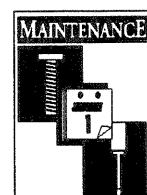
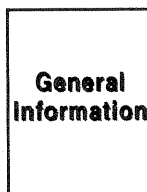
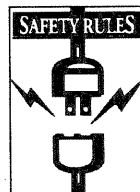
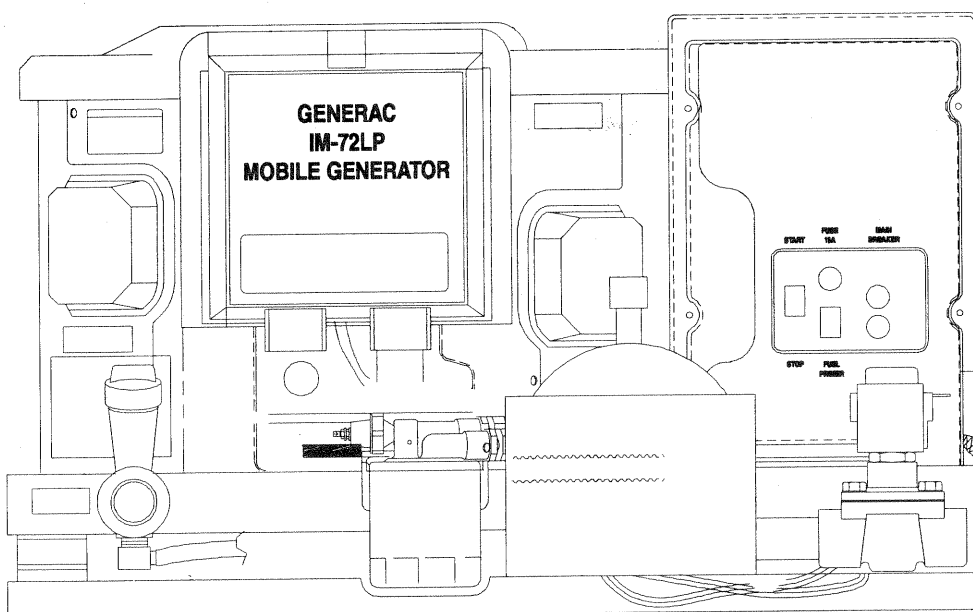


GENERAC®

Air-cooled Industrial Mobile Generator

OWNER'S MANUAL



GENERAC®

CORPORATION

Model No. 09843-2 Series IM-72LP



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS, WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THE MANUAL BEFORE ATTEMPTING TO OPERATE THIS UNIT.



THE MANUFACTURER SUGGESTS THAT THESE "RULES" FOR SAFE OPERATION BE COPIED AND POSTED IN POTENTIAL HAZARD AREAS OF THE RECREATIONAL VEHICLE. SAFETY SHOULD BE STRESSED TO ALL OPERATORS AND POTENTIAL OPERATORS OF THIS EQUIPMENT.



WARNING:





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

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

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


- For fire safety, the auxiliary generator must be installed and maintained properly. Installation must always comply with applicable codes, standards, laws and regulations. Adhere strictly to local, state and national electrical and building codes. Comply with regulations the Occupational Safety and Health Administration (OSHA) have established. Also, the generator and related components must be installed completely in conformance with the manufacturer's instructions and recommendations. Following proper installation, do nothing that might alter a safe installation and render the unit in non-compliance with such codes, standards, laws and regulations.

 The Industrial Mobile Generator produces extremely high and dangerous electrical voltages and can cause dangerous, and possibly fatal, electrical shock. Avoid contact with bare wires, terminals, etc. while the unit is running. If you must work around an operating generator, stand on an insulated, dry surface to reduce shock hazard.


 Never work on this equipment or handle any electrical device while standing in water, while barefoot, or while hands or feet are wet. Dangerous electrical shock will result.

- Have the generator properly grounded (bonded) during installation onto the vehicle, either by solid mounting to the vehicle frame or chassis or by means of an approved bonding conductor. DO NOT disconnect the bonding conductor, if so equipped. DO NOT reconnect the bonding conductor to any generator part that might be removed or disassembled during routine maintenance. If the grounding conductor must be replaced, use only a flexible conductor that is of No. 8 AWG copper wire minimum.
- Keep hands, feet, clothing, etc., away from drive belts, fans and other moving parts of this equipment. Never remove any drive belt or fan guards while the unit is operating.

- Inspect the generator periodically. Repair or replace all damaged or defective parts immediately.

 In case of accident caused by electric shock, shut down the source of electrical power at once. If this cannot be done, free victim from live conductor. AVOID DIRECT CONTACT WITH THE VICTIM. Use a dry board, dry rope, or other non-conducting implement to free the victim from live conductor. If victim is unconscious, apply first aid and get medical help.


- Inspect fuel system frequently for leaks or damage. Repair or replace any damaged or leaking component immediately. Never attempt to change, alter or modify the generator fuel system in any way that might affect safety or compliance with applicable codes and standards.

 The generator engine gives off DEADLY carbon monoxide gas through its exhaust system. This dangerous gas, if breathed in sufficient concentrations, can cause unconsciousness or even death. This exhaust system must have been properly installed, in strict compliance with applicable codes and standards. Following installation, you must do nothing that might render the system unsafe or in non-compliance with such codes and standards. The generator compartment must be completely vapor sealed from vehicle interior. There must be no possibility of exhaust fumes entering the vehicle interior. Never operate this equipment with a leaking or defective exhaust system.

- 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.

- Do not smoke around the generator. Wipe up any fuel, or oil spills immediately. Never leave oily or fuel soaked rags in the generator compartment or on the generator itself. Keep the area around the generator clean and free of debris.

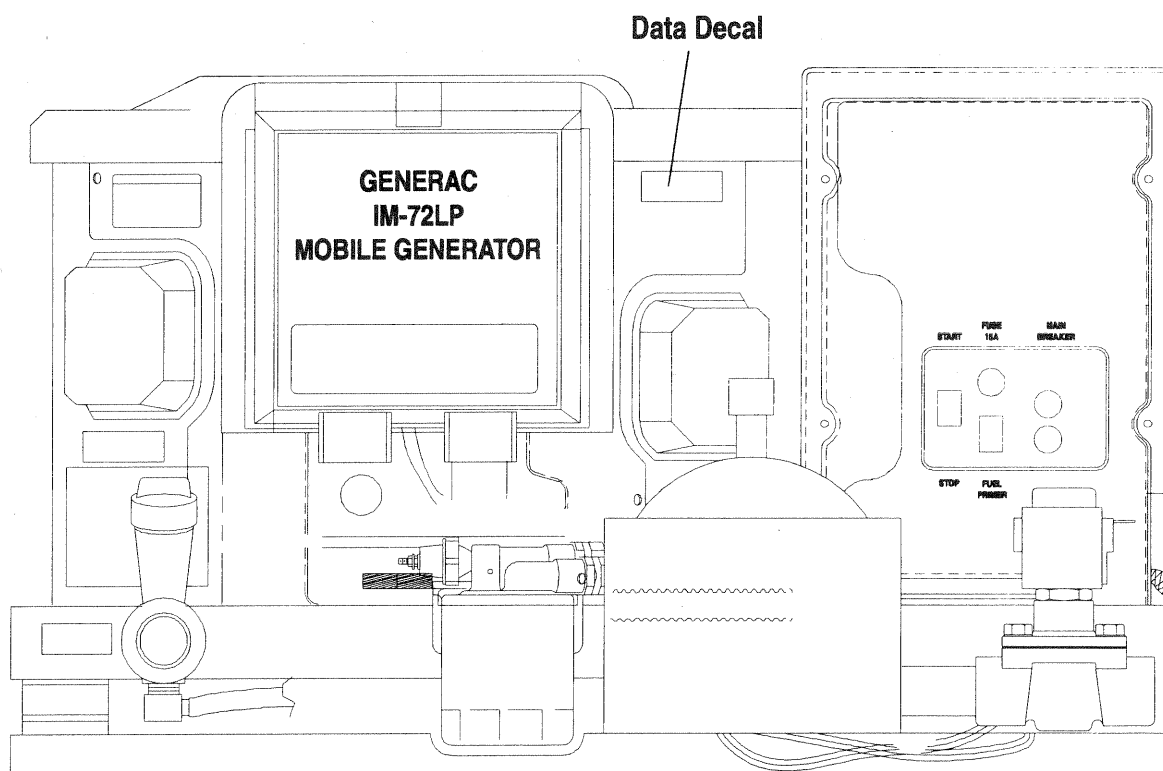
- Adequate ventilation is required to expel toxic fumes and fuel vapors from the generator compartment. Do not alter the installation of this equipment in any manner that might obstruct air and ventilation openings. Such openings must be kept clear and unobstructed.

 Some generators may use LP gas (propane) as a fuel. LP gas is highly EXPLOSIVE. The gas is heavier than air and tends to settle in low areas where even the slightest spark can ignite the gas and cause an explosion.

- Before performing any maintenance on the generator set, disconnect its battery cables to prevent accidental start up. Disconnect the cable from the battery post indicated by a NEGATIVE, NEG or (-) first. Reconnect that cable last.

Please record the following information from the generator DATA DECAL or information decal.

- | | |
|-----------------------|------------------------|
| 1. Model Number _____ | 2. Serial Number _____ |
| 3. kW Rating _____ | 4. Rated Voltage _____ |



SAFETY RULES.....2

IDENTIFICATION RECORD.....3

TABLE OF CONTENTS4

READ THIS MANUAL THOROUGHLY

Operation and Maintenance.....5

How to Obtain Service5

GENERATOR FAMILIARIZATION

Generator Applicability6

Installation6

Safety6

Generator AC Connection System6-7

OPERATION

Operating Precautions7

Generator Control Panel7

Optional Remote Start/Stop Panel.....7

Before Starting the Engine.....8

Starting the Generator8-9

Stopping the Generator9

25 Hour Break-In Period.....9

25 Hour Check-Up Period9

Attention Required After Submersion.....9

Effects of Moisture and Dirt9

Automatic Low Oil Pressure Shutdown.....9-10

High Oil Temperature Shutdown10

Field Boost.....10

Over Voltage Protection10

Engine Governed Speed10

SPECIFICATIONS

Fuel Requirements.....11

Engine Oil Requirements11

Engine Specifications.....11

Generator Specifications11

MAINTENANCE

Checking Engine Oil Level12

Change Engine Oil.....12

Change Oil Filter.....12-13

Engine Air Cleaner.....13

Clean Air Intake Screen13

Engine Spark Plug13-14

Spark Arrestor Muffler14

Cleaning the Generator14

Battery14

Major Service Manual15

Drive Belt15

Exercising the Generator15

Out of Service Protection15

Return the Unit to Service after Storage15

TROUBLESHOOTING16

ELECTRICAL DATA.....17

REPAIR PARTS.....18-29

CALIFORNIA EMISSION STATEMENT30-31

WARRANTYback cover

READ THIS MANUAL THOROUGHLY

If you don't understand any portion of this manual, contact Generac for a demonstration of actual starting, operating and servicing procedures.

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

These safety warnings cannot eliminate the hazards that they indicate. Strict compliance with the special instructions while performing the service plus "common sense" are major measures to prevent accidents.

The following definitions apply to DANGER, CAUTION and NOTE blocks found throughout the manual.



DANGER: Indicates an immediately hazardous situation which, if not avoided, will result in death or serious injury. Danger is limited to the most extreme situations.



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



CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. Caution may also be used to alert against unsafe practices.

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

These symbols indicate the following:



Points out important safety information and, if not followed, could endanger personal safety and/or property of yourself and others.



Potential explosion hazard.



Potential fire hazard.



Potential electrical shock hazard.

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

OPERATION AND MAINTENANCE

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

Proper maintenance and care of your Industrial Mobile Generator assures a minimum number of problems and keeps your operating expenses at a minimum. See your authorized Dealer/Distributor for service aids and accessories.

HOW TO OBTAIN SERVICE

When your Industrial Mobile Generator set requires servicing or repairs, simply contact an Authorized Service Facility for assistance. Service technicians are factory-trained and are capable of handling all of your service needs.

When contacting an Authorized Service Facility or the factory about parts and service, always supply the complete model number and serial number of your unit as given on its data decal.

The warranty on your generator is included in the Owner's Manual, as well as listings for repair parts.

GENERATOR APPLICABILITY

These generators have been designed and manufactured for supplying electrical power for recreational vehicles. You should not modify the generator or use it for any application other than for what it was designed. If there are any questions pertaining to its application, write or call the factory. Do not use the unit until you have been advised by a competent authority.



DANGER: FOR FIRE SAFETY, THE GENERATOR MUST HAVE BEEN PROPERLY INSTALLED IN COMPLIANCE WITH INDUSTRY STANDARDS. THE GENERATOR ALSO MUST HAVE BEEN INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S DETAILED INSTALLATION INSTRUCTIONS. AFTER INSTALLATION, DO NOTHING THAT MIGHT RENDER THE UNIT IN NON-COMPLIANCE WITH SUCH CODES, STANDARDS AND INSTRUCTIONS.

You can use this generator to supply electrical power for operating 120/240 volts, single phase, 60 Hertz, AC electrical loads requiring the following:

Industrial Generator	Power (wattage)	Amps at 120 Volts	Amps at 240 Volts
IM-72LP	7200	60	30



CAUTION: Do not overload the generator. Some installations may require that electrical loads be alternated to avoid overloading. Applying excessively high electrical loads may damage the generator and may shorten its life. Add up the rated watts of all electrical lighting, appliance, tool and motor loads the generator will power at one time. This total should not be greater than the wattage capacity of the generator. If an electrical device nameplate gives only volts and amps, multiply volts times amps to obtain watts (volts x amps = watts). Some electric motors require more watts of power (or amps of current) for starting than for continuous operation.

INSTALLATION

This Owner's Manual has been prepared under the assumption that a competent, qualified technician installed the generator into an industrial vehicle. We also assume the installer complied with all applicable codes, standards and regulations pertaining to installation.

Owners/Operators should make sure nothing is done during installation that might render the unit unsafe or in noncompliance with applicable codes, standards and instructions. They should be sure the unit has been installed to allow adequate ventilation for cooling and exhaust air.

SAFETY

Before using the generator set, carefully read GENERAL SAFETY RULES inside the cover. Comply with these RULES to prevent accidents and damage to equipment and/or property. Generac suggests copying and posting the GENERAL SAFETY RULES in potential hazard areas of the generator. Safety should be stressed to all operators of this equipment.

GENERATOR AC CONNECTION SYSTEM

This generator set is equipped with dual Stator AC power windings. These two stator windings supply electrical power to customer electrical loads by means of a dual 2-wire connection system. Note, however, that neutral is grounded.

The generator may have been installed so that units power 120/240 volts AC loads (Figure 1); or you can wire them to connect only 120 volts AC electrical loads (Figure 2). Be sure to install jumper wire between the circuit breakers and remove bar in circuit breaker set (Figure 2) when reconnecting for 120 volts.

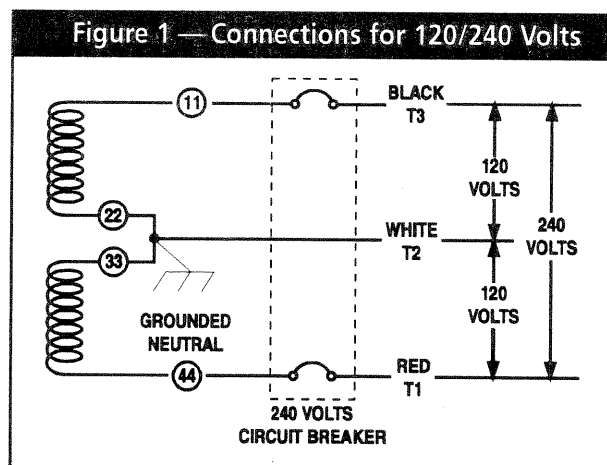
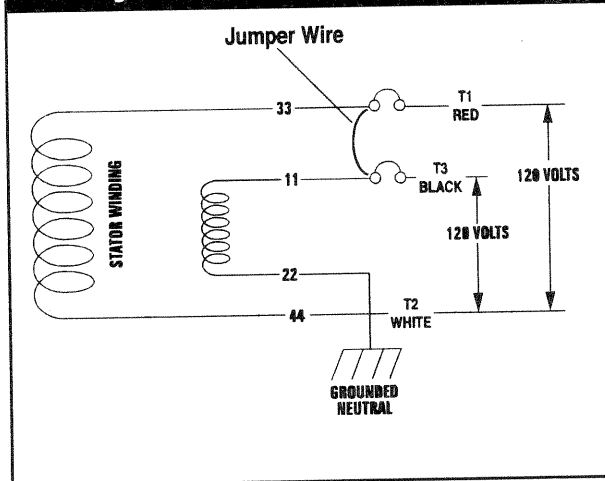


Figure 2 — Connections for 120 Volts



OPERATING PRECAUTIONS



WARNING: NEVER OPERATE THE GENERATOR SET WHILE THE VEHICLE IS PARKED OVER DRY LEAVES, DRY GRASS OR ANY OTHER COMBUSTIBLE SUBSTANCE. THE GENERATORS EXHAUST SYSTEM BECOMES EXTREMELY HOT AND CAN CAUSE FIRE IF IT IS TOO CLOSE TO COMBUSTIBLE MATERIALS.

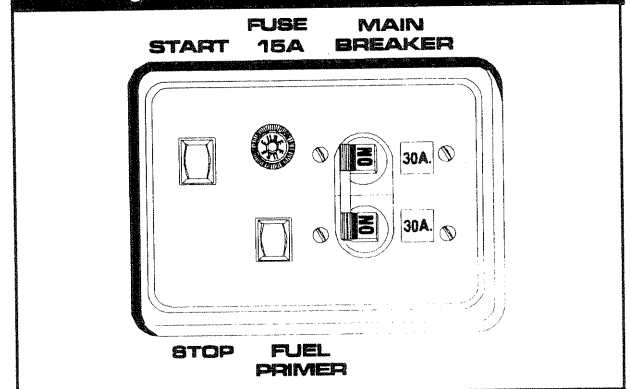


WARNING: THE GENERATORS EXHAUST SYSTEM GIVES OFF DEADLY CARBON MONOXIDE GAS. THIS DANGEROUS GAS, IF BREATHED IN SUFFICIENT CONCENTRATIONS CAN CAUSE UNCONSCIOUSNESS AND EVEN DEATH. NEVER OPERATE THE GENERATOR SET WITH THE VEHICLE INSIDE ANY GARAGE OR OTHER ENCLOSED AREA. NEVER OPERATE THE GENERATOR WITH A LEAKING EXHAUST SYSTEM. CLOSE WINDOWS IN THE VICINITY OF THE GENERATOR EXHAUST OUTLET AND TAKE ANY OTHER STEPS THAT MAY BE NECESSARY TO PREVENT EXHAUST GASES FROM ENTERING ROOMS OR AREAS OCCUPIED BY PEOPLE OR ANIMALS.

GENERATOR CONTROL PANEL

Mounted on the generator control panel (Figure 3) are the following features:

Figure 3 — Generator Control Panel



FUEL PRIMER

Before starting a cold engine (it has not been started in more than two weeks), you must press this switch to bring fuel from the tank to the fuel pump. This rocker type switch springs back into its original position when you release it.

START/STOP SWITCH

To crank and start the engine, hold this switch at its START position. Release the switch when the engine starts. To stop an operating engine, press and hold the switch in its STOP position until the engine shuts off. The switch center position is the RUN position.

FUSE

Protects the engine DC control circuit against electrical overload. If the fuse element has melted open due to overloading, the engine cannot be cranked. If you must replace it, use only an identical replacement fuse.

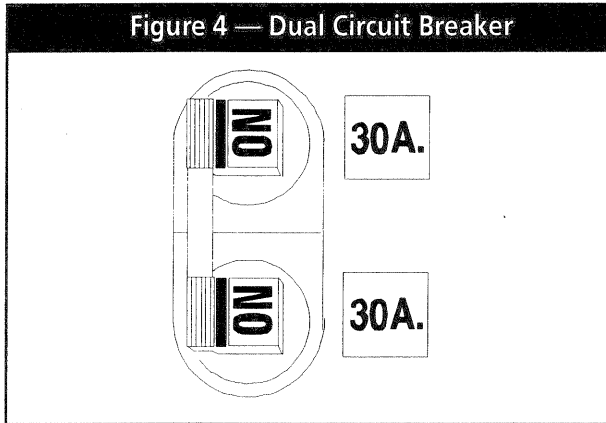
MAIN BREAKER

Protects generators AC output circuit against overload and provides a method of turning OFF the generators 120/240 volts AC output to vehicle circuits (Figure 4).



NOTE: Refer to THE GENERATOR AC CONNECTION SYSTEM on page 4. Individual installations will differ. If an overload occurs, the dual breaker will open the hot stator leads (11 and 44). When the generator has been connected for 120 volts only, either of the dual circuit breakers will open stator AC output leads No. 11 and No. 33.

Figure 4 — Dual Circuit Breaker



OPTIONAL REMOTE START/STOP PANEL

A remote mounted Start/Stop Panel is available, which allows you to start and stop the generator engine conveniently from inside the vehicle.

BEFORE STARTING THE ENGINE

IMPORTANT: INSTRUCTIONS AND INFORMATION IN THIS MANUAL ASSUME THE GENERATOR HAS BEEN PROPERLY INSTALLED, CONNECTED, SERVICED, TESTED AND ADJUSTED BY A QUALIFIED INSTALLATION TECHNICIAN OF INSTALLATION CONTRACTOR.

■ INSTALLATION

Generator installation must have been properly completed so it complies with all applicable codes, standards and regulations and with the manufacturer's recommendations.

■ ENGINE LUBRICATION

Have engine crankcase properly serviced with recommended oil before starting. Refer to "Maintenance" and "Specifications" sections for oil servicing procedures and recommendations.



CAUTION: Any attempt to crank or start the engine before you have properly serviced it with the recommended oil may result in engine failure.

■ FUEL SUPPLY

The engine must have adequate supply of proper fuel to operate. Before starting, check that sufficient fuel is available.

■ COOLING AND VENTILATING AIR

Air inlet and outlet openings in the generator compartment must be open and unobstructed for continued proper operation. Without sufficient cooling and ventilating air flow, the engine-generator quickly overheats, which causes it to quickly shutdown. Overheating could also damage the unit or your vehicle.

■ ENGINE EXHAUST GAS

Before starting the generator engine, you should be sure there is no way for exhaust gases to enter the vehicle interior and endangering people or animals. Close windows, doors and other openings in the vehicle that, if open, might permit exhaust gases to enter the vehicle.



DANGER: THE GENERATOR ENGINE GIVES OFF DEADLY CARBON MONOXIDE GAS THROUGH ITS EXHAUST SYSTEM. THIS DANGEROUS GAS, IF BREATHED IN SUFFICIENT CONCENTRATIONS, CAN CAUSE UNCONSCIOUSNESS OR EVEN DEATH. DO NOT OPERATE THE GENERATOR IF ITS EXHAUST SYSTEM IS LEAKING OR HAS BEEN DAMAGED. SYMPTOMS OF CARBON MONOXIDE POISONING ARE (A) INABILITY TO THINK COHERENTLY, (B) VOMITING, (C) TWITCHING MUSCLES, (D) THROBBING TEMPLES, (E) DIZZINESS, (F) HEADACHE, (G) WEAKNESS AND SLEEPINESS. IF YOU FEEL ANY OF THESE SYMPTOMS, MOVE INTO FRESH AIR IMMEDIATELY. IF SYMPTOMS PERSIST, GET MEDICAL HELP.

STARTING THE GENERATOR

To start the generator from either the generator control panel or from the optional Remote Panel, proceed as follows:

1. Turn OFF electrical loads, using whatever means provided in your vehicle (such as a main line circuit breaker or transfer switch).

NOTE: If starting from the generator panel, turn OFF loads by setting the generators main circuit breaker to "OFF" or "OPEN". If starting from a Remote Panel, turn OFF loads using whatever means is provided in the vehicle (such as a main circuit breaker).



2. If you have not started the engine in more that two weeks, press the Fuel Pump Primer switch and hold it for about 30 seconds to activate the automatic shut-off function. However, if the engine is warm, skip step 2.
3. To crank and start the engine, hold the start/stop switch at START. Release the switch when the engine starts.



CAUTION: If the engine does not start after it has been cranking for 15 seconds, release the start/stop switch and try again. Holding the switch for longer than 15 seconds can damage the starter motor.

4. Let the engine run at no-load for a few minutes to stabilize and warm up the engine.
5. Turn ON electrical loads, using whatever means provided (such as a main circuit breaker or transfer switch).

STOPPING THE GENERATOR

1. Turn OFF all electrical loads, using whatever means provided (such as a main circuit breaker or transfer switch).
2. Place Start/Stop switch in its STOP position.

25 HOUR BREAK-IN PERIOD

The first 25 hours of operation is the break-in period for the generator. Properly breaking in the generator is essential to reducing oil consumption and enhancing engine performance. During the break-in period, observe the following rules:

- For the first 25 hours, run the generator at varying electrical loads, to help set the engine piston rings properly.
- Following the initial 25 hour break-in period, avoid light electrical loads for the next 75 hours of operation. The unit should be loaded at 50% (or more) of its capacity during those 75 hours. Repeated light loads during break-in period may improperly seat the piston rings, resulting in blowby and high oil consumption.
- Check oil level frequently during the break-in period. Add oil if needed. It is natural for the generator engine to consume more oil than is normal until the piston rings have seated properly.
- When the 25 hour break-in period is done, complete the tasks recommended under 25 HOUR CHECK-UP PERIOD.

25 HOUR CHECK-UP PERIOD

After the first 25 hours of operation have been completed, contact an Authorized Service Facility for the following maintenance. The Owner/Operator is responsible for any changes.

- Change engine crankcase oil and oil filter.
- Check all cooling system ventilation openings on the vehicle.
- Check engine ignition system.
- Inspect the entire electrical system.
- Inspect the engine exhaust system.

ATTENTION REQUIRED AFTER SUBMERSION

If the generator has been submerged in water, it must NOT be started or operated. Following any submersion in water, have an authorized Generac Service Facility thoroughly clean and dry the generator.

EFFECTS OF MOISTURE AND DIRT

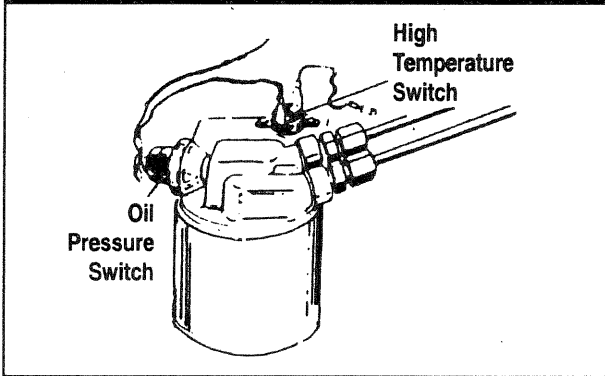
Keep the generator set as clean and dry as possible. Protect unit against excessive dust, dirt, corrosive vapors, road splash, etc. Permitting dirt and moisture to accumulate on generator windings will have an adverse effect on the insulation resistance of those windings.

When moisture is allowed to remain in contact with windings, some of the moisture will be retained in voids and cracks in the insulation. This causes a reduced insulation resistance and will eventually cause problems. Dirt will make the problem worse, since dirt tends to hold moisture in contact with windings. Salt (as from sea air) will also worsen the problem since it tends to absorb moisture from the air. Salt and moisture, when combined, form a good electrical conductor.

AUTOMATIC LOW OIL PRESSURE SHUTDOWN

The engine is equipped with a normally-closed (N.C.) oil pressure switch (Figure 5). Engine oil pressure holds the switch open during cranking and operation. Should oil pressure drop below about 8-10 psi, the switch contacts close and the engine automatically shuts down.

Figure 5 — Oil Pressure and Temperature Switches



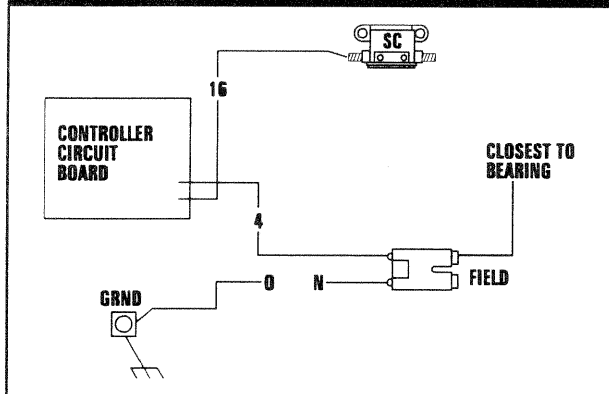
HIGH TEMPERATURE SHUTDOWN

Temperature switch (Figure 5) with normally-open (N.O.) contacts is mounted on the engine. Should engine temperature exceed about 284°F (140°C), the switch contacts close and the engine shuts down.

FIELD BOOST

The controller Circuit Board houses a field boost diode and resistor. These two components are part of a “field boost” circuit (Figure 6).

Figure 6 — Field Boost Circuit

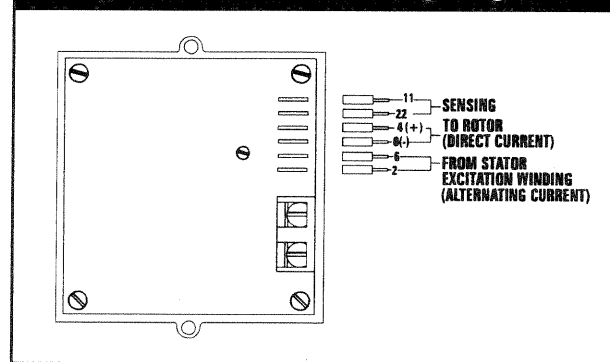


During engine cranking only, a positive DC (battery) voltage is delivered through the diode, resistor, brushes and slip rings, and to the generator rotor. Application of this voltage to the rotor “flashes the field” whenever it is started. Flashing of the field each time the generator starts makes sure that a sufficiently strong magnetic field is available to produce the required “pick up” voltage in the stator windings.

OVER VOLTAGE PROTECTION

A solid state voltage regulator (Figure 7) controls the generator's AC output voltage. This regulator supplies an excitation current to the rotor. By regulating the rotor's excitation current, the strength of its magnetic field is regulated and, in turn, the voltage delivered to connected electrical loads is controlled. When the AC frequency is 60 Hz, voltage is regulated at 120 volts (voltage-to-frequency ratio is 2-to-1).

Figure 7 — Solid State Voltage Regulator



The voltage regulator also incorporates a “voltage surge protection circuit.” This circuit prevents troublesome surges in the generator AC output voltage. Voltage surge is a common cause of damage to electronic equipment.

ENGINE GOVERNED SPEED

The generator is equipped with a 2-pole revolving field (rotor) which must be driven at 3600 rpm to produce the unit's rated AC frequency of 60 Hz. The gas engine governor was factory set to about 62 Hz (2900 RPM) at no-load. After installing it, the technician should check and adjust the governed speed. Setting no-load frequency slightly high helps prevent excessive frequency, rpm and voltage droop under heavy electrical loading.



DANGER: DO NOT TAMPER WITH THE ENGINE GOVERNOR SETTINGS. EXCESSIVELY HIGH ENGINE SPEEDS ARE DANGEROUS AND INCREASE THE RISK OF PERSONAL INJURY AND DAMAGE TO EQUIPMENT AND/OR PROPERTY. EXCESSIVELY LOW SPEEDS IMPOSE A HEAVY LOAD ON THE ENGINE WHEN ADEQUATE ENGINE POWER IS NOT AVAILABLE AND MAY SHORTEN ENGINE LIFE. THE GENERATOR SUPPLIES CORRECT RATED FREQUENCY AND VOLTAGE ONLY AT THE PROPER SPEED. SOME ELECTRICAL DEVICES MAY BE DAMAGED BY INCORRECT FREQUENCY AND/OR VOLTAGE. IF ENGINE SPEED APPEARS TO BE INCORRECT, CONTACT YOUR NEAREST AUTHORIZED SERVICE FACILITY.



FUEL REQUIREMENTS

This generator is equipped with a liquid propane (LP) gas fuel system. LP gas is usually supplied as a liquid in pressure tanks (Figure 8).

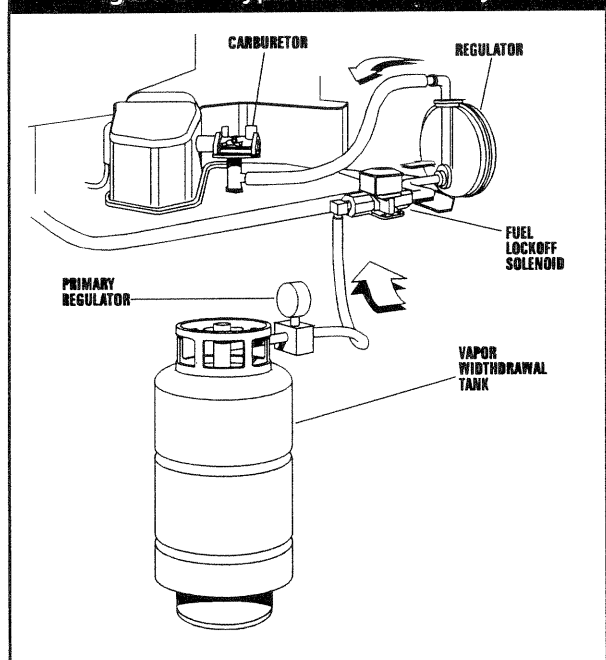
The IM series generators require a "vapor withdrawal" type fuel system. This type of gaseous fuel system uses the vapors forming above the liquid fuel in the storage tank. Air temperatures around the storage tank must be high enough to sustain adequate fuel vaporization. In colder climates, you may need to use an independent heat source to be sure the fuel sufficiently vaporizes in the storage tank.

LP gas may consist of propane, butane, or a mixture of the two gases. Propane vaporizes at temperatures as low as -20°F (-29°C), but butane returns to its liquid state when the temperature drops below about 32°F (0°C). For that reason, a higher ratio of propane is desired in the gas mixture when temperatures drop below freezing.

ENGINE OIL REQUIREMENTS

Use a high quality detergent oil classified "For Service SF" and with an oil viscosity rating of SAE 10W-30 oil. Do not pour in any additives to the recommended oil. Engine crankcase capacity is 1.5 U.S. quarts. See MAINTENANCE section for oil level check and filling procedures.

Figure 8 — Typical LP Gas Fuel System



ENGINE SPECIFICATIONS

Type of Engine	Twin Cylinder
Cooling Method	Air-cooled
Rated Horsepower	16 at 3600 rpm
Displacement	479.4cc
Compression Ratio	8.6 to 1
Cylinder Block	Aluminum with cast iron sleeve
Type of Governor	Mechanical, fixed speed
Engine Governed Speed	2900 RPM
Air Cleaner	Paper element with foam pre-cleaner
Starter	12 volt DC electric
Ignition System	Solid state with flywheel magneto
Recommended Spark Plugs	Champion RC12YC
Spark Plug Gap	0.030 inch (0.76mm)

GENERATOR SPECIFICATIONS

Rotor RPM	3600
Rotor Poles	2
Engine RPM	2900
Wattage*	7200
Voltage*	240
Current*	30 AC amps ▽
Phase	1
Frequency	60 Hertz
Weight	200 pounds
Length	25 inches
Width	18.5 inches

* All units are reconnectable to 120 volts, single phase voltage output.

▽ Rated maximum continuous current 120 volts is 60 amps.

MAINTENANCE

This section includes information about simple maintenance which includes the following tasks:

- Checking engine oil level.
- Changing engine oil.
- Changing oil filter.
- Servicing the air cleaner.
- Cleaning the air intake screen.
- Cleaning spark plugs.

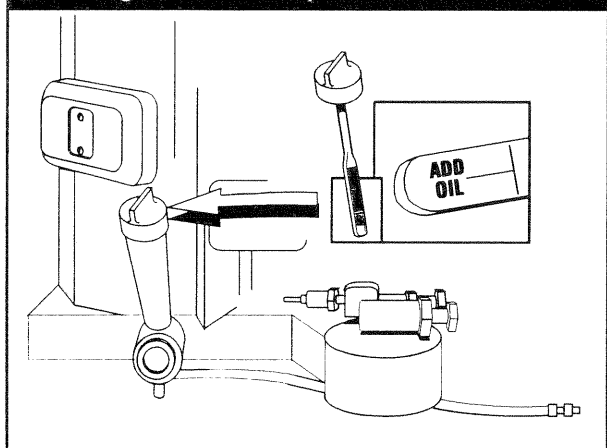
CHECKING ENGINE OIL LEVEL

Check engine crankcase oil level at least every eight hours of operation, or before each use (Figure 9).

- Be sure the generator is as level as possible.
- Remove oil dipstick and wipe dry with clean, lint-free cloth.
- Install and tighten oil dipstick, then remove again.
- Oil should be at dipstick FULL mark. If necessary, add the recommended oil to the FULL mark only. **DO NOT FILL ABOVE "FULL" MARK.**
- Install and tighten oil dipstick cap before operating the engine.

NOTE: See "Engine Oil Requirements" on Page 11 for recommended oils.

Figure 9 — Oil Dipstick and Fill Tube

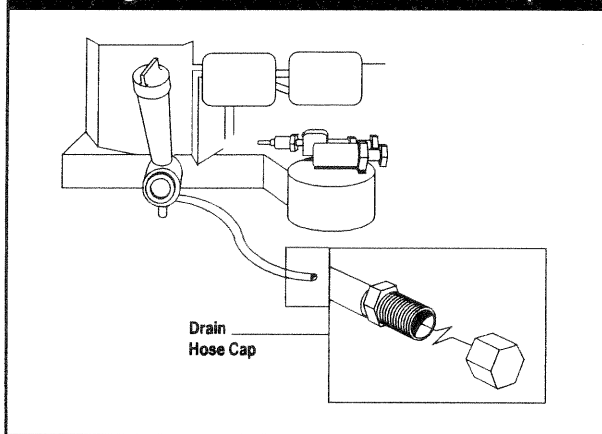


CHANGE ENGINE OIL

Change engine oil after the first 25 hours of operation (after the 25 hour break-in period, Page 9). Thereafter, change oil every 100 operating hours. Change oil more frequently if operating consistently under heavy load or at high ambient temperatures.

- Warm up engine for at least five minutes, then shut down.
- With engine still warm from running, remove cap from oil drain hose (Figure 10). Drain oil completely into a suitable container.
- When oil has drained, install and tighten drain hose cap.
- Remove oil dipstick and fill crankcase with the recommended oil (See Page 11). The engine crankcase can hold about 1.5 quarts. **DO NOT FILL ABOVE "FULL" MARK.**
- Install and tighten dipstick cap before operating engine.

Figure 10 — Oil Drain Hose and Cap



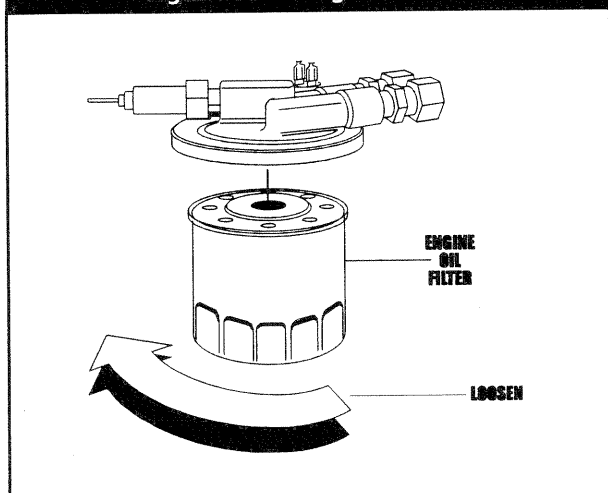
CHANGE OIL FILTER

Replace the engine oil filter after the first 25 hours of operation, every 200 operating hours thereafter.

- Turn oil filter counterclockwise to remove (Figure 11).
- Coat gasket of new filter with engine oil.
- Turn new filter clockwise until its gasket contacts lightly with the filter adapter. Then tighten with an additional 3/4 to one turn by hand.
- Run engine and check for leaks.

NOTE: Check oil level and fill to full mark after checking for leaks. Filter will retain some oil.

Figure 11 — Engine Oil Filter



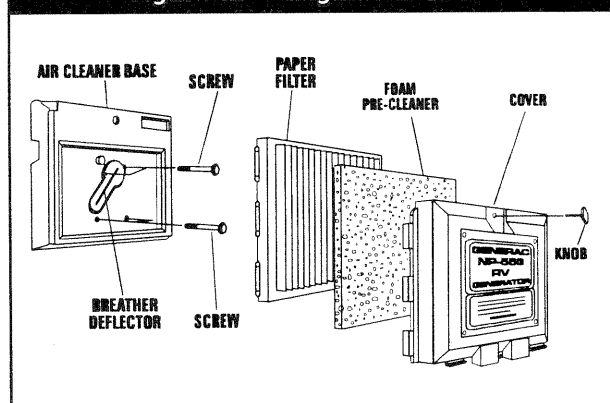
ENGINE AIR CLEANER

Clean and re-oil the foam pre-cleaner every three months or ever 25 hours of operation, whichever occurs first. Service the foam pre-cleaner more frequently if you operate the generator in extremely dusty or dirty conditions (Figure 12):

- Turn KNOB counterclockwise to loosen.
- Remove COVER, FOAM PRE-CLEANER and PAPER FILTER.
- Remove foam pre-cleaner from cover
- Wash foam pre-cleaner in liquid detergent and water.
- Wrap foam pre-cleaner in a cloth and squeeze dry.
- Saturate foam pre-cleaner in engine oil. Squeeze to remove excess oil and to distribute oil.
- Install foam pre-cleaner into cover, followed by paper filter. Tabs at edges of paper filter must lock into slots on cover.

Once each year or every 100 operating hours (whichever comes first), replace the paper filter. The new replacement filter must be a flame retardent type.

Figure 12 — Engine Air Cleaner

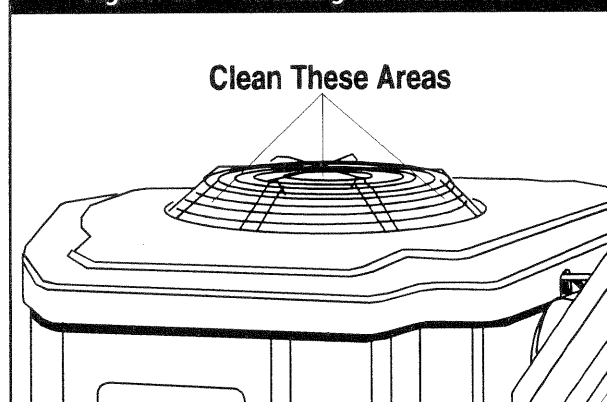


CLEAN AIR INTAKE SCREEN

Clean all foreign material from the air intake screen (Figure 13) at least once every 100 hours of operation. Clean more often if necessary.

Inspect the area around the generator exhaust muffler periodically and remove all grass, leaves, dirt, etc. from this area.

Figure 13 — Cleaning Air Intake Screen



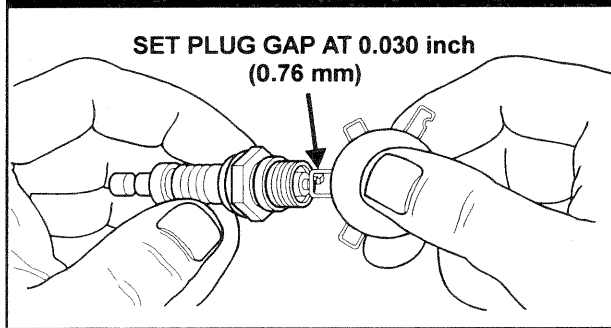
ENGINE SPARK PLUGS

Clean engine spark plugs and set gap to 0.030 inch (0.76mm) every 100 hours of operation (Figure 14). Clean by scraping or wire brushing and washing with commercial solvent. **DO NOT BLAST CLEAN SPARK PLUGS.**



CAUTION: Sparking can occur if wire terminal does not fit firmly over spark plug terminal end. If necessary, reform wire terminal to obtain a tight fit.

Figure 14 — Engine Spark Plug



SPARK ARRESTOR MUFFLER

If the generator is not equipped with a spark arrestor exhaust muffler and is to be used on any forest covered, brush covered or grass covered unimproved land, you may have to install a spark arrestor. The spark arrestor must be maintained in effective working order by the vehicle owner/operator.

For assistance in ordering, installing and maintaining spark arrestor exhaust mufflers, contact your nearest authorized service facility.

Exhaust mufflers supplied by Generac are spark arrestor types. Generac exhaust mufflers for IM generators do not have a spark arrestor screen, but are of the more efficient "toriod" or "swirl" type. To remove carbon and combustion deposits from such mufflers, remove the PLUG from muffler and run engine for about 15 minutes. Shut engine down, let the muffler cool and install the plug.



WARNING: BE SURE TO RE-INSTALL THE PLUG FROM THE MUFFLER TIGHTLY. ENGINE VIBRATION COULD CAUSE A LOOSE PLUG TO FALL OUT. WITHOUT THE PLUG IN PLACE, HOT ENGINE EXHAUST IS DIRECTED OUT THE OPENING. THIS HOT EXHAUST, DEPENDING ON THE INSTALLATION, COULD BE DIRECTED TO AREAS NOT ABLE TO WITHSTAND THE EXTREME HEAT SUCH AS WOODEN FLOOR BOARDS OR OTHER FLAMMABLE MATERIAL. THIS COULD RESULT IN A FIRE.

CLEANING THE GENERATOR

Keep your generator set as clean and dry as possible. Dirt and moisture that are permitted to accumulate on electrical windings have an adverse affect on the insulation resistance of those windings.

Moisture that is allowed to remain in contact with windings will be retained in voids and cracks of the windings. Dirt makes the problem worse, since it tends to hold the moisture into contact with the windings. Salt, as from sea air, worsens the problem since it tends to absorb moisture from the air. The combination of salt and moisture makes a good electrical conductor.



CAUTION! Do NOT use a forceful spray of water to clean the generator. Water will enter the generator interior and cause problems, and may also contaminate the generator fuel system.

BATTERY

All lead-acid storage batteries will discharge when not in use. Inspect the generator battery as follows:

■ ONCE WEEKLY

Inspect battery posts and cables for tightness, corrosion. Clean and/or tighten as necessary.

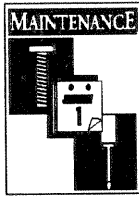
Also check battery fluid level, and, if necessary, fill with DISTILLED WATER ONLY. DO NOT USE TAP WATER IN BATTERY.

■ EVERY SIX MONTHS

Have the battery state of charge and condition checked by an automotive service facility. This should be done with an automotive type battery hydrometer.



DANGER: STORAGE BATTERIES GIVE OFF EXPLOSIVE HYDROGEN GAS. THIS GAS CAN FORM AN EXPLOSIVE MIXTURE AROUND THE BATTERY FOR SEVERAL HOURS AFTER CHARGING. THE SLIGHTEST SPARK CAN IGNITE THE GAS AND CAUSE AN EXPLOSION. SUCH AN EXPLOSION CAN SHATTER THE BATTERY AND CAUSE BLINDNESS OR OTHER INJURY. ANY AREA THAT HOUSES A STORAGE BATTERY MUST BE PROPERLY VENTILATED. DO NOT ALLOW SMOKING, OPEN FLAME, SPARKS OR ANY SPARK PRODUCING TOOLS OR EQUIPMENT NEAR THE BATTERY.



DANGER: 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 YOU SPILL THE FLUID, FLUSH THE AFFECTED AREA IMMEDIATELY WITH CLEAR WATER.



DANGER: DO NOT USE ANY JUMPER CABLES OR BOOSTER BATTERY TO CRANK AND START THE GENERATOR ENGINE. IF ANY BATTERY HAS DISCHARGED, REMOVE IT FROM THE VEHICLE FOR RECHARGING.

MAJOR SERVICE MANUAL

To obtain a service manual for your generator, order it from your dealer/distributor or contact the factory. Be sure to identify your unit's MODEL NUMBER and SERIAL NUMBER.

DRIVE BELT

The engine drives the generator rotor by means of a pulley and drive belt arrangement. The drive belt and pulleys are warranted for the life of the generator. Drive belt tension was properly adjusted before the unit was shipped from the factory. If you suspect that drive belt tension is incorrect, contact an authorized service facility.

EXERCISING THE GENERATOR

Generac recommends that you start and operate the generator at least once every seven days. Let the unit run for at least 30 minutes to "exercise" the engine.

OUT OF SERVICE PROTECTION

If you cannot exercise the generator every seven days and it is to be out of service longer than 30 days, prepare the generator for storage as follows:

- Start the engine and let it warm up.
- While the engine is still warm from running, drain the oil completely. Refill crankcase with recommended oil. See "Specifications."
- Attach a tag to the engine indicating the viscosity and classification of the oil in the crankcase.
- Remove spark plugs and add about 1/2 ounce (15ml) of clean, fresh engine oil into spark plug threaded openings. Crank engine several times to distribute oil, then install and tighten spark plugs.
- Remove the battery and store in a cool, dry room on a wooden board. Never store the battery on any concrete or earthen floor.
- Clean and wipe the entire generator.

RETURN UNIT TO SERVICE AFTER STORAGE

To return the unit to service after storage, proceed as follows:

- Check tag on engine for oil viscosity and classification. Verify that the correct recommended oil is used in engine. If necessary, drain and refill with proper oil.
- Check battery. Fill all cells to the proper level with distilled water. **DO NOT USE TAP WATER IN THE BATTERY.** Recharge battery to 100% state of charge, or, if defective, replace the battery.
- Press the Fuel Pump Primer switch and hold it for about 30 seconds to activate the automatic shut-off function.
- Turn OFF all electrical loads, then start the engine.
- Let engine warm up.
- Apply electrical loads to at least 50% of the unit's rated wattage capacity.
- When engine is thoroughly warmed up, shut it down.

THE GENERATOR IS NOW READY FOR SERVICE.

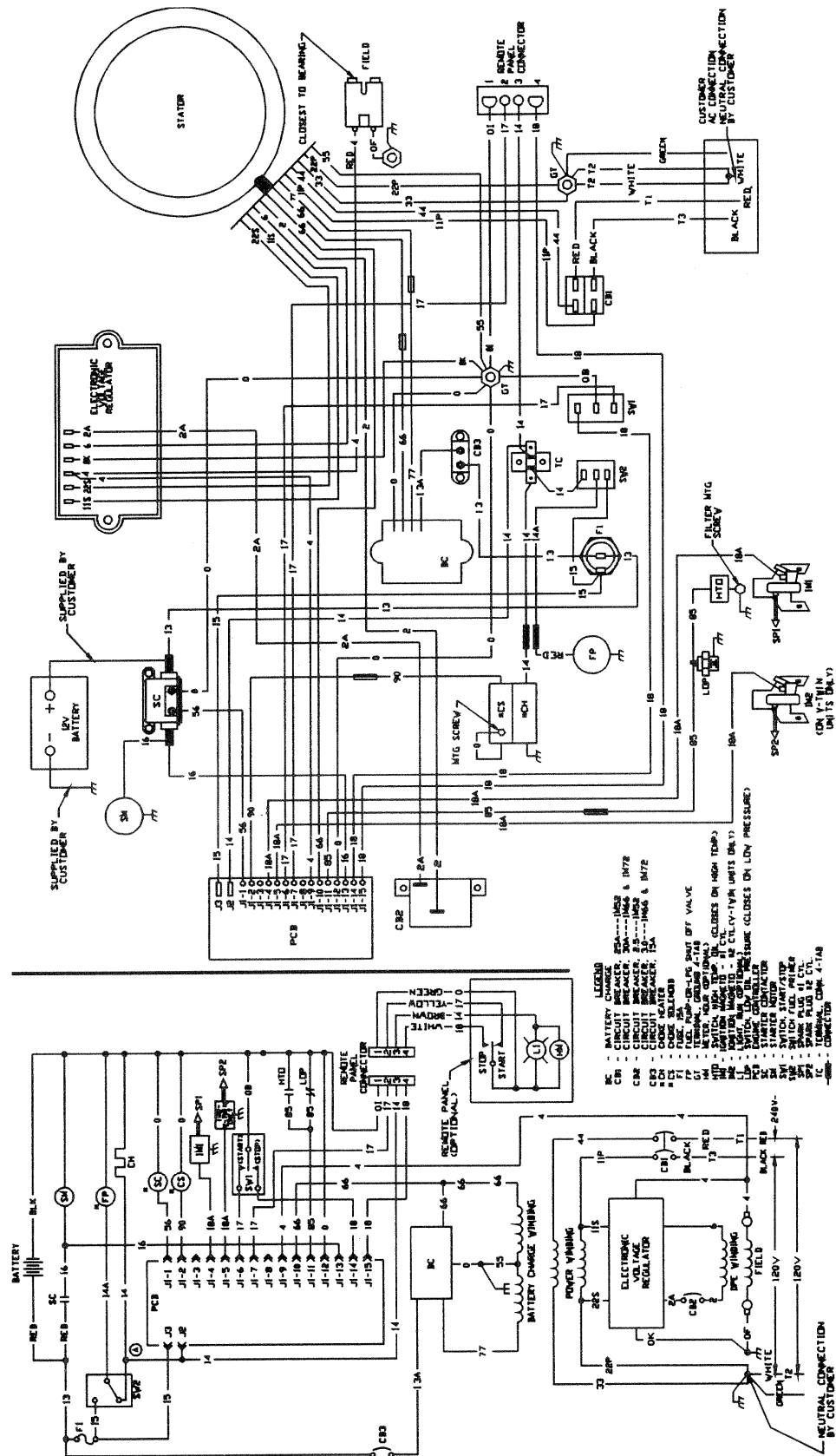


TROUBLESHOOTING POINTS

PROBLEM	CAUSE	CORRECTION
Engine won't crank.	<ol style="list-style-type: none"> 1. 15 amp fuse blown. 2. Loose or corroded or defective battery cables. 3. Defective engine Start/Stop switch. 4. Defective starter contactor. 5. Defective starter motor. 6. Low Battery Voltage. 	<ol style="list-style-type: none"> 1. Replace fuse. 2. Tighten, clean or replace as necessary. 3. Replace Start/Stop switch. 4. Replace starter contactor. 5. Replace starter motor 6. Charge or replace battery.
Engine cranks but won't start.	<ol style="list-style-type: none"> 1. Out of fuel. 2. Fuel shutoff solenoid is defective. 3. Open Wire #14 from Eng. Control Board. 4. Spark plugs defective. 	<ol style="list-style-type: none"> 1. Replenish fuel. 2. Replace fuel shutoff solenoid. 3. Reconnect wire. 4. Clean, regap or replace plugs.
Engine starts hard, runs rough.	<ol style="list-style-type: none"> 1. Air cleaner plugged or damaged. 2. Defective spark plugs. 	<ol style="list-style-type: none"> 1. Clean or replace as needed. 2. Clean, regap or replace plugs.
Engine starts, then shuts down.	<ol style="list-style-type: none"> 1. Engine oil level is low. 2. Engine is overheated. 3. Defective Low Oil Pressure System. 4. Defective Engine Control Board. 	<ol style="list-style-type: none"> 1. Check oil and add as needed. 2. Check adequate ventilation. 3. Have serviced/replaced. 4. Have board serviced/replaced.
Start/Stop switch at Stop, engine continues to run.	<ol style="list-style-type: none"> 1. Defective Start/Stop switch. 2. Open disconnect wire #18 between Start/Stop switch and Engine Control. 3. Open/disconnected wire #0 between Start/Stop switch & Engine Control Board. 4. Defective Engine Control Board. 	<ol style="list-style-type: none"> 1. Replace switch. 2. Reconnect or close wire. 3. Reconnect or close wire. 4. Replace Board.
No AC output voltage.	<ol style="list-style-type: none"> 1. Check circuit breaker. 2. Generator internal failure. 	<ol style="list-style-type: none"> 1. Reset to ON or CLOSED. 2. Take generator to an Authorized Generac facility.

ELECTRICAL DATA

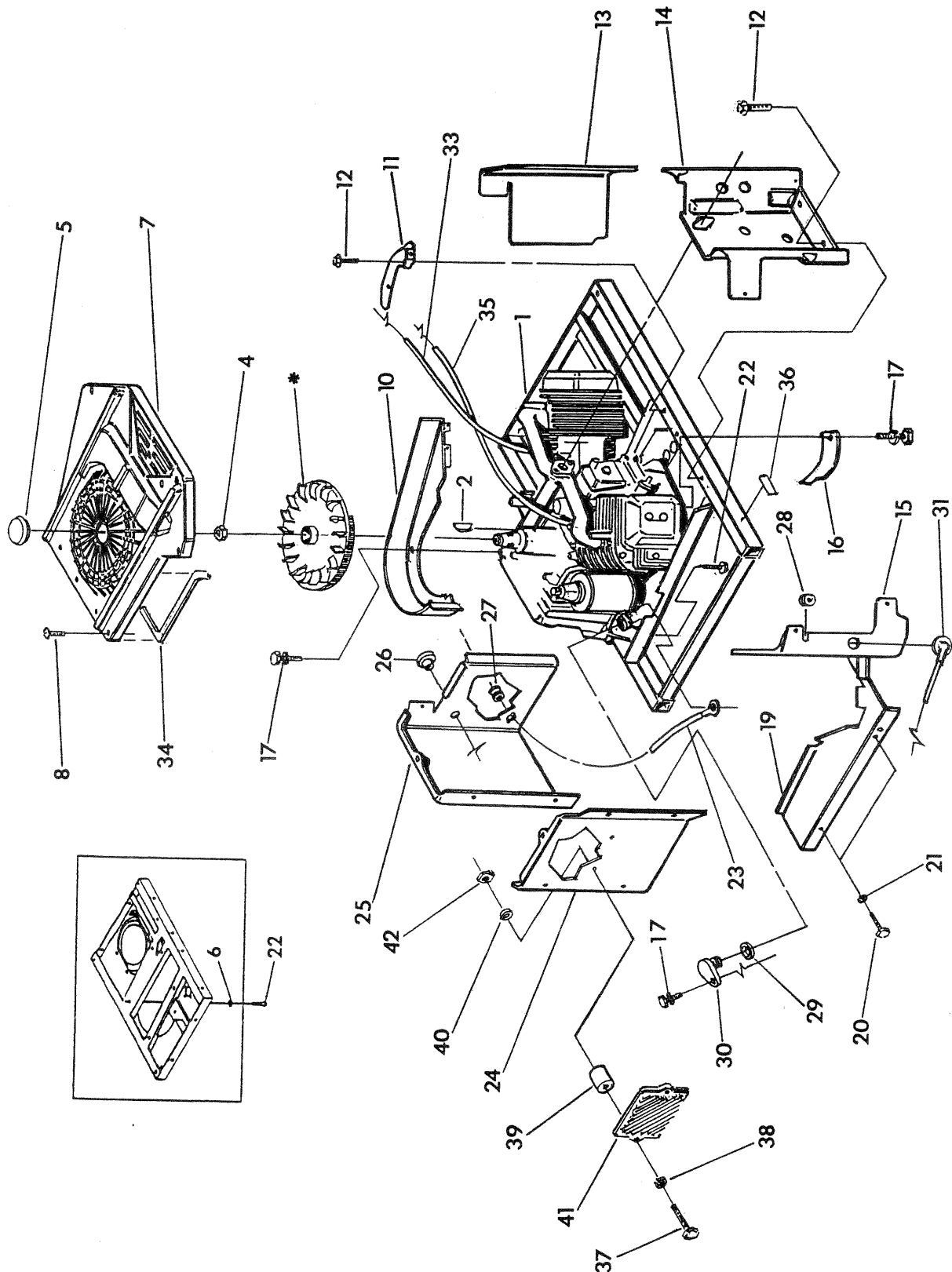
DRAWING NO. 92851



Industrial Mobile Generator

EXPLODED VIEW — SHEET METAL

DRAWING NO. 92935



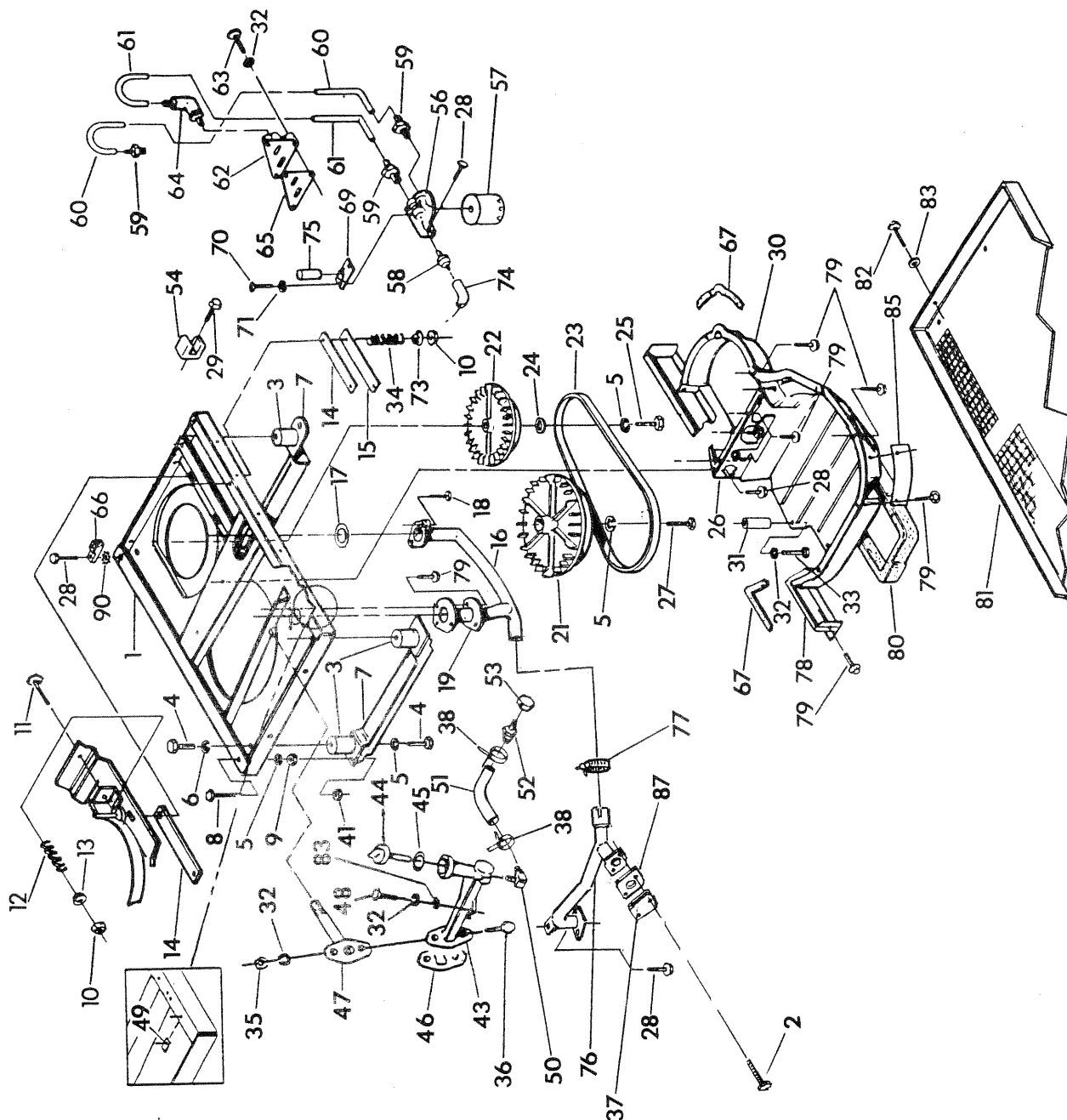
REPAIR PARTS — SHEET METAL

DRAWING NO. 92935

ITEM	PART NO.	QTY.	DESCRIPTION
1	—	1	See Eng. Exp.View of Eng.
2	99258	1	Key, Woodruff-6 x 22mm
4	20102	1	Nut, Flange
5	87865	1	Plug, Flywheel Access
6	A4456	1	3/8" Special Lock Washer
7	86313	1	Housing, Engine Top
8	56893	23	Screw (Crimptite) -No. 10-24 x 1/2"
10	87750	1	Scroll, Flywheel
11	74916	1	Cover-Base #2
12	74908	9	Screw (Taptite)-M5 x 10mm
13	73190	1	Wrapper-No. 2 Cylinder
14	78858	1	Cover, Valley
15	78859	1	Wrapper-No. 1 Cylinder
16	74902	2	Wrapper - Barrel
17	66886	2	Capscrew, Hex Hd.-M6-1.00 x 12mm
19	73191	1	Cover, Base-No. 1 Cylinder
20	48571	2	Capscrew, Hex Hd. -M8-1.25 x 15mm
21	22129	2	Lockwasher - M8
22	75246	4	Screw (Taptite) 3/8"-16 x 1-1/4"
23	10-74260	1	Wire Assembly - No. 16
24	88290	1	Cover, Starter
25	73186	1	Wrapper, Crankcase
26	81108	1	Bushing, Snap
27	22717-B	1	Grommet-Rubber
28	22717-A	2	Grommet-Rubber
29	67866	1	O-Ring
30	77001	1	Plug, Oil Fill
31	73132	2	Boot, Spark Plug
33	87858A	1	Ground Wire Assy. - Cyl. #2
34	29289	2 ft.	Foam Tape
35	87858B	1	Ground Wire Assy. - Cyl. #1
36	50277	1	Decal, Oil Drain
37	38153	2	No. 10-32 x 1-1/2" Screw
38	22152	2	No. 10 Lock Washer
39	33469	2	0.22 Inch I.D. Spacer
40	23897	2	No. 10 Flat Washer
41	92934	1	Regulator - 10A.
42	22158	2	No. 10-32 Hex Nut

EXPLODED VIEW — BASE & PULLEYS

DRAWING NO. 92936



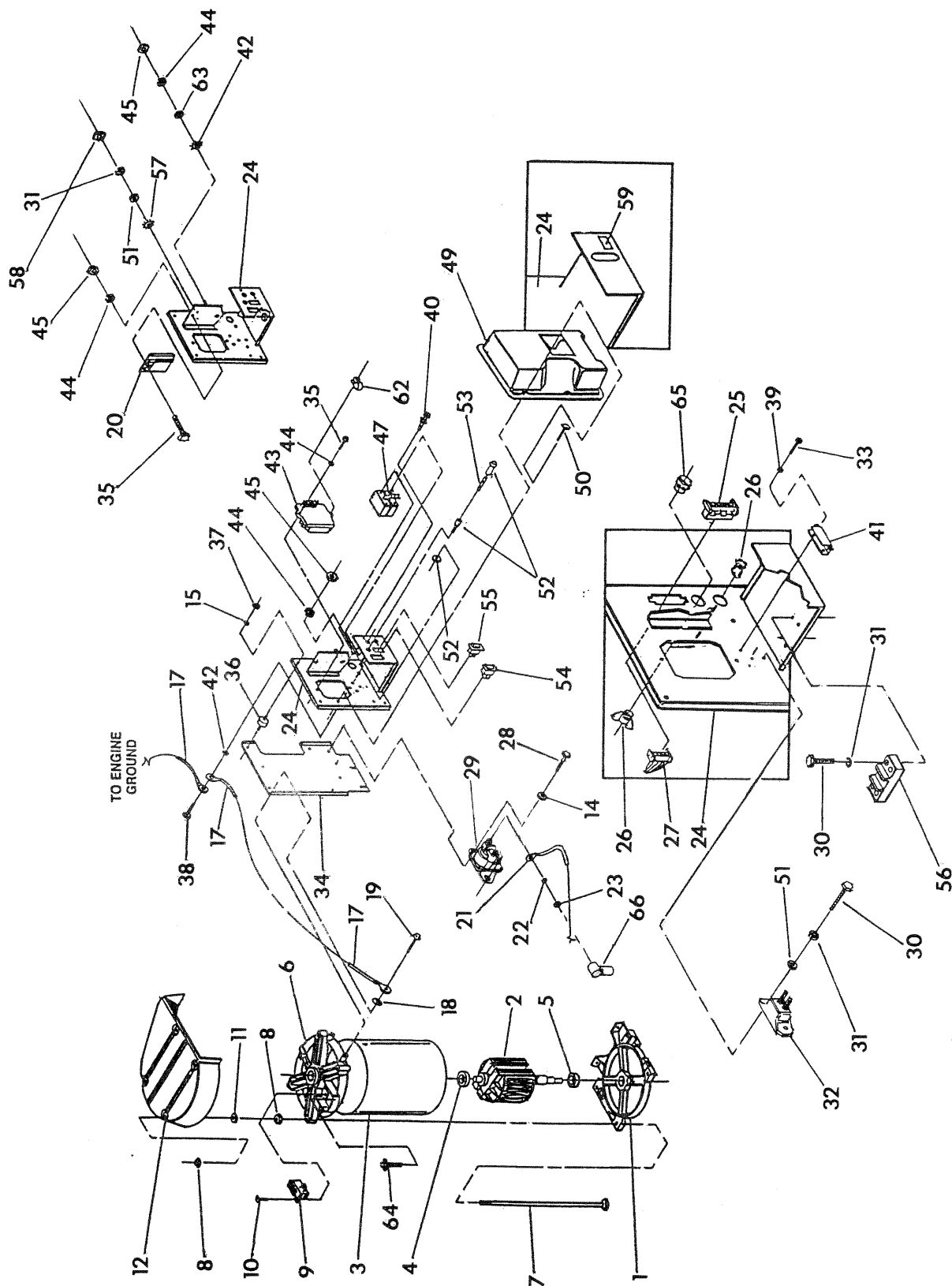
REPAIR PARTS — BASE & PULLEYS

DRAWING NO. 92936

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	86318	1	BASE, MOUNTING	38	48031-E	2	CLAMP, HOSE-3/8"
2	68527	4	HHCS-M6-1.0 x 20 LONG	41	81105	2	5/16-18 FLANGE NUT, SPECIAL
3	46911	4	MOUNT, (RUBBER)	43	75710	1	TUBE, OIL FILL AND DRAIN
4	25017	8	CAPSCREW, HEX HD.- 3/8"-6 x 1/2"	44	74958	1	CAP & DIPSTICK ASSEMBLY
5	22237	12	LOCKWASHER-M10	45	67871	1	O-RING, CAP
6	22129	2	LOCKWASHER-M8	46	A5508	1	OIL FILL TUBE GASKET
7	72391	2	SKID, RUBBER MOUNT	47	75711	1	PIPE, OIL DRAIN ADAPTOR
9	22259	2	NUT, HEX-5/16-18	48	22413	1	CAPSCR., HEX HD.- 1/4-20 x 1" LONG
10	52858	6	NUT, FLANGED LOCK- M8-1.25	49	A5802	1	TINNERMAN CLIP
11	51730	2	CAPSCR. HEX HD.- M8-1.25 x 60MM	50	43790	1	ELBOW-3/8" NPT x 3/8"
12	29459	2	SPRING, BELT TENSION	51	47290	1	HOSE-3/8" I.D. #6202A
13	75215	2	WASHER, SPRING CNTR.	52	35461	1	FITTING, BARBED-1/4" NPT
14	73146	4	SLIDE (NYLON)	53	69811	1	CAP, HEX-1/4" NPT
15	75209	2	SUPPORT, NYLON SLIDE	54	65852	1	CLIP, HOSE RETAINER
16	73174	1	MANIFOLD, EXHAUST	56	73179	1	OIL FILTER SUPPORT
17	79678	2	GASKET, EXH. MANIFOLD	57	70185	1	FILTER, OIL (FRAM#PH3614)
18	55173	4	CAPSCR., HEX HD.- M8-1.25 x 20MM (GRADE 10.9)	58	60108	1	10 PSI-SWITCH, OIL PRESS.
19	72383	2	GASKET, COLLECTOR PAN	59	74948	3	FITTING-5/16"
21	75224-E	1	PULLEY, ENGINE-5.2	60	74950	1	TUBE, OUTER OIL
	75224-B	1	PULLEY, ENGINE-5.5	61	74951	1	TUBE, INNER OIL
	75224-F	1	PULLEY, ENGINE-6.6	62	73134	1	ADAPTOR, OIL PAD
	75224-G	1	PULLEY, ENGINE-7.2	63	38750	3	CAPSCREW, HEX HEAD- M6-1.00 x 30MM
22	73106-E	1	PULLEY, ALT.-5.2	64	74949	1	FITTING, 90-DEGREE-5/16"
	73106-B	1	PULLEY, ALT.-5.5	65	68548	1	GASKET, OIL PAD
	73106-F	1	PULLEY, ALT.-6.6	66	62684	1	LUG, GROUNDING
	73106-G	1	PULLEY, ALT.-7.2	67	29289	—	TAPE, FOAM-1/16" THICK x 8'
23	75216	1	BELT (POLY V 4L)-40"	69	75281	1	SWITCH, HIGH TEMP.
24	49451	1	WASHER, PULLEY RETAINER	70	74027	2	SCREW, PAN HEAD M3-0.50
25	42633	1	CAPSCR., SOCKET HD. 3/8"- 4 x 1" (GRADE 5)	71	43182	2	LOCKWASHER-M3
26	77017	1	GUIDE, BLOWER HOUSING	73	75237	4	WASHER, SPRING RETAINER
27	73118	1	CAPSCR., HEX HD.- 3/8"-24 x 2-1/2"	74	77681	1	CAP, VINYL-LOS-2 WIRE
28	74906	10	SCREW (TAPTITE)-M6-1.00x20	75	75474	1	CAP, VINYL-17D x 42L x 2H
29	74908	1	SCREW (TAPTITE)-M5-0.80x10	76	90800	1	ELBOW, EXH. -UNIVERSAL
30	72375	1	HOUSING, BLOWER	77	94670	1	CLAMP, EXHAUST-1-1/8"
31	73185	1	SPACER, BLOWER HOUSING	78	75226	1	COVER, AIR
32	22097	6	LOCKWASHER-M6	79	56893	23	SCREW (CRIMPTITE)- NO. 10-24 x 1/2" LONG
33	77682	1	CAPSCR. HEX HD.- M5-0.80 x 80MM	80	75229	1	GASKET, SLIDE PAN
34	75242	4	SPRING, GEN. SET MT	81	75227-A	1	SLIDE PAN
35	49813	2	NUT, HEX M6 x 1.0	82	68527	4	CAPSCREW, HEX HEAD- M6-1.00 x 20MM WITH LOCK WASHER
36	45757	2	CAPSCREW, HEX HEAD- M6-1.0 x 25 LONG	83	22473	5	FLATWASHER-M6
37	90859	1	COVER PLATE	84	22097	4	LOCKWASHER-M6
				85	72384-C	1	COVER, EXH. OUTLET
				87	77643	1	GASKET, EXH. OUTLET
				90	22447	1	LOCK WASHER-M6, TOOTHED

EXPLODED VIEW — CONTROL PANEL

DRAWING NO. 92856



Industrial Mobile Generator

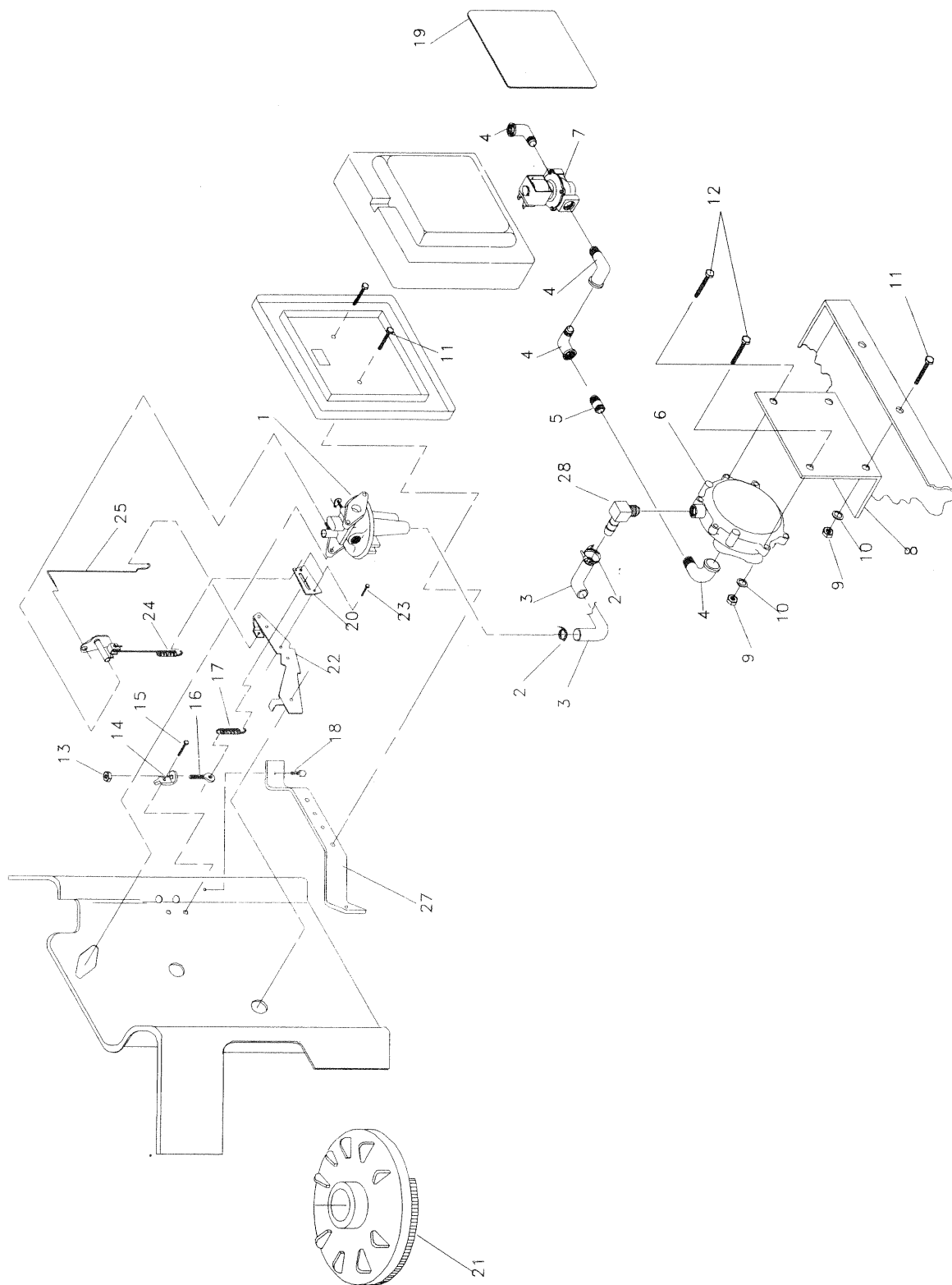
REPAIR PARTS — CONTROL PANEL

DRAWING NO. 92856

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	75995	1	LOWER BEARING CARRIER	36	82737	4	VIBRATION MOUNT
2	80095G	1	ROTOR ASSEM.	37	49813	4	M6-1.0 HEX NUT
3	92848	1	STATOR ASSEM.	38	49815	1	M5-08 x 16 LG. HEX HD. CAPSCR.
4	73159	1	BALL BEARING	39	43182	2	M3-LOCK WASHER
5	31971	1	BALL BEARING	41	53623	1	C/BREAKER 2.5A.
6	72379	1	UPPER BEARING CARRIER	42	67444	2	M5 SHAKEPROOF WASHER
7	77006	4	STUD-STATOR	43	83049	1	REGULATOR VOLTAGE
8	52858	8	M8-1.25 FLANGE LOCK NUT	44	49226	6	M5-LOCK WASHER
9	66386	1	BRUSH HOLDER	45	51716	4	M5-0.8 HEX NUT
10	66849	2	M5-0.8 x 16 LG. TAPTITE	47	82081	1	C/BREAKER 30A.
11	27756	4	NYLON WASHER	48	25105	4	#6-32 W/LOCK WASHER SCREW
12	86314	1	GEN. TOP HOUSING	49	86315	1	PANEL COVER
14	22473	2	M6-FLAT WASHER	50	90734	4	M4-0.7 x 16 LG. CAPSCR. W/LOCK-WASHER & FLAT WASHER
15	22097	4	M6-LOCK WASHER	51	22985	3	M4 FLAT WASHER
17	90141	2	GROUND CABLE	52	32300	1	FUSE HOLDER
18	22447	1	SHAKEPROOF LOCK WASHER	53	22676	1	FUSE AGC-15A.
19	74906	4	M6-1.0 x 20 LG. TAPTITE	54	87798	1	SWITCH S.P.D.T. 6A- (START-STOP).
20	92234	1	CONTROLLER P.C.B.	55	92113	1	SWITCH S.P.S.T.- (FUEL PUMP)
21	10-74260	1	STARTER CABLE	56	75210-A	1	TERMINAL BLOCK
22	22129	2	5/16 LOCK WASHER	57	23365	1	M4 SHAKEPROOF WASHER
23	22259	2	5/16-18 HEX NUT	58	51715	1	M4-0.7 HEX NUT
24	86316	1	PANEL SHEET METAL	59	90157	1	DECAL, CB RATING 30A.
25	53650	1	4-PIN CONNECTOR	62	31791	1	CLAMP, CABLE
26	20757	1	CONNECTOR	63	23897	1	M5 FLAT WASHER
27	75244	1	REMOTE HARNESS	64	74908	1	M5 x 10 LONG TAPTITE
28	66886	2	M6-1.0 x 12MM CAPSCREW	65	23484-S	1	BUSHING
29	86729	1	STARTER CONTACTOR	66	75763A	1	BOOT, BATTERY CABLE
30	75476	4	M4-0.7 x 16 LG. CAPSCREW				
31	22264	4	M4 LOCK WASHER				
32	38077	1	CIRCUIT BREAKER 15A.				
33	90987	2	M3-0.5 x 15 LG. CAPSCREW				
34	86317	1	PANEL SUPPORT BRACKET				
35	75235	4	M5-0.8 x 30 LG. CAPSCREW				

EXPLODED VIEW — CARBURETOR

DRAWING NO. A4029



Industrial Mobile Generator

EXPLODED VIEW — CARBURETOR

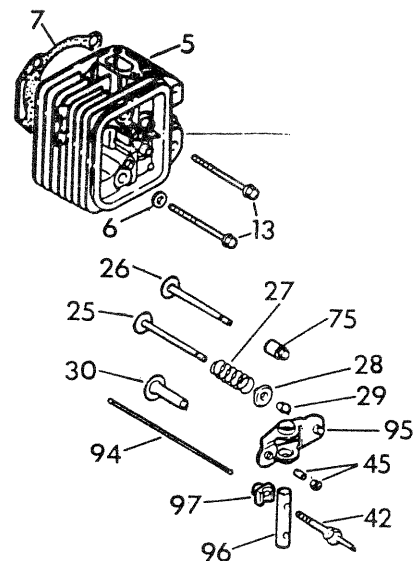
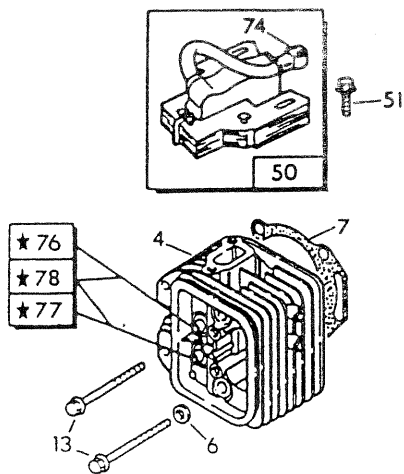
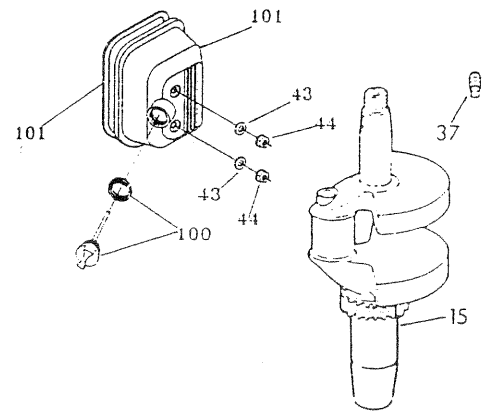
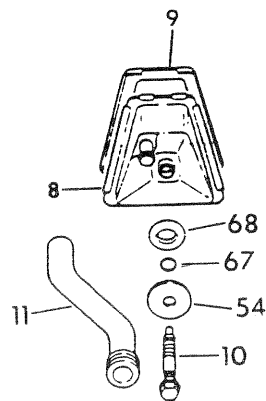
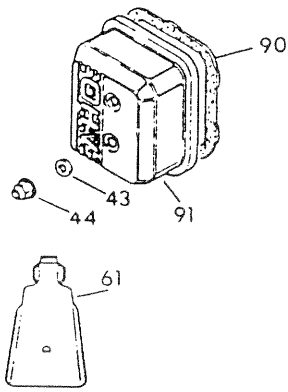
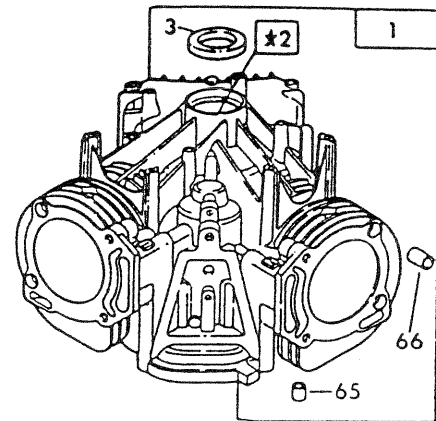
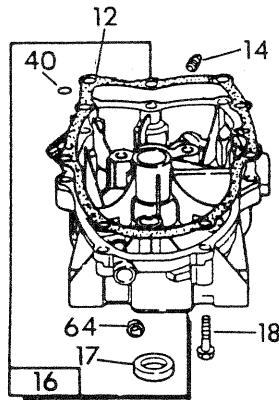
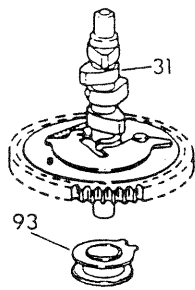
DRAWING NO. A4029

ITEM	PART NO.	QTY.	DESCRIPTION
1	A1662A	1	CARB. V-TWIN L/P
2	57822	2	HOSE CLAMP
3	74994	1	1/2" I.D. x 10" LONG HOSE
4	26307	4	STREET ELBOWS
5	26915	1	3/4" PIPE NIPPLE
6	75211	1	GASEOUS FUEL REG.
7	A2666	1	GASEOUS FUEL SOLENOID
8	78864	1	REG. MNT. BRACKET
9	49813	4	M6 HEX NUT
10	22097	4	M6 LOCK WASHER
11	47411	2	M6-1.00 x 16MM HEX HD. CAPSCR.
12	38750	2	M6-1.00 x 30MM HEX HD. CAPSCR.
13	37398	1	HEX LOCK NUT (NYLON)
14	74961	1	GOV. ADJUSTER BRACKET
15	56893	5	NO. 10-24 x 1/2" SCREW
16	47227	1	GOV. ADJUSTER SCREW
17	74962-C	1	GOVERNOR SPRING
18	66476	2	M6-1.0 x 12MM HEX SCREW W/LOCKWASHER
19	81378-B	1	AIR CLNR. DECAL-IM-72-LPG
	91351	1	AIR CLNR DECAL-NP-66-LPG
	91352	1	AIR CLEANER DECAL-Q-55
	91352-A	1	AIR CLEANER DECAL-Q-70
20	75944	1	GOV. SPRING BRACKET
21	73130	1	FLYWHEEL ASSEMBLY
22	70155	1	GOVERNOR LEVER
23	76242	2	1/8" I.D. x 1/8" RIVET
24	70125	1	ANTI-LASH SPRING
25	70108	1	GOV.-TO-CARB. ROD
+	28739	4	4" LONG TIE WRAP
+	55162	9cc	PIPE SEALANT
27	70103	1	AIR CLEANER SUPPORT BRACKET
28	61696	1	BARBED 90 DEG. 3/8" x 1/2"

+ NOT SHOWN

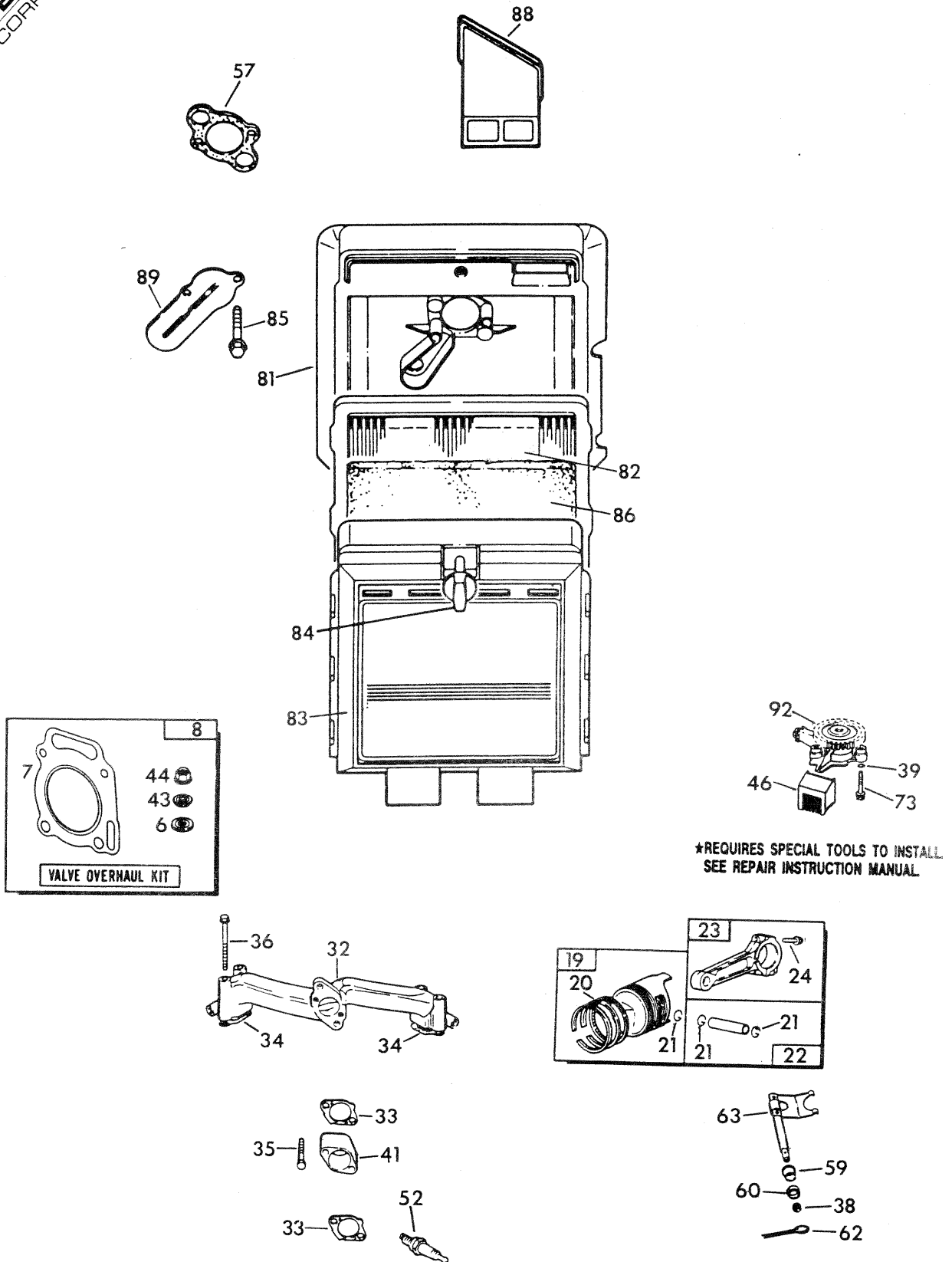
EXPLODED VIEW — V-TWIN ENGINE PARTS

DRAWING NO. 79216



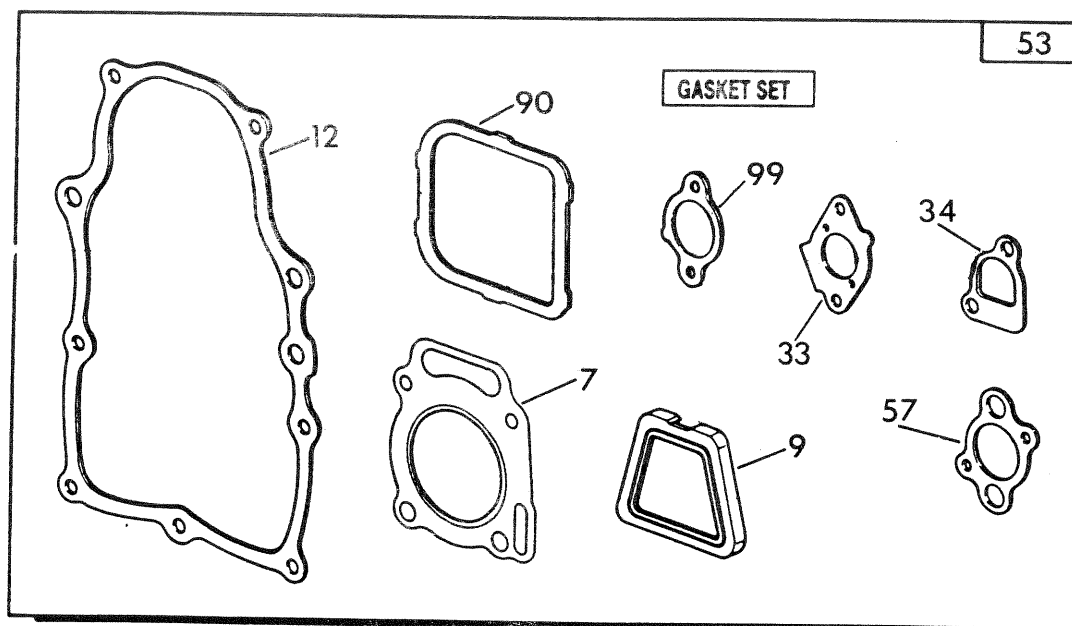
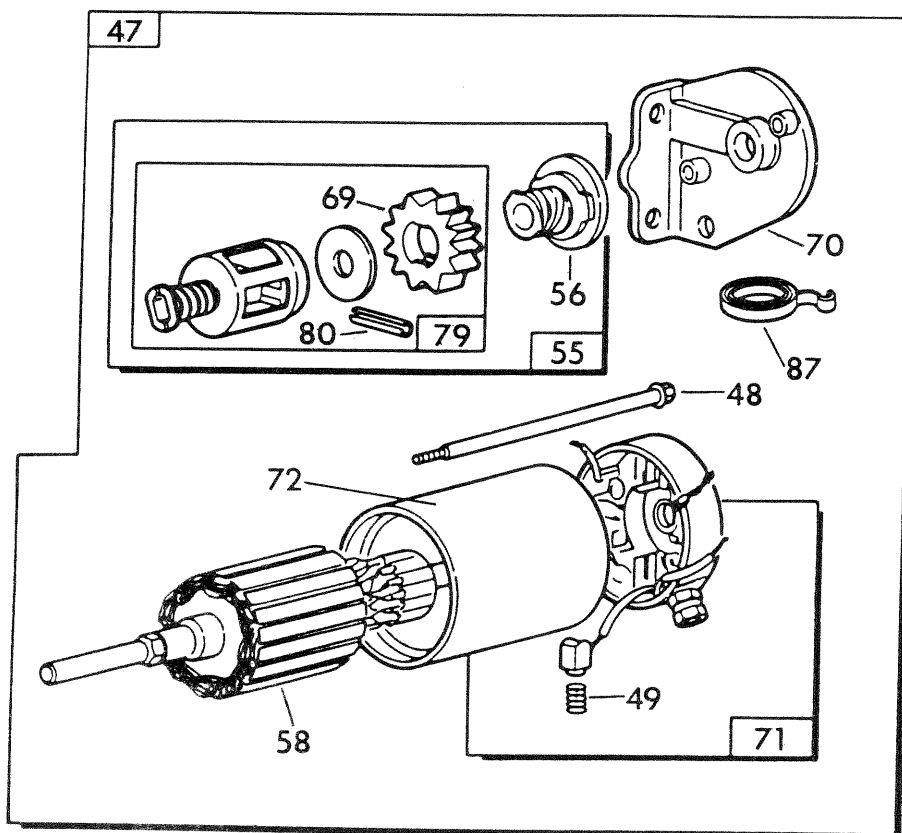
EXPLODED VIEW — V-TWIN ENGINE PARTS

DRAWING NO. 79216



EXPLODED VIEW — V-TWIN ENGINE PARTS

DRAWING NO. 79216



REPAIR PARTS — V-TWIN ENGINE PARTS

DRAWING NO. 79216

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	DESCRIPTION	PART NO.	QTY.
1	69331	1	CYLINDER ASSEMBLY	52	72347	2	SPARK PLUG-CHAMPION R12YC
2	69333	1	SLEEVE BEARING-30 DIA.	53	75258	1	GASKET KIT-ENGINE
3	67805	1	OIL SEAL-30 DIAMETER	54	75259	1	WASHER, BREATHER SCRW
4	79234	1	CYL. HEAD ASSEM.-NO. 1	55	75260	1	STARTER DRIVE ASSEMBLY
5	79235	1	CYL. HEAD ASSEM.-NO. 2	56	75261	1	CLUTCH ASSEMBLY
6	70169	4	SEALING WASHER	57	66480	1	GASKET, AIR CLEANER
7	69332	2	GASKET-CYLINDER HEAD	58	75269	1	ARMATURE ASSEMBLY
8	72301	1	BREATHER ASSEMBLY	59	72361	1	BUSHING, GOV. SHAFT
9	72315	1	GASKET, BREATHER	60	72362	1	BUSHING, GOV. SHAFT
10	70190	1	SCREW, BREATHER	61	70199	1	BAFFLE, BREATHER
11	70596	1	TUBE, BREATHER	62	72366	1	COTTER PIN
12	69336	1	GASKET, OIL SUMP	63	72367	1	GOVERNOR FORK
13	69325	8	BOLT, CYLINDER HEAD	64	72365	1	WASHER, GOV. SHAFT
14	67888	2	PLUG, OIL DRAIN-3/8" NPT	65	68555	2	DOWEL, CRANKCASE
15	72334	1	CRANK SHAFT ASSEMBLY	66	67806	4	DOWEL, CYLINDER HEAD
16	75247	1	OIL SUMP ASSEMBLY	67	75262	1	SEAL, BREATHER SCREW
17	67924	1	OIL SEAL-35 DIAMETER	68	75263	1	SEAL, BREATHER SCREW
18	67878	9	BOLT, OIL SUMP	69	75264	1	STARTER GEAR
19	75248	2	PISTON ASSY.-STANDARD	70	75265	1	STARTER END CAP ASSY.
20	75249	2	RING SET- PISTON- STANDARD	71	75266	1	COMMUTATOR CAP ASSY.
21	69327	4	LOCKING RING, PISTON	72	75267	1	STARTER HOUSING ASSY.
22	75250	2	PISTON PIN-STANDARD	73	68572	2	SCREW, OIL PUMP
23	75251	2	CONNECTING ROD ASSY.	74	75272	2	TERMINAL, SPARK PLUG
24	72346	4	BOLT, CONNECTING ROD	75	70122	2	SEAL, VALVE STEM
25	69316	2	EXHAUST VALVE	76	67910	2	SEAT, INTAKE VALVE
26	69317	2	INTAKE VALVE	77	67911	2	SEAT, EXHAUST VALVE
27	67816	4	VALVE SPRING	78	67813	4	VALVE, GUIDE
28	69320	4	RETAINER, VALVE SPRING	79	75268	1	RETAINER AND PIN
29	70513	4	KEEPER, VALVE	80	75270	1	ROLL PIN
30	70584	4	TAPPET, VALVE	81	70592	1	AIR CLEANER BASE
31	70530	1	CAMSHAFT ASSEMBLY	82	73123	1	AIR FILTER (FLAME RETARDENT)
32	72358	1	INTAKE MANIFOLD	83	70593	1	COVER, AIR CLEANER
33	69379	2	GASKET, CARB. MNTG.	84	72300	1	SCREW, AIR CLNR. COVER
34	67895	2	GASKET, INTAKE MANIFOLD	85	67156	2	SCREW, AIR CLEANER BASE
35	70594	2	BOLT, CARBURETOR MNTG.	86	69341	1	PRE-FILTER
36	67158	4	BOLT, INTAKE MANFLD. MNT.	87	80011	1	SPRING, BRUSH SET
37	68574	1	PIPE-PLUG, 1/8" NPT	88	70597	1	TUBE, AIR INLET
38	68554	1	SEAL, GOVERNOR SHAFT	89	69358	1	DEFLECTOR-BREATHER
39	68573	1	O-RING, OIL PUMP	90	67920	2	GASKET, VALVE COVER
40	70506	1	O-RING, OIL GALLEY	91	69328	1	ROCKER ARM COVER
41	70554	1	SPACER, CARBURETOR	92	70547	1	OIL PUMP ASSEMBLY
42	70568	4	STUD, ROCKER ARM	93	70536	1	GOVERNOR SLIDER
43	75253	4	SEAL, WASHER-VALVE CVR.	94	70577	4	PUSH ROD
44	67885	4	NUT, NYLOK-M6	95	70599	4	ROCKER ARM ASSEMBLY
45	75254	4	SCREW, VALVE ADJUST	96	70567	2	SHAFT-ROCKER ARM
46	70535	1	SCREEN, OIL	97	70566	4	SUPPORT, ROCKER ARM
47	75255	1	STARTER MOTOR	98	75271	1	KIT-VALVE OVERHAUL
48	75256	2	BOLT, STARTER MOTOR	99	67897	2	GASKET, EXHAUST
49	75257	4	BRUSH ASSEMBLY	100	91481	1	GASKET & CAP ASSEMBLY
50	67891	1	IGNITION ARMATURE ASSY.	101	91480	1	ROCKER ARM COVER
51	72356	2	SCREW, IGNITION ARMATURE				

CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board ("CARB") and Generac Corporation are pleased to explain the Emission Control System Warranty on your new Industrial Mobile Generator engine. In California, new Industrial Mobile Generator must be designed, built and equipped to meet the State's stringent anti-smog standards. Generac Corporation will warrant the emission control system on your Industrial Mobile Generator for the periods of time listed below provided there has been no abuse, neglect, unapproved modification, or improper maintenance of your Industrial Mobile Generator engine.

Your emission control system may include parts such as the carburetor, ignition system and exhaust system. Also included may be the compression release system and other emission-related assemblies.

Where a warrantable condition exists, Generac Corporation will repair your Industrial Mobile Generator engine at no cost to you for diagnosis, parts and labor.

MANUFACTURER'S EMISSION CONTROL SYSTEM WARRANTY COVERAGE:

Emissions control systems on 1995 and later model year Industrial Mobile Generator are warranted for two years as hereinafter noted. If, during such warranty period, any emission-related part on your engine is defective in materials or workmanship, the part will be repaired or replaced by Generac Corporation.

OWNER'S WARRANTY RESPONSIBILITIES:

As the Industrial Mobile Generator engine owner, you are responsible for the performance of the required maintenance listed in your owners manual. Generac Corporation recommends that you retain all receipts covering maintenance on your Industrial Mobile Generator engine, but Generac Corporation will not deny warranty solely due to the lack of receipts or for your failure to provide written evidence of the performance of all scheduled maintenance.

As the Industrial Mobile Generator engine owner, you should, however, be aware that Generac Corporation may deny you warranty coverage if your Industrial Mobile Generator engine or a part thereof has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your Industrial Mobile Generator engine to a Generac Corporation Authorized Service Outlet as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

Warranty service can be arranged by contacting either a Generac Corporation Authorized Service Outlet or by contacting Generac Corporation at:

GENERAC CORPORATION PH: (414) 544-4811
P.O. BOX 8 FX: (414) 544-0179
WAUKESHA, WI 53187

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

Warranty service can only be performed by a Generac Corporation Authorized Service Outlet. At the time of requesting warranty service, evidence must be presented of the date of the sale to the original purchaser. The purchaser shall pay any charges for making service calls and/or for transporting the products to and from the place where the inspection and/or warranty work is performed. The purchaser shall be responsible for any damage or loss incurred in connection with the transportation of any engine or any part(s) thereof submitted for inspection and/or warranty work.

EMISSION CONTROL SYSTEM WARRANTY

Emission Control System Warranty ("ECS Warranty") for 1995 and Later Model Year Industrial Mobile Generator:

- A. Applicability: This warranty shall apply to 1995 and later model year Industrial Mobile Generator. The ECS Warranty Period ("ECS Warranty Period") shall begin on the date the new engine or equipment is delivered to its original, end-use purchaser and shall continue for 24 consecutive months thereafter.
- B. General Emissions Warranty Coverage: Generac Corporation warrants to the original, end-use purchaser of the new engine or equipment and to each subsequent purchaser that each of its Industrial Mobile Generator is:
1. Designed, built and equipped so as to conform with all applicable regulations adopted by the Air Resources Board pursuant to its authority, and
 2. Free from defects in materials and workmanship which, at any time during the ECS Warranty Period, will cause a warranted emissions - related part to fail to be identical in all material respects to the part as described in the engine manufacturer's application for certification.
- C. The ECS Warranty only pertains to emissions-related parts on your engine, as follows:
1. Any warranted, emissions-related parts which are not scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the ECS Warranty Period. If any such part fails during the ECS Warranty Period, it shall be repaired or replaced by Generac Corporation according to Subsection (4) below. Any such part repaired or replaced under the ECS Warranty shall be warranted for any remainder of the ECS Warranty Period.
 2. Any warranted, emissions-related part which is scheduled only for regular inspection as specified in the Owner's Manual shall be warranted for the ECS Warranty Period. A statement in such written instructions to the effect of "repair or replace as necessary" shall not reduce the ECS Warranty Period. Any such part repaired or replaced under the ECS Warranty shall be warranted for any remainder of the ECS Warranty Period.
 3. Any warranted, emissions-related part which is scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the period of time prior to first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part shall be repaired or replaced by Generac Corporation according to Subsection (4) below. Any such emissions-related part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period prior to the first scheduled replacement point for such emissions-related part.
 4. Repair or Replacement of any warranted, emissions-related part under this ECS Warranty shall be performed at no charge to the owner at a Generac Corporation Authorized Service Outlet.
 5. The owner shall not be charged for diagnostic labor which leads to the determination that a part covered by the ECS Warranty is in fact defective, provided that such diagnostic work is performed at a Generac Corporation Authorized Service Outlet.
 6. Generac Corporation shall be liable for damages to other original engine components or approved modifications proximately caused by a failure under warranty of any emission-related part covered by the ECS Warranty.
 7. Throughout the ECS Warranty Period, Generac shall maintain a supply of warranted emission-related parts sufficient to meet the expected demand for such emission-related parts.
 8. Any Generac Corporation authorized and approved emission-related replacement part may be used in the performance of any ECS warranty maintenance or repairs and will be provided without charge to the owner. Such use shall not reduce Generac Corporation ECS warranty obligations.
 9. Unapproved add-on modified parts may not be used to modify or repair a Generac Corporation engine. Such use voids this ECS Warranty and shall be sufficient grounds for disallowing an ECS Warranty claim. Generac Corporation shall not be liable hereunder for failures of any warranted parts of a Generac Corporation engine caused by the use of such an unapproved add-on or modified part.

EMISSION RELATED PARTS INCLUDE THE FOLLOWING:

1. Fuel Metering System
 - a. Gasoline carburetor assembly (if so equipped)
 - 1) Fuel Filter (if so equipped)
 - 2) Carburetor gaskets
 - 3) Fuel pump
 - b. LP/Natural gas carburetion assembly
 - 1) Fuel controller
 - 2) Mixer and its gaskets (if so equipped)
 - 3) Carburetor and its gaskets (if so equipped)
 - 4) Primary gas regulator (if so equipped)
 - 5) LP liquid vaporized (if so equipped)
2. Air cleaner assembly
 - a. Air filter element
 - b. Intake pipe
3. Ignition system including:
 - a. Spark plug
 - b. Ignition module
4. Catalytic muffler (if so equipped)
 - a. Muffler gasket (if so equipped)
 - b. Exhaust manifold (if so equipped)
5. Crankcase breather assembly and its components.
 - a. Breather connection tube



Generac's One-Year Limited Warranty For Industrial Mobile Generators

Generac warrants to the original purchaser that its generators will be free from defects in materials or workmanship for the period set forth below from the date of original purchase. During said warranty period, Generac will, at its option, repair or replace any part which, upon examination by Generac or Generac Authorized Distributors and/or Dealers, is found to be defective under normal use and service.

ONE-YEAR WARRANTY SCHEDULE

1. All IM Series generators used in an industrial vehicle shall be warranted from date of purchase for a period of one (1) year or 2,000 hours of operation, whichever occurs first. All parts, labor, removal and reinstallation shall be covered during this period.
2. The drive train belt and pulleys on IM air-cooled generators shall be warranted against failure due to defective materials or normal usage for the life of the generator. For the original owner, this drive train warranty shall include parts and labor plus \$50.00 payment upon return of the failed belt or pulley parts only.

All warranty expense allowances are subject to the conditions defined in the "PUBLISHED GENERAC POLICIES AND PROCEDURES" manual.

THIS WARRANTY DOES NOT COVER:

- Costs of maintenance, installation, and start-up.
- Failures due to normal wear and tear, accident, misuse, abuse, negligence or improper installation.
- Products which are modified or altered in a manner not authorized by the manufacturer in writing.
- Any incidental, consequential or indirect damages caused by defects in materials or workmanship, or any delay in repair or replacement of defective parts.
- Failure due to misapplication.
- Telephone, telegraph, teletype or other communication expense.
- Living or travel expenses of persons performing service.
- Any and all transportation/travel expenses.
- Rental equipment used while warranty repairs are being performed.
- Overtime labor.
- Starting batteries, fuses, light bulbs, and engine fluids.

There is no other express warranty. Generac hereby disclaims any and all implied warranties, including but not limited to those of merchantability and fitness for a particular purpose to the extent permitted by law. The duration of any implied warranties which cannot be disclaimed is limited to the time period (one year) as specified in the express warranty. Liability for consequential, incidental or special damages under any and all warranties is excluded to the extent permitted by law. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

For service, see your nearest Generac authorized warranty service facility or call 1-800-333-1322. Warranty service can be performed only by a Generac authorized service facility. This warranty will not apply to service at any other facility. At the time of requesting warranty service, evidence of original purchase date must be presented.

Generac Corporation

P.O. Box 8 Waukesha, WI 53187 Telephone: (414) 544-4811 Fax: (414) 544-4851