEW: AIR CLEANER
DRAWING #: 0E1199

GROUP D

APPLICABLE TO:

ITEM	PART #	QTY.	DESCRIPTION
1	022473	7	WASHER FLAT 1/4 ZINC
2	022097	1	WASHER LOCK M6-1/4
3	0C7366	1	BOLT WING 1/4-20 X 8.25
4	0C4236A	1	PLATE AIR CLEANER BOTTOM
5	0C4236	1	PLATE AIR CLEANER TOP
6	0C3197	1	AIR CLEANER 50KW 5.7
7	0C4240	1	WELDMENT AIR CLEANER HOUSING
8	0D4222	2	DECAL AIR INLET DIRECTION

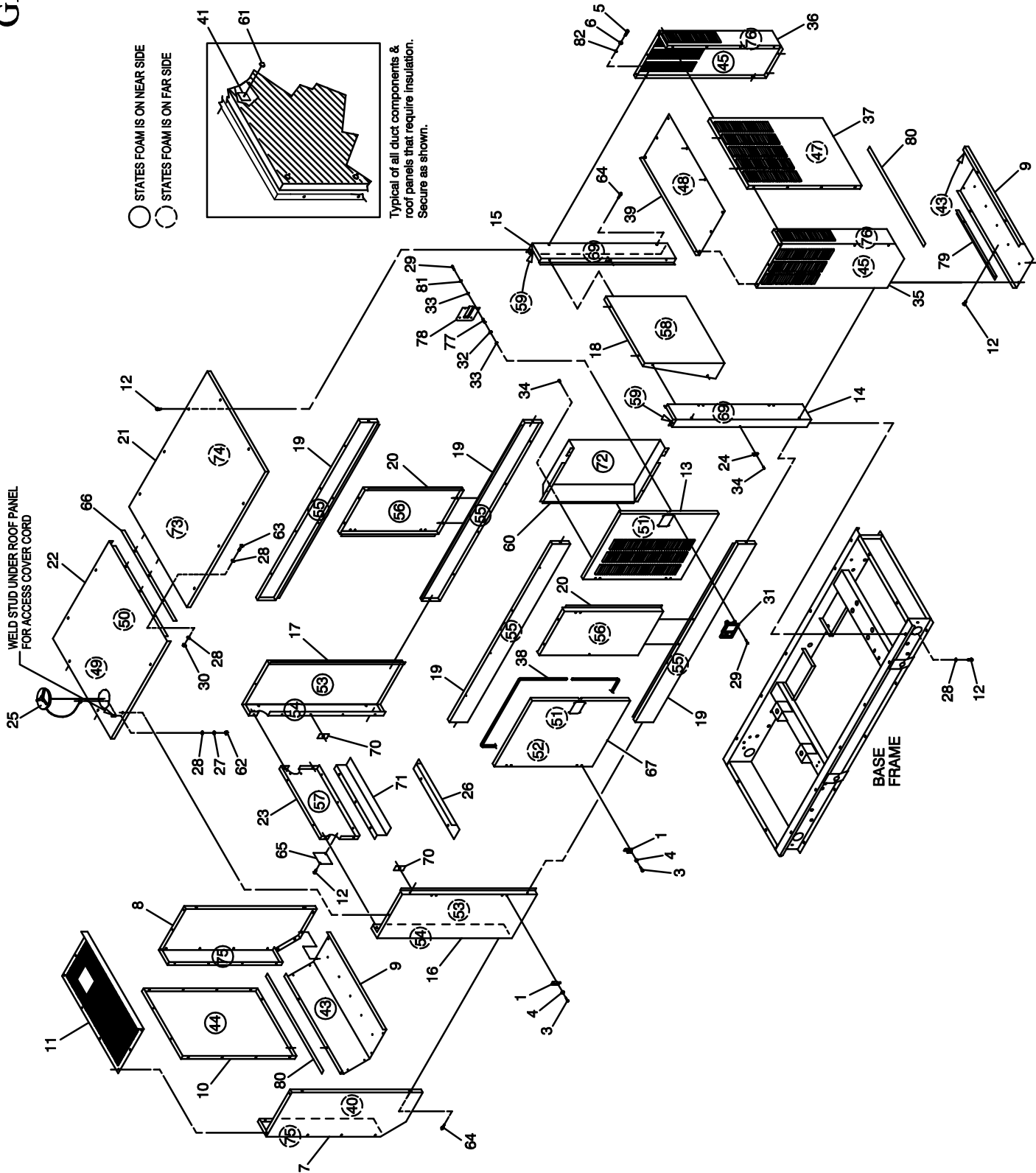
GROUP E



EXPLODED VIEW:
LP VAPOR FUEL (DIRECT DRIVE)
DRAWING #: 0E1206

EXPLODED VIEW: LP VAPOR FUEL (DRECT DRIVE)**DRAWING #: 0E1206****GROUP E****APPLICABLE TO:**

ITEM	PART #	QTY.	DESCRIPTION
1	050280	1	DECAL FUEL INLET LPG
2	0E1183	1	EXHAUST HEAT SHIELD (NOT SHOWN)
3	0D4145	1	MIXER (ONLY) LPG LIQUID/VAPOR
4	061258	1	GASKET AIR CLEANER
5	0D3485	1	ASSY THROTTLE PF42 WIRE CONN
6	0C7820	1	MACHINING CARBURETOR ADAPTOR
7	0C7060	1	ADAPTOR GASKET
8	0C7059	1	GASKET POWER FLOW
9	026812	1	ELBOW 90D 3/4 NPT
10	0A6613	1	GASKET CARB
11	065907	1	SUPPORT SOLENOID NAT GAS
12	026915	3	NIPPLE CLOSE 3/4 X 1.375
13	0C7598	1	NATURAL GAS FUEL SOLENOID
14	055944	1	REGULATOR NAT GAS LPG VAPOR
15	0E0521	1	SUPPORT REGULATOR
16	028237	2	SADDLE 1-3/8
17	026577	2	BUSHING REDUCER 1 TO 3/4
18	028641	2	NIPPLE TOE 3/4 NPT X 2
19	057422	1	HOSE 1" ID LP GAS (38" LG)
20	057824	2	CLAMP HOSE #16 .87 - 1.5
21	022145	6	WASHER FLAT 5/16 ZINC
22	0D1509	1	DECAL INLET PRESSURE
23	022142	2	SCREW HHC 5/16-18 X 3/4 G5
24	025655	1	PLUG STD PIPE 3/4 STEEL SQ HD
25	022132	2	WASHER FLAT 9/16 ZINC
26	051778	2	SCREW HHC M14-2.0 X 25 G8.8
27	043123	2	WASHER LOCK M14
28	051779	2	NUT HEX M14-2 G8 YEL CHR
29	0C7908	4	SCREW SHC #10-32 X 5/8 G8.8 NZ
30	064090	4	SCREW PHM SEMS #12-24 X 5/8 EX
31	022152	4	WASHER LOCK #10
32	030795	2	SCREW HHC 5/16-18 X 1 G5
33	022129	8	WASHER LOCK M8-5/16
34	022259	4	NUT HEX 5/16-18 STEEL
35	028238	2	BOLT U 5/16-18 X 1.5
36	026490	2	NIPPLE PIPE 3/4 NPT X 2
37	026812	2	ELBOW 90D 3/4 NPT



EXPLODED VIEW:
5.7L ACOUSTIC COMPARTMENT
DRAWING #: 0D3162

**EXPLODED VIEW: 5.7L ACOUSTIC COMPARTMENT
DRAWING #: 0D3162**

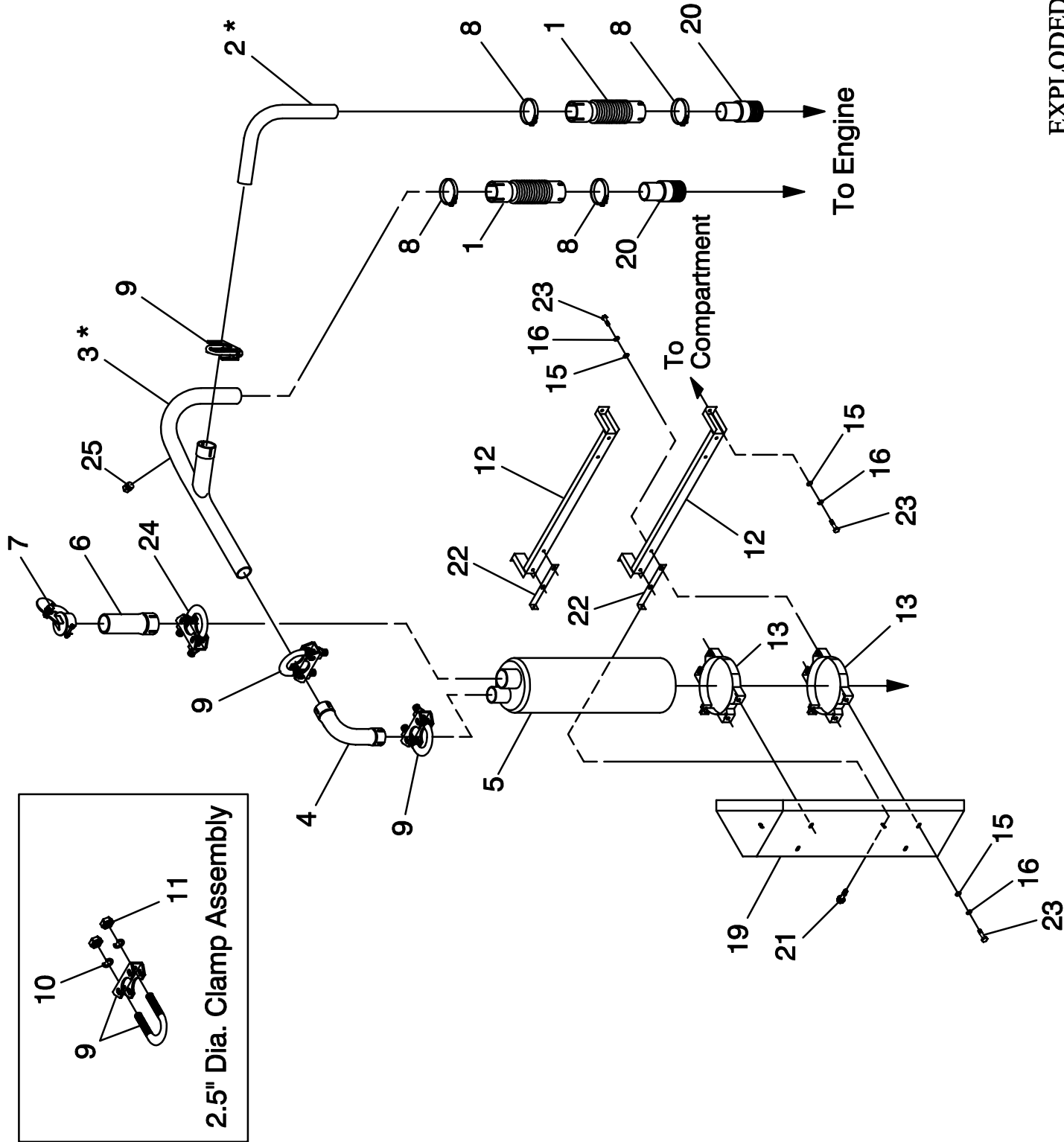
GROUP F

APPLICABLE TO:

ITEM	PART #	QTY.	DESCRIPTION
1	0C3594	8	ASSEMBLY, M6 HINGE
3	0A3359	32	SCREW BHSC M6-1.0 X 16 SS
4	0A3360	32	SHAKEPROOF, INT. M6 SS
5	042907	4	SCREW HHC M8-1.25 X 16 G8.8
6	022129	4	WASHER LOCK M8-5/16
7	0C3333 (A)	1	DUCT, FRONT L.H.
8	0C3334 (A)	1	DUCT, FRONT R.H.
9	0C3335 (A)	2	DUCT, BOTTOM
10	0C3336 (A)	1	DUCT, FRONT PANEL
11	0C3337 (A)	1	DUCT, FRONT TOP
12	0C2454	99	M6-1.0 x 16 TRD. FORM W/WASHER
13	0C2522 (A)	2	DOOR, SMALL STD. WELD
14	0C2529 (A)	1	CORNER POST, L.H. REAR
15	0C2530 (A)	1	CORNER POST, R.H. REAR
16	0C2537 (A)	1	CORNER POST, L.H. FRONT
17	0C2538 (A)	1	CORNER POST, R.H. FRONT
18	0C2637 (A)	1	REAR PANEL, SOUND
19	0C2551 (A)	4	SIDE BRACE, TOP & BOTTOM
20	0C2556 (A)	2	SIDE SUPPORT
21	0C3795 (A)	1	ROOF, REAR
22	0C3797 (A)	1	ROOF, FRONT
23	0C2590 (A)	1	FRONT BRACE, TOP
24	0C2633	4	STRIKER PLATE
25	0C2634A	1	ACCESS COVER ASSEMBLY
26	0C3382 (A)	1	DUCT, RADIATOR BOTTOM
27	022097	1	WASHER LOCK M6-1/4
28	022473	21	WASHER FLAT M6-1/4 ZINC
29	0C6749	32	SCREW PPHC M4 x 12 SS
30	077992	3	NUT, HEX M6-1.0
31	060069	4	PADDLE HANDLE LOCK
32	0C6748	16	NUT, NYLOK HEX M4 S.S.
33	080490	32	WASHER FLAT #8 SS
34	087233	12	RIVET POP .1875 X .192-.196/#11
35	0C3443 (A)	1	DUCT, REAR L.H.
36	0C3442 (A)	1	DUCT, REAR R.H.
37	0C3444 (A)	1	DUCT, REAR PANEL
38	0A9881	39.3 FT.	DOOR GASKET, RUBBER
39	0C2596 (A)	1	DUCT, REAR TOP
40	0C3157	1	INSULATION, FRONT DUCT
41	0A5035A	48	SELF ADHESIVE HANGER 3/4"
43	0C3157B	2	INSULATION, DUCT BOTTOM
44	0C3157C	1	INSULATION, DUCT FRONT PANEL
45	0C3157D	2	INSULATION, REAR DUCT
47	0C3157F	1	INSULATION, DUCT REAR PANEL
48	0C3157G	1	INSULATION, REAR DUCT TOP
49	0C3157H	1	INSULATION, FRONT ROOF TOP
50	0C3157J	1	INSULATION, FRONT ROOF TOP
51	0C3157K	4	INSULATION, DOOR
52	0C3157L	2	INSULATION, DOOR
53	0C3157M	2	INSULATION, FRONT CORNER POST
54	0C3157N	2	INSULATION, FRONT CORNER POST
55	0C3157P	4	INSULATION, TOP & BOTTOM SIDE BRACE
56	0C3157Q	2	INSULATION, SIDE SUPPORT
57	0C3157R	1	INSULATION, FRONT TOP BRACE
58	0C3157S	1	INSULATION, REAR PANEL
59	0C3157T	2	INSULATION, REAR CORNER POSTS
60	0C2643 (A)	2	DOOR BAFFLE
61	078115	48	WASHER, SELF LOCKING DOME
62	022127	1	NUT HEX 1/4-20 STEEL
63	042568	3	SCREW HHC M6-1.0 X 20 G8.8
64	0C3393	4	SHOULDER SCREW
65	0C3400 (A)	1	COVER, EXHAUST HOLE
66	0C3064	1	ROOF SEAL
67	0C2521 (A)	2	DOOR, SMALL SOUND
69	0C3157U	2	INSULATION, REAR CORNER POSTS
70	0C3383 (A)	2	DUCT, RADIATOR L.H. & R.H. SIDES
71	0C3381 (A)	1	DUCT,RAD.TOP 4.3L GB
72	0C3157V	2	INSULATION, DUCT REAR DOOR
73	0C3157W	1	INSULATION, REAR ROOF TOP

ITEM	PART #	QTY.	DESCRIPTION
74	0C3157X	1	INSULATION, REAR ROOF TOP
75	0C3157Y	2	INSULATION, FRONT DUCT R.H. & L.H.
76	0C3157Z	2	INSULATION, REAR DUCT R.H. & L.H.
77	0C6747	16	STANDOFF M4 x 19.1 AL
78	0C2635	4	COVER, LATCH ACOUSTIC
79	0C5356 (A)	1	VARMIT BLOCKOFF PLATE
80	066760	78-3/4"	SEALANT STRIP 1/8" x 1"
81	078437	16	WASHER LOCK 8-M4 SS
82	022145	4	WASHER FLAT M8-5/16 ZINC

OPTIONAL COMPARTMENT MATERIALS:
ALL P/N'S WITH AN "A" SUFFIX
INDICATE ALUMINUM MATERIAL OPTION.



EXPLODED VIEW: EXHAUST MUFFLER 5.7L GEN 1E

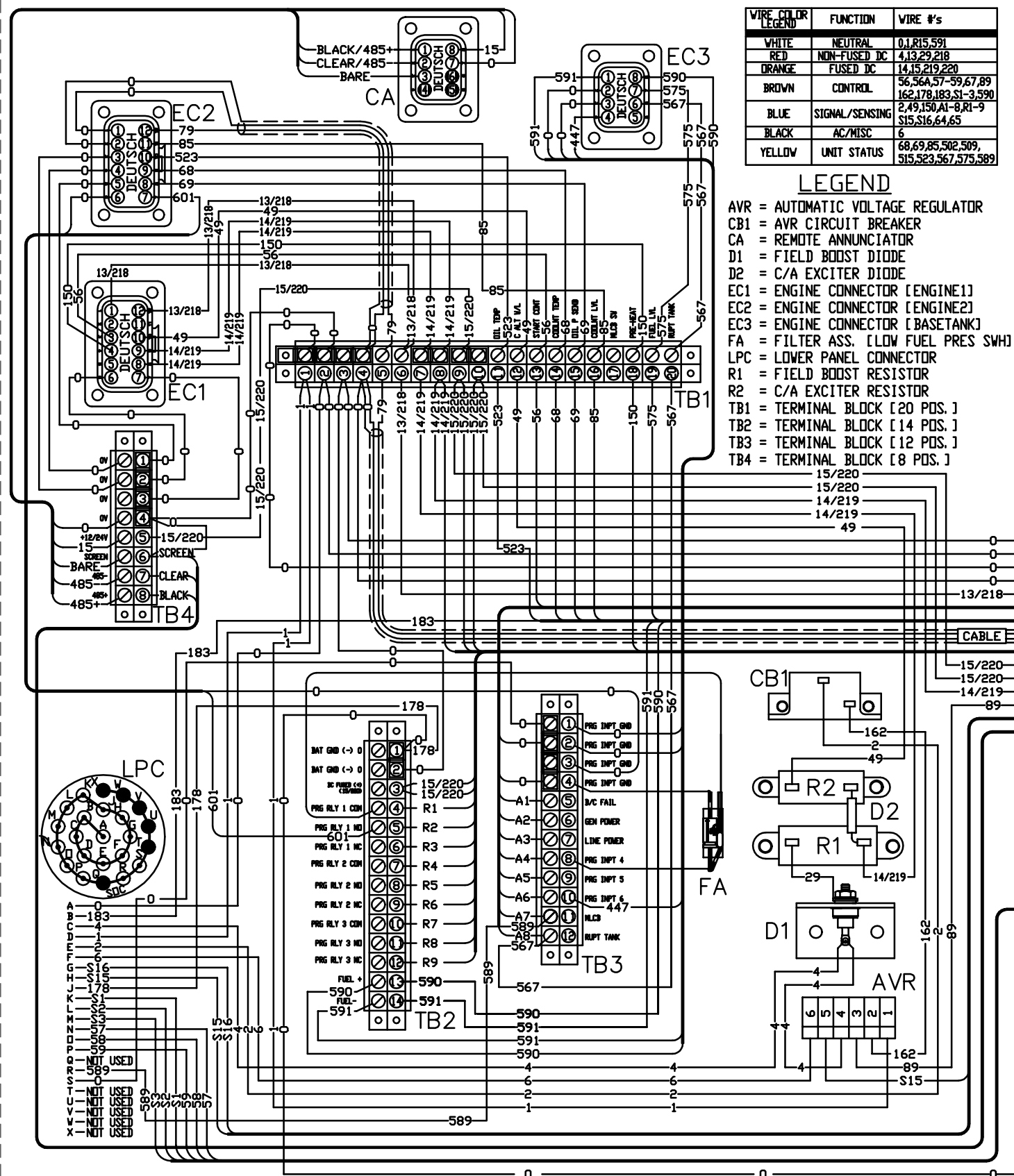
DRAWING #: 0D3163

GROUP F

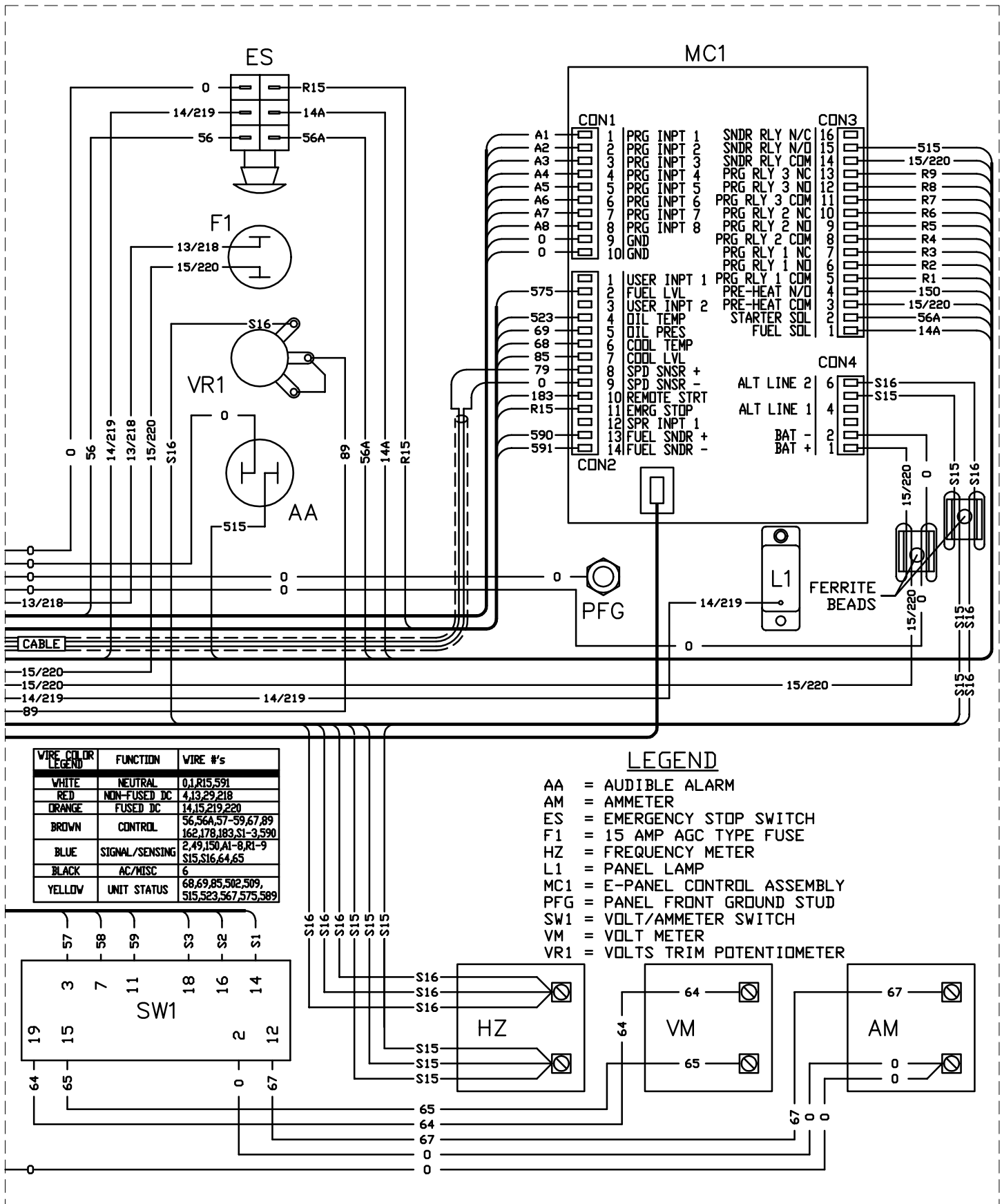
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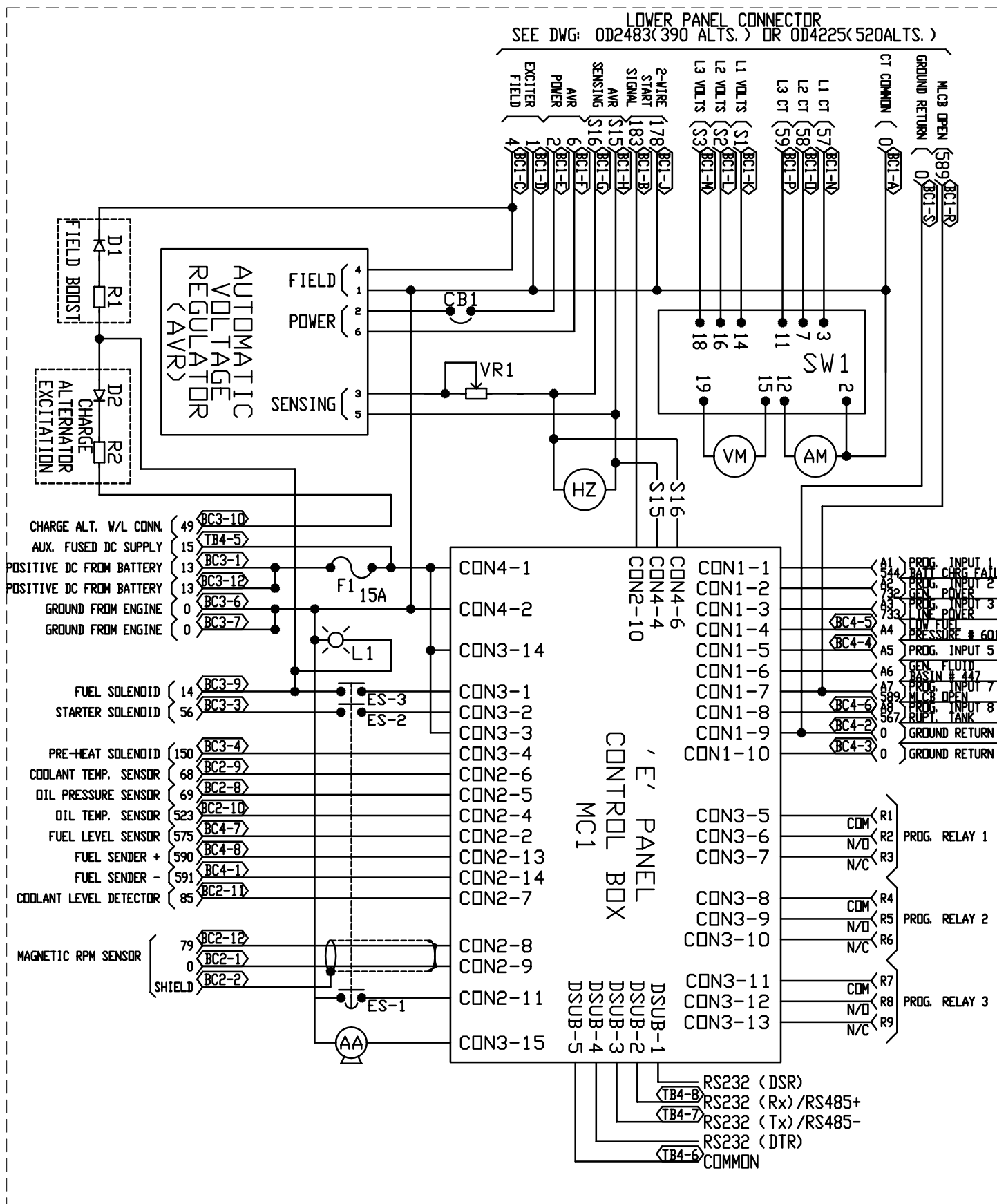
ITEM	PART #	QTY.	DESCRIPTION
1	0A5215B	2	PIPE FLEX 2.5"
2 *	0D2445	1	TUBE 2.5 DIA. 90 DEG. ELBOW (DIRECT DRIVE ONLY)
	0D2445A	1	TUBE 2.5 DIA. 90 DEG. ELBOW (GEARBOX ONLY)
3 *	0D3405	1	TUBE 2.5 DIA. WYE (DIRECT DRIVE ONLY)
	0D3405A	1	TUBE 2.5 DIA. WYE (GEARBOX ONLY)
4	0C9644	1	TUBE, 90 DEG ELBOW 'B' GROUP
5	0C9651	1	MUFFLER 2-1/2" INLET / 3" OUTLET
6	0C9640	1	TUBE STRAIGHT 'B' GROUP
	0C9640A	1	TUBE STRAIGHT 'C' GROUP
7	059902	1	RAIN CAP 3.00 / 3.19
8	0C3433A	4	CLAMP BAND 2.5"
9	080762	3	BOLT U 3/8-16 X 2.62
10	022237	6	WASHER LOCK 3/8
11	022241	6	NUT HEX 3/8-16 STEEL
12	0C2933	2	BRACKET MUFFLER MOUNTING
13	0C4114	2	CLAMP MUFFLER BAND
15	022145	12	WASHER FLAT 5/16 ZINC
16	022129	12	WASHER LOCK M8-5/16
19	0C3094	1	HEAT SHIELD GEN 2
20	0C4265	2	NIPPLE PIPE STEPPED
21	0C2454	2	SCREW TH-FRM M6-1 X 16 N WA Z/JS
22	0C4170	2	BRACKET, EXHAUST SHIELD
23	042907	12	SCREW HHC M8-1.25 X 16 G8.8
24	055978	1	BOLT U 3/8-16 X 3.25
25	0C9748	1	PLUG M18 - 1.50

GROUP G



WIRING - DIAGRAM
PANEL vERIZON WIRELESS
DRAWING #: 0D2378V



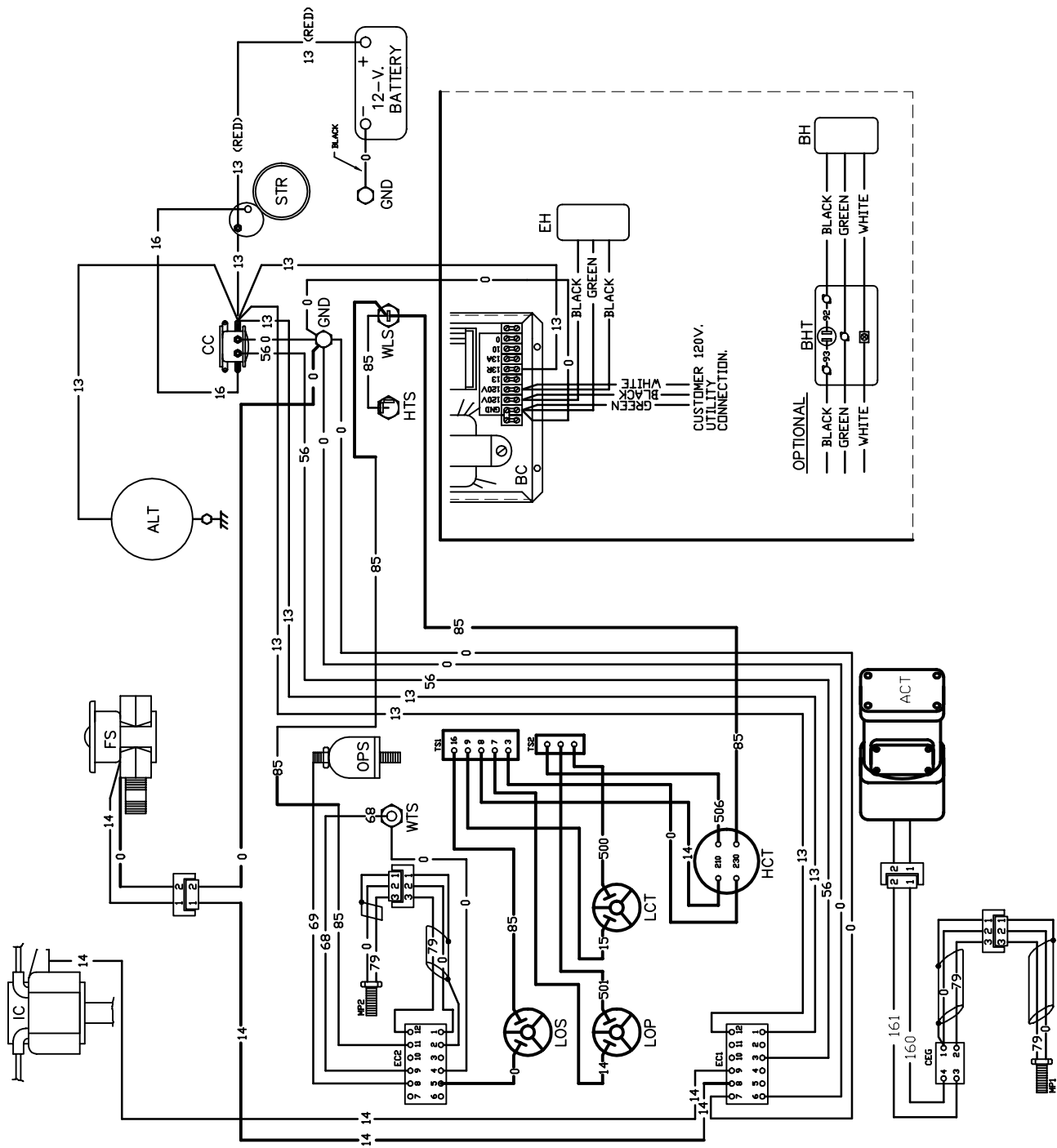


GROUP G

CODE	P/N:	DESCRIPTION
AA	061286	AUDIBLE ALARM
AM	VARIOUS	AMMETER
AVR	067680 092952	AUTOMATIC VOLTAGE REGULATOR 50Hz AUTOMATIC VOLTAGE REGULATOR 60Hz
CB1	VARIOUS	AVR CIRCUIT BREAKER
D1	049939	FIELD BOOST DIODE
D2	025192	CHARGE ALT EXCITER DIODE
ES	098426A	EMERGENCY STOP BUTTON
ES1-3	098426C	NORMALLY CLOSED CONTACTS
HZ	070042 070042A	FREQUENCY METER 50Hz FREQUENCY METER 60Hz
L1	0C8481 070202	PANEL LAMP 12V PANEL LAMP 24V
MC1	0A4087	E-PANEL CONTROLLER ASSEMBLY
R1	VARIOUS	FIELD BOOST RESISTOR
R2	044213	CHARGE ALT EXCITER RESISTOR
SW1	061945	VOLT/AMMETER SWITCH
VM	070043 070044 082404	VOLTMETER 0-300V VOLTMETER 0-600V VOLTMETER 0-750V
VR1	071361	VOLTS TRIM POTENTIOMETER
XXX-X	REFERENCE	E-PANEL CONNECTOR TERMINATIONS

WIRE COLOR LEGEND	FUNCTION	WIRE #'s
WHITE	NEUTRAL	0,1,15,591
RED	NON-FUSED DC	4,13,29,218
ORANGE	FUSED DC	14,15,219,220
BROWN	CONTROL	56,56A,57-59,67,89 162,178,183,S1-3
BLUE	SIGNAL/SENSING	2,49,150,A1-8,R1-9 S15,S16,64,65
BLACK	AC/MISC	6
YELLOW	UNIT STATUS	68,69,85,502,509,515 523,567,575,589

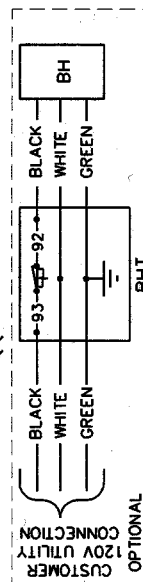
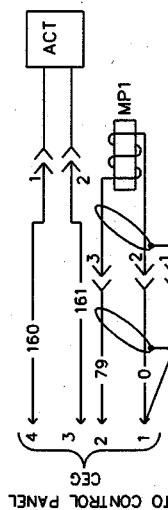
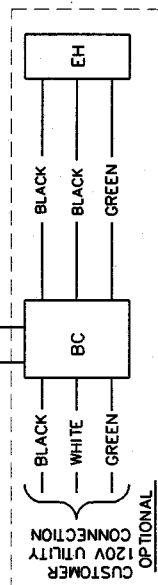
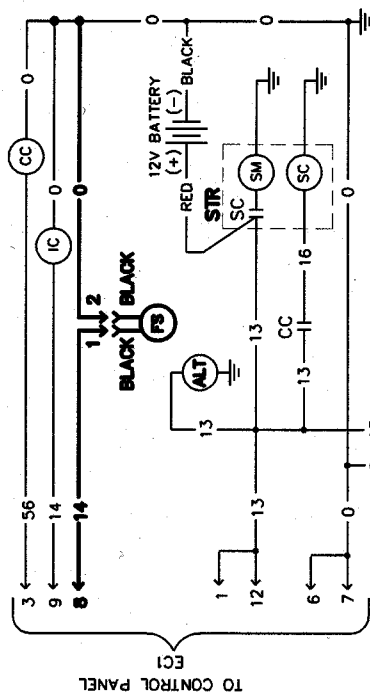
- LEGEND**
- ACT - BUTTERFLY ACTUATOR (GOVERNOR)
 - ALT - ALTERNATOR, ENGINE
 - BH - BATTERY HEATER
 - BHT - BATTERY HEATER THERMOSTAT
 - CEG - CONNECTOR, ELECTRONIC GOVERNOR
 - CC - CONTROL CONNECTOR #1
 - EC1 - ENGINE CONNECTOR #1
 - EC2 - ENGINE CONNECTOR #2
 - EH - ENGINE HEATER
 - FS - FUEL SOLENOID
 - GND - GROUND
 - HCT - HIGH COOLANT TEMP. PRE-ALARM
 - HTS - HIGH COOLANT TEMP. SWITCH
 - IC - IGNITION COIL
 - LOS - LOW OIL PRESSURE SWITCH
 - LCT - LOW COOLANT TEMP. (OPTIONAL PRE-ALARM)
 - LOS - LOW OIL PRESSURE SWITCH
 - MP1 - MAGNETIC PICKUP #1 (ELECTRONIC GOVERNOR)
 - MP2 - MAGNETIC PICKUP #2 (CONTROL PANEL)
 - OPS - OIL PRESSURE SENDER
 - STR - STARTER, ENGINE
 - TS1 - TERMINAL STRIP #1 (IN CONTROL PANEL)
 - WLS - WATER LEVEL SENDER
 - WTS - WATER TEMPERATURE SENDER
 - WIRE NUT



EC2, EC1, & CEG
CONNECT TO REAR
OF CONTROL PANEL

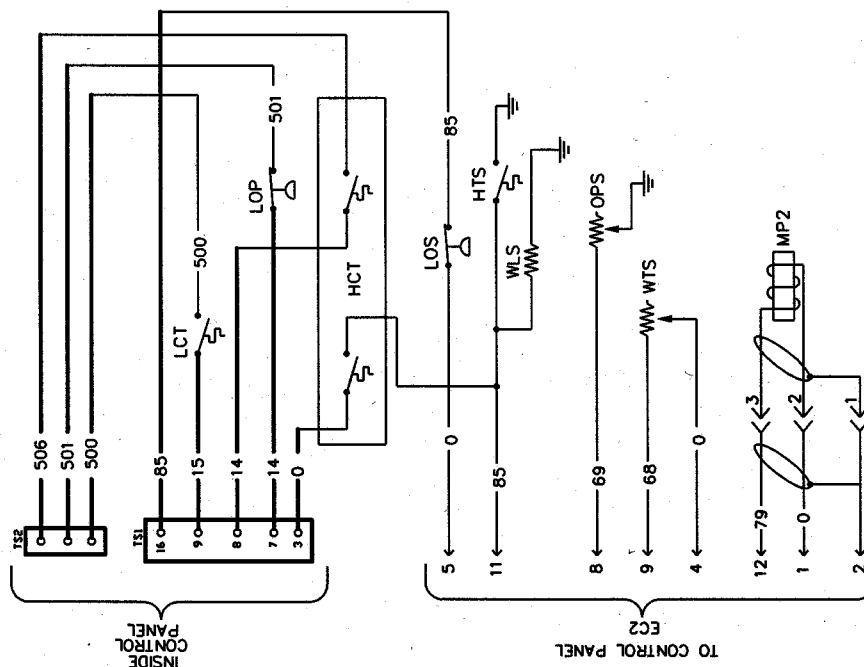
WIRING DIAGRAM
ENGINE 5.7L GEN 1 E
DRAWING #: 0D2455

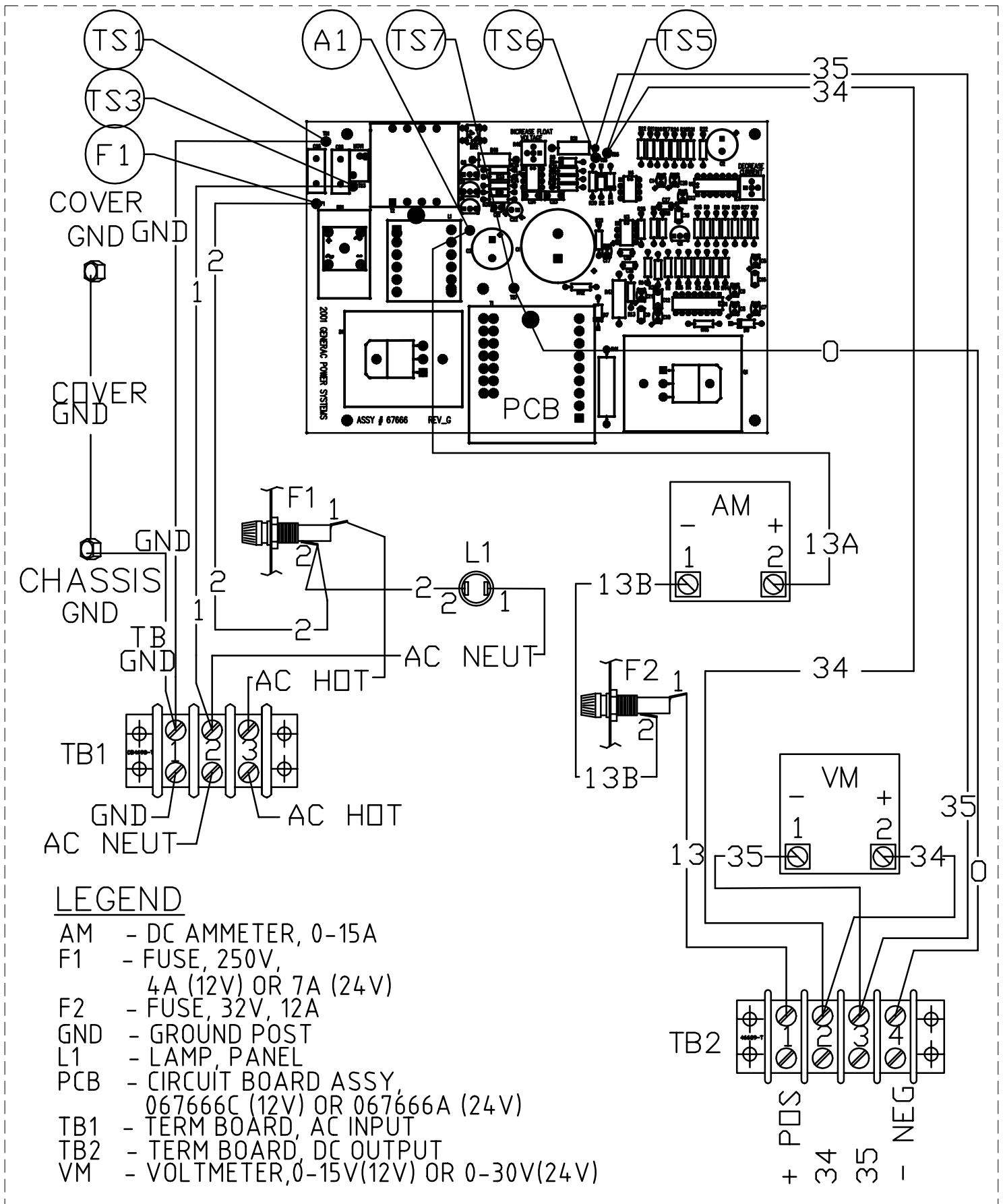
GROUP G

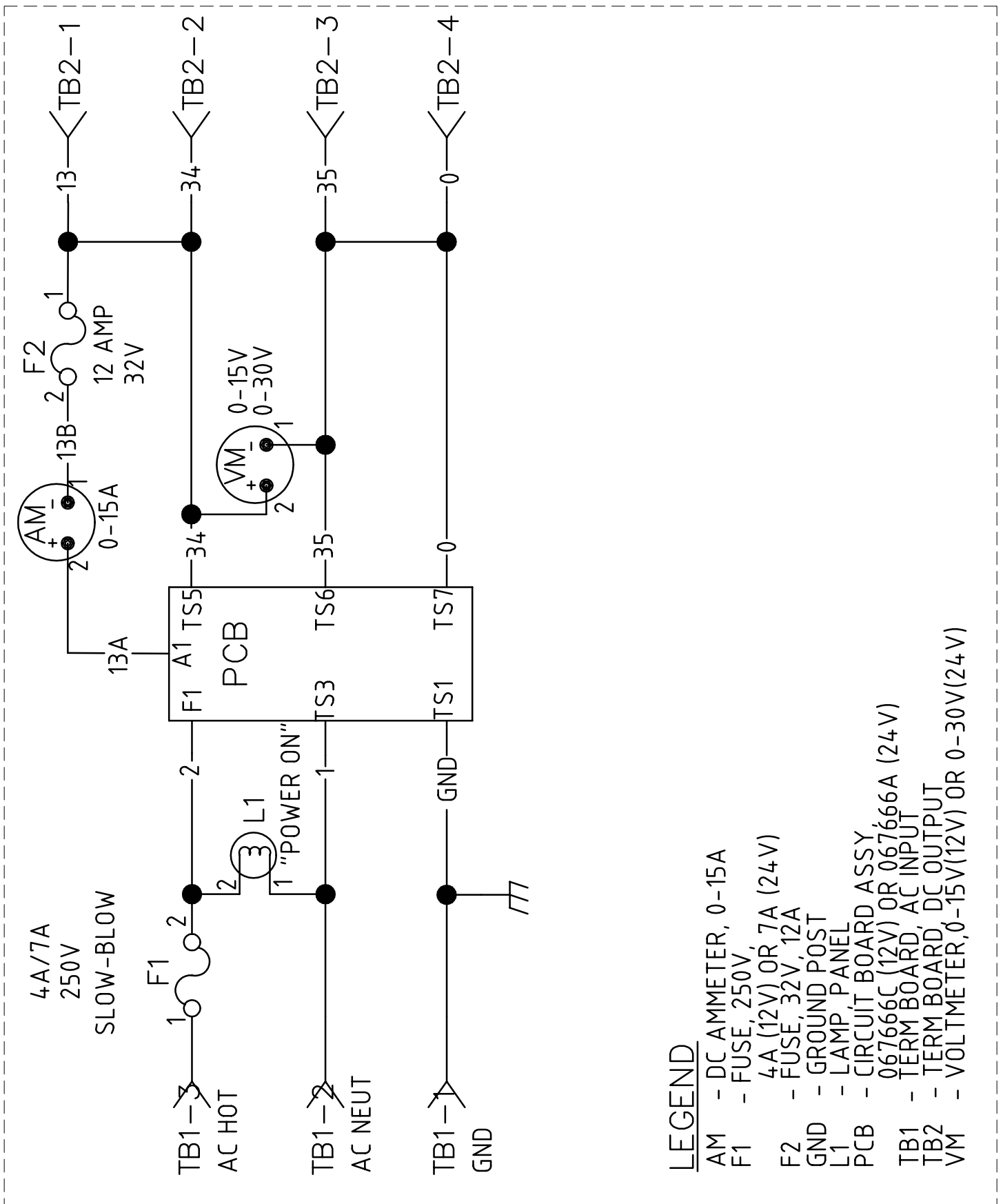


- ### LEGEND

- | | |
|------|--|
| ACT | BUTTERFLY ACTUATOR (GOVERNOR) |
| ALT | ALTERNATOR, ENGINE |
| ABC | BATTERY CHARGER |
| ABH | BATTERY HEATER |
| BHBT | BATTERY HEATER THERMOSTAT |
| CEG | CONNECTOR, ELECTRONIC GOVERNOR |
| CCC | CONTROL CONNECTOR |
| CC1 | ENGINE CONNECTOR #1 |
| CC2 | ENGINE CONNECTOR #2 |
| EH | ENGINE HEATER |
| FS | FUEL SOLENOID |
| ND | GROUND |
| HCT | HIGH COOLANT TEMP. PRE-ALARM |
| HTS | HIGH COOLANT TEMP. SWITCH |
| IC | IGNITION COIL |
| LOS | LOW OIL PRESSURE SWITCH |
| LOP | LOW COOLANT TEMP. (OPTIONAL PRE-ALARM) |
| LOP1 | LOW OIL PRESSURE (OPTIONAL PRE-ALARM) |
| MP | MAGNETIC PICKUP #1 (ELECTRONIC GOVERNOR) |
| MP2 | MAGNETIC PICKUP #2 (CONTROL PANEL) |
| OPS | OIL PRESSURE SENDER |
| STR | STARTER, ENGINE |
| TS1 | TERMINAL STRIP #1 (IN CONTROL PANEL) |
| TS2 | TERMINAL STRIP #2 (IN CONTROL PANEL) |
| WLS | WATER LEVEL SENDER |
| WTS | WATER TEMPERATURE SENDER |
| W | WIRE NUT |







SCHEMATIC - DIAGRAM

10A BATT CHARGER, 12V & 24V

DRAWING #: 0D8611

[illegible]

[illegible]

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