GENERAC[®]

Models: 0065781, 0065751

Owner's Manual For Stationary Industrial Generators

Standalone Gas

▲ DANGER!

ONLY QUALIFIED ELECTRICIANS OR CONTRACTORS SHOULD ATTEMPT INSTALLATION!



DEADLY EXHAUST FUMES!

This manual should remain with the unit.

This manual must be used in conjunction with the appropriate installation manual.

CANCER AND REPRODUCTIVE HARM

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(000393a)

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1.1 — Introduction

Every effort was expended to ensure that the information and instructions in this manual were both accurate and current at the time it was released. However, the manufacturer reserves the right to change, alter, or otherwise improve this product at any time without prior notice.

Read this manual thoroughly. If any portion is not understood, contact the nearest Authorized Service Dealer for starting, operating, and servicing procedures. The operator is responsible for proper and safe use of the equipment. The manufacturer strongly recommends that the operator read this Owner's Manual and thoroughly understand all instructions before using this equipment. The manufacturer also strongly recommends having an Authorized Service Dealer provide instruction to any designated operators in the safe inspection, starting, operating, and stopping of this unit.

1.1.1— Installation, Operation, and Maintenance

Installation and initial startup of this equipment is not a "do-it-yourself" project. This generator set must be installed by an Authorized Service Dealer or other competent, qualified contractor. The initial startup must be performed and documented by a factory Authorized Service Dealer. A factory Authorized Service Dealer can also provide the necessary training for authorized operators. 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 an 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 the generator will ensure a minimum number of problems and keep operating expenses at a minimum. See an Authorized Service Dealer for service aids and accessories.

1.1.2— How to Obtain Service

NOTE: Use this page to record important information about the generator set.

Each generator set has a DATA LABEL containing important information about the unit.

When contacting an Authorized Service Dealer about parts and/or service, always supply the complete model number and serial number of the unit as given on the data label. For quick and easy reference, copy the information printed on the Data Label located on the generator onto the sample label printed here. See Figure 1-1.

GENERATOR UNIT GEN MODEL: MODEL: SERIAL: ALTERNATE PROD DATE: COUNTRY OF ORIGIN: GENERATOR DATA KW **KVA** ΗZ PF UPSIZE ALT KW KVA VOLT 1 AMF ENG RPM ALT RPM AMP BREAKER KW ΧD X″D ROTOR STATOR CLASS WINDINGS @ TEMP AMBIENT MANUF. LOC. 0K0876

Figure 1-1. Data Label (Sample)

1.2 — Safety Rules

Throughout this publication, and on tags and decals affixed to the generator, DANGER, WARNING, CAUTION, and NOTE boxes are used to alert personnel to special instructions about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. They indicate:

▲ DANGER!

INDICATES A HAZARDOUS SITUATION OR ACTION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY.

▲ WARNING!

Indicates a hazardous situation or action which, if not avoided, could result in death or serious injury.

▲ CAUTION!

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTE: Notes provide additional information important to an operation or procedure.

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.



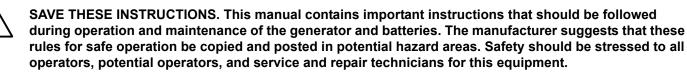
This symbol points out a potential Explosion Hazard.



This symbol points out a potential Fire Hazard.

This symbol points out a potential Electrical Shock Hazard.

AWARNING!



Study these Safety Rules carefully before 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.

The manufacturer cannot 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 using a procedure, work method, or operating technique the manufacturer does not specifically recommend, ensure that it is safe for others. Also make sure the procedure, work method, or operating technique utilized does not render the generator unsafe.

A DANGER!

- Despite the safe design of this generator, operating the equipment imprudently, neglecting its maintenance, or being careless can cause possible injury or death. Permit only responsible and capable persons to install, operate, and maintain this equipment.
- Parts of the generator are rotating and/or hot during operation. Exercise care near running generators.
- The installation must always comply with applicable codes, standards, laws and regulations.

- If the generator is used to power electrical load circuits normally powered by a utility power source, installation of a transfer switch is required. The transfer switch must effectively isolate the electrical system from the utility distribution system when the generator is operating. Failure to isolate an electrical system by such means will result in damage to the generator and also may result in injury or death to utility power workers due to backfeed of electrical energy.
- Potentially lethal voltages are generated by this equipment. Ensure all steps are taken to make the unit safe before attempting any work on the generator.

1.3 — General Hazards

- For safety reasons, the manufacturer recommends that this equipment be installed, serviced, and repaired by an 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 comply with all applicable codes, standards, laws, and regulatory requirements. 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 noncompliance with the aforementioned codes, standards, laws, and regulations.
- The engine exhaust fumes contain carbon monoxide, which can be DEADLY. This dangerous gas, if breathed in sufficient concentrations, can cause unconsciousness or even death. For this 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. Ensure that all guards, covers, and protective devices removed during maintenance or service are reinstalled.
- 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 any worn, damaged, or defective parts using only factory approved parts.
- Before performing any maintenance on the generator, disconnect the battery cables to prevent accidental startup. Disconnect the cable from the battery post indicated by a NEGATIVE, NEG, or (–) first, then remove the POSITIVE, POS, or (+) cable. When reconnecting the cables, connect the POSITIVE cable first, the NEGATIVE 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.

1.4 — 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 stationary emergency generator when it is in operation. 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, secured and/or locked before operating the generator. If work must be done around an operating unit, stand on an insulated, dry surface to reduce potential 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 people 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 generator must be grounded in accordance with all code and regulatory requirements.
- 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 sources. 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 (UTIL-ITY) source voltage is removed or is below an acceptable preset level. To prevent such automatic startup 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 resulting in injury.

1.5 — 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.
- All fuel types are potentially FLAMMABLE and/or EXPLOSIVE and should be handled with care.

1.6 — Explosion Hazards

- Properly ventilate any room or building housing the generator to prevent buildup 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.
- 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 fuelgas codes before placing this equipment into service.

2.1 — Unit Identification

2.1.1— Data Label

Each generator set has a DATA LABEL containing important information about the generator. The data label lists the unit serial number, rated voltage, amps, wattage capacity, etc.

NOTE: The figure below is a generic representation only. For actual information on your particular model, refer to the data label(s) affixed to your unit.

2.1.2— Model Identification Code

The model identification code gives important information about the generator set. For example, if the code is:

SG 0100 A G03 6.8 N 23 H B Y Y 3

Then the generator would have the attributes shown in bold below:

SG	Statio	nary gaseous generator.	
	SD	Stationary diesel generator.	
0100	Rated output is 100,000 watts (100kW).		
Α	Voltag	e code (see Subsection 2.1.3).	
G03	Indica	tes engine MFG (for manufacturer's use).	
6.8	Engin	e is 6.8 liter.	GEN MODEL: MODEL: SG0100AG036.8N23HBYY3
Ν	Natur	al Gas fuel system.	SERIAL:
	L	LP Liquid Withdrawal fuel system.	ALTERNATE
	V	LP Vapor Withdrawal fuel system.	COUNTRY OF ORIGIN:
	R	Dual fuel system with LP liquid as secondary.	GENERATOR DATA KW KVA HZ PF
	Р	Dual fuel system with LP Vapor as secondary.	UPSIZE ALT KW KVA
	D	Diesel fuel system.	VOLT / AMP
23	NOTE: Engines operating above 1 500 or 1 800 rpm use a gearbox BREAKER KW AME		BREAKER KW AMP
Н	Unit h	as optional "H" control panel.	
В	Brush	less excitation.	ROTOR STATOR CLASS WINDINGS © AMBIENT TEMP
	Р	Permanent magnet excitation.	
Y	Stand	lard enclosure equipped.	LOC.
	N	No enclosure — suitable for indoor installation.	
	S	Level 1 sound attenuation.	
	L	Level 2 sound attenuation.	
Y	Exhaust muffler mounted.		оков76
	Ν	Exhaust muffler not provided.	Sample
	L	Exhaust muffler shipped loose with unit.	-
3	Emiss	ission designation (for factory use).	

2.1.3— Voltage Code

The letter following the kilowatt rating in the model identification code is the voltage code. The voltage code indicates the following:

Code	Description	
А	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	
Н	231/400 volts, three-phase, 12-lead, 60 Hz Broad Range	
J	120/240 volts, three-phase, 12-lead, 60 Hz Broad Range	
К	277/480 volts, three-phase, 12-lead, 60 Hz Broad Range	
L	346/600 volts, three-phase, six-lead, 60 Hz	
М	110/220 volts, single-phase, four-lead, 50 hz	
N	115/200 volts, three-phase, 12-lead, 50 Hz Broad Range	
Р	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	

2.2 — Equipment Description

This equipment is a revolving field, alternating current type generator set. The generator is 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. Generators with a four-pole rotor are driven at a rated speed of 1,800 rpm to supply a frequency of 60 Hertz. Four-pole rotors operating at 50 Hertz are driven at 1,500 rpm.

Refer to the data label affixed to the unit for rated AC voltage, wattage, amperage, number of phases, etc. See Subsection 2.1.2 for an explanation of how to identify the unit's features.

2.2.1— Standard Generator Features

The generator incorporates the following 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.

2.2.2— 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 generator set 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 non-compatibility between the generator and connected electrical loads.

2.2.3— Single-Phase "A" or "M" Code Units

The following statement applies to single-phase units with an "A" or "M" code alternator:

The generator is suitable for supplying typical residential loads, such as induction motors (sump pumps, refrigerators, air conditioners, furnaces, etc.), electronic components (TV, computer, monitor, etc.), lighting loads, and microwaves.

2.2.4— Three-Phase Load Imbalance Limits

For three-phase units the maximum load imbalance between phases can not exceed 25% of rated load (current).

2.2.5— Ambient Condition Derate

The maximum ambient temperature for the generator is indicated on the unit data label. Derate values for ambient temperature in excess of that indicated on the data label, as well as altitude, may apply depending on the engine and kW rating of the unit. Consult an Authorized Service Dealer for any derate values applicable to this specific generator at its installed location.

2.3 — Engine/Generator Protective Devices

The generator set may be required to operate for long periods of time without an operator on hand to monitor conditions such as coolant temperature, oil pressure, voltage, frequency, etc. For this reason, the generator set has numerous sensors to provide the control panel with the information it needs to protect both the engine and generator. The control panel is designed to shut down the engine if potentially damaging conditions occur. These conditions can include low oil pressure, high coolant temperature, low coolant level, engine overspeed, over or under voltage, over or under frequency, etc. These settings are configured at the factory and can be changed/adjusted by an Authorized Service Technician if required.

NOTE: Engine/generator protective devices are only mentioned here for the owner/operator's general information. For details, consult the applicable control panel technical manual. The list below is not all inclusive.

2.3.1— Coolant Temperature Sensor

The control panel automatically shuts down the engine if the engine coolant temperature rises above a safe level.

2.3.2— Low Coolant Level Sensor

Should the engine coolant level drop below the level of the low coolant temperature sensor, 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 control panel will shut the engine down.

2.3.3— Oil Pressure Sensor

This sensor monitors engine oil pressure. If oil pressure drops below a safe level, the control system automatically shuts down the engine.

2.3.4— Overspeed Shutdown

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

2.3.5— Overcrank Shutdown

After a pre-specified duration of cranking, this function ends the cranking if the engine has failed to start. The default settings are:

- The unit will attempt to start (crank) three times.
- Each crank cycle lasts either 10 or 15 seconds, followed by a five second rest (to cool the starter).
- After three starting attempts the unit will shutdown.

2.3.6— RPM Sensor Loss Shutdown

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

2.3.7— Low Fuel Pressure Warning

- Some gaseous units are equipped with a low fuel pressure warning switch which will trigger a Warning alarm if the fuel pressure drops below a minimum setting.
- Diesel units with fuel tanks are equipped with High and Low fuel level warning alarms, as well as a low fuel level shutdown alarm.

2.4 — DC Fuses

Located inside the front panel, the fuses protect the control panel wiring and components from damaging overload. For fuse location and identification, see Figure 3-4.

2.5 — Fuel System

This generator set is equipped with one of the following fuel systems:

- Diesel fuel system
- Natural Gas (NG) fuel system
- LP gas vapor withdrawal fuel system (LPV)
- LP gas liquid withdrawal fuel system (LPL)
- Dual fuel system: Natural Gas (primary fuel source), LP gas vapor (secondary fuel source)
- Dual fuel system: Natural Gas (primary fuel source, LP gas liquid (secondary fuel source)

2.5.1— Diesel Fuel System

The manufacturer recommends the use of No. 2 diesel fuel when temperatures are above freezing, and No. 1 diesel fuel when temperatures drop below freezing. Diesel fuel must meet the following requirements:

Beginning October 1, 2010, owners and operators that use diesel fuel must use diesel fuel that meets:

- Sulfur content of 15 parts per million (ppm) maximum.
- Cetane index or aromatic content as follows: A minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

2.5.2— Natural Gas Fuel System

Natural gas is supplied by a local utility in its vapor state through in ground piping.

2.5.3— LP Fuel System

LP is supplied as a liquid in pressurized tanks. It is usually made up of propane, butane, or a mixture of both gases.

2.5.3.1—LP Vapor Withdrawal Fuel 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.

2.5.3.2—LP Liquid Withdrawal Fuel System

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 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: Units with LP gas liquid withdrawal systems incorporate a block heater as standard equipment. The heater is powered by the utility power source during non-operating periods to provide heated coolant to aid in the fuel vaporization process.

2.5.3.3—Dual Fuel: NG/LP Fuel System

Some applications require the use of a "dual-fuel" system. This type of fuel system allows the generator to run on either natural gas (primary) or LP vapor or liquid (secondary). In the event that the primary source (utility supplied) becomes unavailable, the unit automatically switches to the secondary source. It can do so while in operation or while not operating.

2.6 — Specifications

2.6.1— Generator

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

2.6.2— Engine Oil Recommendations

The engine has been filled with factory engine oil of a grade recommended by the engine supplier as follows:

- Gaseous Engines: 6.8L displacement or smaller SAE 5W-20; Displacement larger than 6.8L SAE 40.
- Diesel Engines: SAE 15W-40

The manufacturer recommends an initial oil and filter change after the first 50 hours (or first 3 months) of service operation. Use a high quality detergent oil with an appropriate classification and viscosity for the engine type and ambient temperature conditions. Consult your Authorized Servicing Dealer for oil recommendations. Synthetic oils meeting the same service category and viscosity requirements for the application may be used.

- Recommended API Service Category for gaseous engines: SJ, SL, SM, or SN.
- Recommended API Service Category for diesel engines: CH-4, CI-4, or CJ-4

2.6.3— Coolant

Use only deionized or distilled water and Ethylene glycol antifreeze (Propylene glycol can also be used but do not mix with Ethylene glycol). When adding coolant, always add the recommended 50-50 mixture.

▲ DANGER!



• DO NOT remove the radiator pressure cap while the engine is hot. 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 the taste of antifreeze even though it is poisonous.



Do not use any chromate base rust inhibitor with propylene glycol base antifreeze. Using any high silicate antifreeze boosters or additives also will cause overheating. The manufacturer also recommends that any soluble oil inhibitor is NOT USED for this equipment.

2.6.4— Gearbox Lubrication (If Equipped)

Use only SAE 90 gear oil with the correct proportion of Lucas Heavy Duty Oil Stabilizer. See the Maintenance section for more information.

2.7 — Starting Aids (If Equipped)

One or more of the following starting aids may be provided to ensure quicker, easier starts under varying climactic conditions.

- Engine coolant heater
- Engine oil heater
- Battery warmer

These aids are powered by a normal (utility) power source during non-operating periods.

2.7.1— Engine Coolant Heater

Heats the engine coolant when the unit is not operating. This action keeps the engine warm even in cold weather, helping to ensure quicker starts. Powered by a circuit normally fed by the utility power supply.

2.7.2— Engine Oil Sump Heater

Keeps the oil in the sump heated to allow easier starting and faster engine warm-up. Powered by a circuit normally fed by the utility power supply.

2.7.3— Battery Warmer

Keeps the battery warm so it can provide full cranking current when starting in cold conditions. Powered by a circuit normally fed by the utility power supply.

3.1 — Generator Control and Operation

The operation of this generator set should only be performed by an "Authorized Operator," that is, someone who has been properly trained by an Authorized Service Dealer. Contact your local Authorized Service Dealer for assistance in training Authorized Operators.

The following instructions assume that the generator has been properly installed, serviced, tested, adjusted, and otherwise prepared for use by a competent, qualified installation contractor and Authorized Service Dealer. Carefully read the Safety Rules and any other safety information before attempting to operate this (and related) equipment.

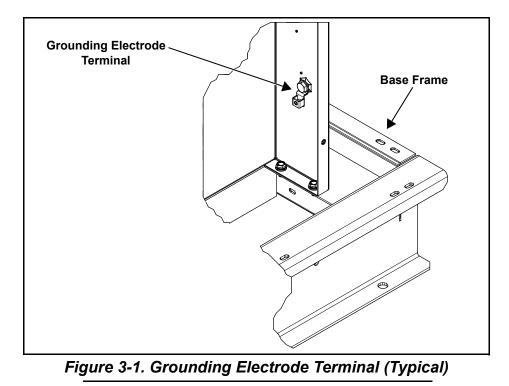
3.1.1— Grounding the Generator

Ground the generator set in accordance with all codes and regulatory requirements.

▲ DANGER!



DO NOT connect the ground wire to any pipe that carries a flammable or explosive substance as FIRE or EXPLOSION may result.



3.1.2— Generator AC Neutral Connections

Grounding is recommended only at one point in the system. Consult local building codes for proper neutral grounding requirements.

3.1.3— Initial Startup

The initial startup of the generator set must be performed and documented by an Authorized Service Dealer.

3.2 — H-100 Panel Interface

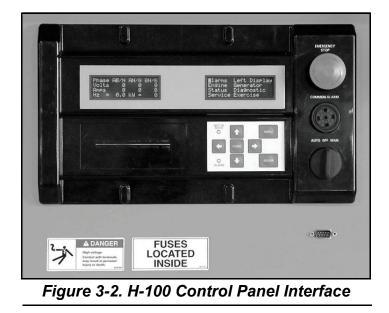
The H-100 Panel Interface mounted on the generator allows the operator to monitor, and if necessary, manually start the generator.

3.2.1— Emergency Stop Button

The red Emergency Stop Button is the top button on the right side of the panel. Pressing the button while the unit is running will immediately shut the generator down. To restart the unit, the Emergency Stop Button must be manually reset, the Key Switch turned to the "OFF" position, and then turned to either the "AUTO" or "MAN" position, depending on the desired mode of operation.

3.2.2— Common Alarm Horn

Directly below the Emergency Stop Button is a Common Alarm Horn. The "Common Alarm and Digital Output Function #1" are activated whenever a fault condition is set for "Alarm" and if the fault is "Active." The Common Alarm will not activate on "Warnings" or "DTC" fault conditions. Pressing the "ENTER" button on the key pad will acknowledge the alarm and silence the horn. The manufacturer recommends that the local service dealer be notified of any alarm condition in order for qualified service personnel to assess and correct the situation.



3.2.3— Key Switch

A manual three-position Key Switch is located beneath the Common Alarm Horn. The positions are:

- AUTO: The generator will automatically start when a properly connected automatic transfer switch senses a loss or reduction of available utility power.
- OFF: Immediately shuts down the generator and/or prevents it from starting automatically.
- MAN: Immediately starts the generator.

3.2.4— Left Display Window

The Left Display Window can be configured to display different menus. See the H-100 Operations Manual for more information. Normally, the following information is displayed:

- Volts
- Amps
- Hertz
- Kilowatts

Frequency

3.2.5— Right Display Window

The Right Display Window displays:

- Alarm information
- HOME menu: basic engine menu information, such as oil pressure, oil temperature, water temperature, battery voltage
- MENU: main menu navigation screen

Alarms	Left Display
Engine	Generator
Status	Diagnostic
Service	Exercise/HTS

Figure 3-3. Right Display Window (Press MENU)

3.2.6— Arrow Keys Pad

The key pad contains four arrow keys, a HOME key, a MENU key, and an ENTER key. Two LEDs are also present, one labeled NOT IN AUTO and the other ALARM.

Use the arrow keys to navigate through the menus displayed in the Display Windows. For example, when the HOME key is pressed, the HOME menu is displayed in the Right Display Window. When a flashing cursor appears within a line of the text, move the cursor up, down, left, or right by pressing the corresponding arrow key.

The NOT IN AUTO LED flashes once each second when the Key Switch is moved to the OFF or MAN positions.

During normal operation when no alarms are present, the ALARM LED flashes for one second every 30 seconds (approximate) to indicate that the panel is operational. When an active alarm condition is detected, the ALARM LED flashes once each second. The LED remains ON if the alarm condition is acknowledged, but still active.

3.2.7— Fuse Block

The fuse block is located inside the control panel at the back lower left corner. The 10 amp fuse in the F2 slot is the control panel fuse.

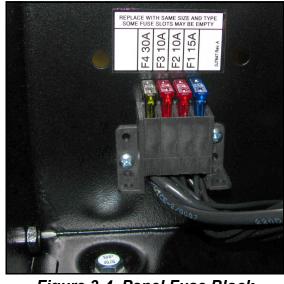


Figure 3-4. Panel Fuse Block

NOTE: Some units will NOT have a fuse in the F4 slot.

3.3 — Additional Components

3.3.1— Main Line Circuit Breaker

A Main Line Circuit Breaker (MLCB) is located on the face of the High Voltage Customer Connections panel, typically situated to the right of the H-100 Control Panel. The MLCB serves as the means of disconnect at the generator, to disconnect it from the Transfer Switch.

3.3.2— Automatic Transfer Switch

A typical automatic transfer switch monitors utility voltage and when that voltage falls outside of specific parameters, it will initiate the generator start command. As long as the generator control is in the AUTO position, it responds to the automatic transfer switch start command.

For information about any connected automatic transfer switch, consult the applicable transfer switch owner's manual.

A DANGER!



Connecting this generator to an electrical system normally supplied by an electric utility shall be by means of a transfer switch (either fully automatic or manual), 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.

3.3.3— Automatic Battery Charger

One of the following types of battery chargers may be provided:

- 2.5-amp
- 10-amp

The 2.5-amp charger is 12 VDC only. The 10-amp charger is available either as a 12 VDC or 24 VDC, as appropriate for the engine's DC system voltage.

Both chargers are fully automatic float types and 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 charged 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 9 to 11 volts for a 12 VDC system, and 18 to 22 volts for a 24 VDC system. Replace the battery if it is below the boost voltage.

3.3.4— Engine Coolant Heater (If Equipped)

Heats the engine coolant when the unit is not operating. This action keeps the engine warm even in cold weather, helping to ensure quicker starts. Powered by a circuit normally fed by the utility power supply.

3.3.5— Engine Oil Sump Heater (If Equipped)

Keeps the oil in the sump heated to allow easier starting and faster engine warm-up. Powered by a circuit normally fed by the utility power supply.

3.3.6— Battery Warmer (If Equipped)

Keeps the battery warm so it can provide full cranking current when starting in cold conditions. Powered by a circuit normally fed by the utility power supply.

Operation

3.4 — Alarm Response Procedures

The generator is protected by factory set alarms and warnings. The alarms and warnings alert the owner/operator of a fault condition that requires attention and action to keep the generator operating in an efficient and safe running order.

3.4.1— Alarm Types

When any alarm is triggered, the Common Alarm Horn sounds, the Alarm LED flashes, and the Alarm Page in the Right Display Window becomes active.

NOTE: Not all faults can be corrected and cleared by the owner/operator. Some Warnings and most Alarm conditions must be safely cleared by a qualified dealer or trained technician.

3.4.1.1-Warnings

Warnings are the lowest level alarm, and are generated to alert the operator that an operating condition has changed and may require action or inspection. Warnings clear once they are no longer active.

3.4.1.2-Non-Shutdown Alarms

Non-shutdown alarms are more urgent than warnings, and indicate a system parameter which is approaching or has exceeded a safe operating limit. Non-shutdown alarms require some form of action, such as inspection, close monitoring, etc. These types of alarms clear when they are no longer active and have been acknowledged.

3.4.1.3—Shutdown Alarms

Shutdown Alarms protect the generator from damage and indicate a system fault that if continued without immediate inspection or correction would result in damage to the unit. Shutdown Alarms are cleared only after the key switch has been placed in the OFF position and they are no longer active.

3.4.2— Alarm Display Window

Three system warning and alarm pages can be displayed in the Right Display Window. Each page is capable of displaying three warnings and/or alarms. If there are more than nine total warnings/alarms, only the most recent are displayed. All warnings and alarms remain in the list until they are cleared.

- Warnings clear when they are no longer active.
- Alarms clear when they have been acknowledged and the alarm condition has been corrected.
- Shutdown alarms clear only after they have been acknowledged, the alarm condition has been corrected, the Key Switch has been cycled from the "AUTO" to the "OFF" position, and the alarm is no longer active.

Any active warning or alarm condition will sound the Common Alarm Horn, and the Right Display Window immediately changes to the first alarm page.

Wr * COOLANT TEM	РНІ
n/a	
n/a	
ACK	More <>(1 - 3)

Figure 3-5. System Alarm Warning Page

See Figure 3-5. The alarm page display indicates the following:

Wr	 Warning (AI = Alarm, SD = Shutdown alarm). 	
*	 Indicates the alarm has not been acknowledged. 	
COOLANT TEMP HI	 Indicates the fault condition. (Hi = tripped by being above the threshold; Lo = tripped by being below the threshold). 	
n/a	= Indicates that no additional alarms or warnings exist and that these lines are vaca	ant.
Cursor flashes on the "A" in "ACK"	= Press the ENTER key to acknowledge the alarm. The horn stops and the asterisk is removed from the display.	(*)
More <>(1-3)	= Indicates that as many as three pages of alarm information may be available.	

3.4.3— General Fault Response Procedure

- 1. Press the ENTER key to acknowledge the fault, silence the alarm horn, and switch the ALARM LED from flashing to ON.
- 2. Carefully read each line of the Alarm Warning Page to determine what fault condition is present. If there is more than one fault, the most recent is listed first.
- 3. Press the MENU key to display the main menu navigation screen.
- 4. Depending on the fault condition, use the arrow keys to toggle to the corresponding area and press the ENTER key.
- 5. Observe the information displayed for the affected area.
- 6. Determine corrective action necessary.
- 7. When the fault condition is cleared, the ALARM LED will turn off.

3.5 — Operating the Unit with an Automatic Transfer Switch

If the generator has been installed along with an automatic transfer switch, the engine may be started and stopped automatically or manually.

NOTE: Refer to the applicable manual for any transfer switch being used and note the dangers during operation.

Normal operation is the generator in "Automatic" working with an automatic transfer switch. When the transfer switch senses a utility failure or loss it will provide a start command to the generator, the generator will automatically start and the transfer switch will transfer power to the load from utility to generator (emergency). It is important that both the generator and any connected automatic transfer switch(es) be properly connected and in "Automatic" mode for normal operation to work.

3.6 — Operating the Unit with a Manual Transfer Switch

If the generator was installed in conjunction with a transfer switch capable of manual operation only, or when an automatic transfer switch has failed and can only be transferred manually, the following procedure applies. A manually operated transfer switch is one that will not provide automatic startup.

A DANGER!



DO NOT attempt to operate a manual transfer switch, or an automatic transfer switch in the manual mode, until all power supplies (utility and generator) to the transfer switch have been positively turned OFF, or extremely dangerous, and possibly lethal, electrical shock can 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.

3.6.1— Manual Engine Startup and Transfer

If the unit is equipped with a control panel other than the H-100, refer to the applicable documentation for that panel. For additional and specific information about any transfer switch connected to the generator, refer to the applicable transfer switch manual as well.

In order to manually transfer load from the utility source to the generator (emergency source):

- 1. With the generator OFF, and the generator Main Line Circuit Breaker in the OFF (OPEN) position, 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 or other means of disconnect).
- 2. Set the transfer handle to its EMERGENCY (STANDBY/GENERATOR) position with load circuits connected to the emergency (generator) power supply.
- 3. Set the generator's main line circuit breaker to its OFF (OPEN) position.
- 4. Start the generator.
- 5. Allow the engine to stabilize and warm up.
- 6. Check all applicable instrument and gauge readings. When certain that all readings are correct, set the emergency generator's Main Line Circuit Breaker to its ON (CLOSED) position.
- 7. Load circuits are now powered by the stationary emergency generator.

3.6.2— Re-Transfer and Shutdown

To manually transfer the load back to the utility power source and shut down the generator:

- 1. Set the stationary emergency generator's main line circuit breaker to its OFF (OPEN) position.
- 2. Make sure utility power to the transfer switch is OFF (open the utility disconnect).
- 3. Manually move the transfer switch handle to its UTILITY (NORMAL) position, i.e., load circuits connected to the utility.
- 4. Turn ON the utility power supply to the transfer switch using the means provided (such as the utility power source main line circuit breaker).
- 5. Allow the generator to run at no-load for five to ten minutes to stabilize internal temperatures.
- 6. Shut down the generator.

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4.1 — Maintenance Schedule

Periodic inspection, service, and maintenance of this unit is critical in ensuring its reliable operation. The following is the manufacturer's recommended maintenance schedule. The established intervals are the maximum required when the unit is used in typical standby service applications (approximately 200 hours per year). The maintenance items will need to be performed more frequently if the unit is used in severe applications (such as long duration outages, very high or very low ambient conditions, or extremely dirty/dusty environments). Use the unit hour meter or calendar time, whichever occurs first, from the previous maintenance interval to determine the next required maintenance interval. Note that some checks are based on hours of operation.

There may be times when the generator must operate continuously for long periods of time (for example, extended utility outages). During such extended operational periods some items will require more frequent checking (based on hours). Use the "Extended Run-Time Maintenance Checks" recommendation for such periods of operation.

Be sure to follow all applicable safety and caution statements found in the unit operating manual or engine service/ maintenance manual before performing any maintenance checks or service.

This maintenance schedule reflects the minimum tasks that need to be accomplished to ensure that the unit remains operational. A repair shop or person of the owner's choosing may maintain, replace, or repair emissions-control devices and systems. Some maintenance that is non-emissions related may be performed by an authorized operator and other maintenance must be performed by an Authorized/Qualified Service Dealer Technician.

NOTE: An authorized operator is one who has been trained by a Manufacturer Authorized Service Dealer in the proper operation and inspection of this standby generator set.

4.1.1— Service Maintenance Intervals

Extended Run-Time Maintenance Checks: Daily checks which must be performed when the unit is operated continuously for extended periods of time. These checks and routine monthly checks can be performed by an authorized operator.

NOTE: For units equipped with a gearbox, the gearbox oil should be checked monthly or every 100 hours of operation.

1A. A <u>one-time</u> post installation, initial operation, service inspection of the generator set to ensure it is ready to operate, transfer to, and carry the load when required, and to identify any potential problem areas. *Performed ONLY ONCE following the first three months or the first 50 hours of operation after installation/startup of the unit and requires approximately 2.5 hours per unit to complete.*

The various service maintenance intervals are designated by interval numbers:

- 1. A frequent, periodic inspection of the generator set to ensure it is ready to operate when required and to identify any potential problem areas. *Performed monthly, or every 24 hours (interrupted) of operation of the unit, and requires approximately 0.5 hours per unit to complete.*
- 2. An operational service inspection of the generator set to ensure it is ready to operate and carry the load when required, and to identify any potential problem areas. *Performed semi-annually (6 months) or every 100 hours of operation of the unit and requires approximately 1.5 hours per unit to complete.*
- 3. A mid-level service inspection of the generator set to ensure it is ready to operate and carry the load when required, and to identify any potential problem areas. *Performed annually or every 200 hours of operation of the unit and requires approximately 6.0 hours per unit to complete.*
- 4. A comprehensive service inspection of the generator set to ensure it is properly serviced and ready to operate and carry the load when required, and to identify any potential problem areas. *Performed biannually (every 24 months or 500 hours) and requires approximately 8.0 hours per unit to complete.*

NOTE: Maintenance levels 2, 3, and 4 require the use of the applicable engine service manual and must be performed by a qualified service technician.

4.1.2— Maintenance Schedule

The following pages contain the maintenance schedule describing the checks/tasks which need to be accomplished at each designated maintenance interval. Some maintenance level tasks are combined. For example, if the 6 month tasks are due, both the monthly and the 6 month task should be completed at the same time. Similarly, when the annual tasks are due, the monthly and semi-annual tasks should also be completed. There is space on the sheets for recording the date and signature of the person completing the task, as well as recording the engine hours and other pertinent information. At the bottom of each sheet, space is also provided to record any fluids added, parts replaced or corrective action taken. All of this recorded information provides a detailed maintenance history of the unit. This maintenance history may be required for warranty validation purposes, and is a good idea to maintain throughout the lifetime of the unit. It is recommended by the manufacturer that service procedures beyond the normal monthly checks be performed by an Authorized Service Dealer.

4.1.3— Notes and Maintenance Item Explanations

Maintenance Item	Description
Oil and Oil Filter	Change oil and filter shortly after start up or commissioning of the unit. The recommendation is that this be done after the first 50 hours of operation or after the first three months of service. Perform oil and filter changes every 200 hours (or yearly) thereafter. If an oil analysis program is used (annually), the acceptable oil change interval can be extended to 500 hours or every 2 years, based on the results of the analysis.
Gearbox Oil (If Equipped)	Change gearbox oil every 2 years or 600 hours of operation. Check gearbox oil level monthly or every 100 hours of operation.
Coolant Quality	Check coolant annually for proper thermal protection levels. Drain, flush, and refill the cooling system with fresh coolant every 2 years regardless of operating hours.
Flexible Hoses	Change coolant, fuel (gaseous supply hoses from regulator to mixer), oil, charge air cooling, and block heater hoses, flexible joints, etc.) every 2 years regardless of operating hours.
Accessory drive belts	Replace accessory drive belts every 2 years regardless of operating hours. If necessary, check and replace automatic tensioner (if used).
Magnetic Pickup(s) mounted on flywheel housing	Remove, clean, inspect, and reset magnetic pickups to the correct operational output voltage every 2 years.
Crank and/or Cam Pickup for ignition system	Visually inspect (outside) for cleanliness and tightness.

NOTE: Certain applications may require more frequent maintenance checks and more frequent operation under load.

NOTE: This schedule does not reflect all of the possible requirements of an individual engine manufacturer service schedule, particularly if the unit is used in other than a standby power application.

NOTE: For more information about service schedules and support for your application, please consult your local Authorized Service Dealer.

4.2 — Extended Run-Time Maintenance Checks

These maintenance tasks can be performed by a trained authorized operator. Comply with all safety notices contained in the Owner's Manual.

	Authorized Operator Maintenance Tasks. Perform steps 1 through 8 and 11 every 24 continuous operating hours. These checks require approximately 0.5 hours per unit.	Task Completed Date/Initials
1.	Before shutting the unit down, perform a thorough visual inspection for leaks, loose compo- nents or connections, excessive apparent wear or damage. Any discrepancies noted should be further inspected and corrected while the unit is shut down.	
2.	Shut the unit down per the procedure in the owner's manual.	
3.	Check the engine oil level. The level should be between the low and full markings on the dip- stick. Adjust as necessary.	
4.	Check the engine coolant level. Make sure the level in the coolant catch tank is between the cold and hot level markings. Adjust as necessary. Use only a 50/50 mixture of appropriate coolant.	
5.	Visually inspect the engine accessory drive belts and fan coupling device (if equipped) for correct tension and any signs of abrasion, wear, deterioration or damage. Correct as necessary.	
6.	Visually inspect all hoses and connections (exhaust, intake, coolant, block heater, fuel lines and filters, oil filters, etc) for leaks, tightness, signs of deterioration, wear, or damage. Correct as necessary.	
7.	Check the air inlets and outlets (enclosure or building vents) for debris or blockage. Correct as necessary.	
8.	Visually inspect the fuel supply system for signs of leaks or damage. Correct as necessary.	
9.	Gearbox Equipped Only: Check the gearbox oil level every 100 operating hours. Adjust as necessary.	
10.	Weekly When Operating: Check the battery electrolyte level (if accessible). Adjust as necessary (add only distilled or deionized water to replenish battery cells).	
11.	Return the unit to operational condition and restart. Check unit voltage and frequency. Visually inspect the unit for leaks, loose connections or components. Place the unit back in service.	
Da	te inspection Completed: Unit Hour-Meter Reading:	
Teo	chnician/Authorized Operator Signature signifying inspection complete:	
Re	cord any oil or coolant added and notes about any discrepancies found and corrective action take	n.

4.3 — Maintenance Level 1A

One Time at 50 Hours / 3 Months. These maintenance tasks must be performed by a trained/qualified service technician. Comply with all safety notices contained in the Owner's Manual. Some of these tasks require the use of the applicable engine service manual.

	Qualified Service Technician Maintenance Tasks. Perform these tasks in addition to the regularly scheduled Monthly maintenance tasks Requires approximately 2.5 hours per unit.	Task Completed Date/Initials	
1.	Disable the unit from operating per the procedure found in the owner's manual.		
2.	Check engine valve clearance (valve lash) as specified in the engine service manual. NOTE: This is NOT required for engines with hydraulic lifters. Check the engine service man- ual.		
3.	Change the engine oil.		
4.	Change the oil filter(s).		
5.	Check the engine accessory drive belts and fan coupling device (if equipped) for correct ten- sion, wear or abrasion, deterioration, or damage. Correct as necessary.		
6.	Check all hoses, piping, and connections (intake, exhaust, coolant, block heater, fuel and fil- ters, oil lines and filters) for tightness, leaks, deterioration or damage. Correct as necessary.		
7.	Check wiring connections (at MLCB, customer connections, control terminal strips, battery, etc) for loose connections, corrosion or damage. Correct as necessary.		
8.	Return the unit to operational condition and test. Place the unit in automatic and open the service disconnect to force the unit to start and transfer to the load. Exercise the unit against the load for 15 minutes, visually inspecting for leaks, loose connections or components, and any abnormal operating conditions. Record the unit voltage, frequency, kW and kVA while running. Restore utility power and monitor transfer to utility, cool-down and shutdown. Correct any discrepancies.		
	Voltage: Frequency: kW: kVA:		
9.	If the control has alarm and/or event or run logs, record the alarm and event logs to a history file for the unit.		
10.	Return the unit to operational condition.		
Da	te inspection Completed: Unit hour Meter Reading:		
Technician/Authorized Operator signature signifying inspection complete:			
Record any oil or coolant added and notes about any discrepancies found and corrective action taken.			

4.4 — Maintenance Level 1 - Monthly

These maintenance tasks can be performed by a trained authorized operator. Comply with all safety notices contained in the Owner's Manual.

	Authorized Operator Maintenance Tasks Requires approximately 0.5 hours per unit.	Task Completed Date/Initials		
1.	Disable the unit from operating per the instructions in the owner's manual.			
2.	Check the engine oil level. The level should be between the low and full markings on the dipstick. Adjust as necessary.			
3.	Gearbox Equipped Only: Check the gearbox oil level. Adjust as necessary.			
4.	Check the engine coolant level. Make sure the level in the coolant catch tank is between the cold and hot level markings. Adjust as necessary. Use only a 50/50 mixture of appropriate coolant.			
5.	Check the battery electrolyte level (if accessible). Adjust as necessary (add only distilled or deionized water to replenish battery cells).			
6.	Check the battery terminal posts, connections, cables and charger connections, and battery hold-downs for signs of corrosion, looseness, etc. Remove, clean and tighten connections as necessary.			
7.	Check operation and condition of the battery charger. Check operation and condition of optional block heater, oil sump heater, and battery warmer (if equipped). Correct discrepancies as necessary.			
8.	Check the air inlets and outlets (enclosure or building vents) for debris or blockage. Correct as necessary.			
9.	Visually inspect the fuel supply system for signs of leaks or damage. Correct as necessary.			
10.	Perform a 5 minute, no-load operational test of the unit. Check unit voltage and frequency. Visually inspect the unit for leaks, wear, damage, loose connections or components, and corrosion. Correct as necessary.			
	Voltage: Frequency:			
11.	If the control has alarm and/or event or run logs, record the alarm and event logs to a history file for the unit.			
12.	Return the unit to operational condition.			
Da	te inspection Completed: Unit hour Meter Reading:			
Technician/Authorized Operator Signature signifying inspection complete:				
Record any oil or coolant added and notes about any discrepancies found and corrective action taken.				

4.5 — Maintenance Level 2 - Semi-Annual

These maintenance tasks must be performed by a trained/qualified service technician. Perform these tasks every 6 months or every 100 hours of operation. Perform these tasks in addition to the regularly scheduled Monthly maintenance tasks. Comply with all safety notices contained in the Owner's Manual. Some of the tasks will require the use of the applicable engine service manual.

	Qualified Service Technician Maintenance Tasks Requires approximately 2.0 hours per unit.	Task Completed Date/Initials	
1.	Disable the unit from operating per the procedure found in the owner's manual.		
2.	Check the engine accessory drive belts and fan coupling device (if equipped) for correct tension, wear, abrasion, deterioration, or damage. Correct as necessary.		
3.	Check all hoses, piping, and connections (intake, exhaust, coolant, block heater, fuel and filters, oil lines and filters) for tightness, leaks, deterioration or damage. Correct as necessary.		
4.	Load test the battery or test electrolyte levels (specific gravity) with a hydrometer.		
5.	Return the unit to operational condition and test. Place the unit in automatic and open the service disconnect to force the unit to start and transfer to the load. Exercise the unit against the load for 15 minutes, visually inspecting for leaks, loose connections or components, and any abnormal operating conditions. Record the unit voltage and frequency while running. Restore utility power and monitor transfer to utility, cool-down and shutdown. Correct any discrepancies.		
	Voltage: Frequency: kW: kVA:		
6.	If the control has alarm and/or event or run logs, record the alarm and event logs to a history file for the unit.		
7.	Return the unit to operational condition.		
Date inspection Completed: Unit hour Meter Reading:			
Te	chnician/Authorized Operator signature signifying inspection complete:		
Record any oil or coolant added and notes about any discrepancies found and corrective action taken.			

4.6 — Maintenance Level 3 - Annual

These maintenance tasks must be performed by a trained/qualified service technician. Perform these tasks every 12 months or every 250 hours of operation. Perform these tasks in addition to the regularly scheduled Monthly and Semi-Annual maintenance tasks. Comply with all safety notices contained in the Owner's Manual. Some of the tasks will require the use of the applicable engine service manual.

	Qualified Service Technician Maintenance Tasks Requires approximately 6.0 hours per unit.	Task Completed Date/Initials
1.	Disable the unit from operating per the procedure found in the owner's manual. Some of the following tasks will require the use of the applicable engine service manual.	
2.	Change the engine oil.	
3.	Change the engine oil filter(s).	
4.	Inspect the air filter. Replace as necessary.	
5.	Gaseous Units Only: Inspect, clean, and gap the spark plugs. Replace as necessary.	
6.	Gaseous Units Only: Inspect ignition wires for damage, deterioration and tightness. Replace as necessary.	
7.	Diesel Units Only: Test the fuel quality. If required, strip any water/sediment from the tank. Filter or polish the fuel and add any additional additives required to maintain fuel quality.	
8.	Diesel Units Only: Change the primary and secondary fuel filters (if equipped). Clean any water separator or mechanical strainer (if equipped). Prime and bleed the fuel system per the engine service manual procedures.	
9.	Check the engine accessory drive belts and fan coupling device (if equipped) for correct tension, wear or abrasion, deterioration, or damage. Correct as necessary.	
10.	Check all hoses, piping, and connections (intake, exhaust, coolant, block heater, fuel and fil- ters, oil lines and filters) for tightness, leaks, deterioration or damage. Correct as necessary.	
11.	Visually inspect the radiator and charge air core (if equipped) for any build up of dirt, debris, or oil contamination (external). Clean, correct as necessary.	
12.	Check the coolant thermal protection level. Correct as necessary.	
13.	Check all wiring connections in the high voltage and low voltage connection panels. Check for loose connections, corrosion, arcing or damage. Check torque on all main load lugs at generator connections (MLCB) and transfer switch connections (refer to applicable transfer switch manual). Correct as necessary.	
14.	Return unit to operational condition and test. Place unit in automatic and open the service dis- connect to force the unit to start and transfer to the load. Exercise unit against the load for 1 hour (60 minutes). Visually inspect for leaks, loose connections or components, and any abnor- mal operating conditions. Record unit voltage, frequency and kW while running. Restore utility power and monitor transfer to utility, cool-down and shutdown. Correct any discrepancies. Voltage: Frequency: kW: kVA:	
15.	If control has alarm and/or event or run logs, record the alarm and event logs to a history file.	
16.	Return the unit to operational condition and place back in automatic operation.	
Da	te inspection Completed: Unit hour Meter Reading:	
Technician/Authorized Operator signature signifying inspection complete:		
Record any oil or coolant added and notes about any discrepancies found and corrective action taken.		

4.7 — Maintenance Level 4 - Bi-Annual

These maintenance tasks must be performed by a trained/qualified service technician. Perform these tasks every 24 months or every 500 hours of operation. Perform these tasks in addition to the regularly scheduled Monthly, Semi-Annual and Annual maintenance tasks. Comply with all safety notices contained in the Owner's Manual. Some of the tasks will require the use of the applicable engine service manual.

	Qualified Service Technician Maintenance Tasks Requires approximately 6.0 hours per unit.	Task Completed Date/Initials		
1.	Disable the unit from operating per the procedure found in the owner's manual. Some of the following tasks will require the use of the applicable engine service manual.			
2.	Gearbox Equipped Only: Change the gearbox oil. Can be extended to 600 hours.			
3.	Replace the engine air filter(s).			
4.	Gaseous Units Only: Replace the spark plugs. Gap per the engine specifications.			
5.	Replace the engine accessory drive belts. Inspect and lubricate (if required) the belt tensioning device (if equipped) and replace if necessary.			
6.	Drain and flush the cooling system. Refill with fresh coolant of appropriate type (50/50 mixture).			
7.	Replace all flexible hoses: Coolant hoses including the block heater hoses and vaporizer hoses (if equipped); charge air system connection hoses/joints/couplings, and any flexible fuel or oil lines.			
8.	Remove, clean, inspect, reinstall and reset to correct voltage level the flywheel magnetic pickup(s) (if equipped).			
9.	9. Return the unit to operational condition and test. Place the unit in automatic and open the service disconnect to force the unit to start and transfer to the load. Use an appropriate load bank to supplement load to full rated load (100% kW at rated kVA) if possible. Exercise the unit against the load for 2 hours (120 minutes). Visually inspect for leaks, loose connections or components, and any abnormal operating conditions. Record the unit voltage, frequency, kW and kVA while running. Remove the load bank load, restore utility power and monitor transfer to utility, cool-down and shutdown. Correct any discrepancies.			
	Voltage: Frequency: kW: kVA:			
10.	If control has alarm and/or event or run logs, record the alarm and event logs to a history file.			
11.	Return the unit to operational condition and place back in automatic operation.			
Da	te inspection Completed: Unit hour Meter Reading:			
Technician/Authorized Operator signature signifying inspection complete:				
Re	cord any oil or coolant added and notes about any discrepancies found and corrective action take	en.		

4.8 — Disabling a Generator for Maintenance

A CAUTION!



There are two conditions when maintenance checks may have to be performed on the unit:

- 1. When the unit is in standby mode (automatic) and NOT running. To disable the unit from starting in this condition, in order to perform maintenance checks or service, follow the steps in Subsection 4.8.1.
- 2. When the unit is running and providing power to the load. To shut down the unit safely, without damaging loads or the generator, follow the steps for shutting down a unit while in operation. See Subsection 4.8.2. Before shutting down an operating unit for maintenance, always make sure that personnel are warned that the power will be shut down temporarily, so that equipment that might be damaged can be properly turned off or placed in standby.

4.8.1— To Disable the Generator From Starting

To prevent injury, BEFORE performing any maintenance, disable the generator set from starting and/or connecting to the load:

- 1. Set the control panel AUTO/OFF/MANUAL switch to the OFF position.
- 2. Remove the control panel fuse (F2-10A fuse).
- 3. Turn off power to the battery charger (remove battery charger ATC style fuse or open the battery charger circuit breaker located in the load control panel).
- 4. Disconnect the negative battery cable.

NOTE: The battery charger must be turned off BEFORE disconnecting the battery cable to prevent an overcurrent condition from burning out sensitive control panel components and circuits.

NOTE: Following any maintenance, reverse these steps to insure the unit is returned to standby setup for normal operation.

4.8.2— Shutdown and Restart an Operating Generator

If the unit is operating and required checks must be performed:

- 1. Ensure that power to the load can be interrupted (warn any equipment users that there will be a temporary power disruption). There may be other procedures that must be done before shutting a unit down, depending on application.
- 2. Open the generator Main Line Circuit Breaker (MLCB).
- 3. Allow the unit to cool down (running at no-load) for approximately 5 minutes to prevent damage to critical engine components.
- 4. Set the control panel AUTO/OFF/MANUAL switch to the OFF position. There may be safety tag-outs or lockouts required at this point, depending on application.
- 5. Perform the necessary maintenance checks or tasks (based on the hourly requirements).
- 6. When all checks have been completed and any discrepancies corrected, set the control panel AUTO/OFF/MAN-UAL switch to the AUTO position.
- 7. When the generator is running, and all engine/generator parameters (voltage, frequency, coolant temp, oil pressure, etc.) have been verified as correct, close the generator Main Line Circuit Breaker (MLCB). The unit will accept and carry the load.
- 8. Make a last visual inspection of the generator set to make sure it is operating properly.

4.9 — Maintenance Tasks

4.9.1— Visually Inspect Unit

Perform a visual inspection of the unit periodically. If problems are found contact your local authorized service dealer. Look for the following:

- Any debris, trash, grass or weed growth, which would obstruct the flow of cooling air into and out of the unit ventilation louvers.
- Visually inspect hoses and hose connections for signs of leakage. This includes all coolant hoses, fuel hoses, exhaust system connections, intake system connections, etc. Also look at the engine block and gearbox (if equipped) for signs of fluid leakage.
- Visually inspect the engine accessory drive belts for evidence of obvious wear, fraying or deterioration, and obvious looseness. A "squealing" sound heard during starting and running could indicate a loose belt.

4.9.2— Check Engine Fluids

The following checks can be performed by a trained authorized operator. Observe all safety precautions outlined in the "Safety" section.

4.9.2.1—Check Engine Oil Level

An authorized operator should check the levels of engine oil and engine coolant monthly (or every 24 hours of operation). The oil level should be maintained between the "FULL" and "ADD" marks on the engine dipstick. Recommended fluids are listed in Subsection 2.6.2.

To check the engine oil:

- 1. Locate the engine oil dipstick.
- 2. The most accurate oil level readings are measured when the engine is cold. If the engine was running, wait at least 10 minutes before proceeding.
- 3. Remove the dipstick and wipe it dry with a clean, lint free cloth.
- 4. Slowly insert the clean dipstick into the tube. Visually confirm that the dipstick is fully seated in the dipstick tube. A visual inspection is required because some dipsticks will require more effort than others to fully seat.
- 5. After 10 seconds remove the dipstick.
- 6. Look at the oil level on both sides of the dipstick. The lower of the two readings will be the correct oil level measurement.
- Add oil (if necessary) to adjust the level. After adding or changing the oil, the engine should run for one minute before checking the oil level. Remember to wait 10 minutes to allow the engine to cool and oil to fully drain into the oil pan.

Typical causes of inaccurate oil level readings:

- Reading the high level of the dipstick.
- Reading the dipstick before the oil fully drains into the oil pan.
- · Inserting and removing the dipstick too quickly.
- The dipstick is not fully seated in the dipstick tube.

▲ DANGER!



- DO NOT remove the radiator pressure cap while the engine is hot. Serious burns from boiling liquid or steam could result.
- Add coolant only to the expansion tank when the engine is cool (not at operating temperature).
- 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 the taste of antifreeze even though it is poisonous.



Do not use any chromate base rust inhibitor with propylene glycol base antifreeze. Using any high silicate antifreeze boosters or additives also will cause overheating. The manufacturer also recommends that any soluble oil inhibitor is NOT USED for this equipment.

Visually check the coolant expansion tank and make sure the coolant level is between the "Cold" and "Hot" level markings. To add coolant to the system add it to the expansion tank when the engine is cool (not at operating temperature, not running). Add only a 50/50 mixture of the correct antifreeze and distilled or deionized water to the coolant system.

4.9.2.3—Check/Change Gearbox Oil (If Equipped)

Check monthly, or every 100 hours of operation. Biannually (or every 600 hours), an authorized service technician should completely drain and refill the gearbox.

Gear oil used is 80W-90. Lucas Heavy Duty Oil Stabilizer should be added as follows by Fluid volume:

- 390 Gearbox Approximately 32 oz. total. 26 oz. gear oil and 6 oz. Lucas Heavy Duty Oil Stabilizer.
- 520 Gearbox Approximately 55 oz. total. 44 oz. gear oil and 11 oz. Lucas Heavy Duty Oil Stabilizer.

To Check Gearbox Oil Level:

- 1. Disable the generator from starting.
- 2. Remove the oil level check plug. See Figure 4-1.
- 3. The oil level should be at the bottom edge of the oil level check plug hole.
- 4. To add oil, remove the oil filler/vent cap, and fill through the vent line.
- 5. Replace the vent cap and oil level check plug and tighten.

NOTE: Do NOT overfill the gearbox. If too much fluid is added let the excess drain from the level check plug hole and collect it in a suitable container or with rags.

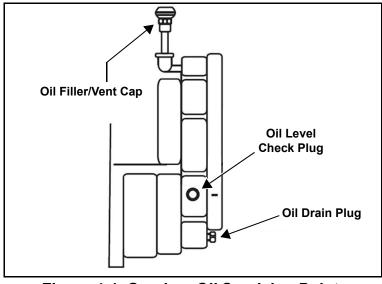


Figure 4-1. Gearbox Oil Servicing Points

To change the gearbox oil:

- 1. Disable the generator from starting.
- 2. Remove the oil drain plug and drain the oil into an appropriate container. Properly dispose of or recycle the oil.
- 3. Reinstall the oil drain plug.
- 4. To add oil to the gearbox, remove the oil level check plug and oil filler/vent cap.
- 5. Add the recommended oil/stabilizer mix until it just starts to flow from the oil level check plug opening.
- 6. Install and tighten the oil filler/vent cap and oil level check plug.

Return the generator to operating condition. Start the unit and check for leaks.

4.9.3— Battery Inspection

A DANGER!



Stationary emergency 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 automatic startup and possible injury to personnel, do not connect battery cables until 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. 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. 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, an 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.



Servicing of the battery is to be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries. Observe the following precautions when working on batteries:

- Remove the 10A F2 fuse from the generator control panel.
- Remove watches, rings, or other metal objects.
- Use tools with insulated handles.
- Wear rubber gloves and boots.
- Do not lay tools or metal parts on top of the battery.

- Disconnect the charging source prior to connecting or disconnecting battery terminals. Remove the battery charger fuse (ATC style fuse, 5 amp on the 2.5 charger and 15 amp on the 10A charger).
- Wear full eye protection and protective clothing.
- Where electrolyte contacts the skin, wash it off immediately with water.
- Where electrolyte contacts the eyes, flush thoroughly and immediately with water and seek medical attention.
- Spilled electrolyte is to be washed down with an acid neutralizing agent. A common practice is to
 use a solution of 1 pound (500 grams) bicarbonate of soda to 1 gallon (4 liters) of water. The bicarbonate of soda solution is to be added until the evidence of reaction (foaming) has ceased. The
 resulting liquid is to be flushed with water.



Lead-acid batteries present a risk of fire because they generate hydrogen gas.

- DO NOT SMOKE when near the battery.
- DO NOT cause flame or spark in battery area.
- Discharge static electricity from the body before touching the battery by first touching a grounded metal surface.



Be sure the AUTO/OFF/MANUAL switch is set in the OFF position before connecting the battery cables. If the switch is set to AUTO or MANUAL, the generator can crank and start as soon as the battery cables are connected.



Be sure the utility power supply to the battery charger is turned OFF and the 10A and 15A fuses are removed from the generator control panel and the ATC style fuse removed from the battery charger, or sparking may occur at the battery posts as the cables are attached and cause an explosion.

NOTE: A negative ground system is used. Battery connections are shown on the wiring diagrams. Make sure the battery is correctly connected and terminals are tight. Observe battery polarity when connecting the battery to the generator set.

4.9.4— Battery Installation and Replacement

When required, the battery must be replaced with one of equivalent size, voltage, and CCA (cold crank amp capacity). Consult the Unit Specification Sheet or contact the local Authorized Service Dealer for proper battery sizing.

A new battery must be filled with the proper electrolyte and be fully charged before installing.

Preliminary Instructions

- 1. Set the AUTO/OFF/MANUAL switch on the generator control panel to OFF.
- 2. Turn off utility power supply to the battery charger circuit.
- 3. Remove the 10A fuse from the generator control panel.
- 4. Remove the ATC style fuse from the battery charger.

Battery cables are connected to the generator connection points at the factory. Connect the cables to the battery posts as shown in Figure 4-2.

12VDC System

- 1. Connect the red battery cable from the starter contactor to the positive (POS or +) battery post.
- 2. Connect the black battery cable to the frame ground to the negative (NEG or -) battery post.

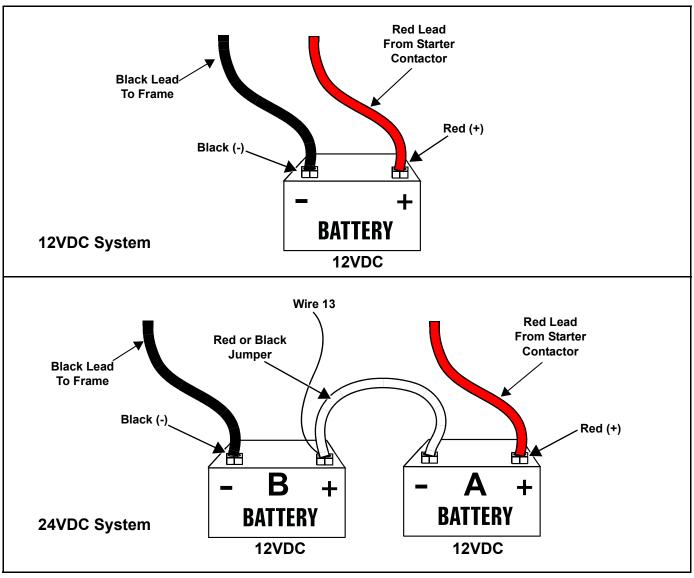


Figure 4-2. Battery Cable Connections

24VDC System

- 1. Connect the red battery cable from the starter contactor to the positive (POS or +) post of battery A.
- 2. Connect the black battery cable to the frame ground to the negative (NEG or -) post of battery B.

NOTE: On 24V gaseous units, center tap wire number 13 between the batteries as shown in Figure 4-2.

3. Connect either a black or red jumper cable from the negative (NEG or -) post of battery A to the positive (POS or +) post of battery B.

Final Instructions

- 1. Install the ATC style fuse in the battery charger.
- 2. Install the 10A fuse in the generator control panel.
- 3. Turn on the utility power supply to the battery charger circuit.
- 4. If the unit was previously operational, turn the AUTO/OFF/MANUAL switch on the generator control panel to AUTO.



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

4.9.5— Other Maintenance Checks

The following inspections should be performed by a qualified/authorized service technician, or a properly trained authorized operator. These maintenance items require a high level of experience and skill to evaluate and correct.

- Inspect engine accessory drive belts
- Inspect hoses and connections
- Inspect fuel supply system
- Inspect exhaust system

4.10 — Maintenance and Repair Parts

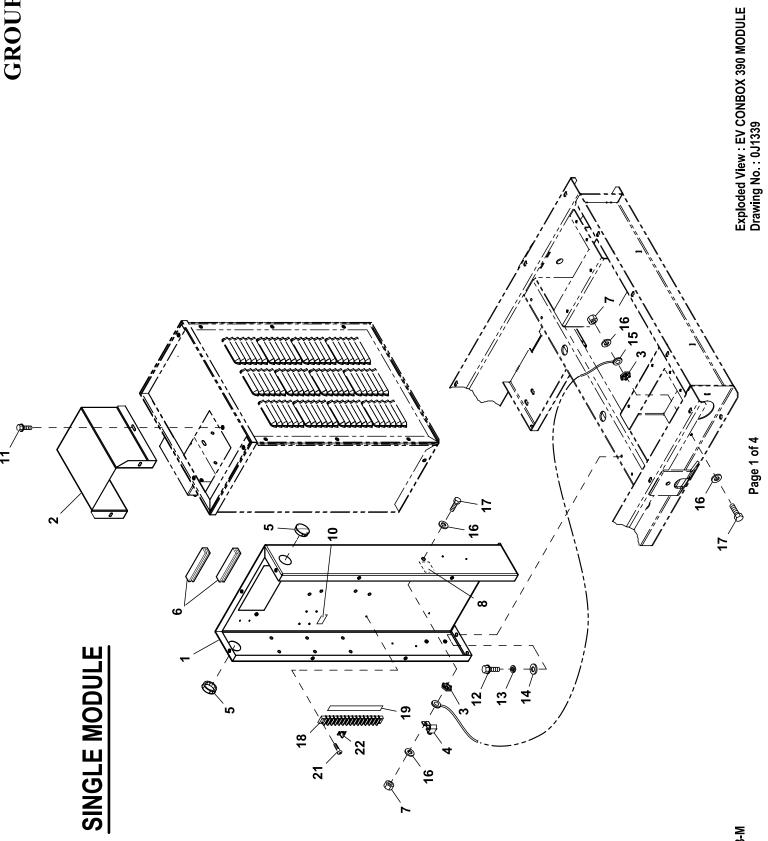
All non-emissions related service maintenance or repairs should be completed by an authorized service technician to maintain the warranty status of a unit. Emissions related maintenance and repairs may be performed by a person or repair shop of the owner's choosing.

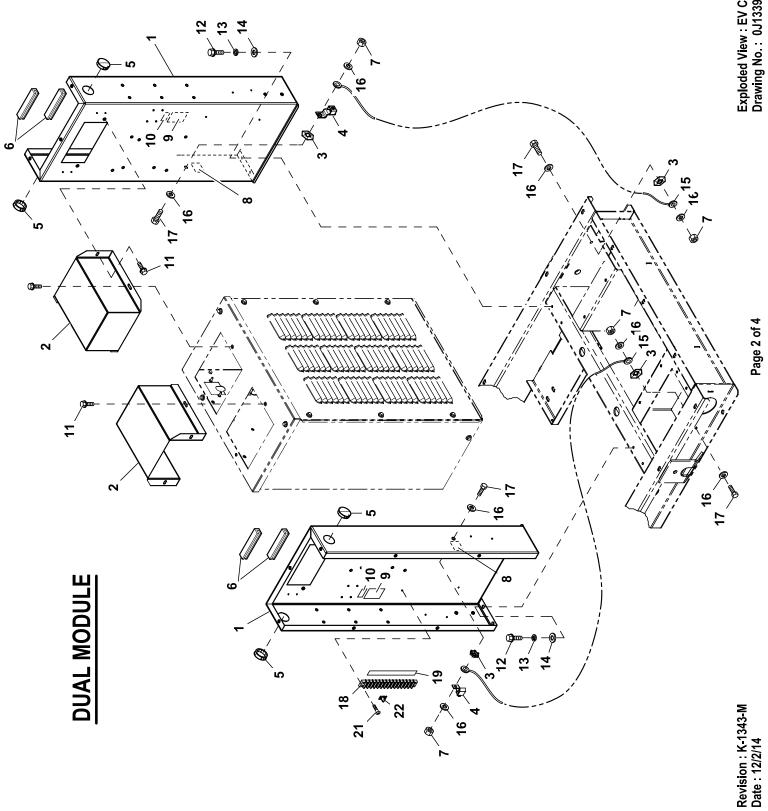


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Notes

GROUP A





Exploded View : EV CONBOX 390 MODULE Drawing No. : 0J1339

EXPLODED VIEW: EV CONBOX 390 MODULE DRAWING #: 0J1339 APPLICABLE TO:

ITEM	PART#	QTY.	DESCRIPTION	
		SINGLE MODULE		
(1)1	0H95790ST0R	1	MD1 / MD2 CB MODULE 390 ALT	
(1)(4)	0H9579DST0R	1	MD1, MAIN MODULE 390 ALT G5.4L	
(1)2	0J17560ST0R	1	WIRE TUNNEL, MD1-2 390 ALT	
3	0A4456	2	WASHER LOCK SPECIAL 3/8	
4	061383	1	LUG SLDLSS 3/0-#4 X 13/32 CU	
5	0E1534A	2	PLUG PLASTIC 1.50"	
6	056326	2	TRIM VINYL BLACK 1/8GP (7.1"LG)	
7	045772	2	NUT HEX M10-1.5 G8 YEL CHR	
8	067210B	1	DECAL GROUND	
10	0A9457A	1	DECAL NEUTRAL	
11	0C2454	4	SCREW HWHT M6-1 X 16 N WA Z/JS	
12	024526	4	SCREW HHTT 5/16-18 X 3/4 CZ	
13	022129	4	WASHER LOCK M8-5/16	
14	022145	4	WASHER FLAT 5/16-M8 ZINC	
15	0441140781	1	WIRE ASM, GND 2/0 WIRE 3/8 LUG	
16	022131	4	WASHER FLAT 3/8-M10 ZINC	
17	049541	2	SCREW HHC M10-1.5 X 35 C8.8	
(3)(2)18	0J0455	REF	BLOCK, TERM 14 POS X 8 X 1600V	
(3)(2)19	0J9078	REF	DECAL TB4 HV CUSTOMER CONN	
(3)(2)21	0J5462	REF	SCREW THTT M4-0.7 X 16 ZP	
22	023827	REF	BLOCK TERM JUMPER FOR S142/542	

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR) • MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.

CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR
 CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

(2) WILL BE INSTALLED ON PRIMARY CB MODULES ONLY. NOT REQUIRED WITH LOAD CENTER.

(3) NOT REQUIRED IF EQUIPPED WITH 0J1594, KIT BATTERY CHARGER POWER CORD.

(4) G5.4L Y01 UNITS ONLY.

		DUAL MODULE	
(1)1	0H95790ST0R	2	MD1 / MD2 CB MODULE 390 ALT
(1)(4)	0H9579DST0R	2	MD1, MAIN MODULE 390 ALT G5.4L
(1)2	0J17560ST0R	2	WIRE TUNNEL, MD1-2 390 ALT
3	0A4456	4	WASHER LOCK SPECIAL 3/8
4	061383	2	LUG SLDLSS 3/0-#4 X 13/32 CU
5	0E1534A	4	PLUG PLASTIC 1.50"
6	056326	4	TRIM VINYL BLACK 1/8GP (7.1"LG)
7	045772	4	NUT HEX M10-1.5 G8 YEL CHR
8	067210A	2	DECAL GROUND LUG
9	0H8006	2	DECAL CAUTION ELEC SHOCK SM
10	0A9457	2	DECAL NEUTRAL
11	0C2454	8	SCREW HWHT M6-1 X 16 N WA Z/JS
12	024526	8	SCREW HHTT 5/16-18 X 3/4 CZ
13	022129	8	WASHER LOCK M8-5/16
14	022145	8	WASHER FLAT 5/16-M8 ZINC
15	0441140781	2	WIRE ASM, GND 2/0 WIRE 3/8 LUG
16	022131	8	WASHER FLAT 3/8-M10 ZINC
17	049541	4	SCREW HHC M10-1.5 X 35 C8.8
(3)(2)18	0J0455	REF	BLOCK, TERM 14 POS X 8 X 1600V
(3)(2)19	0J9078	REF	DECAL, TB4 HV CUSTOMER CONN
(3)(2)21	0J5462	REF	SCREW THTT M4-0.7 X 16 ZP
22	023827	REF	BLOCK TERM JUMPER FOR S142/542

NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

• MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.

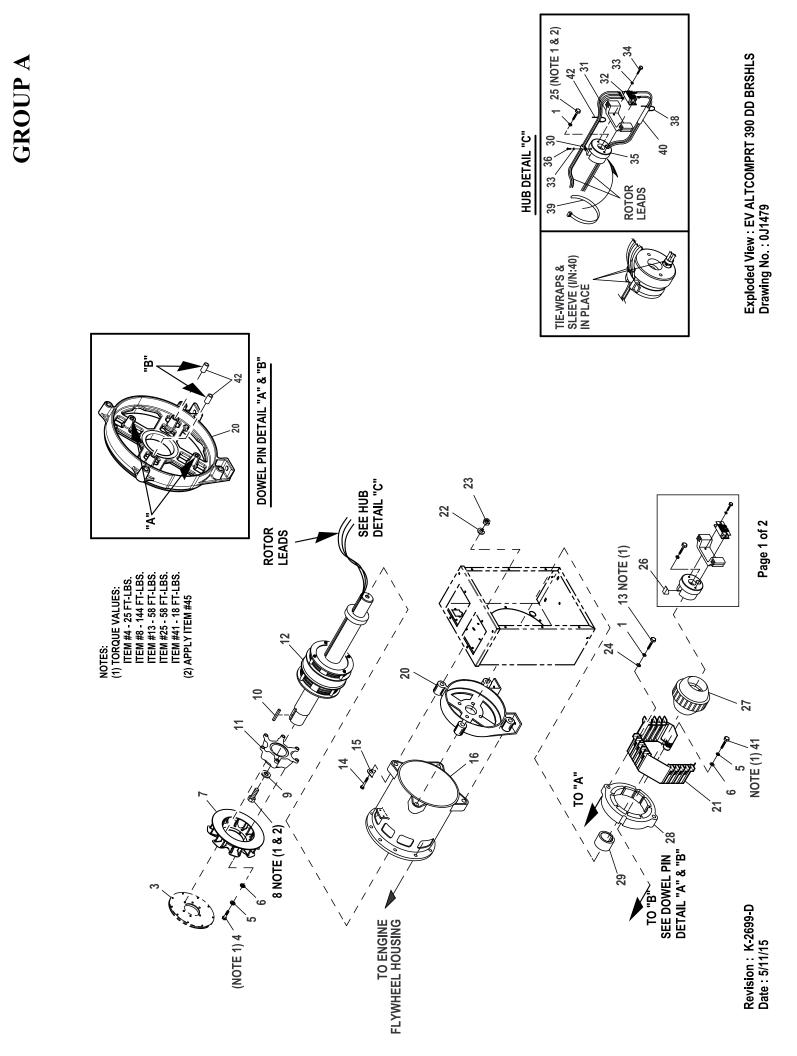
CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR
 CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

(2) WILL BE INSTALLED ON PRIMARY CB MODULES ONLY. NOT REQUIRED WITH LOAD CENTER.

(3) NOT REQUIRED IF EQUIPPED WITH 0J1594, KIT BATTERY CHARGER POWER CORD. (4) G5.4L Y01 UNITS ONLY. EXPLODED VIEW: EV CONBOX 390 MODULE DRAWING #: 0J1339 APPLICABLE TO:

ITEM PART# QTY. DESCRIPTION

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EXPLODED VIEW: 390, BOARD SOLID LEAD TERM BRL DRAWING #: 0J1479 APPLICABLE TO:

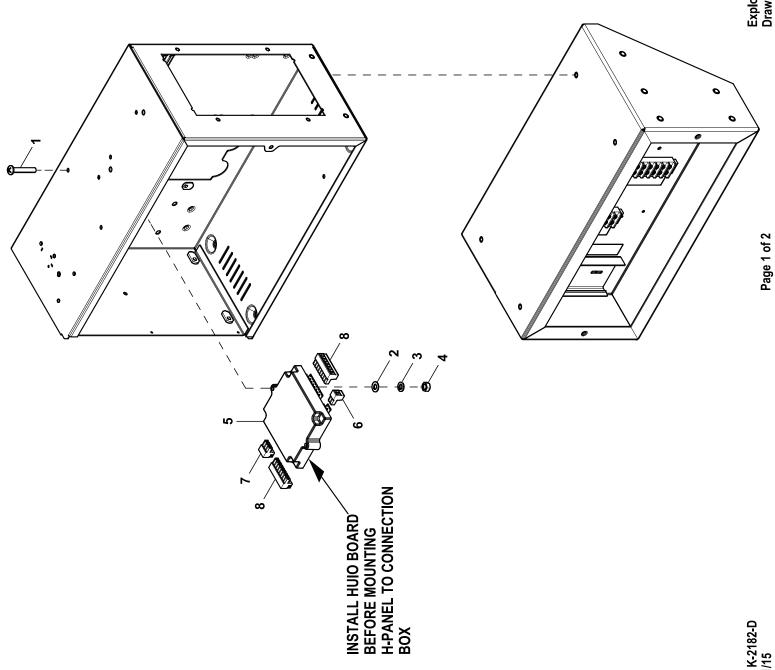
GROUP A

1 051769 3 WASHER LOCK M12 3 VARIES REF FLEX PLATE 4 055173 6 SCREW HHC M8-1.25 X 20 G10.5 5 022129 8 WASHER LOCK M8-5/16	o.
4 055173 6 SCREW HHC M8-1.25 X 20 G10.9	۵
	9
5 022129 8 WASHER LOCK M8-5/16	5
6 022145 8 WASHER FLAT 5/16-M8 ZINC	
7 0G0724 1 FAN MACHINED 390 SAE ALTER	RATOR
8 0A2601 1 SCREW HHC M16-2.0 X 45 G8.8	
9 0A2602 1 WASHER FLAT .688ID X 3.25OD	
10 0A1138 1 KEY SQ 3/8 X 2-1/2 STEEL	
11 021941 1 COUPLER 390 SAE	
12 VARIES REF ROTOR PER ORDER (SEE BOM))
13 052891 2 SCREW HHC M12-1.75 X 80 C8.8	3 (1.25" STACK)
068407 2 SCREW HHC M12-1.75 X 90 C10.	.9 (2.00" STACK)
14 0A5580 4 SCREW HHC M14-2.0 X 140 G8.8	
15 0A1633 4 WASHER,390 SAE ALT.	
16 VARIES REF STATOR PER ORDER (SEE BON	Л)
20 068113 1 CARRIER REAR BRG 15"	
21 0H8394A 1 390, BOARD SOLID LEAD TERM	BRL
22 043123 4 WASHER LOCK M14	
23 051779 4 NUT HEX M14-2.0 G8 YEL CHR	
24 022304 2 WASHER FLAT 1/2 ZINC	
25 053559 1 SCREW HHC M12-1.75 X 45 C8.8	8 (1.25" STACK)
068406 1 SCREW HHC M12-1.75 X 60 C10.	.9 (2.00" STACK)
26 070274 1 KEY SQ 3/8 X 2-3/4 STEEL	
27 087271 1 ASSY EXCITER 1.25"STK	
087272 1 ASSY EXCITER 2.00" STK	
28 068404 1 EXCITER FIELD 1.25 STK	
068405 1 EXCITER FIELD 15" 2" LG	
29 092950 1 COLLAR SLIP FIT 390 MM	
30 020151 1 CLAMP VINYL .312 X .203 Z	
31 090063 1 BRIDGE SUPPORT DIODE 15"	
32 090152 1 ASSY BRIDGE RECTIFIER	
33 023365 3 WASHER SHAKEPROOF INT #8	
34 033143 2 SCREW HHM #8-32 X 7/8	
35 090064 1 CAP END ROTOR 390MM	
36 033133 1 SCREW HHM #8-32 X 3/8	
38 028739A 2 TIE WRAP 3.9" X .10" BLK UL	
39 085662D 1 TIE WRAP UL 17.7 X .35 BLK HT	
40 022661L 1 SLEEVING UL #0 .330 ID	
41 042914 2 SCREW HHC M8-1.25 X 90 C8.8	
087712 2 SCREW HHC M8-1.25 X 110 C8.8	
42 0H9157 2 HOLLOW DOWEL PIN, 1/2 X 1-1/4	4
45 0A1786 .5CC ADH LOCTITE #8931 AA W/S	

GROUP B

Exploded View : EV HUIO H-PNL COMM/PWR Drawing No. : 0G4076D

Revision : K-2182-D Date : 3/11/15

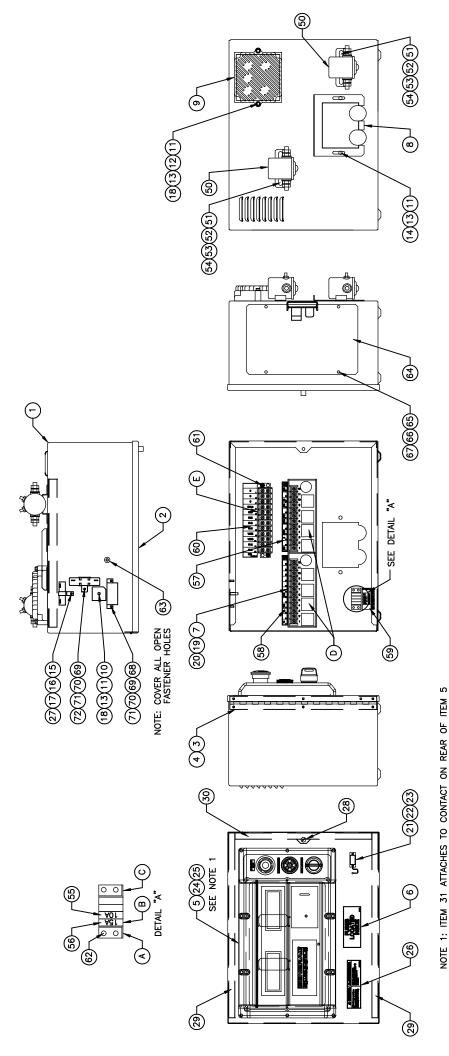


EXPLODED VIEW: EV HUIO H-PNL COMM/PWR

DRAWING #: 0G4076D APPLICABLE TO:CO 1330102

GROUP B

ITEM	PART#	QTY.	DESCRIPTION
1	020911	2	SCREW PPHM M5-0.8 X 30 ZINC
2	049226	2	WASHER LOCK M5
3	051713	2	WASHER FLAT M5
4	051716	2	NUT HEX M5-0.8 G8 CLEAR ZINC
5	0G3226	1	H-PNL I/O EXPANSION MOD PROG
6	0E8599A	1	TERMINAL BLK PLUG 2 POS
7	0E8599B	1	TERMINAL BLK PLUG 3 POS
8	0E8599G	2	TERMINAL BLK PLUG 8 POS
9	0G5354	REF	MANUAL H-PANEL I/O MODULE (NOT SHOWN)
10	032578	3(FT)	CABLE 2COND 18AWG SHIELDED (NOT SHOWN)
11	055199E	4(FT)	WIRE 600V 18AWG BLK (NOT SHOWN)
12	061446	5	LUG SNPSPD INS 22-18 X.27 X.87 (NOT SHOWN
13	077043H	3(FT)	CONDUIT FLEX .25"ID (NOT SHOWN)
14	0G4076E	REF	WD HUIO H-PNL COMM/PWR



EXPLODED VIEW: AV H-PANEL NO BC NO E-GOV 24V DRAWING #: 0G4141D

PAGE 1 OF 2

REVISION: H-1483-B DATE: 12/03/07

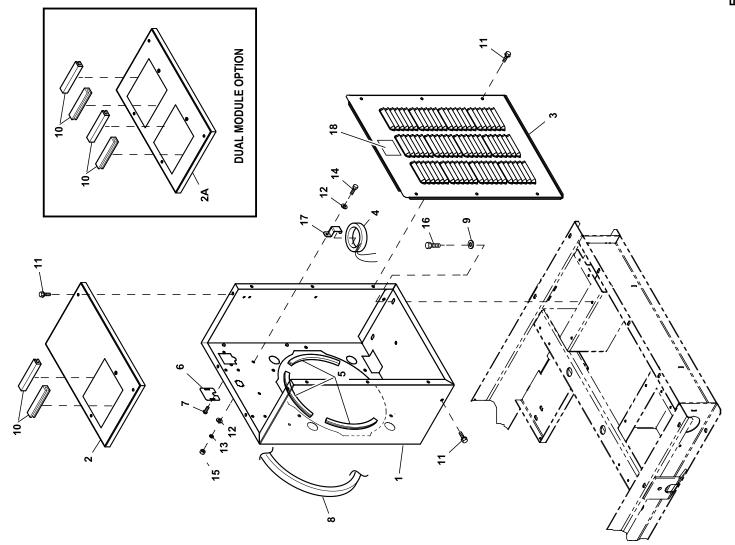
GROUP B

APPLICABLE TO:	
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ITEM	PART #	QTY.	DESCRIPTION		
COMPONENTS INCLUDED IN 0G4141E					
1	0F1823CST06	1	ENCL H/G CONTROL PANEL		
2	0F1824AST06	1	COVER CONTROL PANEL H		
3	0F2606	1	HINGE CONTINUOUS H PANEL		
4	036261	7	RIVET POP .125 X .275 SS		
5	0F5763	1	ASSY PROGRAMMED H-100		
6	0F1732	1	DECAL FUSES LOCATED INSIDE		
7					
	0E9764	1	RAIL SNAPTRACK PCB HOLDER BULK (12"LG)		
8	0F1958	1			
9	0F2256	1	ASSY PCB PWR AVR W/AMP HEADER		
10	029673	1	DIO BRIDGE 25A 600V		
11	049226	5	WASHER LOCK M5		
12	079224	2	SCREW PPHM M5-0.8 X 30 SS		
13	051713	5	WASHER FLAT M5		
14	0F5886	2	SCREW HHPM M5-0.8 X 12		
15	043182	1	WASHER LOCK M3		
16	051714	1	NUT HEX M3-0.5 G8 YEL CHR		
17	052777	1	WASHER FLAT M3		
18	051716	3	NUT HEX M5-0.8 G8 CLEAR ZINC		
19	043180	3	WASHER FLAT M4		
20	0C3990	3	SCREW PHTT M4-0.7 X 10 ZYC		
20	0F4333	1	CONN DUST CAP W/CHAIN DB9		
22		1			
	0F5883		WASHER FLAT M3.5		
23	0F5884	1	SCREW PHTT M3.5-0.6 X 10		
24	055014	10	SCREW PPHM M4-0.7 X 8 BLX OX		
25	022264	10	WASHER LOCK #8-M4		
26	0G3546	1	DECAL WRN BATT CHRG 12/24V BI		
27	0F5752A	1	RES WW 10R 5% 15W QK CONN		
28	0G3648	1	M5-0.8 CAPTIVE PANEL KNLD HD		
29	0F6305	2	SEAL COVER 3.18 X 12.7 X 382		
30	0F6305A	1	SEAL COVER 3.18 X 12.7 X 283		
31	0G4329	1	HARNESS H-PNL INTEGRATED SW (NOT SHOWN)		
		COMPONE	NTS INCLUDED IN WIRE HARNESS		
Α	0F1263	1	ADPTR RH SIDE WICKMANN 178.6191		
В	0F1262	4	HOLDER FUSE WICKMANN 178.6150		
С	0F1264	1	ADPTR LH SIDE WICKMANN 178.6192		
D	0E9049A	1	ASSY PCB G-PANEL RELAY 24VDC		
Ē	055911	1	BLOCK TERM 20A 12 X 6 X 1100V		
		COMPONE	NTS NOT INCLUDED IN 0G4141E OR WIRE HARNESS		
50	082982	REF.	RELAY CONTACTOR 24VDC		
51	022287	REF.	SCREW HHC 1/4-20 X 3/4 G5		
52	022473	REF.	WASHER FLAT 1/4-M6 ZINC		
53	022097	REF.	WASHER LOCK M6-1/4		
54 55	022127	REF.	NUT HEX 1/4-20 STEEL		
55 56	0E7403B	1	FUSE ATO TYPE 10 AMP (RED)		
56	0E7403C	1	FUSE ATO TYPE 15 AMP (BLUE)		
57	0F5772	1	DECAL H-100 RELAY BD 24V RB1		
58	0F5773	1	DECAL H-100 RELAY BD 24V RB2		
59	0F5459	1	DECAL CPL CONTROL PANEL FUSES		
60	0F7582	1	DECAL 24VDC TB3		
61	0C2323	2	SCREW PHTT #6-32 X 5/8 ZYC		
62	0C2699	2	SCREW PHTT #6-32 X 3/8 ZYC		
63	0F6145	A/R	SEAL WEATHER .45"DIA (NOT SHOWN)		
64	0F2627	1	PLATE COVER H PANEL		
65	049226	4	WASHER LOCK M5		
66	051713	4	WASHER FLAT M5		
67	091526	4	SCREW PPHM M5-0.8 X 12 ZNC		
68	048476	1	CB 4.5X1 AUT30KW CNT45K		
60	043182	3	WASHER LOCK M3		
69 70	054744	<u>^</u>			
70	051714	3	NUT HEX M3-0.5 G8 YEL CHR		
	051714 052777 0F5752D	3 3 1	NUT HEX M3-0.5 G8 YEL CHR WASHER FLAT M3 RES WW 75R 5% 25W QK CONN		

GROUP A

Page 1 of 2



Revision: K-1917-D Date: 2/19/15

EXPLODED VIEW: EV 390 ALTERNATOR TOWER ASM

DRAWING #: 0J7594 APPLICABLE TO:

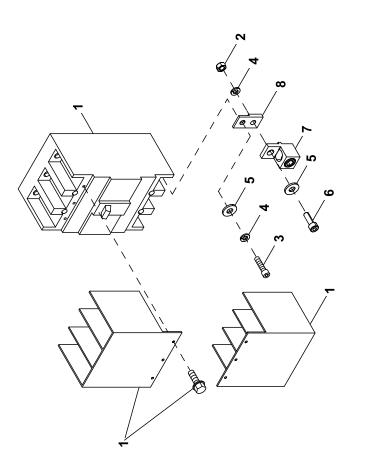
GROUP A

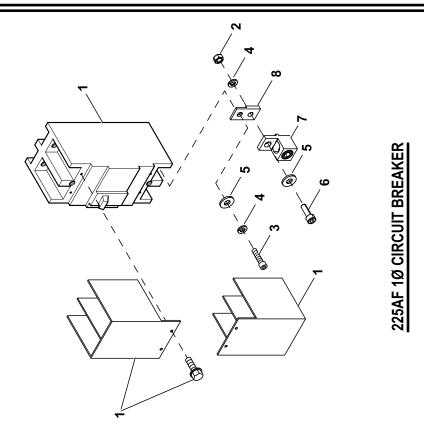
ITEM	PART#	QTY.	DESCRIPTION
(1)1	0J75960ST0R	1	MAIN, ALT TOWER 390 W/ SHROUD
(1)2	0H94310ST0R	1	TOP, ALT TOWER 390 SINGLE CB
	0H9431BST0R	1	TOP ALT TOWER 390 SNGL CB RH
(1)2A	0H9431AST0R	1	TOP, ALT TOWER 390 DUAL CB
(1)3	0H94320ST0R	1	COVER, ALT TOWER 390
(3)4	0J0481	2/3	XFMR CURRENT 50A W/BRKT UL RCG
	0J0481A	2/3	XFMR CURRENT 100A W/BRKT UL G
	0J0481B	2/3	XFMR CURRENT 150A W/BRKT UL
	0J0481C	2/3	XFMR CURRENT 200A W/BRKT UL
	0J0481D	2/3	XFMR CURRENT 300A W/BRKT UL
	0J0481E	2/3	XFMR CURRENT 400A W/BRKT UL
	0J0481F	2/3	XFMR CURRENT 500A W/BRKT UL
	0J0481G	2/3	XFMR CURRENT 600A W/BRKT UL
5	056326	3	TRIM VINYL BLACK 1/8GP (8"LG)
(1)6	0J01360ST0R	1	PLATE, WIRE HARN BLOCKOFF
7	0J5464	2	SCREW THTT M5-0.8 X 16 ZP
8	052250	1	TAPE FOAM 1X1 (52" LG)
9	022473	4	WASHER FLAT 1/4-M6 ZINC
(2)10	056326	2/4	TRIM VINYL BLACK 1/8GP (6"LG)
11	0C2454	12	SCREW HWHT M6-1 X 16 N WA Z/JS
(3)12	022145	4/8	WASHER FLAT 5/16-M8 ZINC
(3)13	022129	2/3	WASHER LOCK M8-5/16
14	042907	2/3	SCREW HHC M8-1.25 X 16 C8.8
15	045771	2/3	NUT HEX M8-1.25 G8 CLEAR ZINC
16	024983	4	SCREW HHTT 1/4-20 X 3/4 CZ
(3)17	0J1857	2/3	CT BRKT 1.1" WINDOW FRAME
	0J1857A	2/3	CT BRKT 2.25" WINDOW FRAME
18	0C1229	1	DECAL WARNING ELECTRICAL SHOCK
19	0H9845	1	HARN 390/520 CONBOX H-PANEL (NOT SHOWN)

NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

- MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO XA BOM.
- CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169). (3) QTY. REQUIRED FOR 1 PHASE / QTY. REQUIRED FOR 3 PHASE.





Exploded View : EV,CB ASSEMBLY 225AF Drawing No. : 0J8468

225AF 3Ø CIRCUIT BREAKER

Revision -A-Date 2/3/12

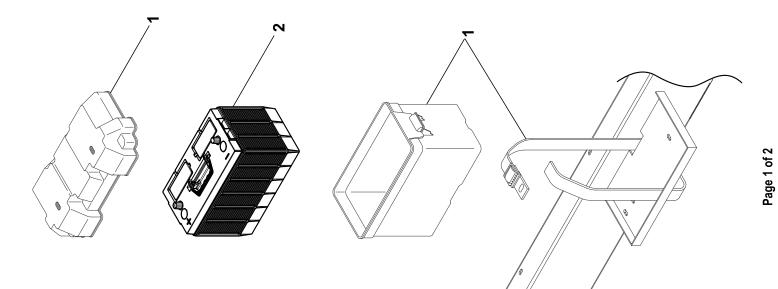
EXPLODED VIEW: EV,CB ASSEMBLY 225AF DRAWING #: 0J8468

GROUP A

ITEM	PART#	QTY.	DESCRIPTION	
1	REF	1	MAIN CIRCUIT BREAKER	
(1)2	045771	4/6	NUT HEX M8-1.25 G8 CLEAR ZINC	
(1)3	049897	4/6	SCREW SHC M8-1.25 X 20 G8	
(1)4	022129	8/12	WASHER LOCK M8-5/16	
(1)5	022145	8/12	WASHER FLAT 5/16-M8 ZINC	
(1)6	058306	4/6	SCREW SHC M8-1.25 X 25 C12.9	
(1)7	0F8451	4/6	LUG SLDLSS 300 MCM-6 AL/CU	
(1)8	0F8843	4/6	BUS BAR 200A LUG ADAPTOR	

(1) QTY. REQUIRED FOR 1Ø BREAKERS / QTY. REQUIRED FOR 3Ø BREAKERS.

GROUP C

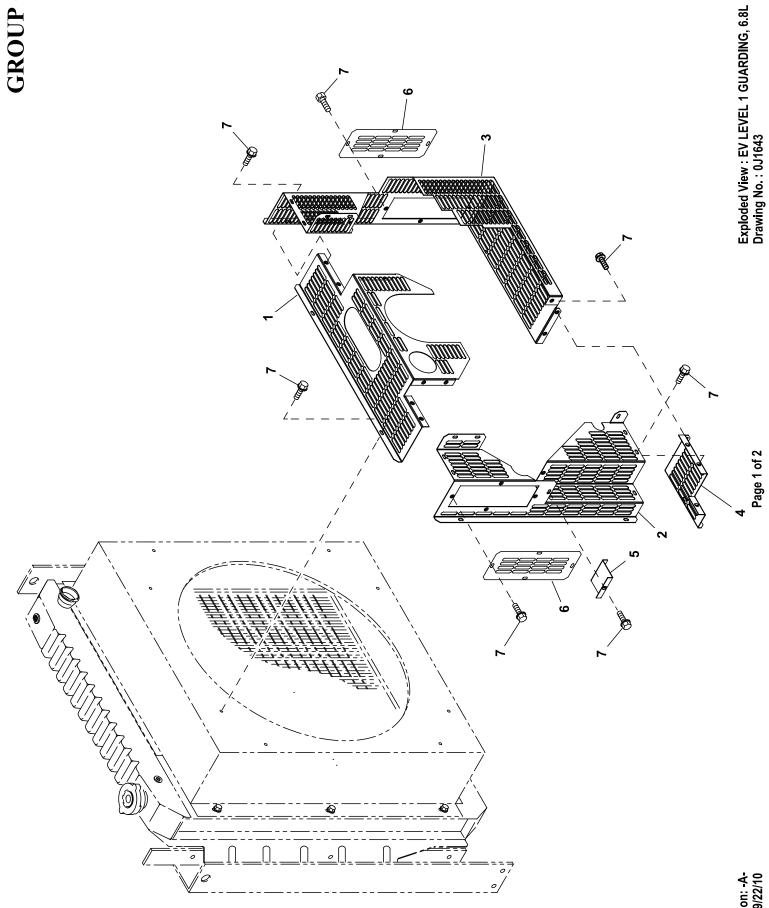


EXPLODED VIEW: EV BAT GRP 31 12V W/BOX INSTAL DRAWING #: 0F5518B APPLICABLE TO:

ITEM	PART#	QTY.	DESCRIPTION	
1	0E2471	1	BATTERY BOX GROUP 27-31 W/COV	
2	061119	1	BATTERY BCI GRP 31 925 CCA	

GROUP C

GROUP C



Revision: -A-Date: 9/22/10

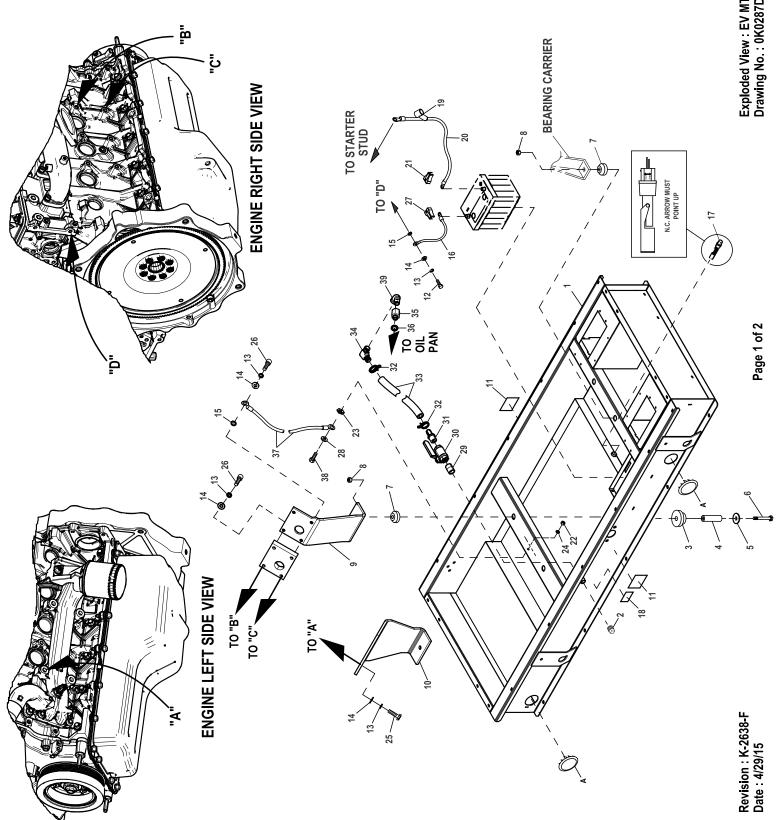
EXPLODED VIEW: EV LEVEL 1 GUARDING, 6.8L DRAWING #: 0J1643 APPLICABLE TO:

PART#	QTY.	DESCRIPTION
0 116400ST0R	1	TOP LEVEL 1 GUARDING 6.8L
0J16390ST0R	1	LEFT LEVEL 1 GUARDING 6.8L
0J16380ST0R	1	RIGHT LEVEL 1 GUARDING 6.8L
0J1638AST0R	1	RIGHT LEVEL 1 GUARDING 6.8L
0J16370ST0R	1	BOTTOM LEVEL 1 GUARDING 6.8L
0J1639ASTOR	1	LEFT LEVEL 1 GUARDING 6.8L
0E4629	2	GUARD ACCESS COVER SMALL L-ONE
0C2454	32	SCREW HWHT M6-1 X 16 N WA Z/JSC
	0J16380ST0R 0J1638AST0R 0J16370ST0R 0J1639ASTOR 0E4629	0J16400ST0R 1 0J16390ST0R 1 0J16380ST0R 1 0J1638AST0R 1 0J16370ST0R 1 0J1639AST0R 1 0E4629 2

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR).

• MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.

• CUSTOMER: FOR CORRECT MATERIAL AND COLOR OF REPLACEMENT PARTS REFER TO "REPLACEMENT SHEET METAL PARTS ORDERING GUIDE-0H7169" INCLUDED IN THE MANUAL OR AVAILABLE ON THE GENERAC WEBSITE. **GROUP C**



EXPLODED VIEW: EV MTG BASE G6.8 B-GRP SSS Y02 PAN

DRAWING #: 0K0287D

APPLICABLE TO: CO 1496255

ITEM	PART#	QTY.	DESCRIPTION
(1)1	0K0284DST0R	1	MTG BASE G6.8 B_GRP SSS Y02 w/ PAN
2	024310	1	PLUG STD PIPE $1/2$ STEEL SQ HD
3	052252	4	DAMPENER VIBRATION
4	052257	4	SPACER .49 X .62 X 1.87 PWDR/ZINC
5	052259	4	WASHER FLAT M12
6	055597	4	SCREW HHC M12-1.75 X 85 G8.8
7	052251A	4	DAMPENER VIBRATION 50 WHITE
8	052860	4	NUT LOCKING M12-1.75
(1)9	0L07030ST0R	1	ENGINE SUPPORT 6.8L RH
(1)10	0L02440ST0R	1	ENGINE MOUNT 6.8L LH
11	0E3865	1	DECAL ENVIROMENTAL WARNING
12	051756	1	SCREW HHC M10-1.5 X 20 C8.8
13	046526	9	WASHER LOCK M10
14	022131	9	WASHER FLAT 3/8-M10 ZINC
15	025507	2	WASHER LOCK EXT 7/16 STL
16	038805G	1	CABLE BATT BLK #1 X 41.50 NEG
17	096500V	1	ASSY FUEL LEAK DET ALARM W/CON
18	050277A	1	DECAL OIL DRAIN TRI
19	075763	1	BOOT BATTERY CABLE
20	038804AG	1	CABLE BATT RED #1 X 50.00
21	050331A	1	BATT POST COVER RED +
22	049813	1	NUT HEX M6-1.0 G8 CLEAR ZINC
23	0A1658	1	WASHER LOCK SPECIAL 1/4"
24	022097	1	WASHER LOCK M6-1/4
25	051735	4	SCREW HHC M10-1.5 X 70 C8.8
26	052243	4	SCREW HHC M10-1.5 X 60 C8.8
27	050331	1	BATT POST COVER BLK -
28	022473	1	WASHER FLAT 1/4-M6 ZINC
29	030985	1	NIPPLE CLOSE 1/2 X 1.125
30	0G5212A	1	
31	044118	1	BARBED STR 1/2NPT X 5/8
32	0G0015	2 1	CLAMP HOSE 7/8" OD DOUBLE WIRE
33	065386	1	HOSE 5/8 ID SAE100R6 (21"LG)
34	034339	1	BARBED EL 90 3/8NPT X 5/8
35 36	057765 057772	1	ADP OIL DRN M14-1.50 WASHER NYLON .565
30		1	
38	0536210360 045757	1	WIRE ASSEM #4GA GRD SCREW HHC M6-1.0 X 25 C8.8
39	026924	1	ELBOW 90D STREET 3/8
		1	
(1)40	0L01390ST0R	I	5.4L RH ENGINE MOUNT SPACER
	KIT VARM	/INT GUARD P/I	N 0L3582
А	0A8785	4	PLUG, BUTTON 3" DIA.

NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR) • MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.

• CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169). **GROUP** C

GROUP D

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NG / LPV Page 1 of 2

> Revision:J-9801-E Date:9/19/14

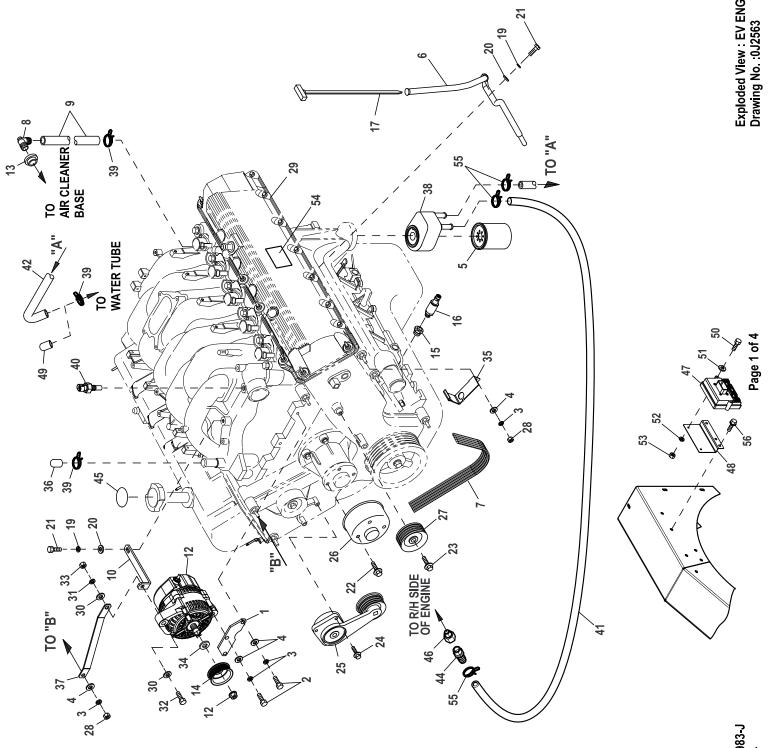
EXPLODED VIEW: EV AIR CLEANER

DRAWING #: 0F3569

GROUP D

ITEM	PART#	QTY.	DESCRIPTION
1	0D2513D	1	AIR CLNR BTM PLT W/CPLR 8.1L
	0D2513E	1	PLATE AIR CLEANER W/COUPLER
2	0F5419	1	ELEMENT AIR FILTER
3	0F4268	1	TOP PLATE VENTURI
4	0F4270A	1	HOLD DOWN AIR CLEANER PLATED
5	0F6977	1	PLATE AIR CLEAN TOP 5.4L/6.8L
6	037561	1	NUT WING 1/4-20 NYLK
7	047411	4	SCREW HHC M6-1.0 X 16 G8.8
8	022097	4	WASHER LOCK M6-1/4
9	057795B	1	BARBED EL 90 5/8 PLASTIC
10	0F4269	1	GASKET MIXER BODY
11	022473	3	WASHER FLAT 1/4-M6 ZINC
12	0A4256	1	INDICATOR FILTER MINDER (USE WITH ITEM #1 P/N 0D2513E)
13	0G5954	1	GROMMET .625 X 1.25 X .433

GROUP D



Exploded View : EV ENGINE COMM PARTS 6.8L L/H Drawing No. :0J2563

Revision : J-9983-J Date : 10/28/14

EXPLODED VIEW: EV ENGINE COMM PARTS 6.8L L/H

DRAWING #: 0J2563 APPLICABLE TO:

GROUP D

ITEM	PART#	QTY.	DESCRIPTION
1	0F3017	1	BRACKET,D.C. ALTERNATOR LOWER
2	039253	3	SCREW HHC M8-1.25 X 20 G8.8
3	022129	5	WASHER LOCK M8-5/16
4	022145	5	WASHER FLAT 5/16-M8 ZINC
(2 5	0D5419	REF	OIL FILTER, FORD V-10 ENGINE
(2)6	0D7055	REF	DIPSTICK TUBE, FORD 6.8L
7	0D3488G	1	BELT SERPENTINE 65.0" (1800 RPM)
	0K1189	1	BELT, GATES DOUBLE SIDED MICROV (3600 RPM)
	0D3488	1	BELT SERPENTINE (67.16" LG) (3000 RPM)
•	0D3488J	1	SERPENTINE, BELT (65.3" LG) (2300 RPM)
8	057795B	1	BARBED EL 90 5/8 PLASTIC
9	065386	1	HOSE COOL 5/8 ID 100R6 (16.75"LG)
10	0F3287	1	
(3)11	0H3074	1	HARN ENG G6.8L H-100 CPL EMSN (USE WITH PROBE P/N 0H1827)
10	0J7330	1	HARN ENG G6.8L G3 PM-PC CCI (USE WITH PROBE P/N 0H1827)
12	0E9868A	1	ALTERNATOR DC W/OUT PULLEY
13 14	0G5954 0F3216	1	GROMMET 15.87 X 31.75 X 11 PULLEY 80 OD DC ALTERNATOR (1800 RPM)
14	0F3216A	1	PULLEY 102 OD DC ALTERNATOR (2300 RPM)
	0F3216C	1	PULLEY 132 OD DC ALTERNATOR (2300 RPM)
	0F3216D	1	PULLEY 160 OD DC ALTERNATOR (3600 RPM)
15	035579	1	BSHG RDCR HEX 1/4 TO 1/8
16	0F4612	1	SENDER OIL PRESSURE 1/8"NPT
(2)17	0D6658	RÉF	DIPSTICK 6.8L FORD
(3)(1)18	029333A	2	TIE WRAP UL 7.4" X .19" BLK
19	022097	2	WASHER LOCK M6-1/4
20	022473	2	WASHER FLAT 1/4 ZINC
21	042568	2	SCREW HHC M6-1.0 X 20 G8.8
22	0D8027	4	BOLT WATER PUMP PULLEY
23	0D8025	1	BOLT GROOVED IDLER PULLEY
24	0D8026	3	BOLT BELT TENSIONER
25	0D8030	1	TENSIONER ENG. AUTOMATIC BELT
26	0F2846	1	PULLEY WATER PUMP G3 (DIRECT DRIVE)
	0D8029	1	PULLEY ENGINE WATER PUMP (GEAR BOX)(2300RPM, 3000RPM)
	0K1088	1	PULLEY, WATER PUMP 6.8L 150KW (GEAR BOX)(3600RPM)
27	0D8028	1	PULLEY GROOVED ENGINE IDLER
28	045771	2	NUT HEX M8-1.25 G8 YEL CHR
29	0H0923	REF	ENGINE G6.8L G3 V-10 (2009/10)
30	022131	2	WASHER FLAT 3/8-M10 ZINC
31	046526	1	WASHER LOCK M10
32	064416	1	SCREW HHC M10-1.5 X 45 G8.8 FT
33	045772	1	NUT HEX M10-1.5 G8 YEL CHR
34	0F3217	1	SPACER DC ALTERNATOR PULLEY
35	0F2776A	1	BRACKET SIGNAL CONDITIONER
36	0F6151	1	CAP RUBBER (100KW & 130KW)
37	0F4308	1	BRACKET DC ALT STABILIZER
(4)38	0F3158	1	OIL COOLER FORD (150KW 3600RPM)
39	0G0015	3	CLAMP HOSE 7/8" OD DOUBLE WIRE
40	0E0502	1	
(4)41	0G0866	1	HOSE OIL COOLER PREFORMED 3/4 (150KW 3600RPM)
(4)42	0F4301	1	HOSE OIL COOLER (150KW 3600RPM)
(3)43	0F5512	1	REFLEX WRAP 13MM 13 X 460
(4)44	047527	1	BARBED STR 1/2NPT X 3/4
45	0F5114	1	DECAL, REFER TO OWNERS MANUAL
(4)46	0F4355	1	ADAPTER 1/2"NPT X 3/8"NPT
47	0F3113	1	ASSY PCB HSB CTRL IGN MODULE
48	0F6317	1	
49 50	077996	1 2	CAP ANTIFREEZE 5/8"ID X 1.2"LG (80/100/130KW)
50	032712	2	SCREW HHTT #10-32 X 1.75 CZ

EXPLODED VIEW: EV ENGINE COMM PARTS 6.8L L/H DRAWING #: 0J2563 APPLICABLE TO:

ITEM	PART#	QTY.	DESCRIPTION	
51	023897	2	WASHER FLAT #10 ZINC	
52	022152	2	WASHER LOCK #10	
53	022158	2	NUT HEX #10-32 STEEL	
54	0G9378	1	DECAL SORE EPA CERTIFICATION	
	0H0777	1	DECAL LSI EPA CERTIFICATION	
55	0K3440	3	CLAMP HOSE 1.062"OD DOUBLEWIRE	
56	086292	2	SCREW HHSD #10-16 X 3/4	

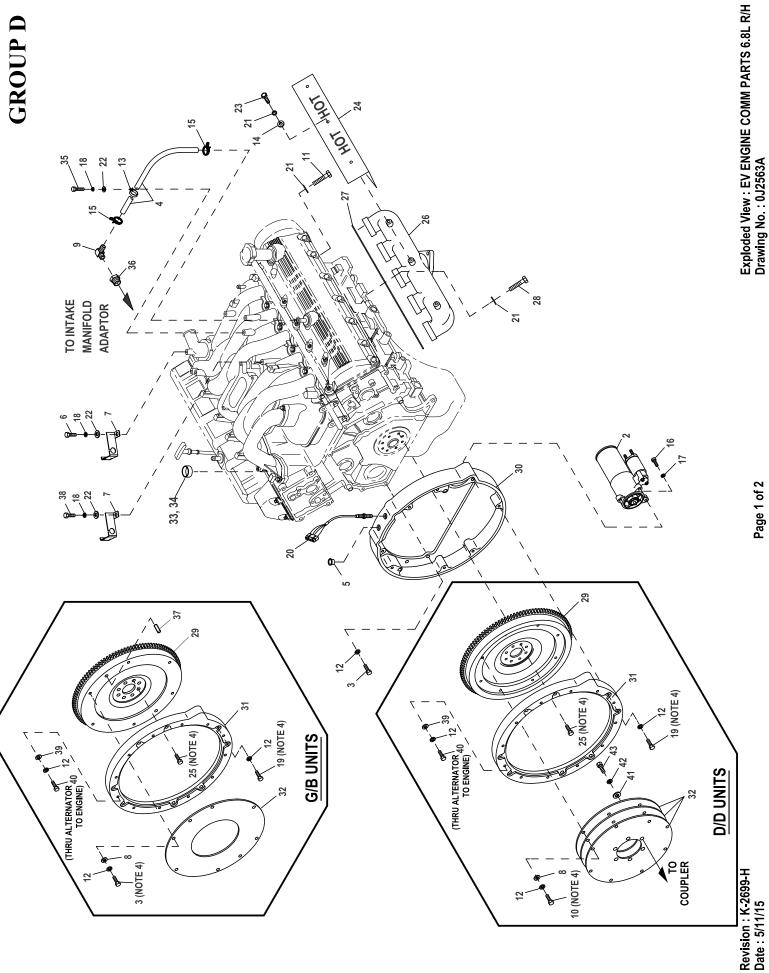
NOTE: I/N 18 IS FOR HOLDING SENSOR TO I/N 35.
 NOTE: COMES WITH ENGINE
 NOTE: NOT SHOWN
 150KW UNITS ONLY

GROUP D

EXPLODED VIEW: EV ENGINE COMM PARTS 6.8L L/H DRAWING #: 0J2563 APPLICABLE TO:

ITEM PART# QTY. DESCRIPTION

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Page 1 of 2

EXPLODED VIEW: EV ENGINE COMM PARTS 6.8L R/H DRAWING #: 0J2563A APPLICABLE TO:

GROUP D

ITEM	PART#	QTY.	DESCRIPTION
(3)1	029333A	2	TIE WRAP UL 7.4"X .19" BLK (NOT SHOWN)
2	0D5418	1	STARTER MOTOR FORD V-10 ENGINE
(1)3	052625	5/11	SCREW SHC M10-1.5 X 35 G12.9
4	065386	1	HOSE COOL 5/8 ID 100R6 (14"LG)
5	087599	1	PLUG PLASTIC 3/8 NPT
6	042568	1	SCREW HHC M6-1.0 X 20 G8.8
7	0F2776A	2	BRACKET, SIGNAL CONDITIONER
(1)8	070264	8/6	WASHER FLAT M10
9	034339	1	BARBED EL 90 3/8NPT X 5/8
10	052647	8	SCREW SHC M10-1.5 X 25 C12.9
11	0D9913	18	SCREW SHC M8-1.25 X 35 SS
(1)12	046526	33 / 31	WASHER LOCK M10
13	055934M	1	CLAMP VINYL .75 X .343 Z
14	070008	10	WASHER FLAT M8 SS
15	0G0015	2	CLAMP HOSE 7/8" OD DOUBLE WIRE
16	049821	3	SCREW SHC M8-1.25 X 30 G12.9
17	022129	3	WASHER LOCK M8-5/16
18	022097	3	WASHER LOCK M6-1/4
19	052647	8	SCREW SHC M10-1.5 X 25 G12.9
20	0D2244M	1	ASSEMBLY MAGPICKUP (3/8-24 MALE)
21	070006	30	WASHER LOCK M8 SSTL
22	022473	3	WASHER FLAT 1/4 ZINC
23	0D2608	10	SCREW HHC 5/16-18 X 1/2 SSTL
24	0D5623	_2	HEAT SHIELD EXHAUST
25	0D5417	REF	SCREW HHC M10-1.0 X 25 G10.9
(2)26	0D3808	2	EXH MANIFOLD MACH 6.8L V-10
27	0D4255	2	GASKET EXHAUST MANIFOLD
28	070010	2	SCREW HHC M8-1.25 X 35 SS G8.8
29	0D6344	1	ASSEMBLY 6.8L FLYWHEEL (D/D UNITS)
00	0D6686	1	ASSY 6.8L G-BOX FLYWHEEL (G/B UNITS)
30	0D3803	1	FLYWHEEL HOUSING MACH 6.8L V10
31	0D3805	1	COVER FLYWHEEL MACH 6.8L V-10
32	0A8240	3	FLEX PLATE SAE10 2.2
22	021113	1	PLATE, DAMPNER RETNR
33	0E0992A	10	PLUG EXPANSION 14 OD
34	078637	A/R	ADHESIVE LOCTITE 620
35	047411	1	SCREW HHC M6-1.0 X 16 G8.8
36	062303	1	ADAPTOR 1/4" NPT TO 3/8" NPT
(1)37	048191	0/2	DOWEL PIN M10 X 24
38	049721	1	SCREW HHC M6-1.0 X 35 C8.8 CLR
39	022131	12 12	WASHER FLAT 3/8-M10 ZINC
40 41	057642		SCREW HHC M10-1.5 X 40 C8.8
41	049808	6 6	WASHER FLAT M12 WASHER LOCK M12
42	051769 063837	6	
40	003037	U	SCREW HHC M12-1.75 X 30 C10.9

(1) QTY. REQUIRED FOR DIRECT DRIVE / QTY. REQUIRED FOR GEAR BOX

- (2) MANIFOLD IS FLIPPED FOR 150KW UNITS OR NON-ENCLOSED.
- (3) 029333A IS FOR HOLDING SENSOR TO I/N 7.

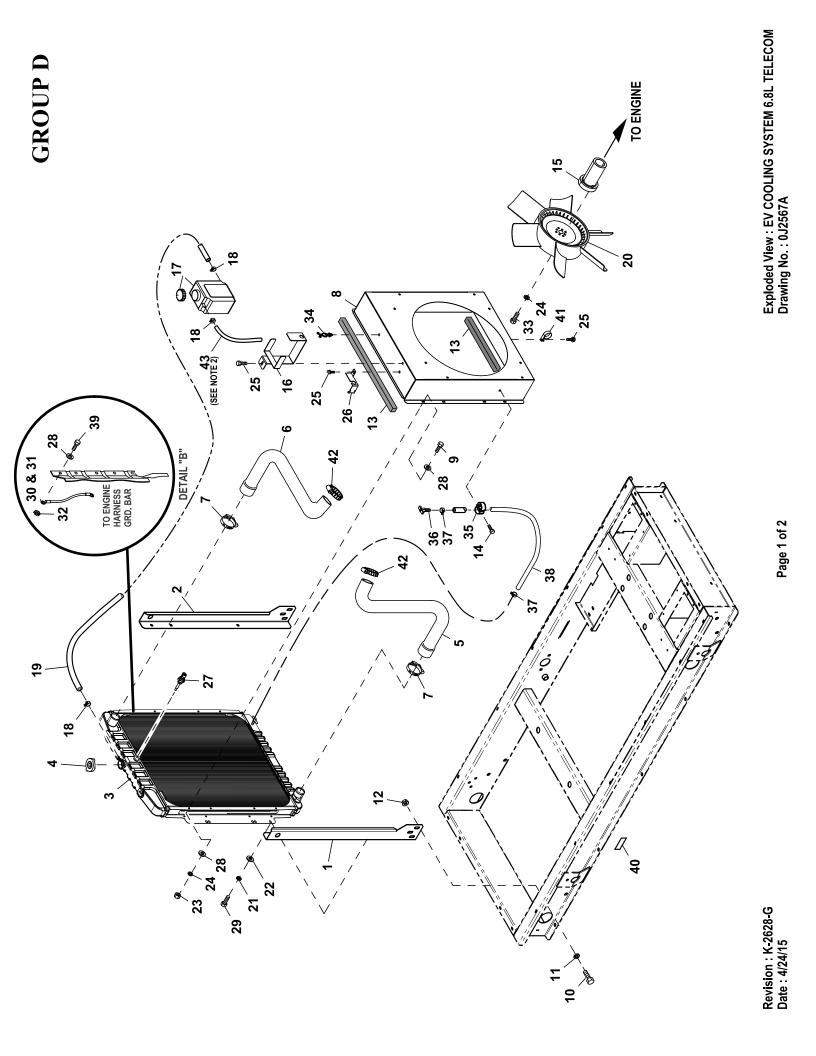
(4) TORQUE VALUES:

- / I/N 3 TO 46ft-lbs. ADD LOCTITE ON BOLTS.
- I/N 10 TO 46ft-lbs. ADD LOCTITE ON BOLTS.

I/N 19 TO 46ft-lbs.

I/N 25 TO 35ft-lbs. ADD LOCTITE ON BOLTS.

I/N 43 TO 83 ft/lbs.



EXPLODED VIEW: EV COOLING SYSTEM 6.8L TELECOM

DRAWING #: 0J2567A APPLICABLE TO:

GROUP D

ITEM	PART#	QTY.	DESCRIPTION
(1)1	0J06070ST0R	1	RADIATOR SUPPORT LH 6.8L
(1)2	0J06060ST0R	1	RADIATOR SUPPORT RH 6.8L
` 3	0G1286A	1	RADIATOR, R/H-IN L/H-OUT
4	046627	1	CAP RADIATOR 14PSI
5	0D3520	1	HOSE, LOWER RADIATOR
6	0D3521	1	HOSE, UPPER RADIATOR
7	042561	2	CLAMP HOSE #36 1.88 - 2.75
(1)8	0J06270ST0R	1	ASSY VENTURI 6.8L B/C-GRP
9	042907	7	SCREW HHC M8-1.25 X 16 C8.8
10	051768	6	SCREW HHC M12-1.75 X 25 C8.8
11	049808	6	WASHER FLAT M12
12	052860	6	NUT TOP LOCK FL M12-1.75
13	052250	2	TAPE FOAM 1 X 1 (27"LG)
14	090388	1	SCREW HHTT M6-1.0 X 12 ZINC
15	0D2149	1	SPACER, FAN 6.8L
16	0D7975	1	WATER BOTTLE BRACKET
17	076749	1	TANK COOLANT RECOVERY
18	048031C	3	CLAMP HOSE BAND 1/4
19	029032	1	HOSE 9/32 ID (31"LG)
20	0D3293A	1	FAN, COOLING 22" DIA KYSOR
21	046526	6	WASHER LOCK M10
22	022131	6	WASHER FLAT 3/8-M10 ZINC
23	045771	8	NUT HEX M8-1.25 G8 CLEAR ZINC
24	022129	20	WASHER LOCK M8-5/16
25	0C2454	3	SCREW HWHT M6-1 X 16 N WA Z/JS
26	0F2776A	1	BRACKET, SIGNAL CONDITIONER
27	0H1827	1	PROBE COOLANT LEVEL 3/8-18NPTF
28	022145	8	WASHER FLAT 5/16-M8 ZINC
29	049814	6	SCREW HHC M10-1.5 X 25 C8.8
30	0G7895B	1	HARN RADIATOR GND 46"
31	077043H	1	CONDUIT FLEX .25"ID (46"LG)
32	0A4456	1	WASHER LOCK SPECIAL 3/8
33	022142	4	SCREW HHC 5/16-18 X 3/4 G5
34	0H3852	1	HOSE HOLDER PLASTIC (.45 ID)
35	065852	1	SPRING CLIP HOLDER .3762
36	036865	1	DRAINCOCK 41.8LG BRASS
37	0C7649	2	
38	047290	1	HOSE 3/8 ID SINGLE BRAID (40"LG)
39	039253	1	SCREW HHC M8-1.25 X 20 C8.8
40	050276	1	
41	055934M	1	CLAMP STL/VNL .75 X .343 Z
42	035685	2	CLAMP HOSE #28 1.32-2.25
43	029032	1	HOSE 9/32 ID (42" LG)
44	085662	3	TIE WRAP UL 14.6 X .14 BLK (NOT SHOWN)
45	057593	3	CABLE TIE MOUNT (NOT SHOWN)

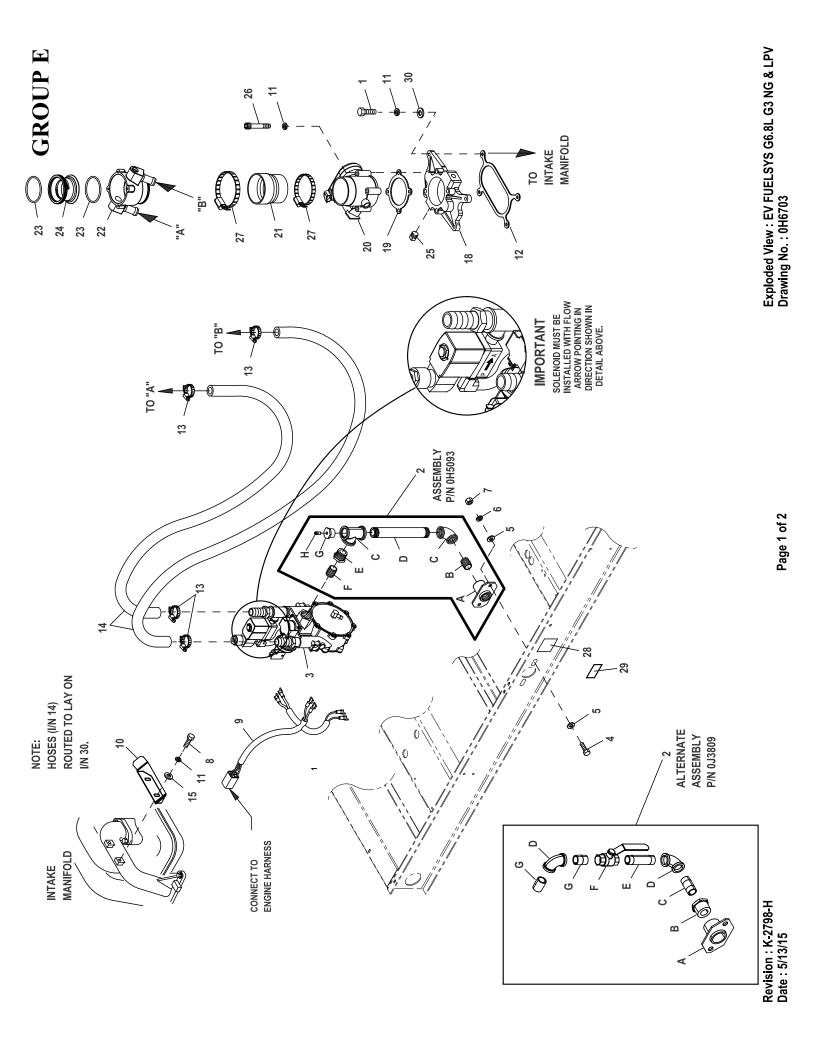
NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

• MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO XA BOM.

CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

(2) FASTEN HOSE TO VENTURI USING TIE WRAP I/N 44 AND CABLE TIE MOUNTS I/N 45. DIRECT HOSE TOWARDS THE BOTTOM OF UNIT AND AWAY FROM EXHAUST COMPONENTS.



EXPLODED VIEW: EV FUELSYS G6.8L G3 NG & LPV DRAWING #: 0H6703

GROUP E

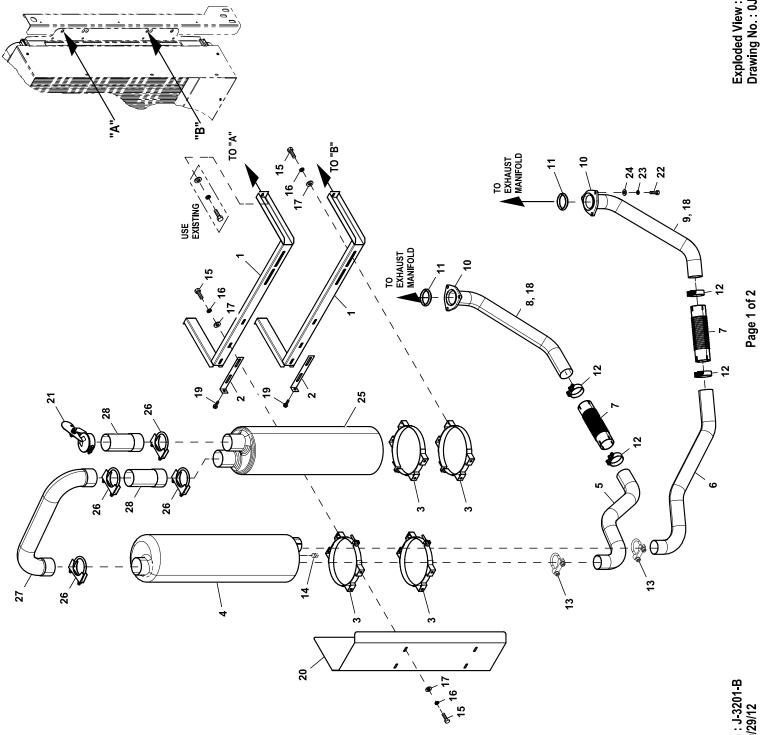
ITEM	PART#	QTY.	DESCRIPTION
1	049721	4	SCREW HHC M6-1.0 X 35 C8.8 BLK
2	0H5093	1	ASSY RGLTR INLET NPT FITTINGS
Ā	065908	1	SUPPORT NAT GAS SOLENOID
В	039130	1	NIPPLE CLOSE 1.25NPT X 1.625
Č	064346	1	PIPE TEE 1-1/4 NPT
D	088963	1	NIPPLE PIPE 1.25NPTX5.5 BL IRN
Ē	0A8064	1	BSHG RDCR HEX 1-1/4-3/4
F	026915	1	NIPPLE CLOSE 3/4 X 1.375
Ġ	0E7162	1	BSHG RDCR HEX 1-1/4 X 1/4FNPT
H	0K2340	1	PLUG, PRESSURE GAUGE, 1/4" NPT
2	0 13000	1	
2 A	0J3809 065908	1	ASSY RGLTR INLET NPT FITTINGS SUPPORT NAT GAS SOLENOID
B	065908 0A8064	1	BSHG RDCR HEX 1-1/4-3/4
C		1	
D	026490	2	NIPPLE PIPE 3/4NPT X 2
E	026812	1	
F	035589	1	NIPPLE PIPE 3/4 NPT X 3-1/2
G	0J3858C 026915	2	BALL VALVE, 3/4" NPT NIPPLE CLOSE 3/4 X 1.375
9	020915	2	NIFFLE CLOSE 3/4 × 1.3/3
3	0G8598A	1	REGULATOR ASSY 6.8L 60KW LPV
	0G8598B	1	REGULATOR ASSY 6.8L 70KW NG
	0G8598C	1	REGULATOR ASSY 6.8L 50/70 LPV
	0G8598D	1	REGULATOR ASSY 6.8L 50KW NG
4	052645	2	SCREW HHC M12-1.75 X 30 C8.8
5	022304	4	WASHER FLAT 1/2 ZINC
6	051769	2	WASHER LOCK M12
7	045773	2	NUT HEX M12-1.75 G8 YEL CHR
8	042568	2	SCREW HHC M6-1.0 X 20 C8.8
9	0F6155	1	HARNESS,FUEL JUMPER SINGLE REG
(1)10	0G46350ST0R	1	BRACKET, HOSE RISER
<u>`</u> 11	022097	10	WASHER LOCK M6-1/4
12	0D2698	1	GASKET ADAPTER THROT BODY
13	057823	4	CLAMP HOSE #10 .56-1.06
14	059057	2	HOSE 3/4 ID SAE-30R2 (40.5" LG)
15	049811	2	WASHER FLAT M6
18	0J7476	1	ADAPTOR THROTTLE BODY
19	0E4390	1	GASKET, GOVERNOR ACTUATOR
20	0E4392	1	ACTUATOR BOSCH 60, GOVERNOR
21	0F0960	1	REDUCER 3.0" TO 2.75" TURBO
22	0F3885	1	MIXER, 40/60MM ACTUATOR ASSY
23	0G3167	2	O-RING 2-3/4 X 3/32 X 2-15/16
24	0F3691B	1	VENTURI, THROTTLE 36MM
25	026073A	1	PLUG STD PIPE 1/4 STEEL SQ HD
26	0D2157	4	SCREW SHC M6-1.0 X 50 C8.8
27	066212	2	CLAMP HOSE #52 2.81-3.75
28	050279A	1	DECAL FUEL INLET NG 1 1/4" NPT
29	0D1509	1	DECAL INLET PRESSURE
30	022473	4	WASHER FLAT 1/4-M6 ZINC

NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

• MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.

• CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).



Exploded View : EV EXHAUST 6.8L B-GRP Y02 Drawing No. : 0.14241A

Revision : J-3201-B Date : 10/29/12

EXPLODED VIEW: EV EXHAUST 6.8L B-GRP Y02

DRAWING #: 0J4241A APPLICABLE TO:

GROUP F

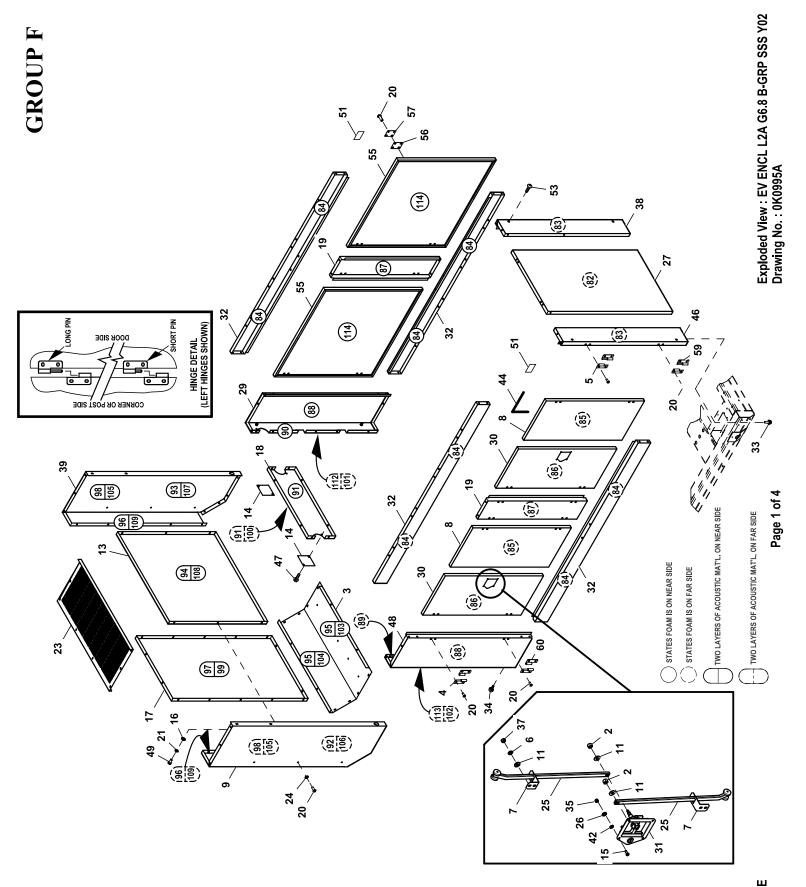
ITEM	PART#	QTY.	DESCRIPTION
(1)1	0J42710ST0R	2	ASSY, 6.8L B-GRP EXHAUST BRACE
2	0C4170	2	BRKT, EXHAUST SHIELD
3	0C4114	4	CLAMP MUFFLER BAND
4	0D3522B	1	MUFFLER REWORK DD Y02 W/ DRAIN
5	0D3651	1	TUBE,R/H EXHAUST MUFFLER INLET
6	0D3650	1	TUBE,L/H EXHAUST MUFFLER INLET
7	0A5215B	2	FLEX PIPE 2.5"
8	0D3649A	1	TUBE, R/H EXHAUST MANIFOLD
9	0D3648	1	TUBE, L/H EXHAUST MANIFOLD
10	0D3159	2	FLANGE, EXHAUST
11	0A6765	2	RING GASKET 2.5DIA
12	0C3433A	4	CLAMP BAND 2.5"
13	080762	2	BOLT U 3/8-16 X 2.62
14	026073	1(REF)	PLUG STD PIPE 1/8 STEEL SQ HD
15	042907	12	SCREW HHC M8-1.25 X 16 C8.8
16	022129	12	WASHER LOCK M8-5/16
17	022145	12	WASHER FLAT 5/16-M8 ZINC
18	0F2773A	2	EXHAUST BLANKET 1130MM LONG (NOT SHOWN)
19	090388	2	SCREW HHTT M6-1.0 X 12 ZINC
20	0J4402	1	HEAT SHIELD B-GRP
21	059902	1	RAIN CAP 3.00 / 3.19
22	0A7387	6	SCREW HHC M10-1.5 X 40 C10.9
23	046526	6	WASHER LOCK M10
24	022131	6	WASHER FLAT 3/8-M10 ZINC
25	0C9652A	1	MUFFLER,3"DIA IN&OUTLT W/DRAIN
26	055978	4	BOLT U 3/8-16 X 3.00
27	0F0669	1	U PIPE MUFFLER TO MUFFLER 3.9L
28	0C9640	2	TUBE STR B-GRP 180LG

NOTES (UNLESS OTHERWISE SPECIFIED):

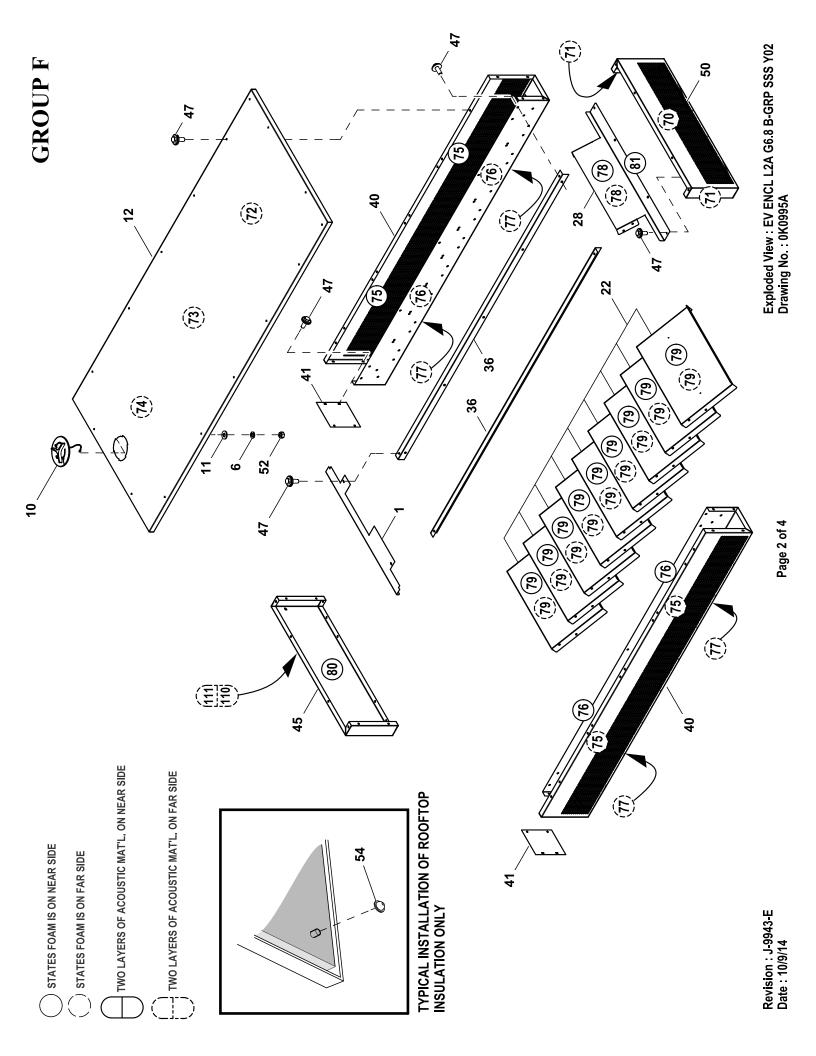
(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

• MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.

CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR
CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).1



Revision : J-9943-E Date : 10/9/14



EXPLODED VIEW: EV ENCL L2A B-GRP SSS Y02

DRAWING #:0K0995A

GROUP F

ITEM	PART#	QTY.	DESCRIPTION
(1)1	0F07740ST0R	1	BLOCK OFF FRONT OVERHD
2	027529	4	NUT HEX LOCK 1/4-20 NY INS
(1)3	0C33350ST0R	1	DUCT BOTTOM RAW
4	0C3594	2	ASSY M6 HINGE R/H
5	0C3594A	2	ASSY M6 HINGE L/H
6	022097	16	WASHER LOCK M6-1/4
(1)7	0J16010STOR	4	BRACKET, ROD GUIDE
(1)8	0J15810STOR	2 1	DOOR RH SOLID
(1)9 10	0F07060ST0R 0C2634A	1	DUCT FRONT LH RAW ASSY ACCESS COVER
10	022473	8	WASHER FLAT 1/4-M6 ZINC
(1)12	0K95930AL0R	1	ASSY, ROOF B-GRP
(1)12	0F04770ST0R	1	BARRIER DUCT INSIDE FRT RAW
(1)14	0C34000ST0R	2	COVER EXHAUST RAW
15	0C6749	8	SCREW PPHM M4-0.7 X 12 SS
16	022145	4	WASHER FLAT 5/16-M8 ZINC
(1)17	0F07080ST0R	1	DUCT, FRONT PANEL
(1)18	0J11680ST0R	1	BRACE FRONT TOP
(1)19	0H98270ST0R	2	ACENTER SUPPORT DOORS B-GRP
2 0	0A3359	70	SCREW BHSC M6-1.0 X 16 SS
21	022129	4	WASHER LOCK M8-5/16
(1)22	0F01530ST0R	9	SPLITTER RAW
(1)23	0F12060AL0R	1	DUCT FRONT TOP SLOTTED L2A
24	027958	6	WASHER NYLON .260
25	0J0993A	4	ROLLER ROD, T-HANDLE
26	080490	8	WASHER FLAT #8 SS
(1)27	0H98250ST0R	1	CENTER PANEL REAR
(1)28	0J35670ST0R	1	INTAKE OVERHEAD REAR BAFFLE
(1)29	0J43750ST0R	1	CORNER POST RH FRONT B-GRP
(1)30	0J15800ST0R	2	DOOR LH SOLID
31	0J0992	2	T-HANDLE, 2-POINT DBL DOOR
(1)32	0H98260ST0R	4	BRACE SIDE TOP & BOTTOM
33	0E3257	12	SCREW HWHTF M6-1.0 X 16
34 35	0C3393 0C6748	2 8	SCREW SHOULDER M8-1.25 X 20 NUT HEX LOCK M4-0.7 SS NYL INS
(1)36	0F07620ST0R	2	ANGLE, WATER DEFLECTOR
37	049813	8	NUT HEX M6-1.0 G8 CLEAR ZINC
(1)38	0H98160ST0R	1	CORNER POST RH REAR
(1)39	0F07070ST0R	1	DUCT FRONT RH RAW
(1)40	0H11530ST0R	2	INTAKE, OVERHEAD MODULE SIDE
(1)41	0F12540ST0R	2	END CAP OVERHD MOD SIDE_INST
42	022769	4	WASHER LOCK INT #10
43	066760	1	STRIP SEALANT 1/8 X 1 (NOT SHOWN)
44	0A9881	1	TRIM VINYL SEAL
(1)45	0F00480ST0R	1	INTAKE OVERHEAD MODULE
(1)46	0H98180ST0R	1	CORNER POST LH REAR
47	0C2454	177	SCREW HWHT M6-1 X 16 N WA Z/JS
(1)48	0J43740ST0R	1	CORNER POST LH FRONT B-GRP
49	042907	4	SCREW HHC M8-1.25 X 16 C8.8
(1)50	0J35660ST0R	1	INTAKE OVERHEAD MODULE REAR
51	0E7222	2	RAIN SHIELD, DOOR JAMB
52	022127	1	NUT HEX 1/4-20 STEEL
53	0C3397	4	SCREW RATCHET BLK NYLON
54	078115B	12	WASHER SELF LOCKING BLK #4-40
55 56	0J31800ST0R	2	PANEL ACCESS A/B GRP WIDE
56 57	0J3116	8 8	GASKET ENCL PANEL MTG PLATE
57 58	0J31170AL0R 077992	8 28	PLATE ENCLOSURE PANEL MTG NUT HEX LOCK M6-1.0 SS NY INS
50 59	0C3594B	20	ASSY M6 HINGE R/H BOTTOM
60	0C3594C	2	ASSY MG HINGE I/H BOTTOM
00	0000040	4	

EXPLODED VIEW: EV ENCL L2A B-GRP SSS Y02 DRAWING #:0K0995A

GROUP F

ITEM	PART#	QTY.	DESCRIPTION
70	0K0328AJ	1	INSULATION OVRHD MDL REAR
71	0K0328AK	2	INSULATION OVRHD MDL REAR
72	0K0328AL	1	INSULATION ROOF
73	0K0328AM	1	INSULATION ROOF
74	0K0328AN	1	INSULATION ROOF
75	0K0328AH	4	INSULATION OVRHD MDL SIDE
76	0K0328AP	4	INSULATION OVRHD MDL SIDE
77	0J1765CC	4	INSULATION OVRHD MDL BTM
78	0K0328AQ	2	INSULATION OVRHD MDL SPLITTER
79	0K0328AR	18	INSULATION OVRHD MDL SPLITTER
80	0K0328AT	1	INSULATION OVRHD MDL FRONT
81	0J1765BN	1	INSULATION OVRHD MDL BTM
82	0H4851J	1	INSULATION REAR CTR PANEL
83	0J1765AU	2	INSULATION REAR CORNER POST
84	0J1765AS	8	INSULATION BTM SIDE BRACE
85	0H4851C	2	INSULATION RH DOOR SOLID
86	0H4851D	2	INSULATION LH DOOR SOLID
87	0H4851H	2	INSULATION CTR DOOR SPT
88	0J1765BY	2	INSULATION FRONT CORNER POST
89	0J1765BZ	1	INSULATION FRONT CORNER POST
90	0J1765CA	1	INSULATION FRONT CORNER POST
91	0J1765CB	2	INSULATION FRONT CENTER PANEL
92	0J1765AX	1	INSULATION FRONT DUCT LH SIDE
93	0J1765AY	1	INSULATION FRONT DUCT RH SIDE
94	0J1765AW	1	INSULATION FRONT DUCT INSD PNL
95	0J1765DD	1	INSULATION FRONT DUCT BOTTOM
96	0J1765BB	2	INSULATION FRONT DUCT
97	0J1765AZ	1	INSULATION FRONT DUCT CTR PNL
98	0J1765CJ	2	INSULATION FRONT DUCT
99	0H4892Y	1	INSUL BARR FNT DUCT FRONT PNL
100	0H4892Z	1	INSUL BARR TOP FRT BRACE OS
101	0H4892AA	1	INSUL BARR FRT RH CNR POST OS
102	0H4892AB	1	INSUL BARR FRT LH CNR POST OS
103	0H4892AC	1	INSUL BARR FRT DUCT BOTTOM 1
104	0H4892AD	1	INSUL BARR FRT DUCT BOTTOM 2
105	0H4892AE	2	INSUL BARR FNT DUCT SD PNL
106	0H4892AF	1	INSUL BARR FNT DUCT LH SD PNL
107	0H4892AG	1	INSUL BARR FNT DUCT RH SD PNL
108	0H4892AH	1	INSUL BARR FNT DUCT INR
109	0H4892AJ	2	INSUL BARR FRT DUCT FRONT SIDE
110	0H4892AK	1	INSUL BARR OVRHD MOD FRT OS
111	0J1765DH	1	INSUL OVHD MODULE FRT OUTSIDE
112	0J1765DE	1	INSULATION FRNT RH CNR POST OS
113	0J1765DF	1	INSULATION FRNT LH CNR POST OS
114	0H4851K	2	INSULATION SIDE PANEL
117		£	

NOTES (UNLESS OTHERWISE SPECIFIED):

(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

• MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.

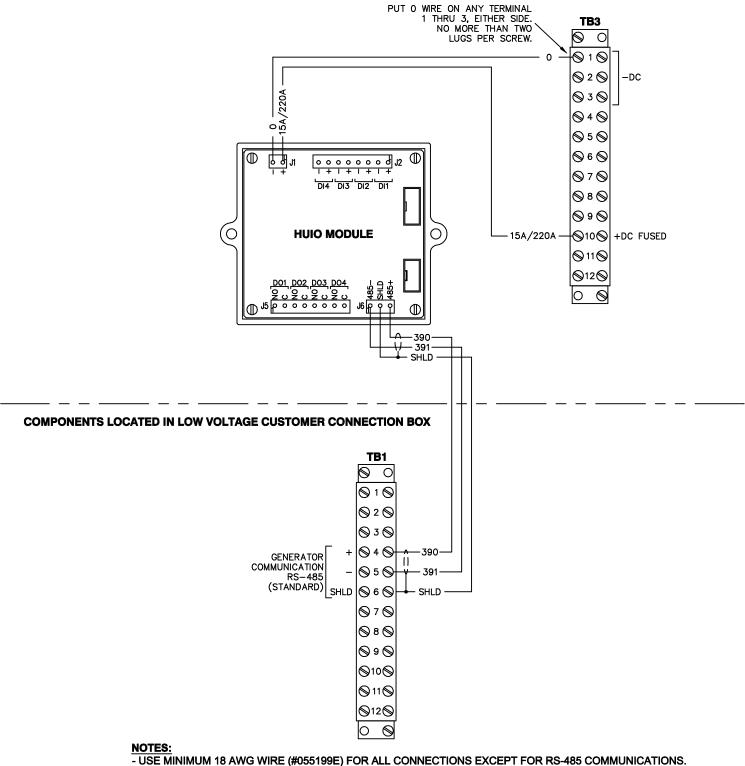
• CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

EXPLODED VIEW: WD HUIO COMM/ POWER DRAWING #: 0G4076E

APPLICABLE TO:

LEGEND HUIO – H-PANEL UNIVERSAL I/O GROUP G

COMPONENTS LOCATED IN CONTROL PANEL



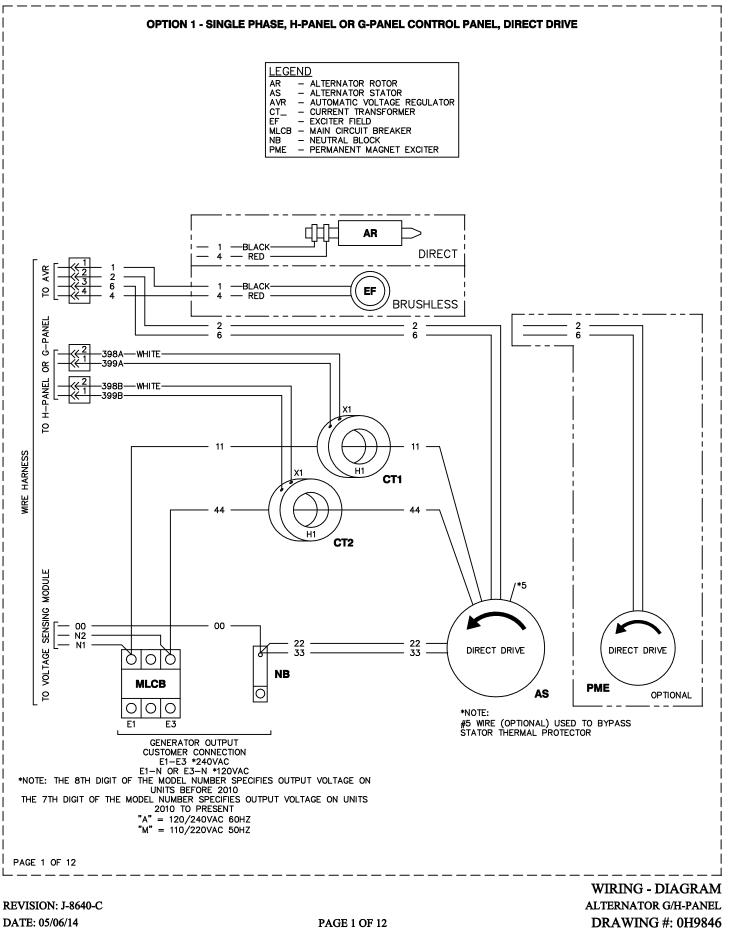
- USE SHIELDED PAIR WIRE FOR RS-485 CONNECTIONS (#032578).

PM-DCP PROGRAMMING NOTES:

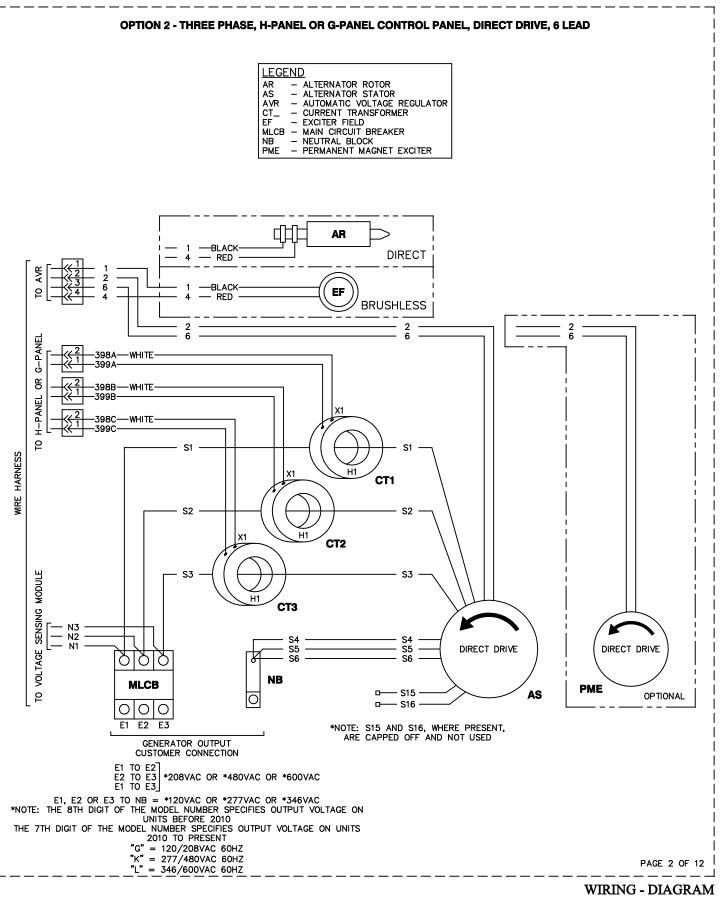
- "GENLINK-DCP" PROGRAM IS REQUIRED TO PROGRAM H-PANEL TO USE THE HUIO BOARD.
- SEE SPECIFIC KITS FOR PROGRAMMING NOTES, IF AVAILABLE, OR PROGRAM AS NEEDED PER SITE DESIGN.
- TO ACTIVATE THE HUIO IN GENLINK, SEE BELOW.

🐂 GenLink	DCP					🐂 GenLink	DCP				
Connection	Configuration Tools Diagnostics	Alarm/Event Log	Files Transfer Status	ILC Trending	Mainten	Connection	Configuration	Tools Diagnostic	s Alarm/Event Log	Files Transfer Status	ILC Trending Mainter
9	Analog Input Channels Digital Input Channels Digital Output Channels Digital Output Functions Communication port settings Engine Settings Generator Settings Generator Settings Nameplate Data Air/Fuel Settings Thermal Protection Settings Transfer Switch Configuration Exercise Configuration HUTO Setup			ћ.н-100		<u>- 3</u>		HUIO Setup V 1 1 2	3 4	Connected Units #	□× //
				Volts A	100						Volts A

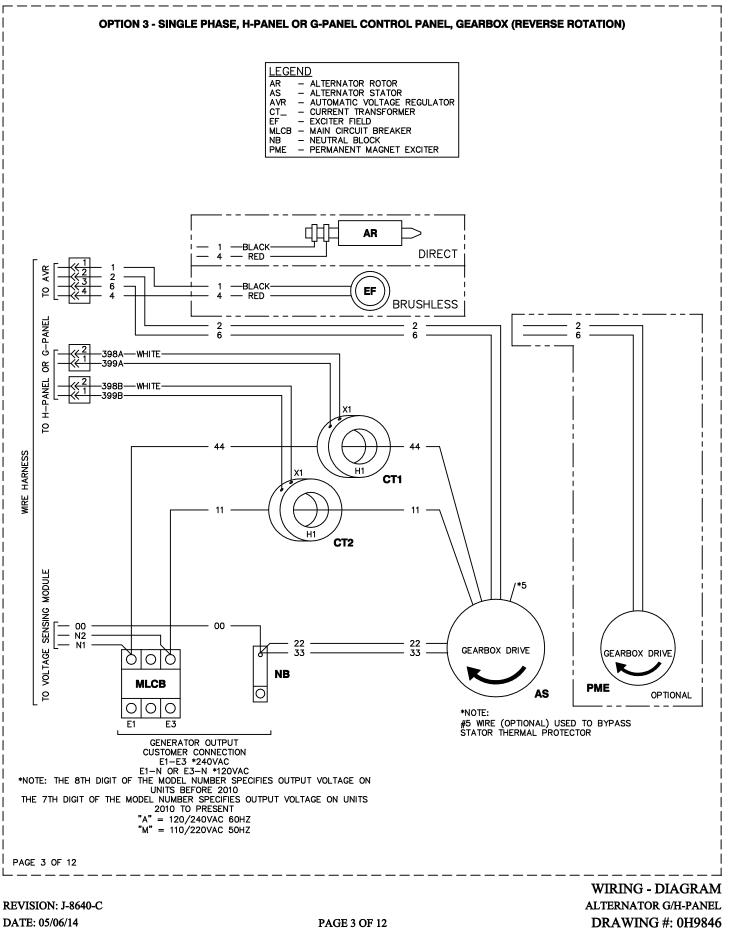
- DEFAULT IS "1" IN THE HUIO SETUP. CAN BE CHANGED TO ANOTHER VALUE IF YOU HAVE MORE THAN (1) HUIO BOARD.
- PLEASE REFERENCE HUIO MANUAL #0G5354 FOR FURTHER INFORMATION.

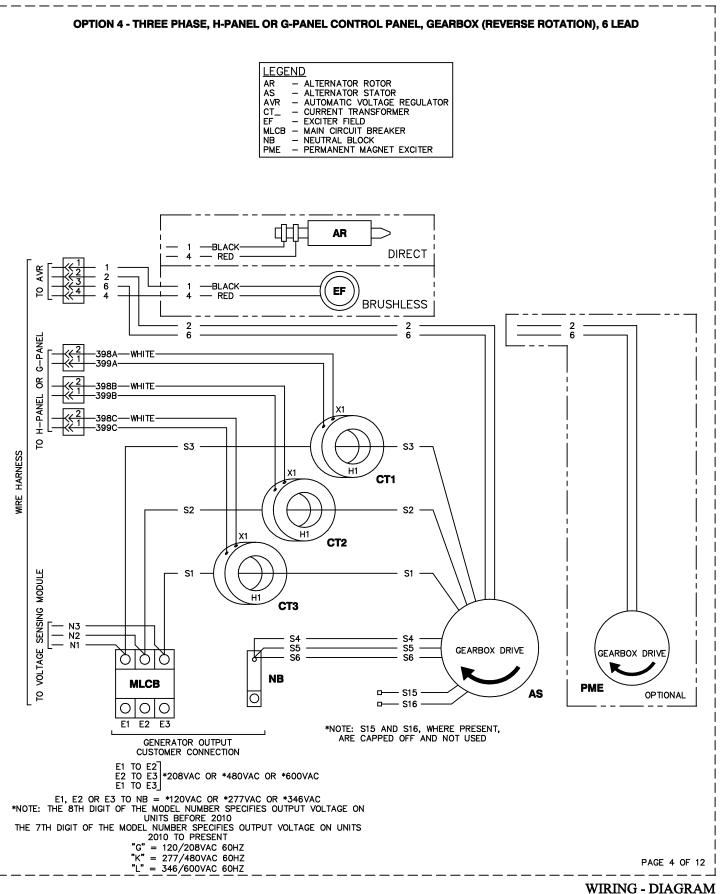


DRAWING #: 0H9846

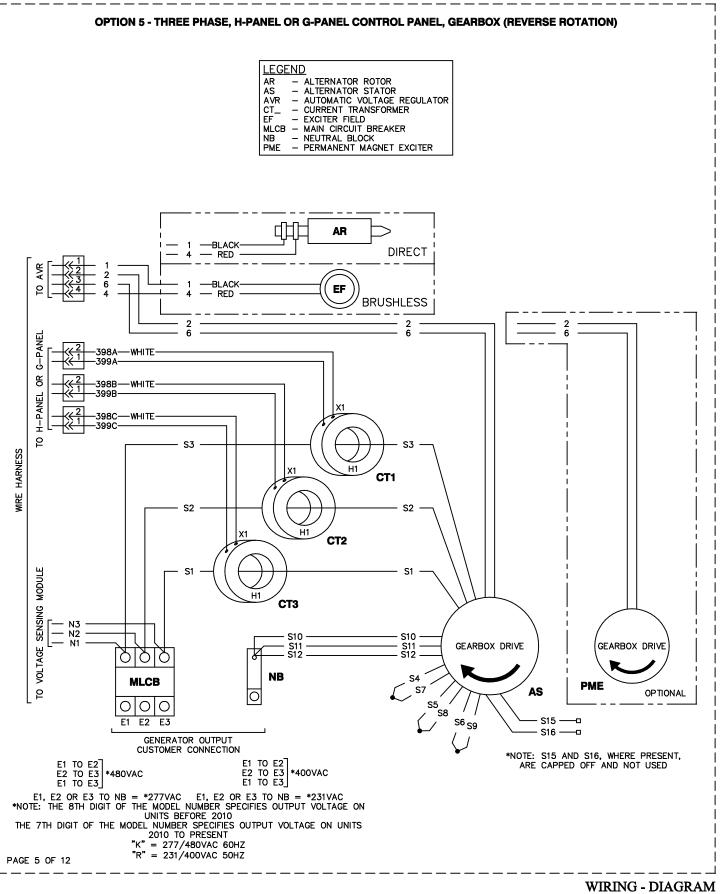


REVISION: J-8640-C DATE: 05/06/14

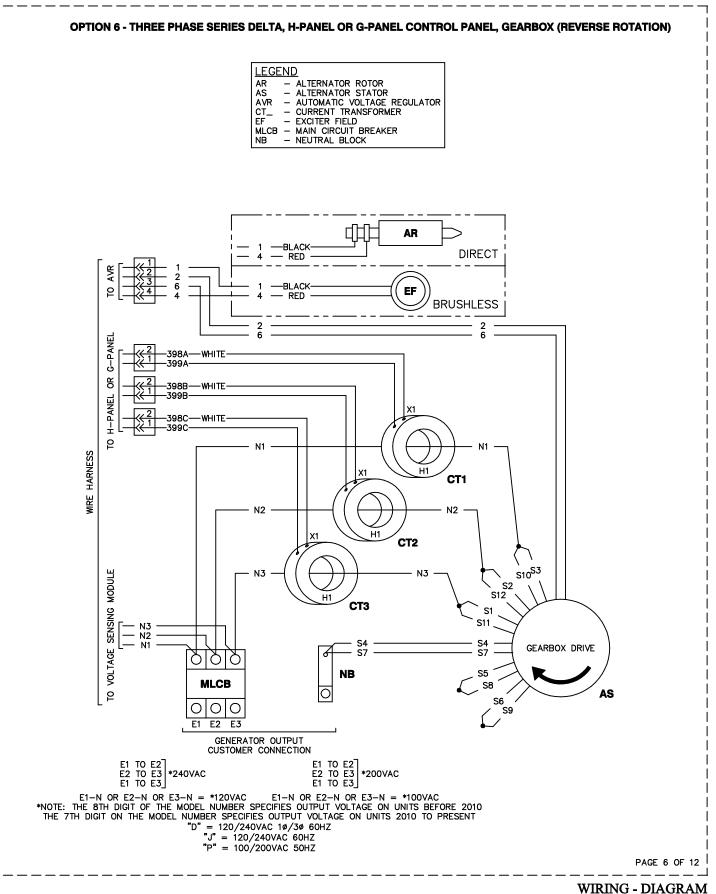


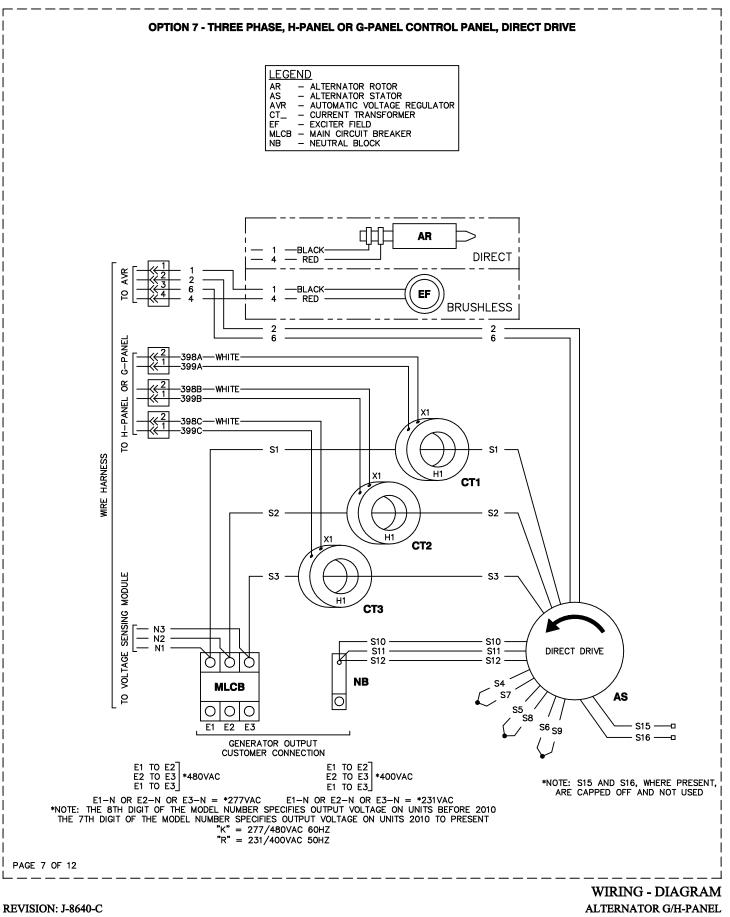


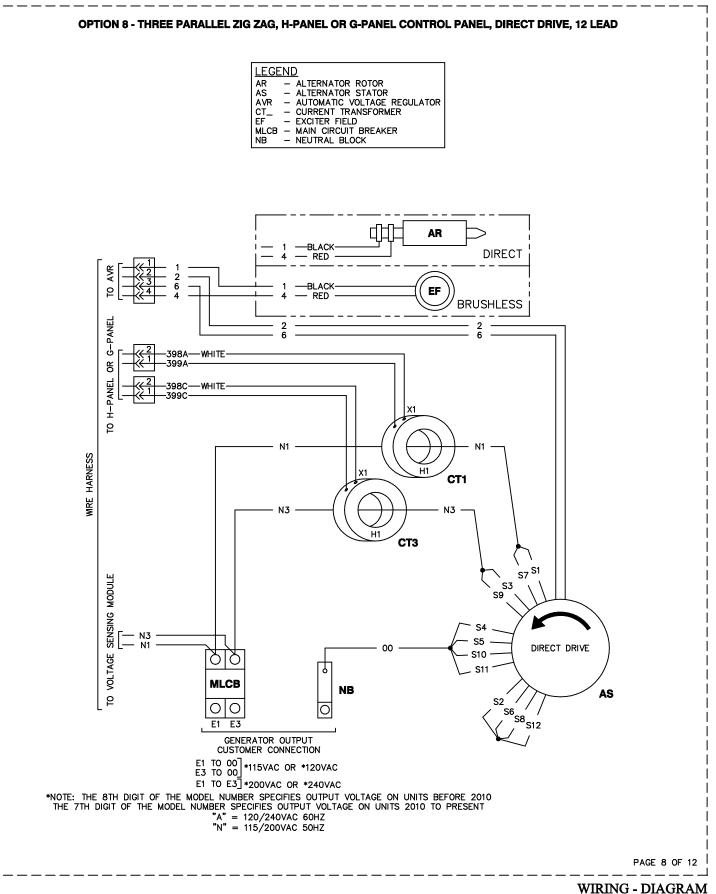
REVISION: J-8640-C DATE: 05/06/14

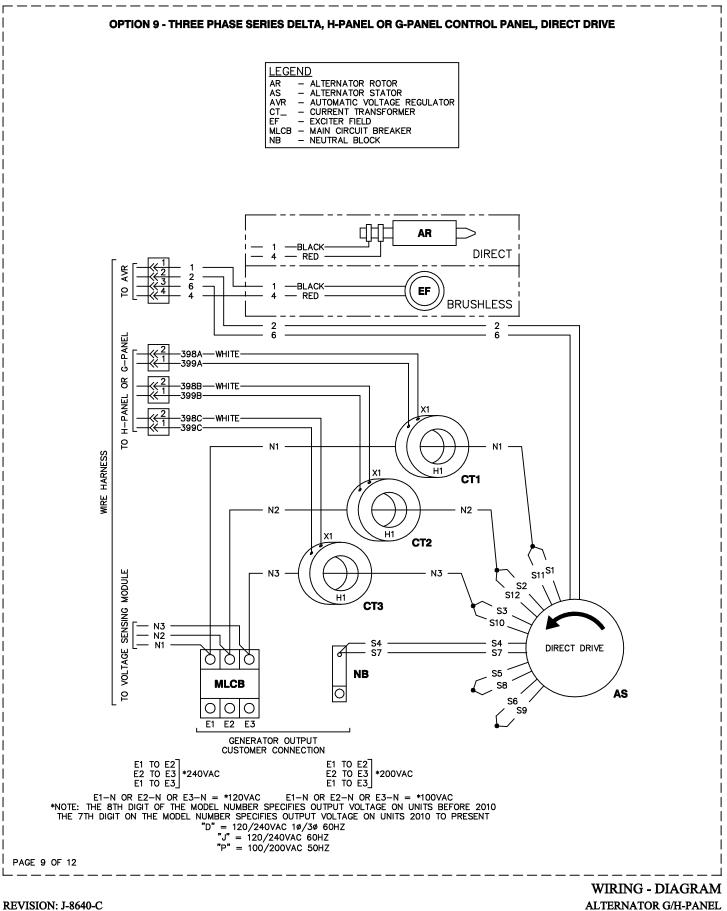


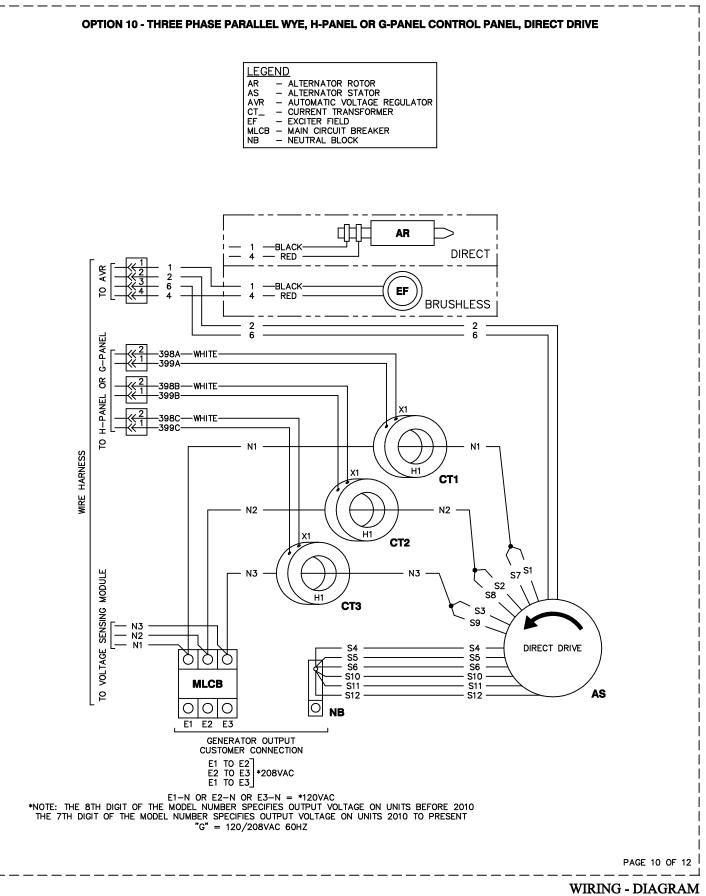
REVISION: J-8640-C DATE: 05/06/14 WIRING - DIAGRAM ALTERNATOR G/H-PANEL DRAWING #: 0H9846

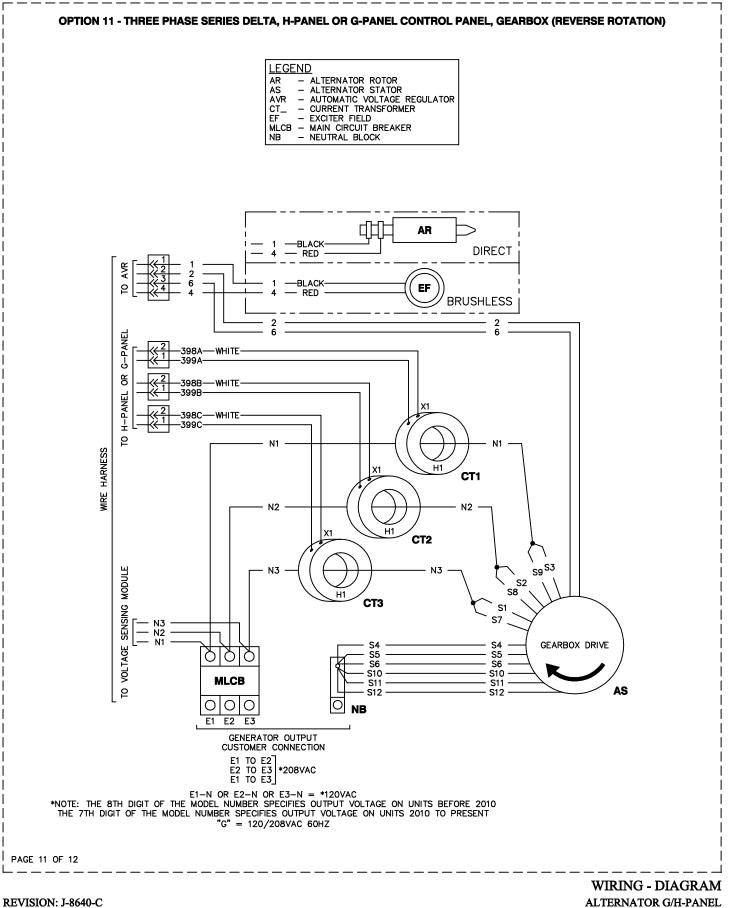








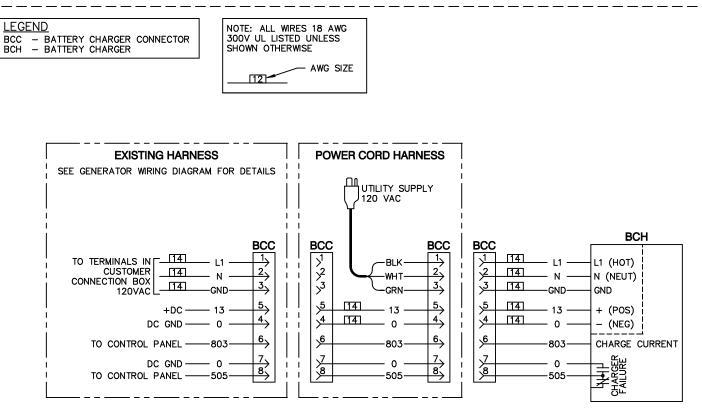




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PAGE 12 OF 12

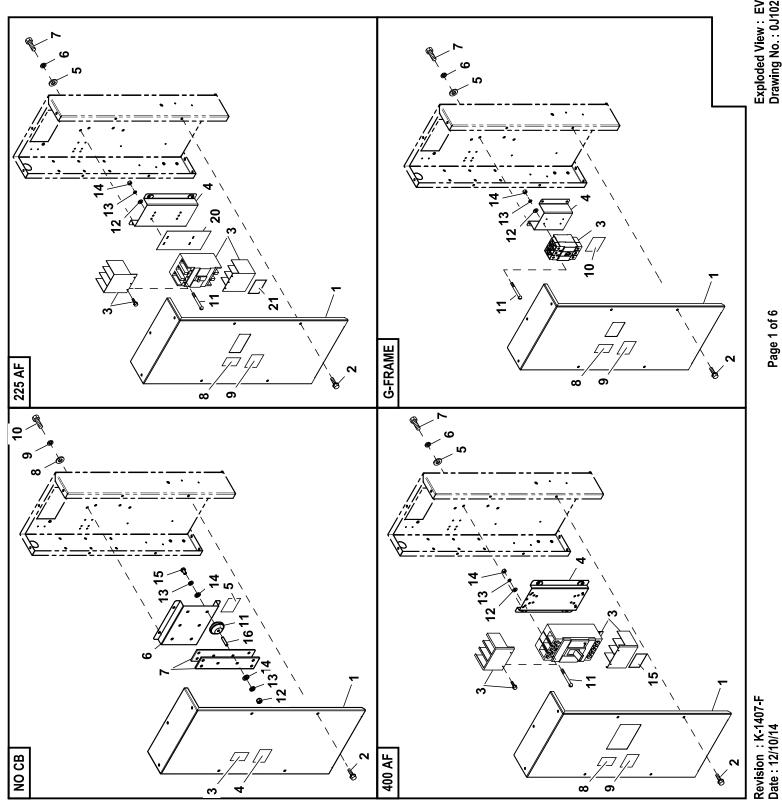


PAGE 1 OF 2

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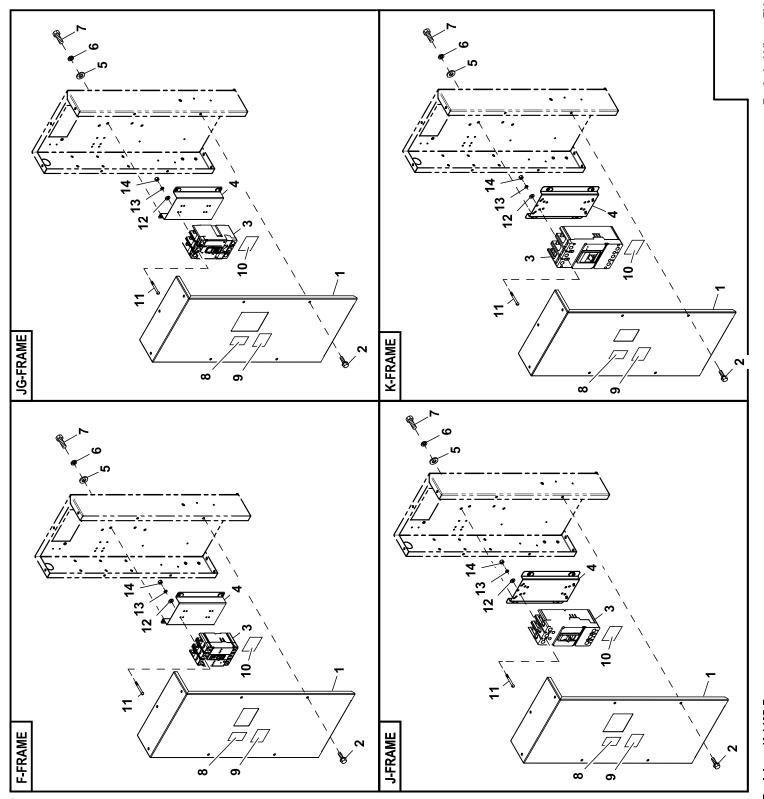
GROUP H



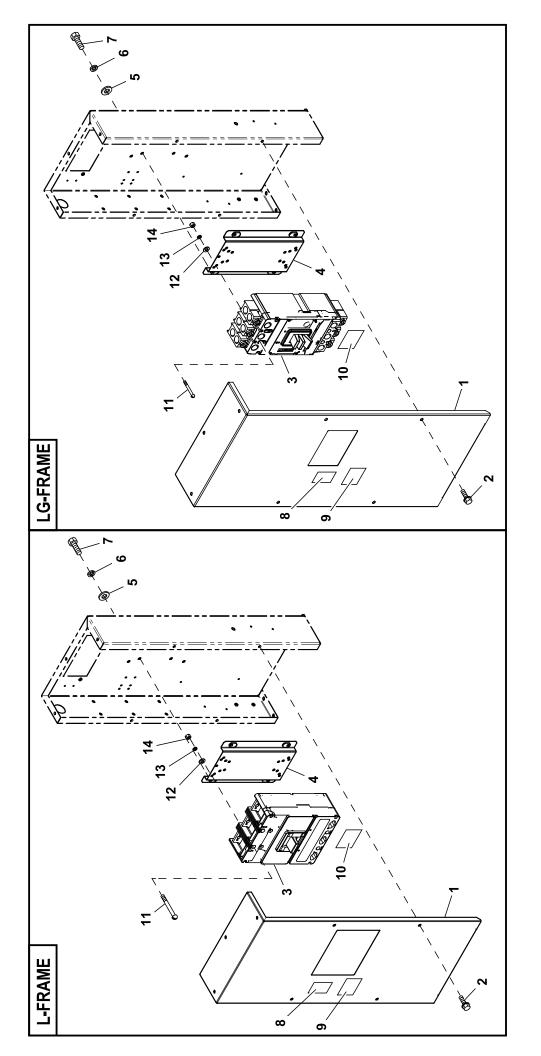
Exploded View : EV, CB MOUNTING KIT MD1 390 Drawing No. : 0J1027

Page 1 of 6

GROUP H



Revision : K-1407-F Date : 12/10/14



Revision:K-1407-F Date:12/10/14

EXPLODED VIEW: EV, CB MOUNTING KIT MD1 390 DRAWING #: 0J1027 APPLICABLE TO:

GROUP H

ITEM	PART#	QTY.	DESCRIPTION
	NO C	IRCUIT BREA	KERS
(1)1	0H93780ST0R	1	MD1,MODULE COVER 390 G-FRAME
2 3	0C2454 0J0679	9 1	SCREW HWHT M6-1 X 16 N WA Z/JS DECAL, CANADIAN SAFETY CODE
4	0J0546	1	DECAL, HV CUSTOMER CONN INSIDE
5	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
(1)6	0J34710ST0R	1	
7 8	0J3958 022145	REF 4	CU BUSS BAR 1/4"X2.5" 625A WASHER FLAT 5/16-M8 ZINC
9	022145	4	WASHER LOCK M8-5/16
10	042907	4	SCREW HHC M8-1.25 X 16 C8.8
11	0C6937M	6	INSULATOR, STANDOFF 600V3/8-16
12	022241	6	NUT HEX 3/8-16 STEEL
13 14	022237 022131	12 12	WASHER LOCK 3/8 WASHER FLAT 3/8-M10 ZINC
14	032414	8	SCREW HHC 3/8-16 X 5/8 G5
16	090865	6	STUD 3/8-16 X 1.75 G5 STEEL
	UL CIRC	UIT BREAKER	
(1)1	0H9378EST0R	1	MD1,MODULE COVER 390 GEN-225
2	0H9378KST0R	1 7	MD1,CB COVER 390 GEN-225 1PH SCREW HWHT M6-1 X 16 N WA Z/JS
3	0C2454 REF	, 1	CIRCUIT BREAKER
(1)4	0J14770ST0R	1	MD1, C/B MOUNTING BRACKET 225
5	022145	4	WASHER FLAT 5/16-M8 ZINC
6	022129	4	WASHER LOCK M8-5/16
7	042907	4	SCREW HHC M8-1.25 X 16 C8.8
8 9	0J0679 0J0546	1 1	DECAL, CANADIAN SAFETY CODE DECAL, HV CUSTOMER CONN INSIDE
(2)11	053640	2/4	SCREW RHM #8-32 X 3-1/4
(2)12	038150	2/4	WASHER FLAT #8 ZINC
(2)13	022264	2/4	WASHER LOCK #8-M4
(2)14	022471	2/4	NUT HEX #8-32 STEEL
20	0F8432 0F8432A	1 1	INSUL CB 225AF (3 PHASE) INSULATOR CB 2P 225AF (1 PHASE)
21	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
		UIT BREAKEF	
(1)1	0H9378JST0R	1	MD1,MODULE COVER 390 GEN-400
2 3	0C2454 REF	7 1	SCREW HWHT M6-1 X 16 N WA Z/JS CIRCUIT BREAKER
(1)4	0J00680STOR	1	MD2, C/B BACK MOUNTING BRACKET
5	022145	4	WASHER FLAT 5/16-M8 ZINC
6	022129	4	WASHER LOCK M8-5/16
7	042907	4	SCREW HHC M8-1.25 X 16 C8.8
8 9	0J0679 0J0546	1 1	DECAL, CANADIAN SAFETY CODE DECAL, HV CUSTOMER CONN INSIDE
11	069232	4	SCREW RHM #10-32 X 3-3/4
12	023897	4	WASHER FLAT #10 ZINC
13	022152	4	WASHER LOCK #10
14	022158	4	NUT HEX #10-32 STEEL
15	0D3719C 0D3719D	REF REF	DECAL CUSTOMER CONN E1 E2 E3 DECAL CUSTOMER CONN E1 E3
		IT BREAKER (
(1)1	0H9378AST0R	1	MD1,MODULE COVER 390 G-FRAME
2	0C2454	7	SCREW HWHT M6-1 X 16 N WA Z/JS
3	REF	1	
(1)4 5	0J14880ST0R 022145	1 4	MD1, C/B MOUNTING BRACKET G WASHER FLAT 5/16-M8 ZINC
6	022145	4	WASHER LOCK M8-5/16
7	042907	4	SCREW HHC M8-1.25 X 16 C8.8
8	0J0679	1	DECAL, CANADIAN SAFETY CODE
9	0J0546	1	DECAL, HV CUSTOMER CONNINSIDE
10	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3

EXPLODED VIEW: EV, CB MOUNTING KIT MD1 390 DRAWING #: 0J1027 APPLICABLE TO:

GROUP H

ITEM	PART#	QTY.	DESCRIPTION
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
11	0J4465	4	SCREW SHC M4-0.7 X 80 C12.9
12	043180	4	WASHER FLAT M4
13	022264	4	WASHER LOCK #8-M4
14	051715		NUT HEX M4-0.7 G8 YEL CH
(1)1		JIT BREAKER (,
(1)1	0H9378BST0R 0C2454	1 7	
2 3	REF	1	SCREW HWHT M6-1 X 16 N WA Z/JS CIRCUIT BREAKER
(1)4	0J14860ST0R	1	MD1, C/B MOUNTING BRACKET F
5	022145	4	WASHER FLAT 5/16-M8 ZINC
6	022129	4	WASHER LOCK M8-5/16
7	042907	4	SCREW HHC M8-1.25 X 16 C8.8
8	0J0679	1	DECAL, CANADIAN SAFETY CODE
9	0J0546	1	DECAL, HV CUSTOMER CONN INSIDE
10	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
11	0J4899	4	SCREW SHC M4-0.7 X 45 C12.9
12	043180	4	WASHER FLAT M4
13	022264	4	WASHER LOCK #8-M4
14	051715	4	NUT HEX M4-0.7 G8 YEL CHR
		IT BREAKER (J	
(1)1	0H9378DSTOR	1	MD1,MODULE COVER 390 JG-FRAME
2	0C2454	7	SCREW HWHT M6-1 X 16 N WA Z/JS
3	REF	1	
(1)4 5	0J14860ST0R 022145	4	MD1, C/B MOUNTING BRACKET F WASHER FLAT 5/16-M8 ZINC
6	022143	4	WASHER LOCK M8-5/16
7	042907	4	SCREW HHC M8-1.25 X 16 C8.8
8	0J0679	1	DECAL, CANADIAN SAFETY CODE
9	0J0546	1	DECAL, HV CUSTOMER CONN INSIDE
10	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
11	0J4466	4	SCREW SHC M4-0.7 X 100 C12.9
12	043180	4	WASHER FLAT M4
13	022264	4	WASHER LOCK #8-M4
14	051715	4	NUT HEX M4-0.7 G8 YEL CHR
		JIT BREAKER (
(1)1	0H9378CST0R	1	MD1,MODULE COVER 390 J-FRAME
2	0C2454	7	SCREW HWHT M6-1 X 16 N WA Z/JS
3	REF 0J00680ST0R	1	CIRCUIT BREAKER MD2, C/B BACK MOUNTING BRACKET
(1)4 5	022145	4	WASHER FLAT 5/16-M8 ZINC
6	022129	4	WASHER LOCK M8-5/16
7	042907	4	SCREW HHC M8-1.25 X 16 C8.8
8	0J0679	1	DECAL, CANADIAN SAFETY CODE
9	0J0546	1	DECAL, HV CUSTOMER CONN INSIDE
10	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
11	049967	4	SCREW SHC M6-1.0 X 70 C12.9
12	022473	4	WASHER FLAT 1/4-M6 ZINC
13	022097	4	WASHER LOCK M6-1/4
14	049813	4	NUT HEX M6-1.0 G8 CLEAR ZINC
		IIT BREAKER (
(1)1	0H9378FST0R	1	MD1,MODULE COVER 390 K-FRAME
2	0C2454	7	SCREW HWHT M6-1 X 16 N WA Z/JS
3	REF	1	CIRCUIT BREAKER
(1)4	0J00680ST0R	1 4	MD2, C/B BACK MOUNTING BRACKET WASHER FLAT 5/16-M8 ZINC
5 6	022145 022129	4	WASHER FLAT 5/10-M8 ZINC WASHER LOCK M8-5/16
7	042907	4	SCREW HHC M8-1.25 X 16 C8.8
8	042907	1	DECAL, CANADIAN SAFETY CODE
9	0J0546	1	DECAL, HV CUSTOMER CONN INSIDE
10	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3
			-

EXPLODED VIEW: EV, CB MOUNTING KIT MD1 390 DRAWING #: 0J1027 APPLICABLE TO:

GROUP H

ITEM	PART#	QTY.	DESCRIPTION
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
11	046580	4	SCREW SHC M6-1.0 X 45 C12.9
12	022473	4	WASHER FLAT 1/4-M6 ZINC
13	022097	4	WASHER LOCK M6-1/4
14	049813	4	NUT HEX M6-1.0 G8 CLEAR ZINC
	UL CIRCU	IT BREAKER (L -FRAME)
(1)1	0H9378GST0R	1	MD1,MODULE COVER 390 L-FRAME
2	0C2454	7	SCREW HWHT M6-1 X 16 N WA Z/JS
3	REF	1	CIRCUIT BREAKER
(1)4	0J00680ST0R	1	MD2, C/B BACK MOUNTING BRACKET
5	022145	4	WASHER FLAT 5/16-M8 ZINC
6	022129	4	WASHER LOCK M8-5/16
7	042907	4	SCREW HHC M8-1.25 X 16 C8.8
8	0J0679	1	DECAL, CANADIAN SAFETY CODE
9	0J0546	1	DECAL, HV CUSTOMER CONN INSIDE
10	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
11	046580	4	SCREW SHC M6-1.0 X 45 C12.9
12	022473	4	WASHER FLAT 1/4-M6 ZINC
13	022097	4	WASHER LOCK M6-1/4
14	049813	4	NUT HEX M6-1.0 G8 CLEAR ZINC
	UL CIRCUI	T BREAKER (L	_G-FRAME)
(1)1	0H9378HST0R	1	MD1,MODULE COVER 390 LG-FRAME
2	0C2454	7	SCREW HWHT M6-1 X 16 N WA Z/JS
3	REF	1	CIRCUIT BREAKER
(1)4	0J00680ST0R	1	MD2, C/B BACK MOUNTING BRACKET
5	022145	4	WASHER FLAT 5/16-M8 ZINC
6	022129	4	WASHER LOCK M8-5/16
7	042907	4	SCREW HHC M8-1.25 X 16 C8.8
8	0J0679	1	DECAL, CANADIAN SAFETY CODE
9	0J0546	1	DECAL, HV CUSTOMER CONN INSIDE
10	0D3719C	REF	DECAL CUSTOMER CONN E1 E2 E3
	0D3719D	REF	DECAL CUSTOMER CONN E1 E3
11	0J4467	REF	SCREW SHC M5-0.8 X 100 C12.9
12	051713	4	WASHER FLAT M5
13	049226	4	WASHER LOCK M5
14	051716	4	NUT HEX M5-0.8 G8 CLEAR ZINC

NOTES (UNLESS OTHERWISE SPECIFEID):

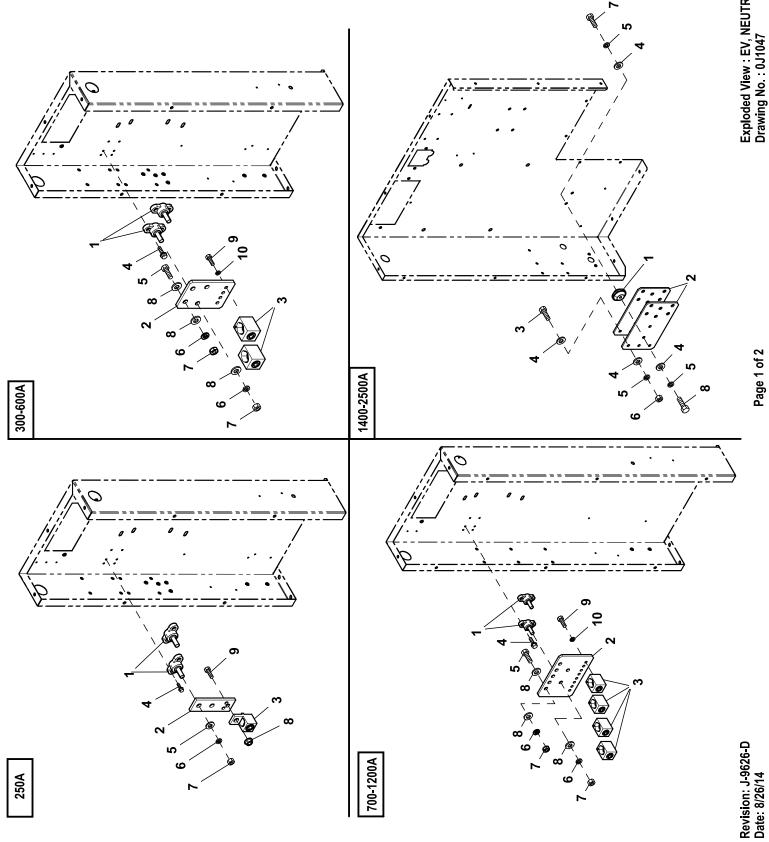
(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.

CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE • SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

(2) QTY. REQUIRED FOR 1Ø BREAKER / QTY. REQUIRED FOR 3Ø BREAKER.

GROUP H



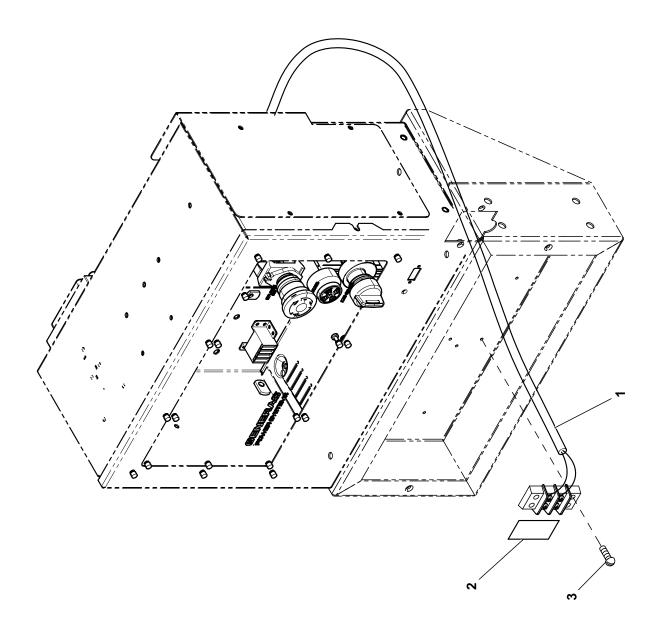
Exploded View : EV, NEUTRAL BLOCK 0-2500A Drawing No. : 0J1047

Page 1 of 2

EXPLODED VIEW: EV, NEUTRAL BLOCK 0-250A DRAWING #: 0J1047 APPLICABLE TO:

GROUP H

ITEM	PART#	QTY.	DESCRIPTION
	NEU	TRAL BLOCK (250)A)
1	057073	2	JUNCTION BLOCK 3/8-16
2	0H9690	1	NEUTRAL, BRACKET (60-100A)
3	0F8451	1	LUG SLDLSS 300 MCM-6 AL/CU
4	0C2266	4	SCREW PHTT M5-0.8 X 16 ZP
5	022131	2	WASHER FLAT 3/8-M10 ZINC
6	022237	2	WASHER LOCK 3/8
7	022241	2	NUT HEX 3/8-16 STEEL
8	067989	1	NUT HEX FL WHIZ M8-1.25
9	043107	1	SCREW HHC M8-1.25 X 25 C8.8
	NEUTR	AL BLOCK (300A -	600A)
1	057073	2	JUNCTION BLOCK 3/8-16
2	0H9689A	1	BUS BAR, NTRL BLK 520 0-600A
3	0A7822	2	LUG SLDLSS 600/250-1/0X1/4-28
4	0C2266	4	SCREW PHTT M5-0.8 X 16 ZP
5	022511	2	SCREW HHC 3/8-16 X 1-1/4 G5
6	022237	4	WASHER LOCK 3/8
7	022241	4	NUT HEX 3/8-16 STEEL
8	022131	6	WASHER FLAT 3/8-M10 ZINC
9	045335	4	SCREW HHC 1/4-28 X 3/4 G5
10	022097	4	WASHER LOCK M6-1/4
	NEUTRA	L BLOCK (700A –	1200A)
1	057073	2	JUNCTION BLOCK 3/8-16
2	0H9689	1	BUS BAR, NTRL BLK 520 600-1600
3	0A7822	4	LUG SLDLSS 600/250-1/0X1/4-28
4	0C2266	4	SCREW PHTT M5-0.8 X 16 ZP
5	022511	5	SCREW HHC 3/8-16 X 1-1/4 G5
6	022237	7	WASHER LOCK 3/8
7	022241	7	NUT HEX 3/8-16 STEEL
8	022131	12	WASHER FLAT 3/8-M10 ZINC
9	045335	8	SCREW HHC 1/4-28 X 3/4 G5
10	022097	8	WASHER LOCK M6-1/4
	NEUTRA	L BLOCK (1400A –	
1	0C6937M	2	INSULATOR, STANDOFF 600V3/8-16
2	0J4583	2	BUS BAR, 1/4"X6"X10"
3	031578	3	SCREW HHC 3/8-16 X 1-1/2 G8
4	022131	10	WASHER FLAT 3/8-M10 ZINC
5	022237	7	WASHER LOCK 3/8
6	022241	3	NUT HEX 3/8-16 STEEL
7	023152	2	SCREW HHC 3/8-16 X 3/4 G5
8	029745	2	SCREW HHC 3/8-16 X 1 G5



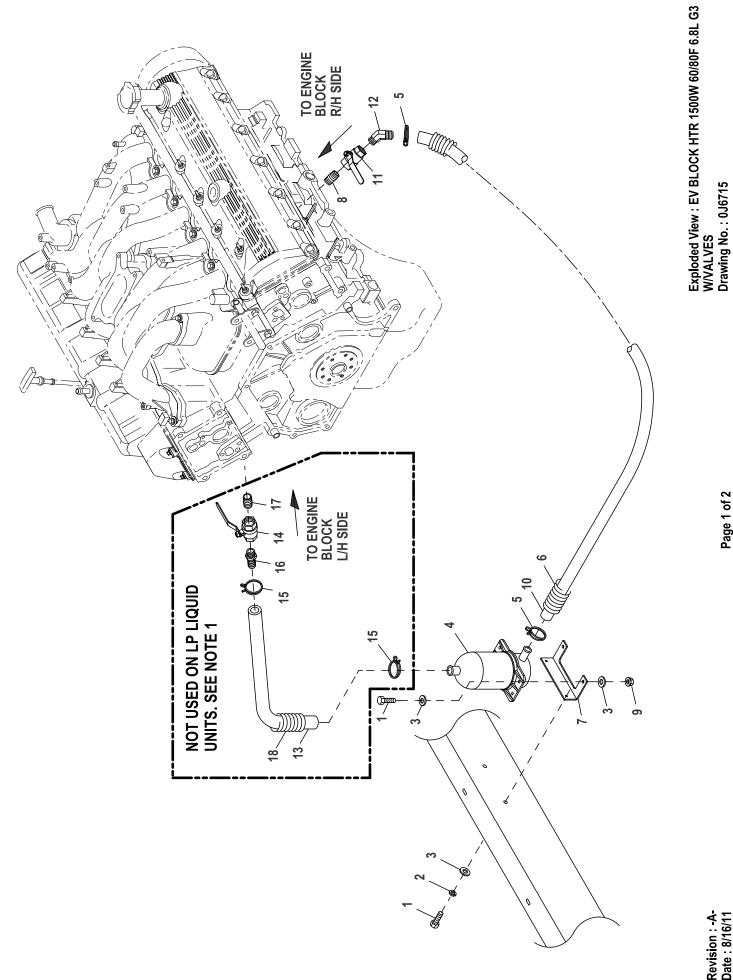
Revision: -A-Date: 4/15/11

EXPLODED VIEW: EV KIT REMOTE STOP DRAWING #: 0J1173 APPLICABLE TO:

GROUP H

ITEM	PART#	QTY.	DESCRIPTION	
1	0J0835	1	HARN REMOTE STOP H-PANEL	
2	0J0399	1	DECAL, LV CON REMOTE STOP	
3	0C2212	2	SCREW PHTT M4-0.7 X 16 ZYC	





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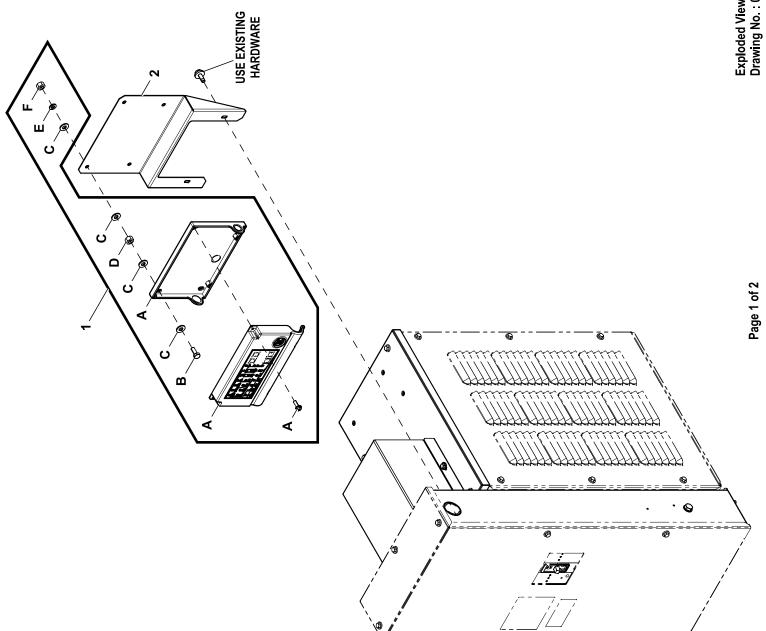
Revision -A-Date 8/16/11

EXPLODED VIEW: EV BLOCK HTR 1500W 60/80F 6.8L G3 W/VALVES DRAWING #: 0J6715 GROUP C

ITEM	PART#	QTY.	DESCRIPTION
1	042568	4	SCREW HHC M6-1.0 X 20 C8.8
2	022097	2	WASHER LOCK M6-1/4
3	022473	6	WASHER FLAT 1/4-M6 ZINC
4	084918Q	1	HEATER BLOCK 1500W 120V 60/80F
5	0G0015	2	CLAMP HOSE 7/8" OD DOUBLE WIRE
6	077043E	1	CONDUIT FLEX 1.0"ID (30" LG)
7	084427	1	BRACKET HEATER W/WELDNUTS
8	035467	1	NIPPLE CLOSE 3/8NPT X 1 VIBRA
9	052857	2	NUT TOP LOCK FL M6-1.0
10	050967	1	HOSE COOL 5/8 ID 20R3 (31"LG)
11	0G5212B	1	VALVE 3/8"
12	0C4905	1	BARBED EL 45 3/8NPT X 5/8OD
(1) 13	0A6283	1	HOSE PREFORMED BLOCK HEATER
(1) 14	0G5212B	1	VALVE 3/8"
(1) 15	0G0015	2	CLAMP HOSE 7/8" OD DOUBLE WIRE
(1) 16	044117	1	BARBED STR 3/8NPT X 5/8
(1)17	035467	1	NIPPLE CLOSE 3/8NPT X 1 VIBRA
(1)18	077043E	1	CONDUIT FLEX 1.0"ID (12" LG)

(1) ITEMS NOT USED ON L.P. LIQUID UNITS.

GROUP H



Exploded View : EV ANN MTG FOR ENCL UNIT Y02 Drawing No. : 0J7226

Revision : J-9863-D Date : 9/30/14

EXPLODED VIEW: EV ANN MTG FOR ENCL UNIT Y02 DRAWING #: 0J7226

GROUP H

ITEM	PART#	QTY.	DESCRIPTION	
1	0G6770B	REF	ANN 57.6 BAUD SURF Y02 CCI	
А	0G5719	REF	ASSY 57.6K BAUD ANN (RRP&RAP)	
В	0G6131	REF	SCREW HHC M6-1.00 X 30 C8.8 FT	
С	022473	REF	WASHER FLAT 1/4-M6 ZINC	
D	0B2236	REF	NUT HEX LOCK M6-1 NY INS	
E	022097	REF	WASHER LOCK M6-1/4	
F	049813	REF	NUT HEX M6-1.0 G8 CLEAR ZINC	
(1)2	0J58140ST0R	1	MOUNT ANN 57.6 BAUD 390 CCI	

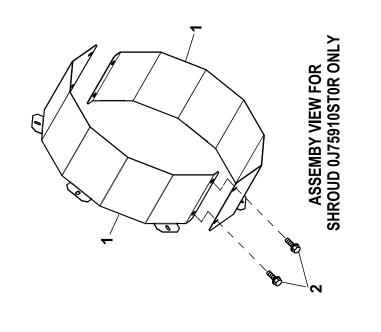
NOTES (UNLESS OTHERWISE SPECIFIED):

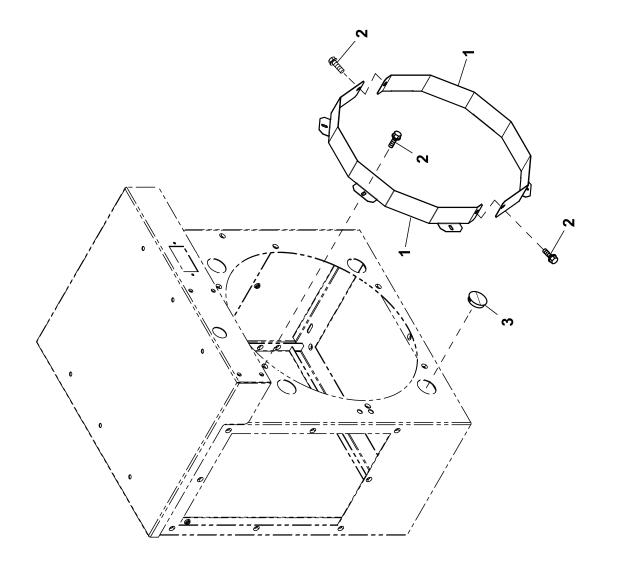
(1) SHEET METAL PARTS LISTED IN THE BOM TABLE ARE REPRESENTING GENERIC PARTS (NO COLOR)

• MANUFACTURING: FOR CORRECT MATERIAL AND COLOR REFER TO AS400 BOM.

• CUSTOMER: WHEN ORDERING REPLACEMENT PARTS ENTER BASE NUMBER (FIRST 6 DIGITS ONLY) IN THE SYSTEM FOR CORRECT MATERIAL AND COLOR (FOR REFERENCE SEE GUIDELINE 0H7169).

GROUP H





Exploded View: EV 390 ALT SHROUD KIT CCI Drawing No.:0J7592

Revision: -A-Date: 11/21/11

EXPLODED VIEW: EV 390 ALT SHROUD KIT CCI

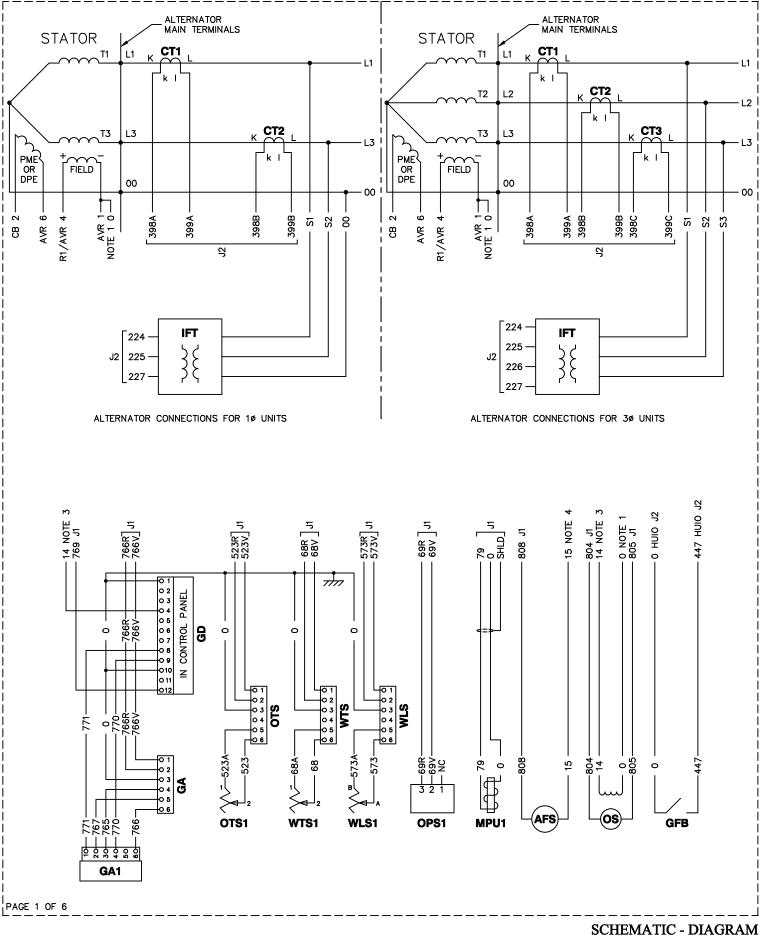
DRAWING #: 0J7592

GROUP H

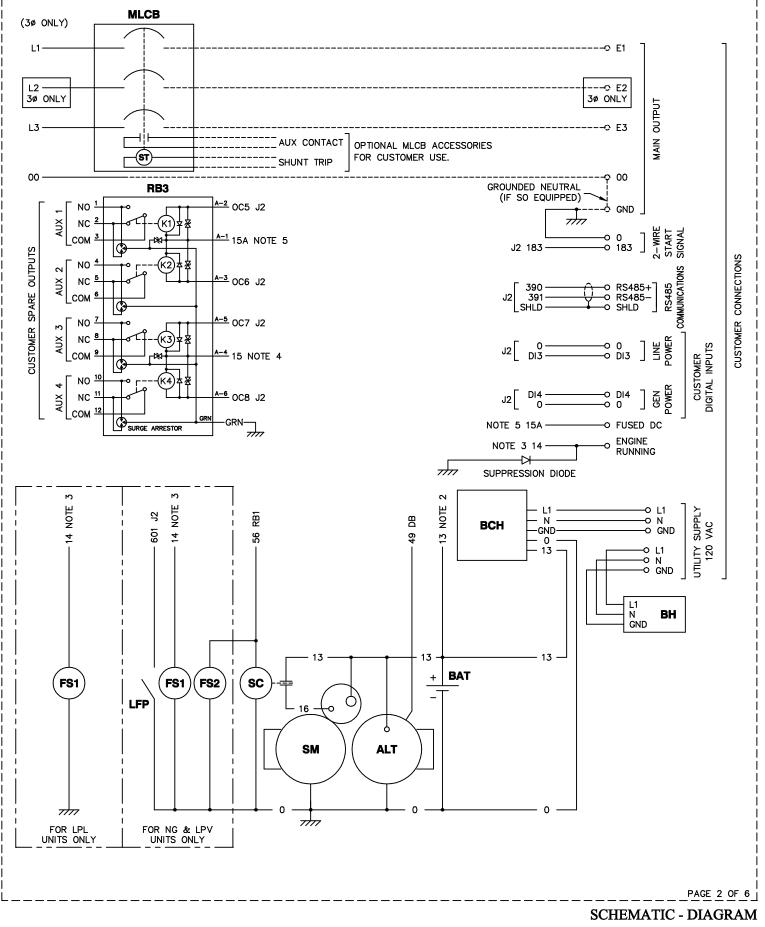
ITEM	PART#	QTY.	DESCRIPTION	
(1)1	0J7590AST0R	2	SHROUD 390 ALT X 76MM	
	0J75900ST0R	2	SHROUD 390 ALT X 50MM	
	0J75910ST0R	2	SHROUD 390 ALT X 150MM	
(2)2	0C2454	8/10	SCREW HWHT M6-1 X 16 N WA Z/JS	
3	0E1534A	4	PLUG PLASTIC 1.50"	

(1)NOTE: 0J7590ASTOR INCLUDED IN KIT #0J7593A 0J75900STOR INCLUDED IN KIT #0J7593 0J75910STOR INCLUDED IN KIT #0J7593B

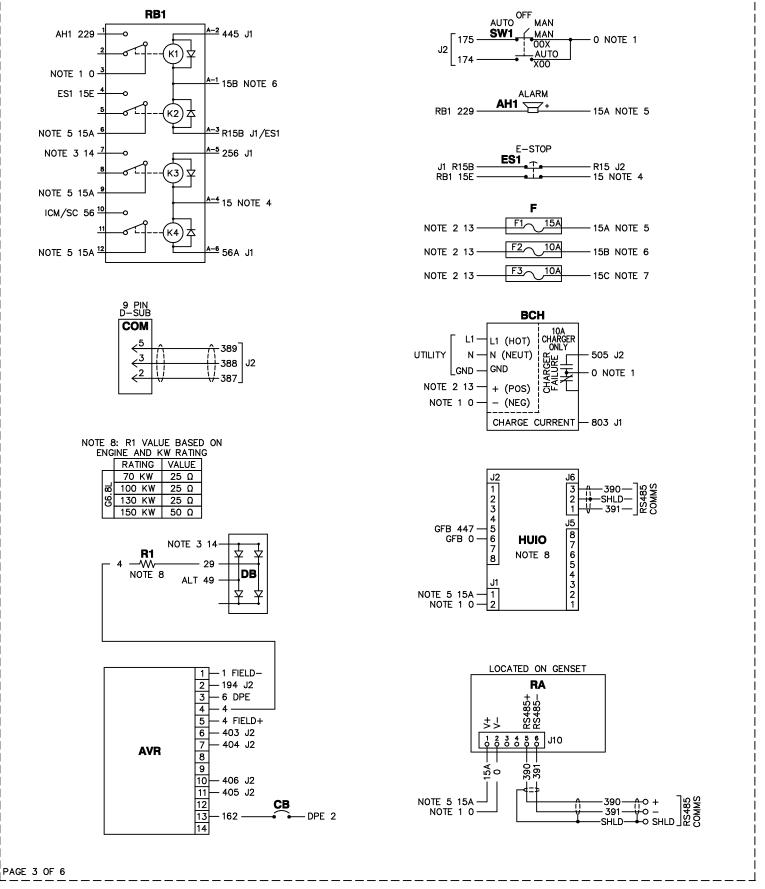
(2) QTY DETERMINED BY SHROUD MOUNTING REQUIREMENTS.



G6.8L G3 Y02 H-PANEL DRAWING #: 0J7583



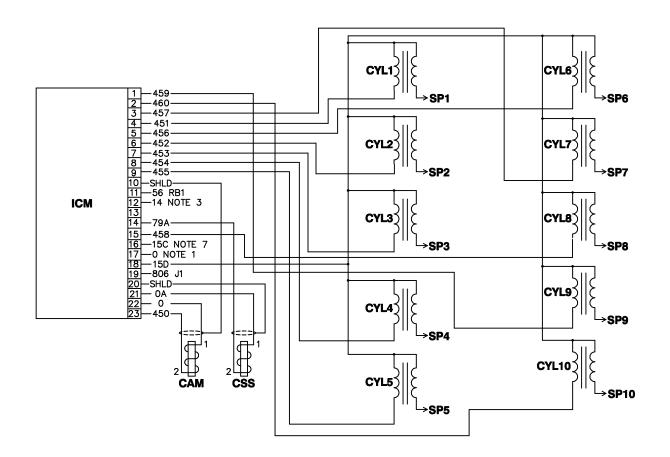
G6.8L G3 Y02 H-PANEL DRAWING #: 0J7583

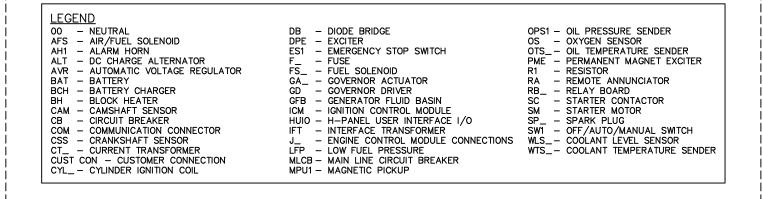


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REVISION: J-2470-B

DATE: 8/9/12





PAGE 4 OF 6

REVISION: J-2470-B DATE: 8/9/12

PAGE 4 OF 6

GD CONNECTOR

PIN	WIRE	TO	FUNCTION
1	0	GND	NOTE 1
4	14	RB1-7	NOTE 3
8	771	GA1-1	THROTTLE DRIVE LO
9	770	GA1-4	THROTTLE DRIVE HI
10	0	GND	NOTE 1
12	769	J1-33	THROTTLE PWM

AVR CONNECTOR

PIN	WIRE	TO	FUNCTION
1	1	FIELD	– FIELD
2	194	J2-31	+12VDC
3	6	DPE	PME OUTPUT
4	4	R1/FIELD	+ FIELD
5	4	R1/FIELD	+ FIELD
6	403	J2-8	GATE TRIGGER B
7	404	J2-20	GATE TRIGGER A
10	406	J2-30	ZERO CROSSING I/P
11	405	J2–19	GROUND (ISO)
13	162	CB	PME OUTPUT (AFTER CB)

ICM - IGNITION MODULE CONNECTOR

PIN	WIRE	TO	FUNCTION
1		014.0	
	459	CYL9	IGNITION COIL DRIVE 9
2	460	CYL10	IGNITION COIL DRIVE 10
3	457	CYL7	IGNITION COIL DRIVE 7
4	451	CYL1	IGNITION COIL DRIVE 1
5	456	CYL6	IGNITION COIL DRIVE 6
6	452	CYL2	IGNITION COIL DRIVE 2
7	453	CYL3	IGNITION COIL DRIVE 3
8	454	CYL4	IGNITION COIL DRIVE 4
9	455	CYL5	IGNITION COIL DRIVE 5
10	SHLD	CUT	CAMSHAFT SENSOR DRAIN
11	56	RB1-10	STARTER RELAY OUT
12	14	RB1-7	NOTE 3
14	79A	CSS-2	CRANKSHAFT SENSOR +
15	458	CYL8	IGNITION COIL DRIVE 8
16	15C	F3	NOTE 7
17	0	GND	NOTE 1
18	15D	CYL1-CYL10	IGNITION COIL PWR
19	806	J1-27	IGNITION ALARM
20	SHLD	CUT	CRANKSHAFT SENSOR DRAIN
21	0A	CSS-1	CRANKSHAFT SENSOR -
22	0	CAM-1	CAMSHAFT SENSOR -
23	450	CAM-2	CAMSHAFT SENSOR +

FUNCTION

ENGINE CONTROL MODULE CONNECTIONS

J2

PIN WIRE

TO

J1			
PIN	WIRE	TO	FUNCTION
3	810	MOD-2	MODEM SIGNAL RETURN
4	805	OS	OXYGEN SENSOR RTN
5	804	OS	OXYGEN SENSOR +
8	523R	OTS-2	OIL TEMPERATURE RTN
9	523V	OTS-1	OIL TEMPERATURE +
10	R15B	RB1A-3/ES1	OVERSPEED/WATCHDOG
11	256	RB1A-5	FUEL RELAY
12	0	GND	NOTE 1
14	811	MOD-3	MODEM DATA CARRIER DETECT
15	68V	WTS-1	COOLANT TEMP +
16	803	BCH	BAT CHARGER CURRENT
17	766R	GA-2	THROTTLE POS RTN
18	766V	GA-1	THROTTLE POS +
19	69R	OPS1-3	OIL PRESS RTN
20	69V	OPS1-2	OIL PRESS +
21	808	AFS	AIR/FUEL SOLENOID
23	56A	RB1A-6	STARTER RELAY
24	0	MPU1-2	MPU1 SIGNAL (-)
25	79	MPU1-3	MPU1 SIGNAL (+)
26	812	MOD-4	MODEM ENABLE
27	806	ICM-19	IGNITION ALARM
29	573R	WLS-2	COOLANT LVL RTN
30	573V	WLS-1	COOLANT LVL +
31	68R	WTS-2	COOLANT TEMP RTN
32	809	MOD-1	MODEM 12V POWER
33	769	GD-12	THROTTLE PWM
34	445	RB1A-2	ALARM RELAY
35	15B	F2	NOTE 6

NOTES:
 MRE# 0 IS CHASSIS GROUND (BATTERY-) UNLESS NOTED OTHERWISE.
2) WIRE# 13 IS UNFUSED +12VDC (BATTERY+).
3) WIRE# 14 IS FUSED +12VDC WHEN GENERATOR IS CRANKING OR RUNNING.
4) WIRE# 15 IS FUSED +12VDC WHEN E-STOP IS NOT ACTIVATED.
5) WIRE# 15A IS FUSED +12VDC FOR GENERAL USE.
 WIRE# 15B IS FUSED +12VDC FOR THE ENGINE CONTROL MODULE.
7) WIRE# 15C IS FUSED +12VDC FOR THE IGNITION.

 J2

 PINI
 WIRE
 TO
 FUNCTION

 1
 391
 CUST CON
 RS485 (XFER SW)

 2
 388
 COM-3
 RS232 TX (GENLINK)

 3
 DI3
 CUST CON
 LINE POWER SIGNAL

 4
 183
 CUST CON
 REMOTE START

 5
 174
 SW1
 "AUTO" START

 6
 224
 IFT
 V SENSE GEN A PH

 7
 227
 IFT
 V SENSE RTN

 8
 403
 AVR-6
 AVR GATE TRIGGER B

 9
 399C
 CT3
 GEN C PH CURRENT +

 10
 398C
 CT3
 GEN C PH CURRENT +

 11
 399A
 CT1
 GEN A PH CURRENT +

 13
 390
 CUST CON
 RS485+ (XFER SW)

 14
 387
 COM-2
 RS232 RX (GENLINK)

 15
 601
 LFP
 LOW FUEL PRESSURE

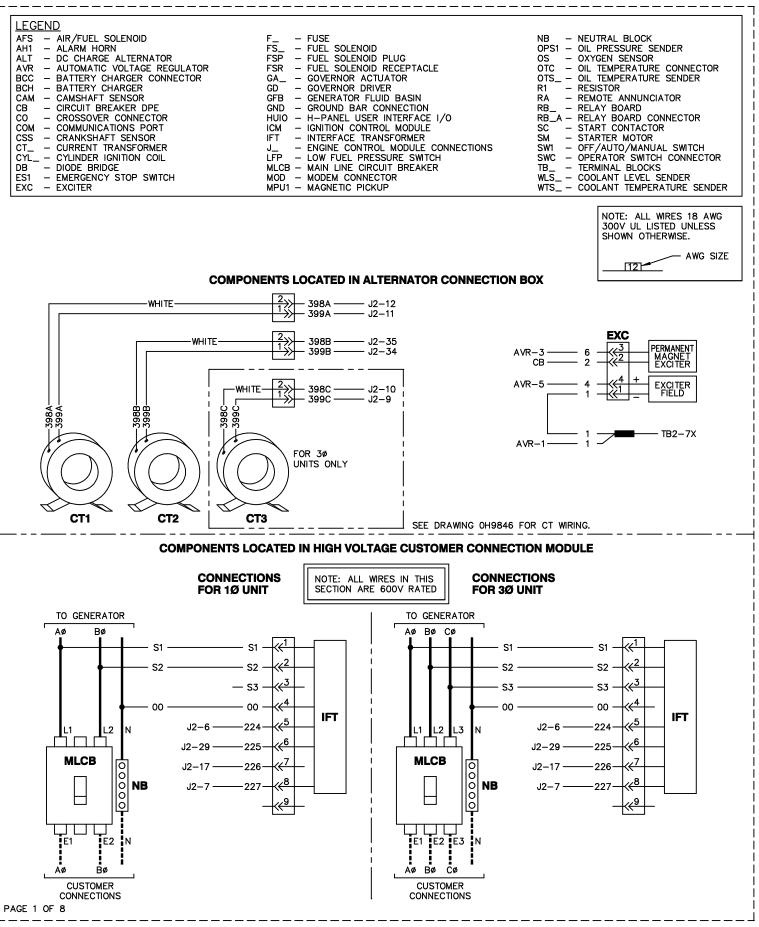
 16
 R15
 ES1
 EMERGENCY STOP

 17
 226
 IFT
 V SENSE GEN C PH

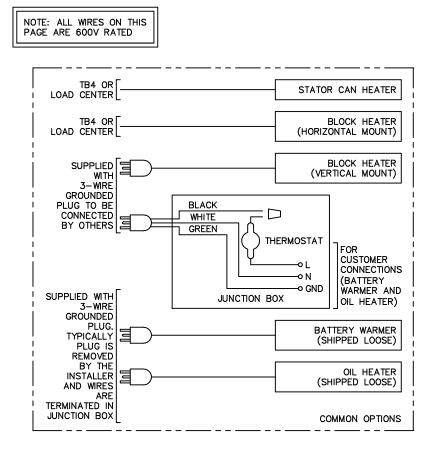
 <td - CONNECTIONS NOT USED IN 10 UNITS.

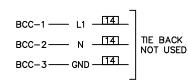
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PAGE 6 OF 6

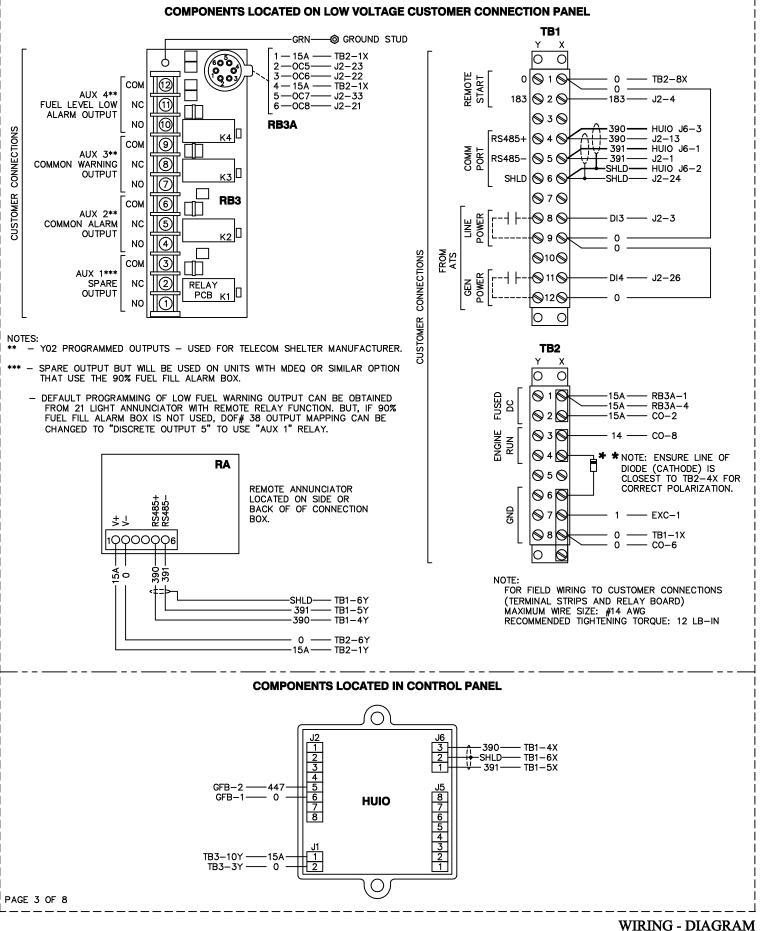




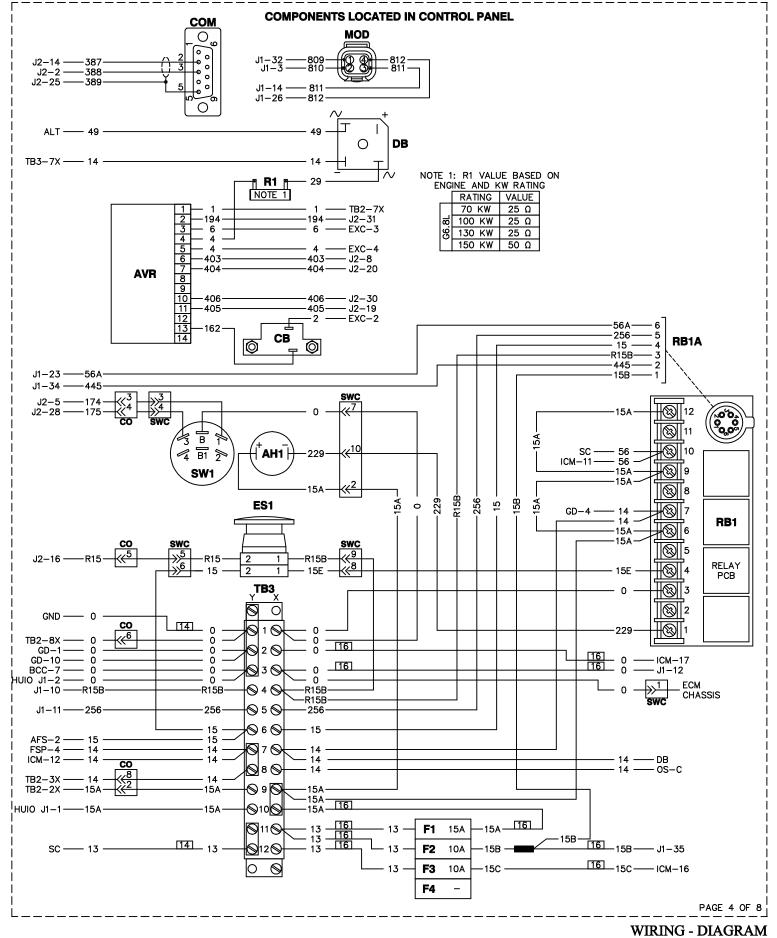




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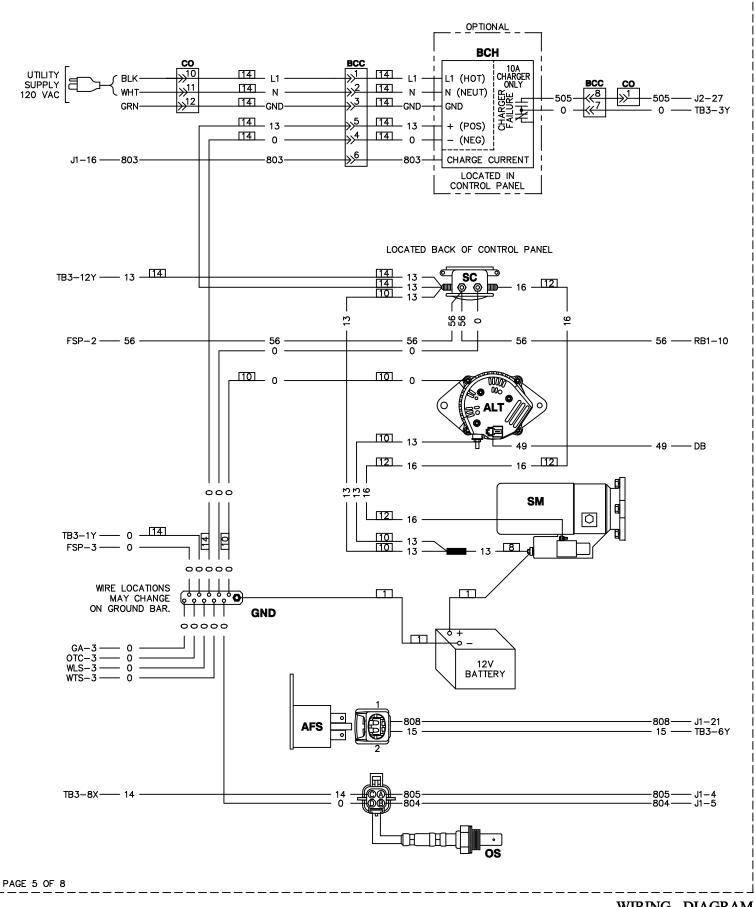
WIRING - DIAGRAM G6.8L G3 Y02 H-PANEL DRAWING #: 0J7582

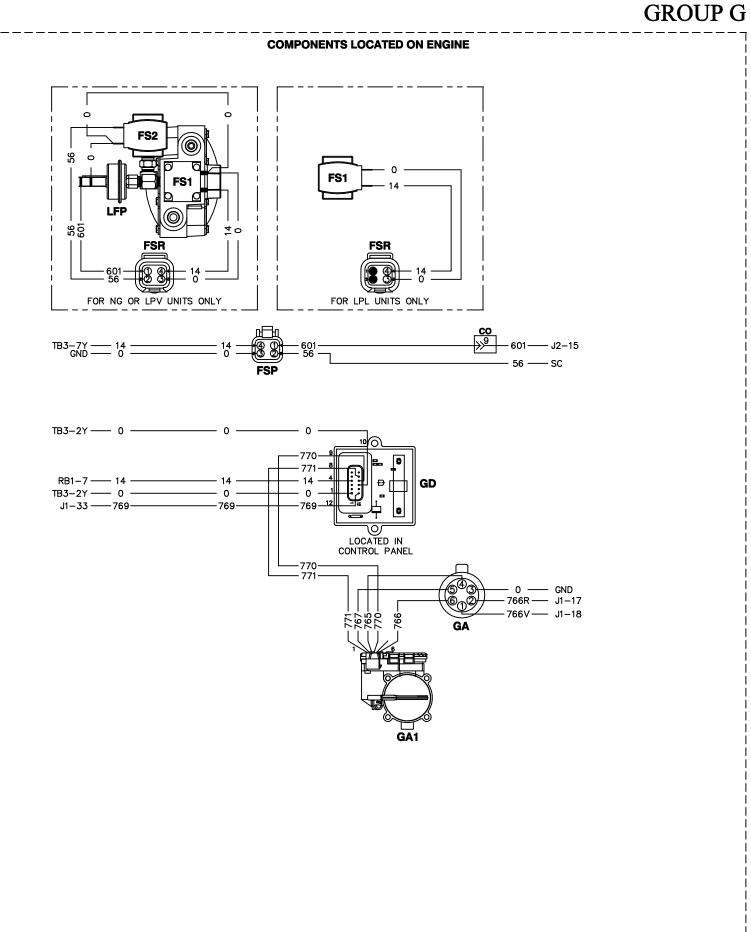


IRING - DIAGRAM G6.8L G3 Y02 H-PANEL

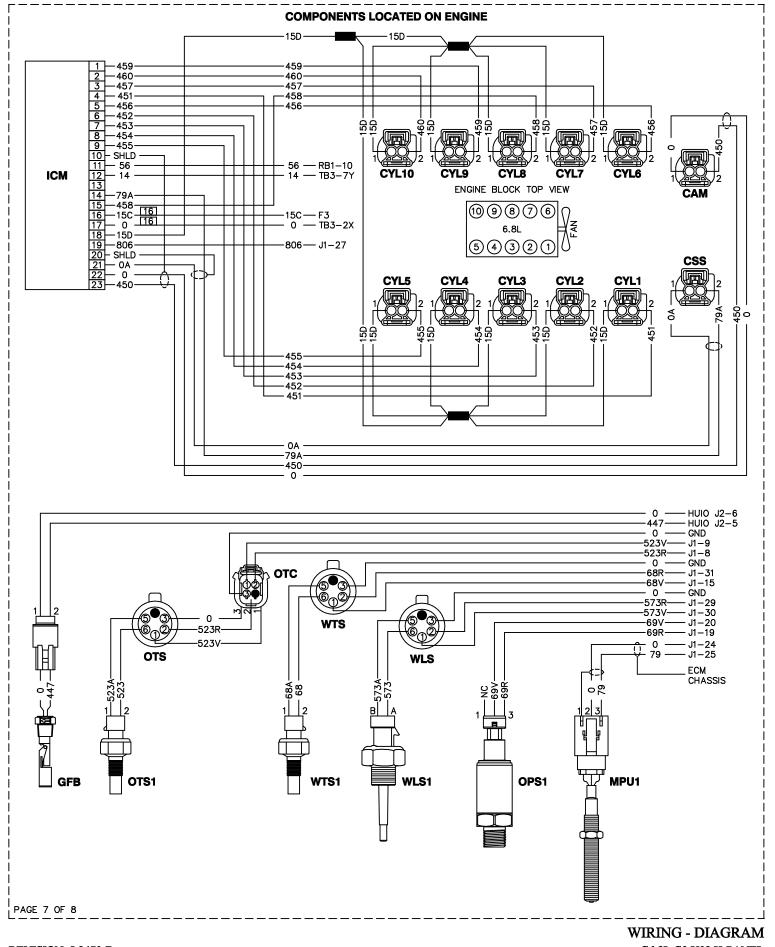
DRAWING #: 0J7582





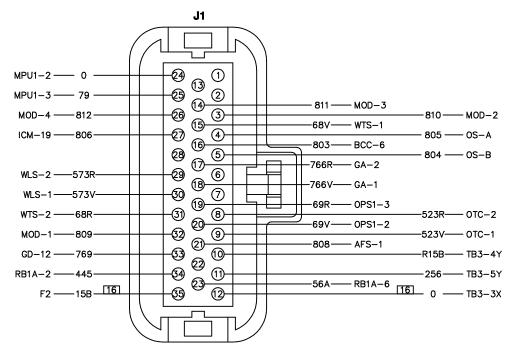




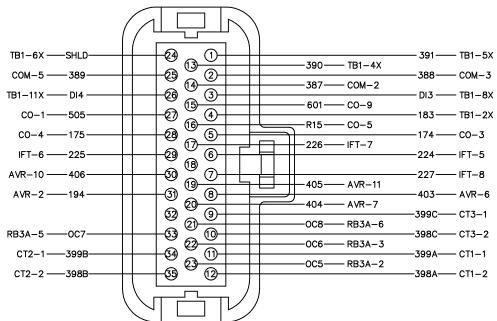


G6.8L G3 Y02 H-PANEL DRAWING #: 0J7582

ENGINE CONTROL MODULE CONNECTORS







Notes



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