Manual Part No. 79210

OWNER'S MANUAL

NP52G, NP66G and NP72G

AIR-COOLED RECREATIONAL VEHICLE GENERATORS

GENERAC
CORPORATION

Revision 0 (3/19/90)

Printed in U.S.A.

GENERAL SAFETY RULES

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

Study these SAFETY RULES carefully before operating or servicing the applicable equipment. Become familiar with this Owner's Manual and with your RV generator. Safe, efficient and reliable operation can only be obtained if the generator is properly installed, operated and maintained. Many accidents are caused by failing to follow simple and fundamental rules or precautions. Generac suggests that these GENERAL SAFETY RULES 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.

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 technqiue that you chose does not render the generator to be unsafe.

- For fire safety, the recreational vehicle must be properly installed and maintained. Installation must always remain in compliance with (1) ARTICLE 551, ANSI C1-1975 AND (2) ANSI A119.2-1975/NFPA 501C-1974, STANDARD FOR RECREATIONAL VEHICLES, PART III, INSTALLATION OF ELECTRICAL SYSTEMS. In addition, the generator must be installed in comformance to the manufacturer's detailed installation instructions. Following installation, nothing must be done that might render the generator in noncompliance with such codes, standards and instructions.
- The RV 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.
- The generator must have been properly grounded (bonded) during installation into 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.
- In case of accident caused by electric shock, shut down the source of electrical power down 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 CPR (cardiopulmonary resuscitation) and get medical help.
- Inspect fuel system frequently for leaks or damage. Repair or replace any damage 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. Have the exhaust system 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 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, coolant leakage, etc.
- Do not smoke around the generator. Wipe up any fuel, oil and coolant 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 ventillation is required to expel toxic fumes and gasoline vapors from the generator compartment. Do not alter the installation of this equipment in any manner that might obstruct air and ventillation openings. Such openings must be kept clear and unobstructed.
- 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.
- 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.
- Inspect the generator periodically. Repair or replace all damaged or defective parts immediately.
- 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.

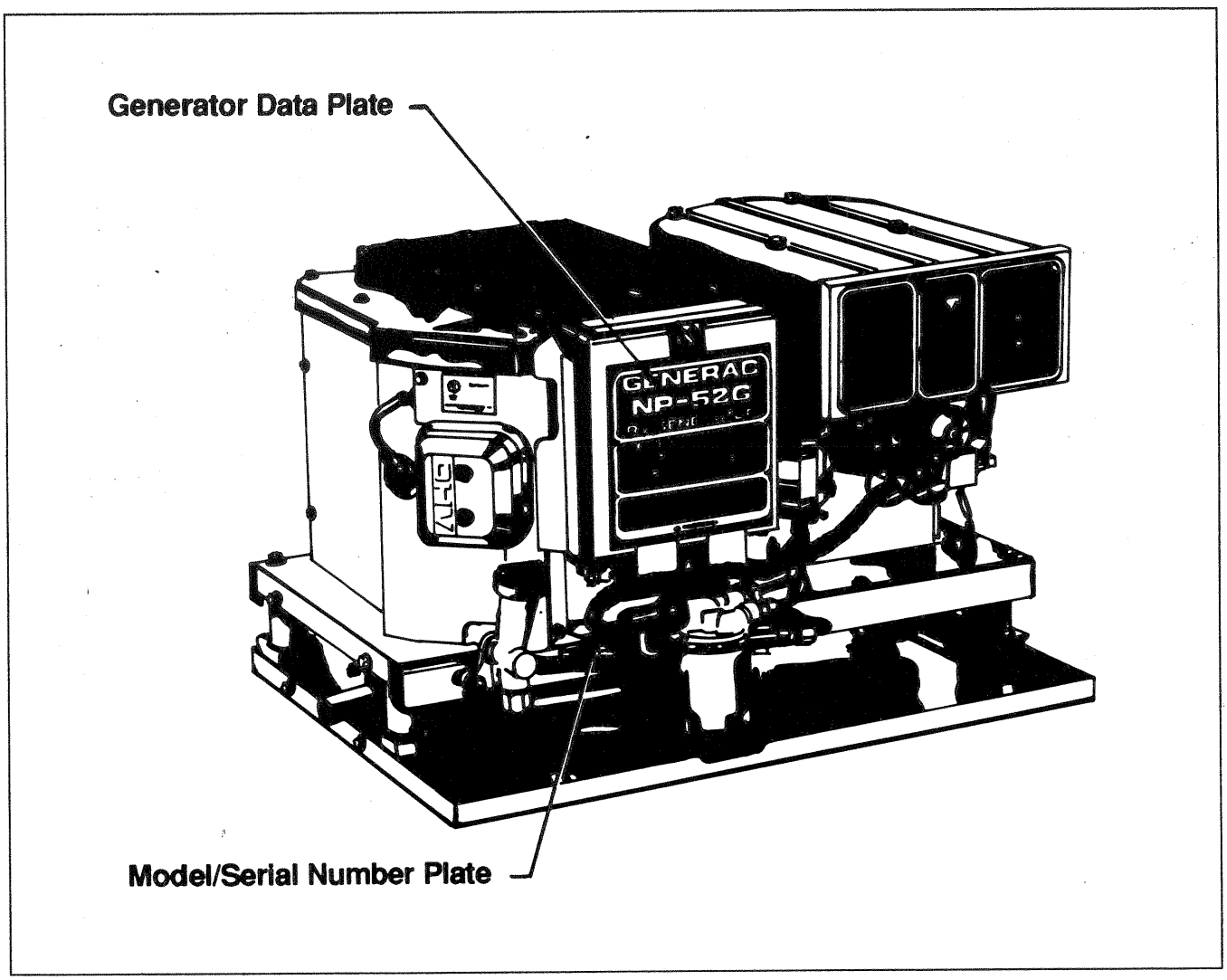
IDENTIFICATION RECORD

Please record the following information. This information can be found on the Model/Serial Number Plate and on the Generator Data Plate, affixed to your generator.

Model Number_____ **Serial Number**_____

Rated kW_____ **Rated Volts**_____

Rated Hertz_____ **Rated RPM**_____



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HOW TO OBTAIN SERVICE

If your RV generator requires servicing or repairs, simply contact an Authorized Generac Service Facility for assistance. Generac factory trained service technicians are capable of handling all your service needs. The "Listing of Generac Authorized Service Facilities", shipped with your generator, lists the Generac representative nearest you.

The WARRANTY on your generator, as well as REPAIR PARTS listings, are included in this Manual.

When contacting an Authorized Service Facility or the factory about parts and service, always supply the complete Model and Serial Number as given on the Model/Serial Number plate (see "Identification Record" on Page 1).

GENERATOR APPLICABILITY

NP52G, NP66G, and NP72G generators have been designed and manufactured for the purpose of supplying electrical power for recreational vehicles. You should not modify the generator or use it for any application other than for what is 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 competent authority.

⚠ DANGER!: FOR FIRE SAFETY, THE GENERATOR MUST HAVE BEEN PROPERLY INSTALLED IN COMPLIANCE WITH (1) ARTICLE 551, ANSI C1-1975, AND (2) ANSI 119.2-1975/NFPA 501C-1974 "STANDARD FOR RECREATIONAL VEHICLES," PART III, "INSTALLATION OF ELECTRICAL SYSTEMS." THE GENERATOR ALSO MUST HAVE BEEN INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S DETAILED INSTALLATION INSTRUCTIONS. FOLLOWING INSTALLATION, NOTHING MUST BE DONE THAT MIGHT RENDER THE UNIT IN NON-COMPLIANCE WITH SUCH CODES, STANDARDS AND INSTRUCTIONS.

You can use this generator set to supply electrical power for operating the following electrical loads:

- 120 and/or 240 volts, single phase, 60 Hz, a-c electrical loads requiring up to 5200 watts (5.2 kW) of power. Those electrical loads cannot exceed up to 43.3 a-c amperes of current at 120 volts, or 21.6 a-c amperes at 240 volts (NP52G).
- 120 and/or 240 volts, single phase, 60 Hz, a-c electrical loads requiring up to 6600 watts (6.6 kW) of power. Those electrical loads cannot exceed up to 55 a-c amperes of current at 120 volts, or 27.5 a-c amperes at 240 volts (NP66G).
- 120 and/or 240 volts, single phase, 60 Hz, a-c electrical loads requiring up to 7200 watts (7.2 kW) of power. Those electrical loads cannot exceed up to 60 a-c amperes of current at 120 volts, or 30 a-c amperes at 240 volts (NP72G).

CAUTION!: Do not overload generator. Some installations may require that electrical loads be alternated to prevent overloading. Applying excessively high electrical loads may damage the generatoror 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 obtains watts (volts x amps = watts). Some electric motors may 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 a recreational vehicle. We also assume the installer complied with all applicable codes, standards and regulations pertaining to installation.

An INSTALLATION MANUAL was shipped with the generator. That Manual contains manufacturer's instructions and recommendations for installing the unit into a recreational vehicle. Following installation, installers should forward the Installation Manual to Owners/Operators for their information.

Owners/Operators have the responsibility to make sure that nothing is to be done that might render the installation unsafe or in noncompliance with applicable codes, standards and instructions.

SAFETY

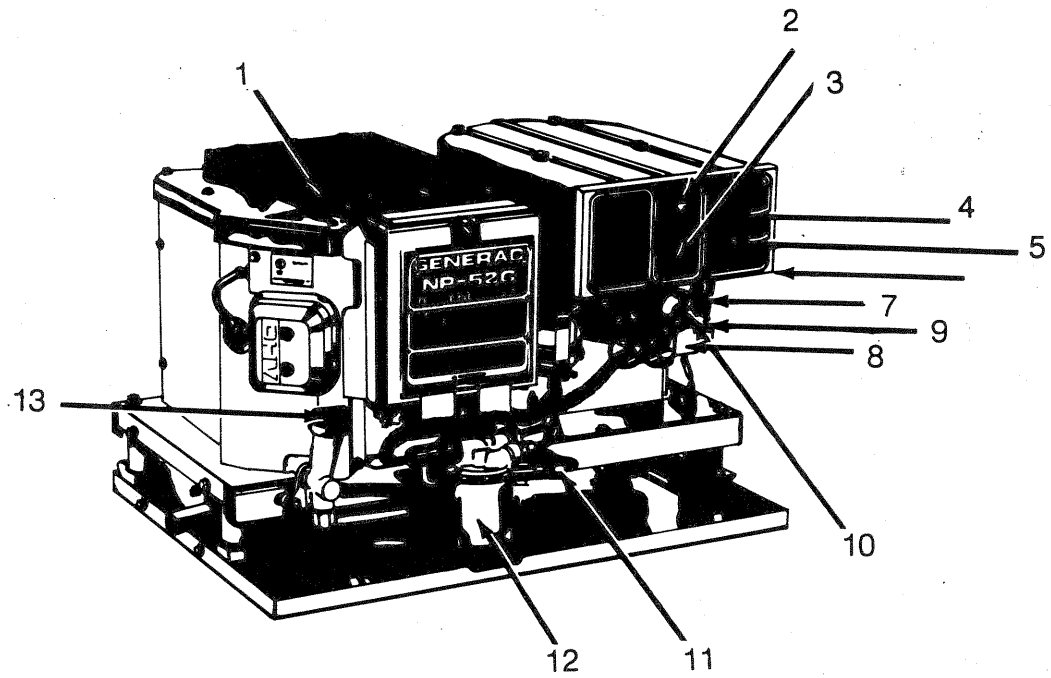
Before attempting to use the generator set, carefully read GENERAL SAFETY RULES inside the cover of this Manual. Comply stricly with these RULES to prevent accidents and damage to equipment and/or property. Generac suggests that copying and posting GENERAL SAFETY RULES in potential hazard areas of the vehicle. Stress safety to all operators and potential operators of this equipment.

GENERATOR A-C CONNECTION SYSTEM

These air-cooled NP Series generator sets are equipped with dual Stator a-c power windings. These two stator windings supply electrical power to customer electrical loads by means of a dual 2-wire connection system.

The generator may have been installed so that units only power 120 volts a-c loads; or you can wire them to connect both 120 and/or 240 volts a-c electrical loads Be sure to to remove jumper between the circuit breakers when connecting for 120/240 volts.

GENERATOR FEATURES



REFERENCE NUMBER IDENTIFICATION

1. Generator Air Intake Screen
2. Engine Start/Stop Switch
3. 15 amp Fuse
4. 20 or 30 Amp Circuit Breaker
5. 30 Amp Circuit Breaker
6. Optional Remote Panel Receptacle
7. Generator a-c Output Leads
8. Fuel Pump
9. Customer Fuel Supply Connection
10. Starter Contactor
11. Oil Drain Hose
12. Oil Filter
13. Oil Dipstick and Filler Tube

GENERATOR CONTROL PANEL

The generator control panel (Figure 1) has the following features mounted on 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, hold the switch at its STOP position until engine comes to a complete stop. The switch center position is the RUN position.
- **15 Amp Fuse:** Protects the engine d-c 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 15 amp replacement fuse.
- **Line Breakers:** Protects the generator's a-c output circuit against overload, i.e., prevents the unit from exceeding its wattage/amperage capacity. Figure 1 shows the Series NP52G panel with one 20 amp and one 30 amp line breaker.

NOTE: If the Series NP52G, NP66G and NP72G units have been reconnected for dual voltage a-c output (120/240 volts), you can install line breakers having an amperage rating that is different than stated above. The replacement line breakers consist of two separate breakers with a connecting piece between the breaker handles (so that both breakers will operate at the same time). If the unit is reconnected for dual voltage, it is no longer RVIA listed.

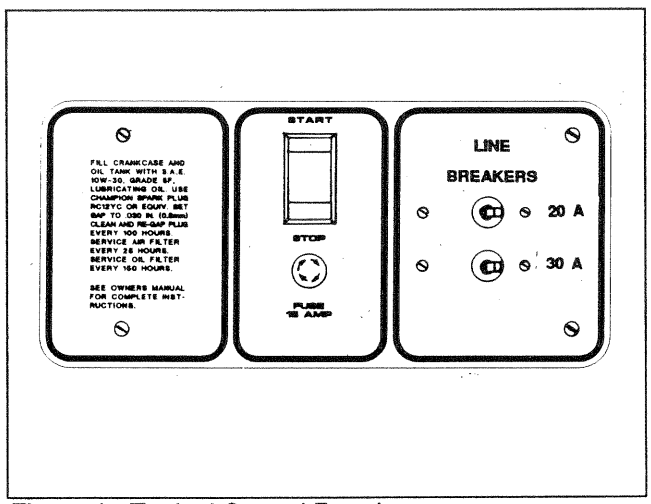


Figure 1. Typical Control Panel

OPTIONAL REMOTE START/STOP PANEL

Optional remote mounted panels are available which permit the generator to be cranked and started from any convenient location in the vehicle. Figure 2 shows the Model 9042 remote panel which includes (a) a start/stop switch and (b) a generator run lamp.

You can also order an Model 9043 remote panel which includes the (a) start/stop switch, (b) generator run lamp and (c) an hourmeter. The hourmeter provides a continuous indication of engine-generator operating time. Use the hourmeter for checking off periodic maintenance requirements on the unit.

To crank and start the generator engine, hold the panel's start/stop switch at START. Release the switch when the engine run lamp illuminates. To shut down the engine, set the start/stop switch to STOP.

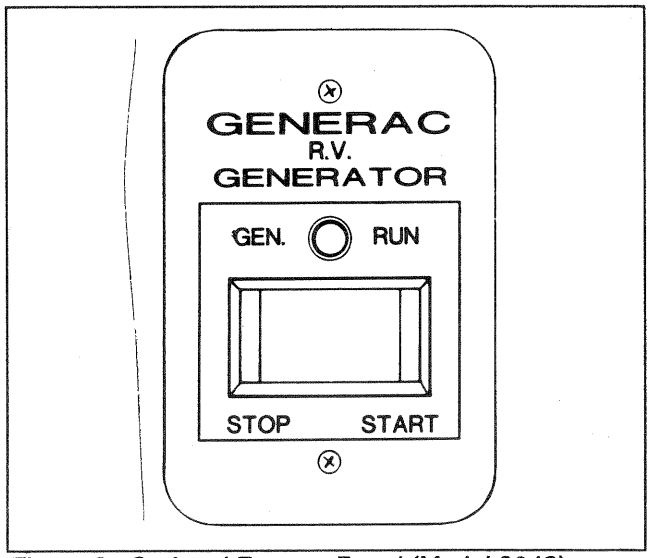


Figure 2. Optional Remote Panel (Model 9042)

AUTOMATIC CHOKE

The engine is equipped with an automatic coke. During engine cranking (start/stop switch at START), a solid state choke module signals the choke solenoid to actuate at a cyclic rate dependent on ambient temperature. The choke solenoid thus opens and closes the carburetor choke valve only when the engine is cranking. When you start it and when you release the start/stop switch, choke action stops. As the engine warms up, the carburetor choke valve then opens gradually.

BEFORE STARTING THE ENGINE

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

- **Installation:** Generator installation must have been properly completed in strict compliance with all applicable codes, standards and regulations and with the manufacturer's recommendations.
- **Engine Lubrication:** The engine crankcase must be properly serviced with the recommended oil prior to startup. 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 will result in an engine failure.

- **Fuel Supply:** An adequate supply of the proper fuel must be available for engine operation. Prior to starting, check that (a) sufficient fuel is available and (b) all fuel shutoff valves to the fuel supply system have been opened.

NOTE: On some installations, the generator engine may "share" the vehicle's gasoline fuel tank with the vehicle engine. Some installations may provide separate fuel tanks for the generator and the vehicle engine. On other installations, the generator may be equipped with an LP gas (propane) fuel system. Refer to "Specifications" section.

- **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 shut down or damages the generator or vehicle.
- **Engine Exhaust Gases:** Before starting the generator engine, you should make 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) VOMITTING, (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.

STARTUP

IMPORTANT: Be sure to read the vehicle manufacturer's instructions. The owner/operator should become familiar with the vehicle in which this generator is installed. Differences may exist between vehicles. For example, some vehicles may utilize a transfer switch to isolate dockside power from the generator, while other vehicles may use an isolating receptacle. Some vehicles may be equipped with a d-c converter which allows the generator to power certain d-c lighting and other d-c loads.

To crank and start the generator engine, proceed as follows:

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

NOTE: If you start the engine with the start/stop switch on the generator control panel, turn off loads by setting the panel's main breakers to their "OFF" or "OPEN" positions. Electrical load circuits will be turned ON after the generator engine has stabilized and warmed up.

- To crank and start the engine, hold the start/stop switch at START. Release the switch when the engine starts.
- Let the engine run at no-load for a few minutes, to stabilize and warm up.
- Turn ON electrical loads, using whatever means provided (such as a main circuit breaker or transfer switch).

STOPPING THE GENERATOR

- Turn OFF all electrical loads, using whatever means provided (such as a main breaker or transfer switch).
- Let the generator run at no-load for a few minutes, to stabilize internal engine-generator temperatures.
- Hold start/stop switch at STOP until engine has come to complete stop.

APPLYING LOADS TO GENERATOR

When applying electrical loads to the generator, observe the following rules:

- Before applying electrical loads, let the generator stabilize and warm up for a minute or two.
- DO NOT overload the generator.

Letting the Engine Stabilize: The generator supplies correct rated frequency and voltage only at the proper governed speed. Some electrical appliances may be extremely sensitive to voltage and frequency. Incorrect frequencies and/or voltages can damage those appliances.

If electrical loads are applied at reduced operating speeds, such loads imposed on the engine when sufficient power is not available may shorten engine life. Never turn on electrical loads until after the generator engine has started and has stabilized ON-speed.

Do Not Overload the Generator: You can read the rated wattage/amperage capacity of your generator on the generator data plate (see "Identification Record" on Page 1).

Applying electrical loads in excess of the unit's rated capacity can burn out the unit and anything connected to it. Also, overloading trips main breakers.

To avoid overloading, add up the wattage of all connected electrical lighting, appliance, tool and motor loads. This total should not be greater than the generator's rated wattage capacity.

- Most lighting, appliance, tool and motor loads indicate their required watts on their nameplate or data plate. For light bulbs, simple note the wattage rating of the bulb.
- If a load does not show its rated wattage, multiply that load's rated VOLTS times AMPS to obtain WATTS.
- Induction type motors (such as those that run the vehicle's furnace fan, refrigerator, air conditioner, etc.) need about 2-1/2 times more watts of power for starting than for running (for a few seconds during motor startup). Be sure to allow for this when connecting electrical loads to the generator. First, figure the watts needed to start electric motors in the system. To that figure, add the running wattages of other items that will be operated by the generator.
- Do not apply heavy electrical loads for the first two to three hours of operation.

WATTAGE REFERENCE GUIDE

	RUNNING WATTS
*Air Conditioner (12,000 Btu)	1700
Battery Charger (20 amp)	500
Belt Sander (3")	1000
Chain Saw	1200
Circular Saw (6-1/2")	800 to 1000
Coffee Maker	1000
*Compressor (1 HP)	2000
*Compressor (3/4 HP)	1800
*Compressor (1/2 HP)	1400
Curling Iron	700
*Deep Freeze	500
Disc Sander (9")	1200
Edge Trimmer	500
Electric Nail Gun	1200
Electric Range (one element)	1500
Electric Skillet	1250
*Furnace Fan (1/3 HP)	1200
Hair Dryer	1200
Hand Drill (1")	1100
Hand Drill (1/2")	750 to 1000
Hand Drill (3/8")	500
Hand Drill (1/4")	250

	RUNNING WATTS
Hedge Trimmer	450
Impact Wrench	500
*Jet Pump	800
Lawn Mower	1200
Light Bulb	100
Microwave Oven	700
*Milk Cooler	1100
Oil Burner on Furnace	300
Oil Fired Space Heater (140,000 Btu)	400
Oil Fired Space Heater (85,000 Btu)	225
Oil Fired Space Heater (30,000 Btu)	150
*Paint Sprayer, Airless (1/3 HP)	600
Paint Sprayer, Airless (handheld)	150
Radio	50 to 200
*Refrigerator	600
Slow Cooker	200
*Table Saw (10")	1750 to 2000
Television	200 to 500
Weed Trimmer	500

* Allow 2-1/2 times the listed watts for starting these devices.

ADDITIONAL INFORMATION

This section discusses some of the engine protective devices, overload protection and breaking in a new generator.

LOW OIL PRESSURE SHUTDOWN

The generator engine has a low oil pressure switch (Figure 3). The switch has normally-closed (N.C.) contacts which are held open by engine oil pressure during cranking and running. Should engine oil pressure drop below about 2-6 psi, the switch contacts close and the engine automatically shuts down.

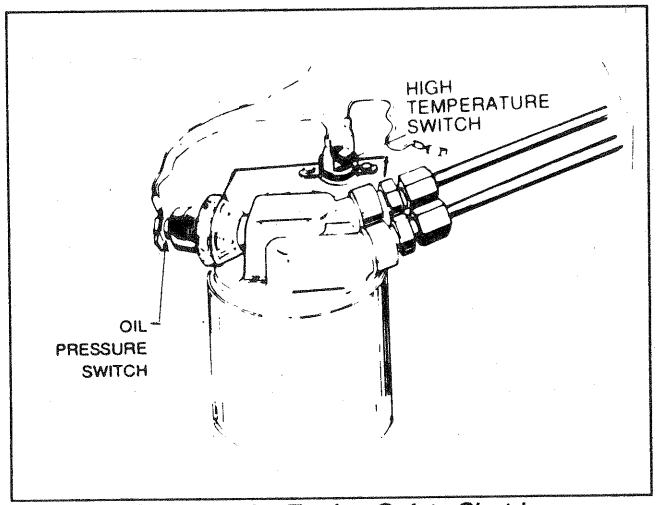


Figure 3. Switches for Engine Safety Shutdown

HIGH TEMPERATURE SHUTDOWN

An oil temperature switch (Figure 3) with normally-open (N.O.) contacts is mounted on the engine. Should engine oil temperature exceed about 284°F (140°C), the switch contacts close, effecting the engine to shut down automatically.

FIELD BOOST

The automatic choke module houses a field boost diode and resistor which are not part of the automatic choke circuit. These two components are part of a "field boost" circuit (Figure 4). During engine cranking only, a +d-c (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

The generator's a-c output voltage is regulated by a solid state voltage regulator, which supplies a regulated 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 regulated. When the a-c frequency is 60 Hz., voltage is regulated at 120 volts (voltage-to-frequency ratio of 2-to-1).

The voltage regulator also incorporates a "voltage surge protection circuit", which prevents troublesome surges in the generator a-c output voltage. Voltage surge is a common cause of damage to such electronics equipment as television sets, VCRs, microwaves, etc.

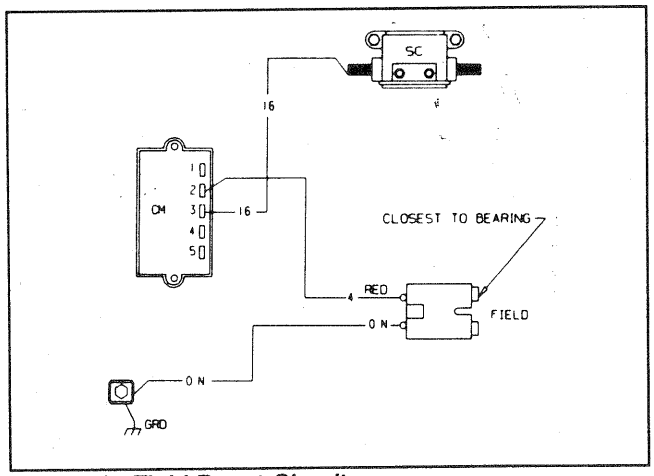


Figure 4. Field Boost Circuit

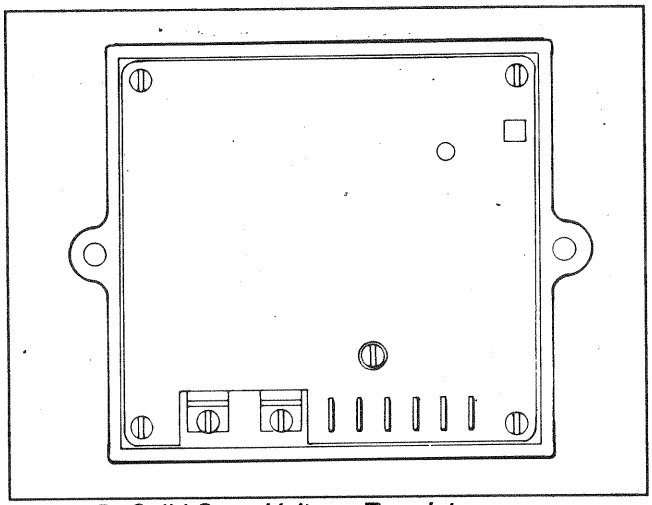


Figure 5. Solid State Voltage Regulator

25 HOUR BREAK IN PERIOD

The first 25 hours of operation on a new generator are the "break in" period. Correctly breaking in the generator is essential to minimize fuel consumption and maximum engine performance. During this 25-hour break in period, comply with the following:

- Run the unit at varying electrical loads, to help seat engine piston rings properly.
- For the 75 hour operating period following the break in period, avoid light electrical loads. Load the generator at 50% (or more) of its rated wattage capacity. Repeated light loads during the break in period can cause improper seating of engine piston rings, resultant blowby and high oil consumption.

During the break in period, check engine oil level frequently. It is normal for oil consumption to be high during breaking in period.

After the 25 hours of operation break in period, complete the tasks recommended under "25-Hour Check Up."

25-HOUR CHECK UP

After the 25-hour break in period, contact an authorized service facility for the following maintenance. The vehicle owner is responsible for any charges:

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

OPERATION IN HIGH GRASS OR BRUSH

Never operate the generator while the vehicle is parked in high grass, weeds, brush or leaves. Such materials can ignite and burn from the heat of the exhaust system. The generator exhaust system becomes extremely hot during operation and remains hot for a long time after it has shut down.

SPECIFICATIONS

FUEL REQUIREMENTS

"NP" series generators are furnished with a gasoline fuel system as standard equipment. Specific installations may provide either a separate fuel tank for the generator, or the generator may "share" the vehicle engine's fuel tank.

NOTE: Some installations using a "shared" fuel tank may have a generator fuel pickup tube that is shorter than the vehicle engine's pickup tube. Such an arrangement causes the generator engine to "run out of gas" while adequate fuel for the vehicle remains in the tank.

Use a high quality UNLEADED gasoline with the generator. Leaded REGULAR grade gasoline is an acceptable substitute.

NOTE: Using "Unleaded" gasoline contributes to longer engine valve life by reducing lead and carbon deposits.

CAUTION! Using any gasoline containing alcohol (such as "gasohol") is NOT recommended. If you use any gasoline containing alcohol, it must not contain more than 10% ethanol and it must be removed from the tank during storage. Do NOT use any gasoline containing methanol. If you use gasoline containing alcohol, you must inspect more frequently for fuel leaks and other abnormalities.

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 fill procedures.

OPTIONAL LP GAS FUEL SYSTEM

Some generators may be equipped with an optional LP gas (propane) fuel system (Kit Model 9051). LP gas (propane) is usually supplied as a liquid in pressure tanks (Figure 6).

NP series generators require a "vapor withdrawal" type fuel system. This type of gaseous fuel system utilizes 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, an independent heat source may be required to make sure the fuel sufficiently vaporizes in the storage tank.

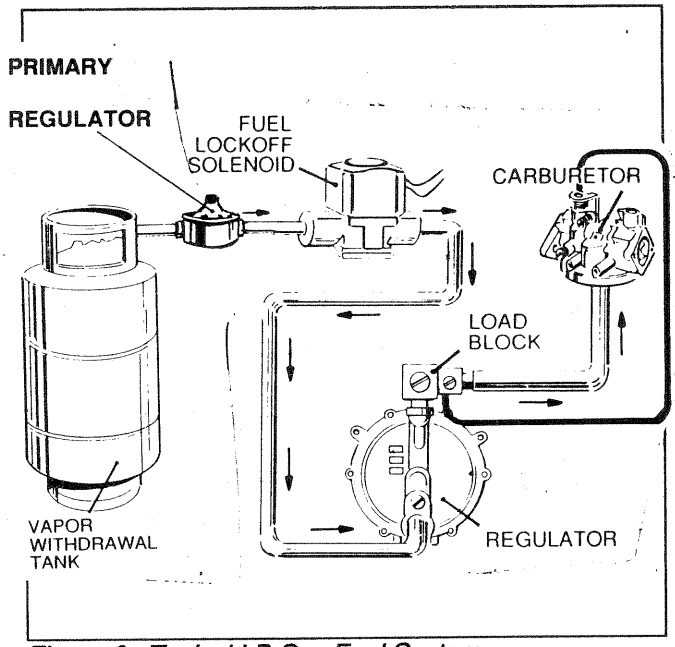


Figure 6. Typical LP Gas Fuel System

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.

GENERATOR SPECIFICATIONS

SERIES NP52G

Rated Maximum Continous a-c Power Output	5200 watts (5.2 kW)
Rated Voltage	120 volts a-c*
Rated Maximum Continuous Current at 120 Volts	43.3 a-c amperesΔ
Phase	Single Phase
Rated a-c Frequency	60 Hz.
No. of Rotor Poles	2
Driven Speed of Rotor	3600rpm

* All units are connectable to 120/240 volts (dual voltage) output. Units are not listed per RVIA/ANSI when reconnected for dual voltage output.

Δ Rated maximum continous current at 240 volts is 21.6 amperes.

SERIES NP66G

Rated Maximum Continous a-c Power Output	6600 watts (6.6 kW)
Rated Voltage	120 volts a-c*
Rated Maximum Continuous Current at 120 Volts	55 a-c amperesΔ
Phase	Single Phase
Rated a-c Frequency	60 Hz.
No. of Rotor Poles	2
Driven Speed of Rotor	3600rpm

* All units are connectable to 120/240 volts (dual voltage) output. Units are not listed per RVIA/ANSI when reconnected for dual voltage output.

Δ Rated maximum continuous current at 240 volts is 27.5 amperes.

SERIES NP72G

Rated Maximum Continous a-c Power Output	7200 watts (7.2 kW)
Rated Voltage	120 volts a-c*
Rated Maximum Continuous Current at 120 Volts	60 a-c amperesΔ
Phase	Single Phase
Rated a-c Frequency	60 Hz.
No. of Rotor Poles	2
Driven Speed of Rotor	3600rpm

* All units are connectable to 120/240 volts (dual voltage) output. Units are not listed per RVIA/ANSI when reconnected for dual voltage output.

Δ Rated maximum continuous current at 240 volts is 30 amperes.

Engine Specifications -- All Series

Type of Engine	Twin Cylinder
Cooling Method	Air-Cooled
Rated Horsepower	14 at 3000 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 Setting	
Series NP52G	2300 rpm
Series NP66G	2700 rpm
Series NP72G	2900 rpm
Air Cleaner	Paper element with foam pre-cleaner
Starter	12 volts d-c electric
Ignition System	Solid state with flywheel magneto
Recommended Spark Plugs Champion	RC12YC or equivalent
Spark Plug Gap	0.030 inch (0.8mm)

MAINTENANCE

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

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

CHECKING ENGINE OIL LEVEL

Check engine crankcase oil level at least every eight hours of operation, or before you use it (Figure 7).

- Make 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 the dipstick FULL mark. If necessary, add the recommended oil to the FULL mark only. DO NOT OVERFILL ABOVE "FULL" MARK.
- Install and tighten oil dipstick cap before operating the engine.

NOTE: See "Engine Oil Requirements" on Page 10 for recommended oils.

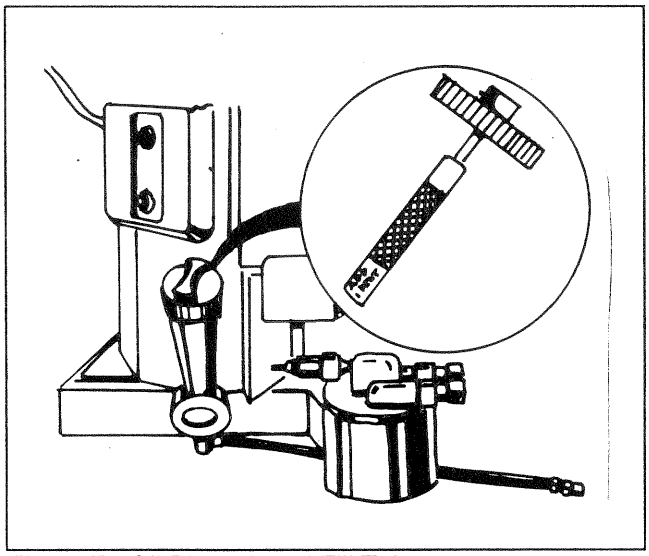


Figure 7. Oil Dipstick and Fill Tube

CHANGE ENGINE OIL

Change engine oil after the first 25 hours of operation (after the 25-hour break in period, Page 8). Thereafter, change oil every 50 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 8). Drain oil completely into a suitable container.
- When all oil has drained, install and tighten drain hose cap.
- Remove oil dipstick and fill crankcase with the recommended oil (see Page 10). Engine crankcase oil capacity is about 1.5 U.S. quarts. DO NOT OVERFILL ABOVE "FULL" MARK.
- Install and tighten dipstick cap before operating engine.

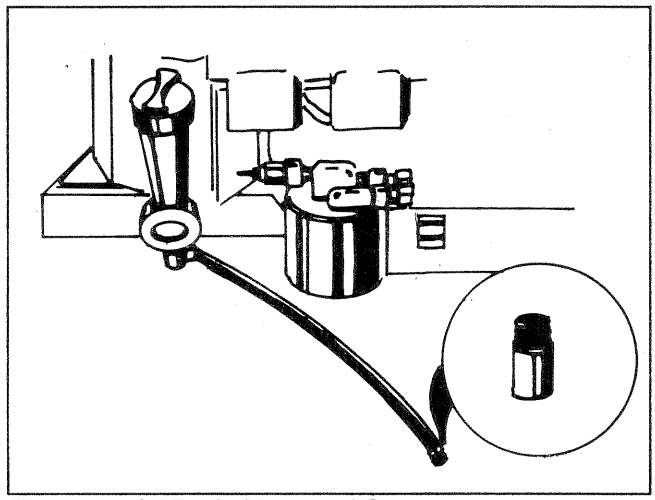


Figure 8. Oil Drain Hose and Cap

CHANGE OIL FILTER

Replace the engine oil filter after the first 25 hours of operation, every 100 operating hours thereafter.

- Turn oil filter counterclockwise to remove (Figure 9).
- Coat gasket of new filter with engine oil.
- Turn new replacement filter clockwise until its gasket contacts the filter adapter tightly. Then, tighten an additional 3/4 to one turn by hand.
- Run engine and check for oil leaks.

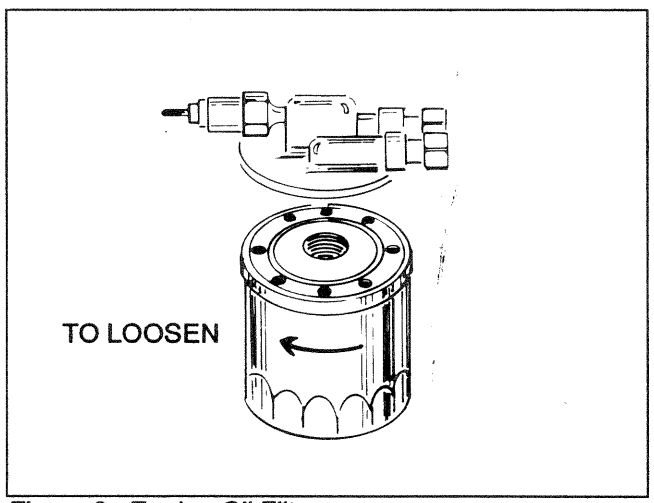


Figure 9. Engine Oil Filter

ENGINE AIR CLEANER

Clean and re-oil the foam pre-cleaner every three months or every 25 hours of operation, whichever occurs first. Service foam pre-cleaner more frequently if operating in extremely dusty or dirty conditions (Figure 10):

- 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.
- Insert bottom locking tag of COVER into slot. Install COVER, FOAM PRE-CLEANER and PAPER FILTER.

Once each year or every 100 hours of operation (whichever comes first), replace the PAPER FILTER. The new replacement PAPER FILTER must be a flame retardant type.

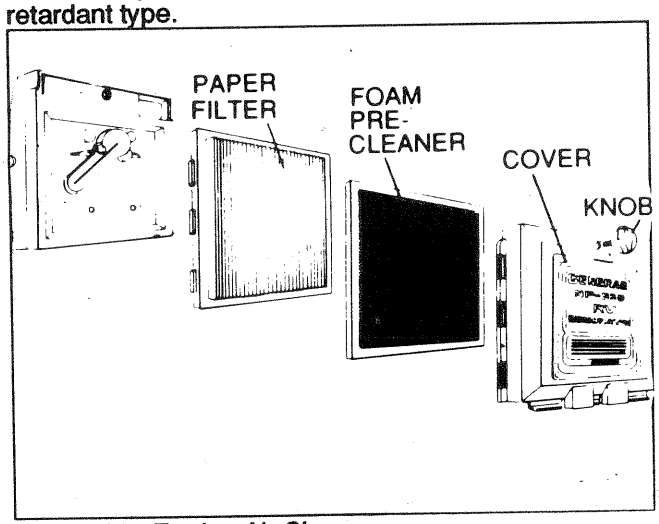


Figure 10. Engine Air Cleaner

CLEAN AIR INTAKE SCREEN

Clean all foreign material from air intake screen (Figure 11) at least 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.

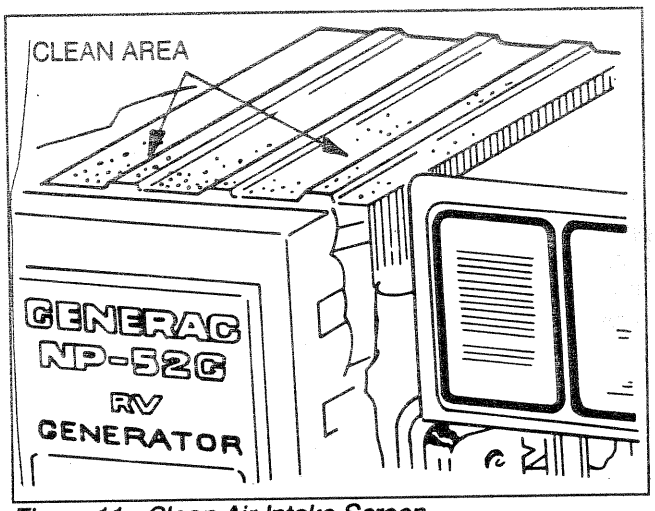


Figure 11. Clean Air Intake Screen

ENGINE SPARK PLUGS

Clean engine spark plugs and reset gap to 0.030 inch (0.8mm) every 100 hours of operation. Clean by scraping or wire brushing and washing with commerical solvent. DO NOT BLAST CLEAN SPARK PLUGS.

CAUTION! Sparking can occur if wire terminals do not fit firmly over spark plug terminal ends. If necessary, reform wire terminals to obtain a tight fit.

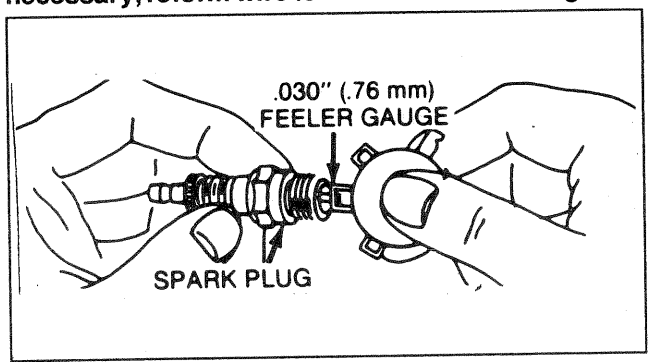


Figure 12. Engine Spark Plug

FUEL FILTER

Remove and replace fuel filter (Figure 13) every 100 hours of operation or once each year, whichever comes first.

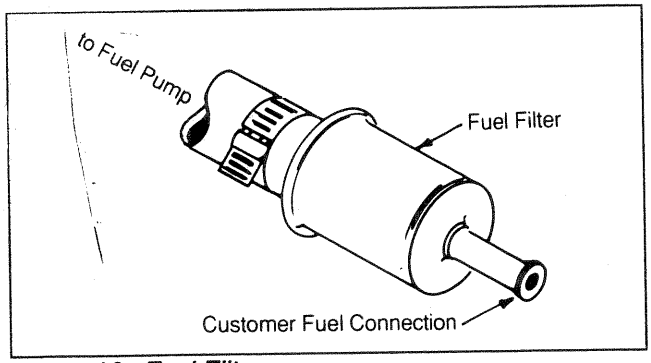


Figure 13. Fuel Filter

MISCELLANEOUS MAINTENANCE

SPARK ARRESTOR MUFFLERS

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 RV generators do not have a spark arrestor screen, but are of the more efficient "toroid" 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 MATERIALS. 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. The generator battery should be inspected 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 SERIES.

DRIVE BELTS

The engine drives the generator rotor by means of a pulley and drive belt arrangement. The drive train, 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

It is recommended that the generator be started and operated at least once every seven days. Let the unit run for at least 30 minutes during the "exercise" runup.

OUT OF SERVICE PROTECTION

If you cannot excercise the generator every 7 days and it is to be out of service longer than 30 days, prepare it for storage as follows:

- Start the engine and let it warm up.
- Close the fuel shutoff valve in the fuel supply line and let the engine "run out of gas."
- While the engine is still warm from running, drain the oil completely. Refill crankcase with SAE 10W-30 oil having API classification "For Service SF".
- Attach a tag to the engine indicating the viscosity and classification of the oil in the crankcase.
- Remove spark plugs and pour about two or three tablespoons of clean, fresh engine oil into spark plug threaded opening. 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 wooden floor.
- Clean and wipe the entire generator.

RETURN THE UNIT TO SERVICE AFTER STORAGE

To return the generator to service following storage, proceed as follows:

- Check tag on engine indicating 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 it.
- 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.

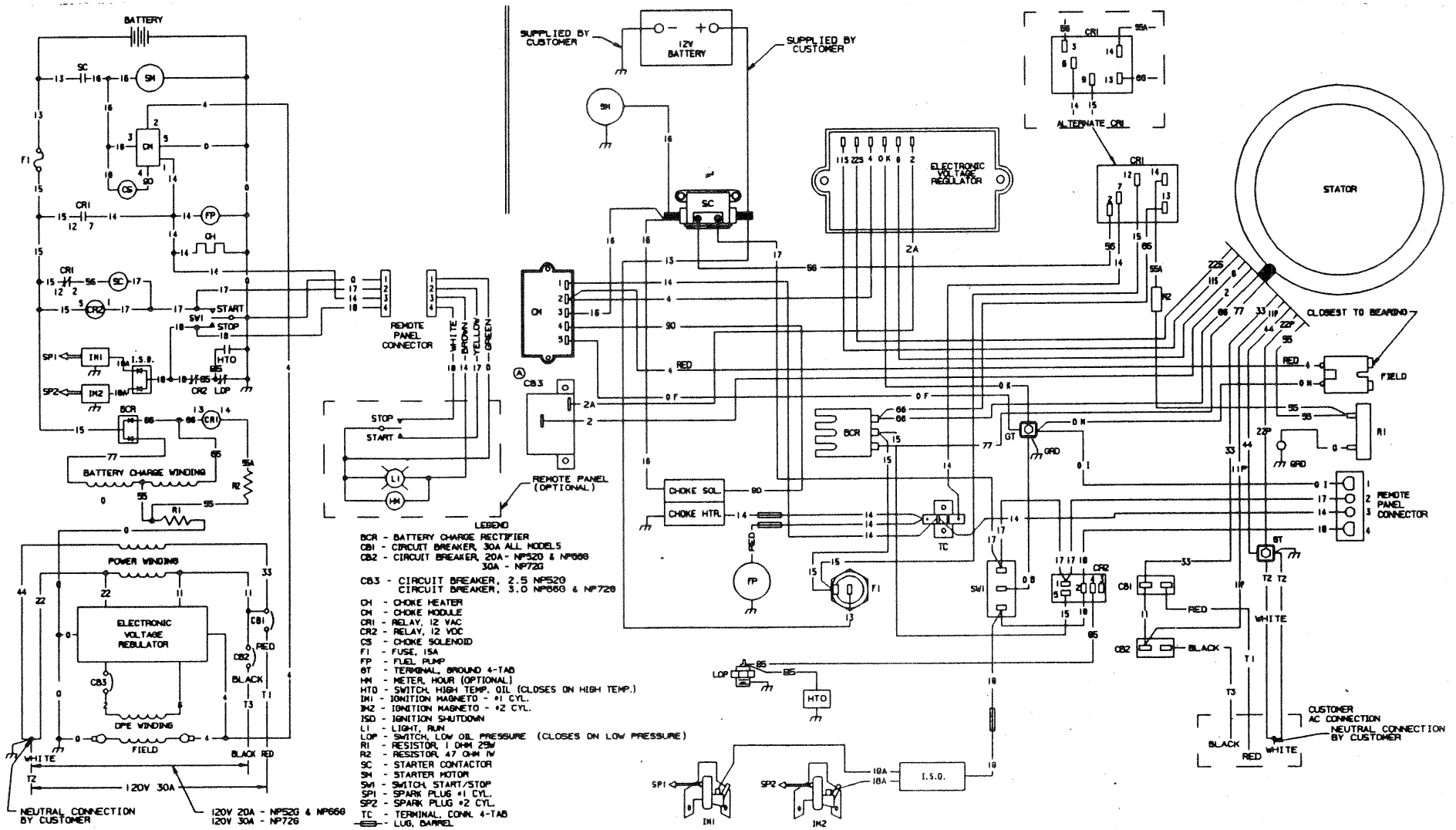
The generator is now ready for service.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE(S)	REMEDY
Engine Won't Crank.	1. 15 amp fuse blown. 2. Loose, corroded or defective battery cable(s). 3. Battery is discharged or defective. 4. Defective starter contactor. 5. Defective starter motor. 6. Defective control relay (CR1).	1. Replace blown fuse. 2. Tighten, clean or replace, as necessary. 3. Recharge or replace battery. 4. Replace starter contactor. 5. Replace starter motor. 6. Replace control relay.
Engine Cranks, won't start.	1. Out of fuel. 2. Fuel shutoff valve(s) in fuel supply line are closed. 3. Fuel pump not operating. 4. Automatic choke not operating properly. 5. Engine is flooded. 6. Fuel filter clogged. 7. Defective Control Relay (CR2). 8. Engine spark plugs defective. 9. Bad ignition magneto on engine. 10. Bad carburetor. 11. Dirty air cleaner.	1. Refill fuel tank. 2. Open fuel shutoff valve(s). 3. Repair or replace bad pump. 4. Repair, replace or adjust. 5. Wait 5-10 minutes, try again. 6. Replace if clogged. 7. Replace bad relay CR2 8. Clean, regap or replace as necessary. 9. Replace if defective. 10. Adjust, repair or replace. 11. Clean or replace as needed.
Engine Starts Hard, Runs Rough	1. Dirty engine air cleaner. 2. Automatic choke is sticking. 3. Defective spark plugs. 4. Defective ignition magneto. 5. Water in fuel.	1. Clean or replace as needed. 2. Free choke linkage as needed. 3. Clean, regap or replace. 4. Replace if bad. 5. Drain tank and refill.
Engine Starts, then Shuts Down	1. Engine oil level is low. 2. Bad control relay (CR1) 3. Bad low oil pressure switch. 4. Bad control relay (CR2)	1. Add oil as needed. 2. Replace if bad. 3. Replace if bad. 4. Replace bad relay CR2
No a-c Output Voltage	1. Main breaker(s) open. 2. Transfer switch (if so equipped) is set to wrong position. 3. Failure in vehicle electrical system. 4. Generator component failure.	1. Close main breaker(s). 2. Reset transfer switch. 3. See vehicle manual. 4. Contact an authorized service facility.

ELECTRICAL DATA

Drawing No. 79211

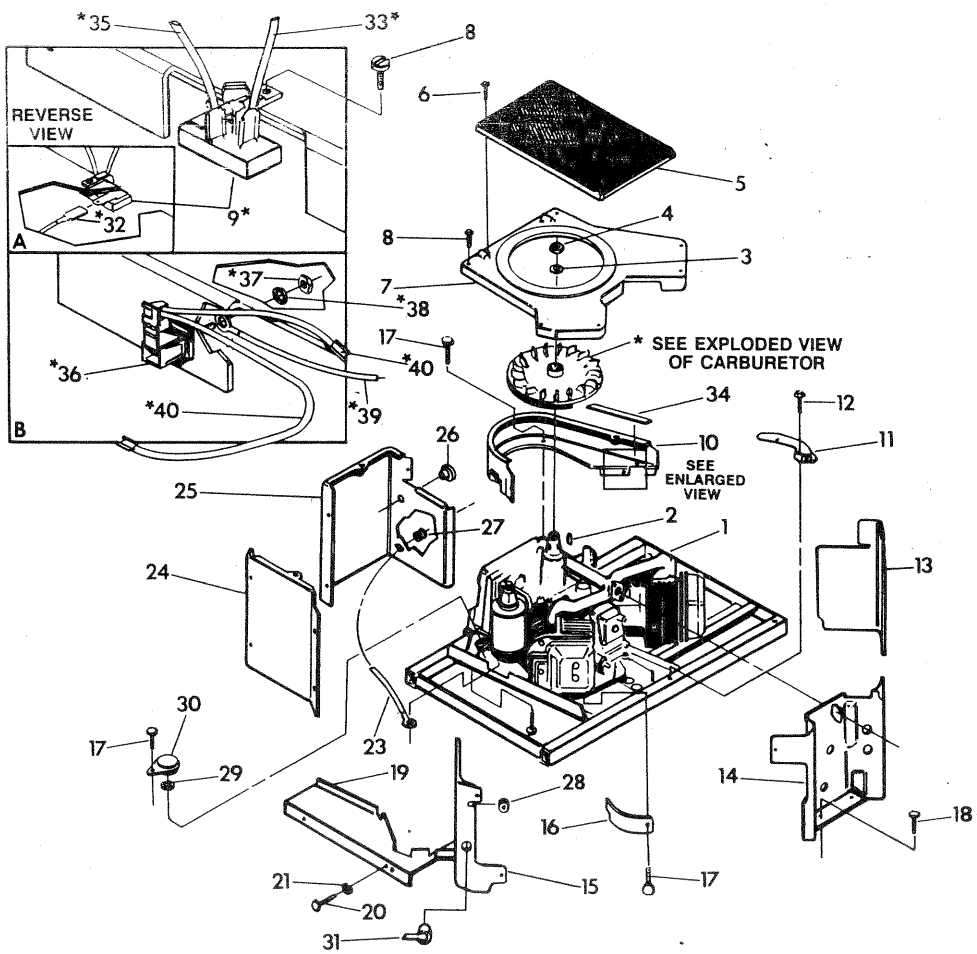


LEGEND

BCR - BATTERY CHARGE RECTIFIER
CBI - CIRCUIT BREAKER, 30A ALL MODELS
CB2 - CIRCUIT BREAKER, 20A - NP520 & NP666
30A - NP720
CB3 - CIRCUIT BREAKER, 2.5 NP520
CIRCUIT BREAKER, 3.0 NP666 & NP720
CH - CHOKE HEATER
CM - CHOKE MODULE
CRI - RELAY, 12 VAC
CR2 - RELAY, 12 VDC
CS - CHOKE SOLENOID
FI - FUSE, 15A
FP - FUEL PUMP
GT - TERMINAL, GROUND 4-TAB
HM - METER, HOUR (OPTIONAL)
HTO - SWITCH, HIGH TEMP. OIL (CLOSES ON HIGH TEMP.)
IMI - IGNITION MAGNETO - #1 CYL.
IM2 - IGNITION MAGNETO - #2 CYL.
ISD - IGNITION SHUTDOWN
LI - LIGHT, RUN
LOP - SWITCH, LOW OIL PRESSURE (CLOSES ON LOW PRESSURE)
RI - RESISTOR, 1 OHM 25W
R2 - RESISTOR, 47 OHM 1W
SC - STARTER CONTACTOR
SM - STARTER MOTOR
SWI - SWITCH, START/STOP
SPI - SPARK PLUG #1 CYL.
SP2 - SPARK PLUG #2 CYL.
TC - TERMINAL, CONN. 4-TAB
- LUG, BARREL

EXPLODED VIEW — SHEET METAL

Drawing No. 79205



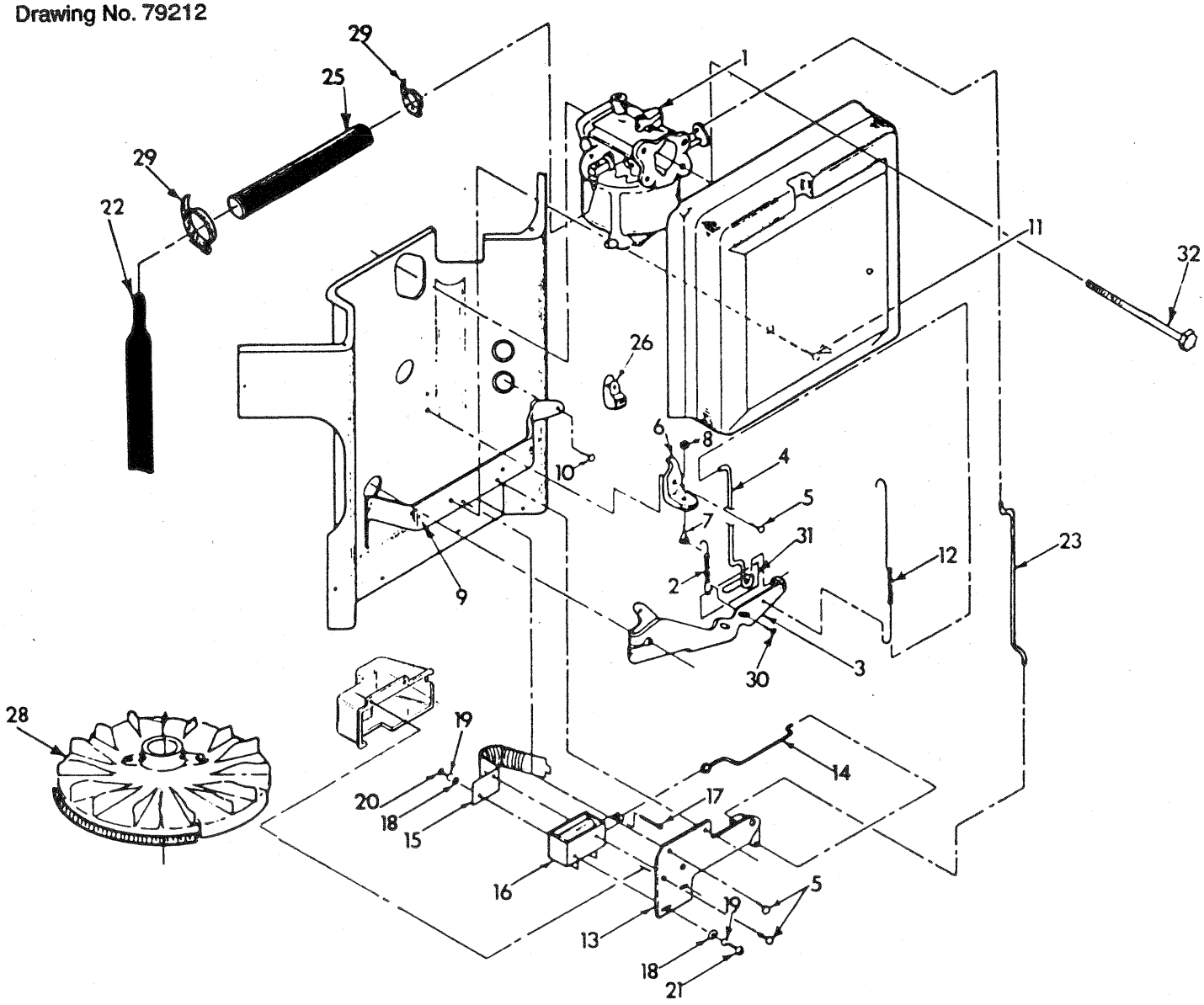
ITEM	PART NO.	QTY.	DESCRIPTION
1	--------	1	See Engine Exploded View
2	67877	1	6 x 25 Woodruff key
3	67198-N	1	Belleville Washer
4	67890	1	M20-1.50 Hex nut
5	74915	1	Air Inlet Screen
6	63036	8	No. 8-32 x 1/4" Screw
7	74904	1	Engine Housing Top
8	56893	35	No. 10-32 x 1/2" Screw
9	70520	1	Shorting Module
10	74903	1	Flywheel Scroll
11	74916	1	No. 2 Base Cover
12	74908	9	M5 x 10mm Screw
13	73190	1	No. 2 Cylinder Wrapper
14	78858	1	Valley Cover
15	78859	1	No. 1 Cylinder Wrapper
16	74902	2	Wrapper -- Barrel
17	66886	5	M6-1.00 x 12mm Capscrew
19	73191	1	No. 1 Base Cylinder Cover
20	42907	2	M8-1.25 x 10mm Capscrew
21	22129	2	M8 Lock Washer

ITEM	PART NO.	QTY.	DESCRIPTION
22	75246	4	3/8"-16 x 1-1/4" Screw
23	10-74260	1	No. 16 Wire Assembly
24	74900	1	Starter Cover
25	73186	1	Crankcase Wrapper
26	81108	1	Snap Bushing
27	22217-B	1	Rubber Grommet
28	22717-A	2	Rubber Grommet
29	67866	1	O-ring
30	77001	1	Oil Fill Plug
31	73132	2	Spark Plug Boot
*32	77012	1	12-1/2" Grounding Wire Assm.
*33	09-74260	1	Wire Assembly
34	29289	2 FT.	Foam Tape
*35	08-74260	1	5-1/2" Grounding Wire Assm.
*36	85011	1	Insolating Terminal
*37	22471	1	No. 8-32 Hex Nut
*38	23365	1	No. 8 SP Washer
*39	84970	1	No. 18 Wire Assembly
*40	84966	1	Wire Assembly (with diodes)

* NOTE: When ordering any of these replacement parts, check that you have ordered the proper part for your specific ignition system (A or B).

EXPLODED VIEW -- GASOLINE CARBURETOR

Drawing No. 79212

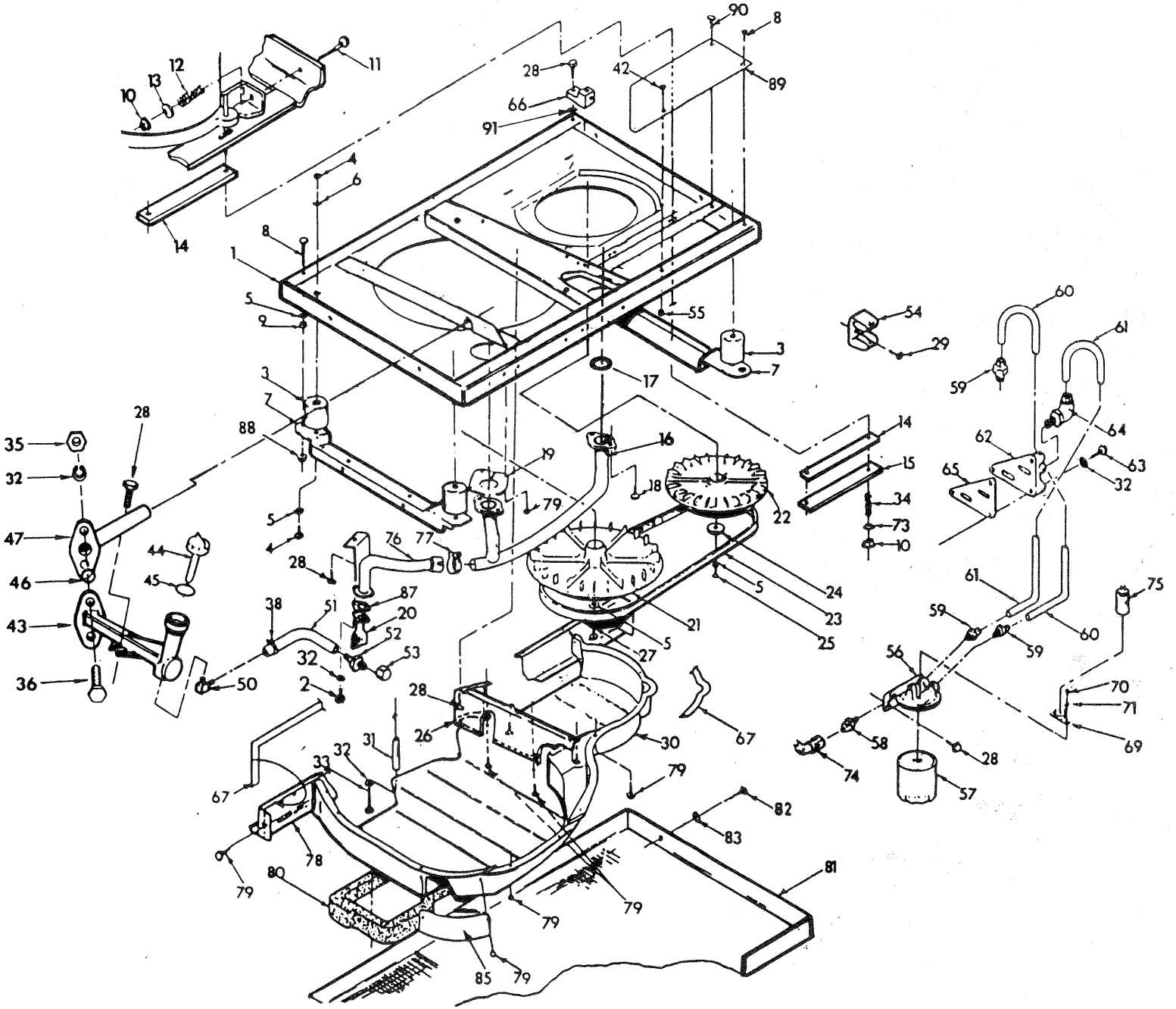


ITEM	PART NO.	QTY.	DESCRIPTION
1	73112	1	Carburetor assembly
2	74962-E	1	Governor spring (NP52G)
	74962-C	1	Governor spring (NP66G)
	74962-G	1	Governor spring (NP72G)
3	70155	1	Governor lever
4	70108	1	Rod, governor to carburetor
5	56892	5	Screw -- No. 10-32 x 3/8"
6	74961	1	Bracket, governor adjuster
7	47227	1	Screw, governor adjuster
8	37398	1	Nut, hex lock
9	73131	1	Bracket, air cleaner support
10	66476	2	Hex screw -- M6-1.00 x 12mm
11	68572	2	Hex screw -- M6-1.00 x 25mm
12	70125	1	Spring, ant-lash
13	73374	1	Bracket, choke support
14	74947	1	Choke control rod
15	39139	1	Choke bi-metal asembly
16	44128	1	Choke solenoid

ITEM	PART NO.	QTY.	DESCRIPTION
17	36544	1	Pin, cotter 3/32" x 1/2" long
18	31879	4	Flatwasher -- No. 4
19	22159	4	Lockwasher -- No. 4
20	47488	2	Screw -- No. 4-40 x 3/16"
21	72536	2	Screw -- No. 4-40 x 1/4"
22	74952	1	Fuel line -- 5/16" ID
23	74946	1	Choke link
25	47662-T	1	Hose , fuel -- 4.5" long
26	25793	1	Clamp -- 5/16"
27	75252	1	Kit -- Carburetor overhaul
28	73130-B	1	Flywheel assembly, 5.2
	73130	1	Flywheel assembly, 6.6 & 7.2
29	40173	2	Hose clamp (screw type)
30	76242	2	Rivet -- 1/8" ID x 1/8" long
31	75944	1	Bracket, governor spring
32	70594	2	Capscrew--M6 - 1.00 x 93mm with washer
33	77075	1	Choke coil cover

EXPLODED VIEW -- BASE & PULLEYS (bottom exhaust)

Drawing No. 79213



REPAIR PARTS — BASE & PULLEYS (bottom exhaust)

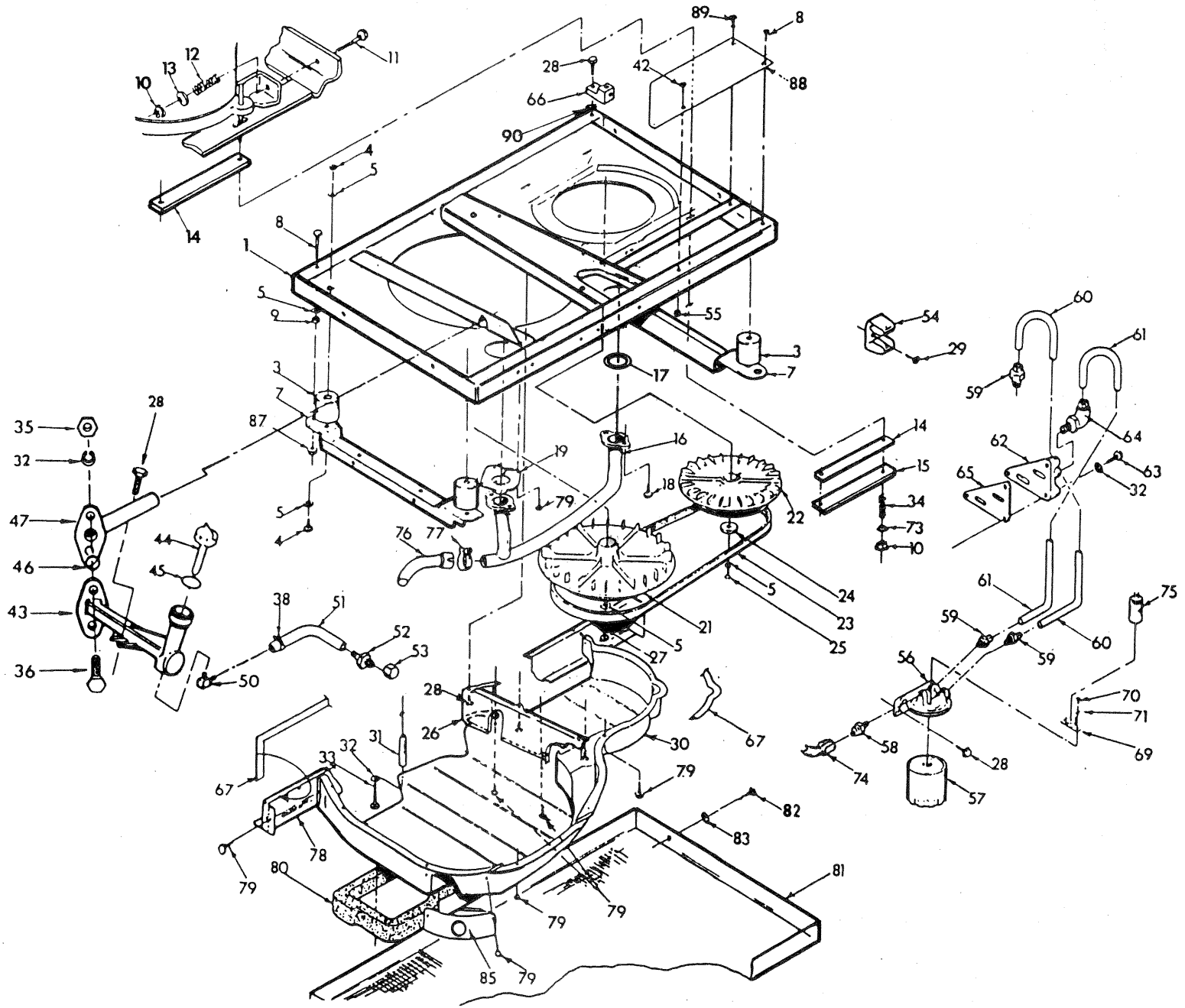
Drawing No. 79213

ITEM	PART NO.	QTY.	DESCRIPTION
1	70445	1	Mounting Base
2	47411	2	M6-1.00 x 16mm Capscrew
3	46911	4	Rubber Mount
4	25017	8	3/8"-16 x 1/2" Capscrew
5	22237	12	M10 Lock Washer
6	22129	2	M8 Lock Washer
7	72391	2	Rubber Mount Skid
8	77603	2	51/6"-18 x 3-1/2" Bolt
9	22259	2	5/16-18 Hex Nut
10	52858	6	M8-1.25 Flanged Lock Nut
11	51730	2	M8-1.25 x 60mm Capscrew
12	29459	2	Belt Tension Spring
13	75215	2	Spring Center Washer
14	73146	4	Nylon Slide
15	75209	2	Nylon Slide Support
16	73174	1	Exhaust Manifold
17	67897	2	Exhaust Manifold Gasket
18	55173	4	M8-1.25 x 20mm Capscrew
19	72383	2	Collector Pan Gasket
20	77642	1	Exhaust Outlet Adapter
21	75224-E	1	5.2 kW Engine Pulley
	75224-F	1	6.6 kW Engine Pulley
	75224-G	1	7.2 kW Engine Pulley
22	73106-E	1	5.2 kW Alternator Pulley
	73106-F	1	6.6 kW Alternator Pulley
	73106-G	1	7.2 kW Alternator Pulley
23	75216	1	40" Poly Vinyl 4L Belt
24	49451	1	Pulley Retainer Washer
25	42633	1	3/8"-24 x 1" Capscrew
26	77017	1	Blower Housing Guide
27	73118	1	3/8"-24 x 2-1/2" Capscrew
28	74906	11	M6-1.00 x 20mm Screw
29	74908	1	M5-0.8 x 10mm Screw
30	72375	1	Blower Housing
31	73185	1	Blower Housing Spacer
32	22097	3	M6 Lock Washer
33	77682	1	M5-0.8 x 80mm Capscrew
34	75242	4	Generator Mounting Spring
35	49813	2	M6-1.00 Hex Nut
36	45757	2	M6-1.00 x 25mm Capscrew
38	48031-E	2	3/8" Hose Clamp
42	51767	1	M6-1.00 x 35mm Capscrew
43	75710	1	Oil Fill and Drain Tube

ITEM	PART NO.	QTY.	DESCRIPTION
44	74958	1	Cap and Dipstick Assembly
45	67871	1	O-ring Cap
46	75712	1	O-ring Drain
47	75711	1	O-ring Adaptor
50	43790	1	3/8" NPT x 3/8" Barbed Elbow
51	47662-BC	1	3/8" x 10-1/2" Hose
52	35461	1	1/4" Barbed Fitting
53	69811	1	1/4" NPT Hex Cap
54	65852	1	Hose Retainer Clip
55	52857	1	M6-1.00 Flanged Lock Nut
56	73179	1	Oil Filter Support
57	70185	1	Oil Filter (FRAM PH #3614)
58	77667	1	Oil Pressure Switch
59	74948	3	5/16" Fitting
60	74950	1	Outer Oil Tube
61	74951	1	Inner Oil Tube
62	73134	1	Oil Pad Adaptor
63	38750	3	M6-1.00 x 30mm Capscrew
64	74949	1	5/16" 90-degree Fitting
65	68548	1	Oil Pad Gasket
66	62684	1	Grounding Lug
67	29289	—	1/16" x 8' Foam Tape
69	75281	1	High Temperature Switch
70	74027	2	M3-0.5 Pan Head Screw
71	43182	2	M3 Lock Washer
73	75237	4	Spring Retainer Washer
74	77681	1	LOS 2-wire Vinyl Cap
75	75474	1	17" x 42" x 2" Vinyl Cap
76	77641	1	Exhaust Elbow
77	74907	1	1-1/8" Exhaust Clamp
78	75226	1	Air Cover
79	56893	23	No. 10-24 x 1/2" Screw
80	75229	1	Slide Pan Guide
81	75227	1	Slide Pan
82	79246	4	M6-1.00 x 16mm Capscrew with lock washer
83	22473	4	M6 Flat Washer
84	22097	2	M6 Lock Washer
85	72384-A	1	Exhaust Outlet Cover
87	77643	1	Exhaust Outlet Gasket
88	70459	2	5/16"-18 Flange Nut
89	70473	1	Base Cover Plate
90	45756	1	M6-1.00 x 10mm Screw
91	22447	1	M6 Toothed Lock Washer

EXPLODED VIEW -- BASE & PULLEYS (side exhaust)

Drawing No. 79214



REPAIR PARTS — BASE & PULLEYS (side exhaust)

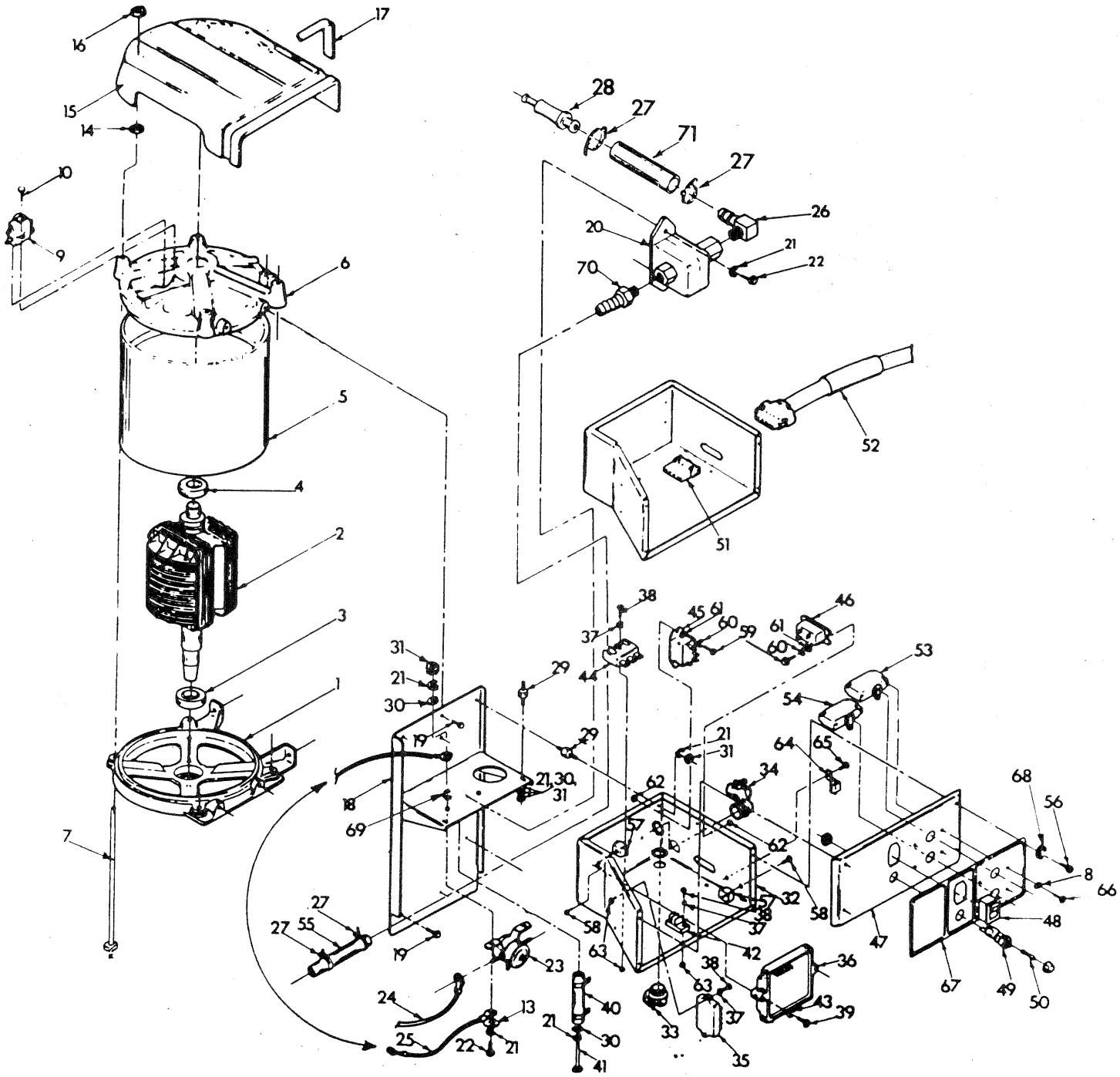
Drawing No. 79214

ITEM	PART NO.	QTY.	DESCRIPTION
1	70445	1	Mounting Base
3	46911	4	Rubber Mount
4	25017	8	3/8"-16 x 1/2" Capscrew
5	22237	12	M10 Lock Washer
6	22129	2	M8 Lock Washer
7	72391	2	Rubber Mount Skid
8	77603	2	51/6"-18 x 3-1/2" Bolt
9	22259	2	5/16-18 Hex Nut
10	52858	6	M8-1.25 Flanged Lock Nut
11	51730	2	M8-1.25 x 60mm Capscrew
12	29459	2	Belt Tension Spring
13	75215	2	Spring Center Washer
14	73146	4	Nylon Slide
15	75209	2	Nylon Slide Support
16	73174	1	Exhaust Manifold
17	67897	2	Exhaust Manifold Gasket
18	55173	4	M8-1.25 x 20mm Capscrew
19	72383	2	Collector Pan Gasket
21	75224-E	1	5.2 kW Engine Pulley
	75224-F	1	6.6 kW Engine Pulley
	75224-G	1	7.2 kW Engine Pulley
22	73106-E	1	5.2 kW Alternator Pulley
	73106-F	1	6.6 kW Alternator Pulley
	73106-G	1	7.2 kW Alternator Pulley
23	75216	1	40" Poly Vinyl 4L Belt
24	49451	1	Pulley Retainer Washer
25	42633	1	3/8"-24 x 1" Capscrew
26	77017	1	Blower Housing Guide
27	73118	1	3/8"-24 x 2-1/2" Capscrew
28	74906	11	M6-1.00 x 20mm Screw
29	74908	1	M5-0.8 x 10mm Screw
30	72375	1	Blower Housing
31	73185	1	Blower Housing Spacer
32	22097	3	M6 Lock Washer
33	77682	1	M5-0.8 x 80mm Capscrew
34	75242	4	Generator Mounting Spring
35	49813	2	M6-1.00 Hex Nut
36	45757	2	M6-1.00 x 25mm Capscrew
38	48031-E	2	3/8" Hose Clamp
42	51767	1	M6-1.00 x 35mm Capscrew
43	75710	1	Oil Fill and Drain Tube
44	74958	1	Cap and Dipstick Assembly

ITEM	PART NO.	QTY.	DESCRIPTION
45	67871	1	O-ring Cap
46	75712	1	O-ring Drain
47	75711	1	O-ring Adaptor
50	43790	1	3/8" NPT x 3/8" Barbed Elbow
51	47662-BC	1	3/8" x 10-1/2" Hose
52	35461	1	1/4" Barbed Fitting
53	69811	1	1/4" NPT Hex Cap
54	65852	1	Hose Retainer Clip
55	52857	1	M6-1.00 Flanged Lock Nut
56	73179	1	Oil Filter Support
57	70185	1	Oil Filter (FRAM PH #3614)
58	77667	1	Oil Pressure Switch
59	74948	3	5/16" Fitting
60	74950	1	Outer Oil Tube
61	74951	1	Inner Oil Tube
62	73134	1	Oil Pad Adaptor
63	38750	3	M6-1.00 x 30mm Capscrew
64	74949	1	5/16" 90-degree Fitting
65	68548	1	Oil Pad Gasket
66	62684	1	Grounding Lug
67	29289	—	1/16" x 8' Foam Tape
69	75281	1	High Temperature Switch
70	74027	2	M3-0.5 Pan Head Screw
71	43182	2	M3 Lock Washer
73	75237	4	Spring Retainer Washer
74	77681	1	LOS 2-wire Vinyl Cap
75	75474	1	17" x 42" x 2" Vinyl Cap
76	73175	1	Exhaust Elbow
77	74907	1	1-1/8" Exhaust Clamp
78	75226	1	Air Cover
79	56893	23	No. 10-24 x 1/2" Screw
80	75229	1	Slide Pan Guide
81	75227	1	Slide Pan
82	79246	4	M6-1.00 x 16mm Capscrew with lock washer
83	22473	4	M6 Flat Washer
84	22097	2	M6 Lock Washer
85	72384-A	1	Exhaust Outlet Cover
87	70459	2	5/16"-18 Flange Nut
88	70473	1	Base Cover Plate
89	45756	1	M6-1.00 x 10mm Screw
90	22447	1	M6 Toothed Lock Washer

EXPLODED VIEW -- ALTERNATOR & PANEL

Drawing No. 79215



REPAIR PARTS — ALTERNATOR & PANEL

Drawing No. 79215

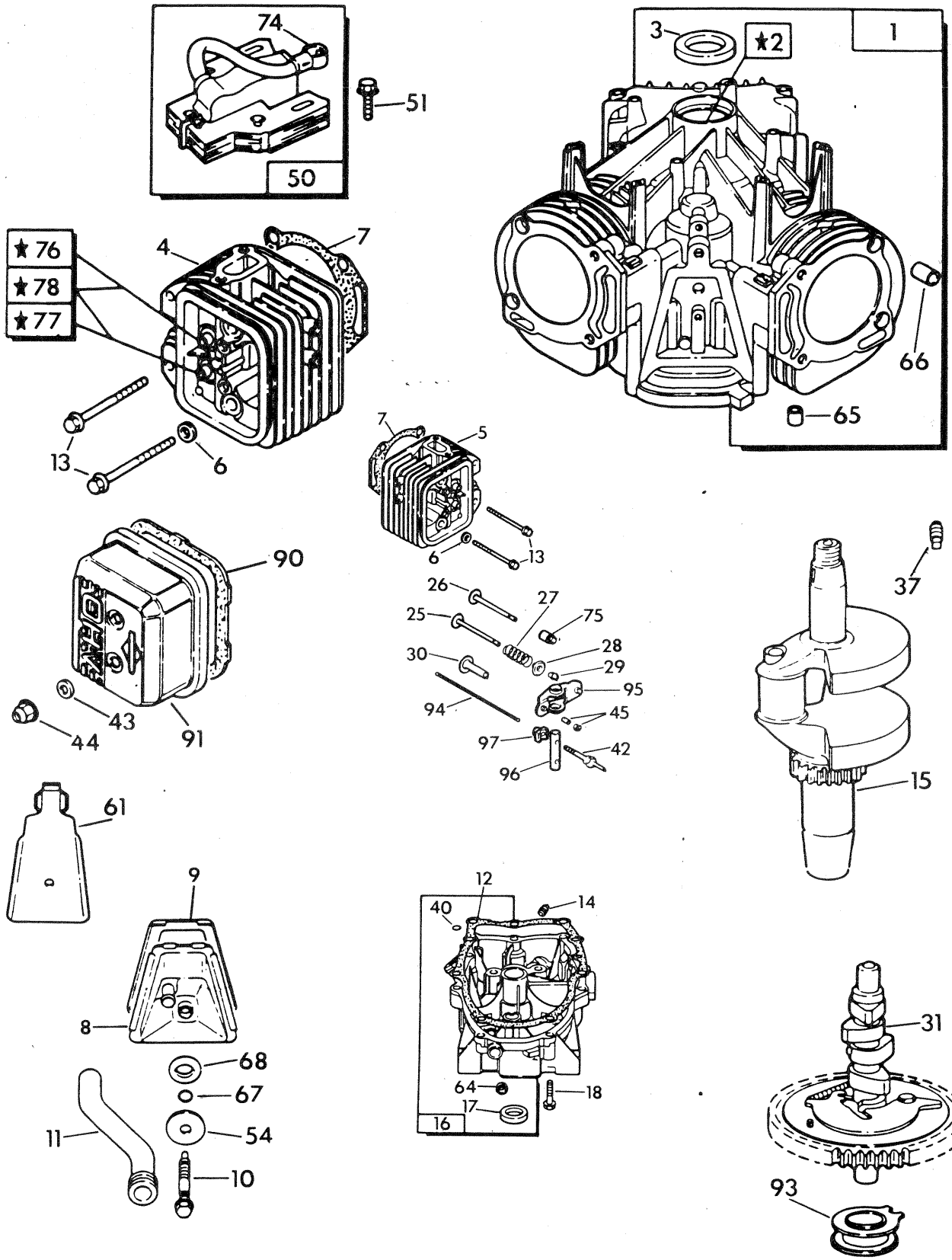
ITEM	PART NO.	QTY.	DESCRIPTION
1	75995	1	Lower Bearing Carrier
2	77005	1	NP52G Rotor Assembly
	77004	1	NP66G Rotor Assembly
	77004	1	NP72G Rotor Assembly
3	31971	1	Ball Bearing
4	73159	1	Ball Bearing
5	75996	1	NP52G Stator Assembly
	75997	1	NP66G Stator Assembly
	75997	1	NP72G Stator Assembly
6	72739	1	Upper Bearing Carrier
7	77006	4	Stator stud
8	22129	4	No. 4 Lock washer
9	66386	1	Brush holder
10	66849	2	M5-0.80 x 15mm
11	73129**	1	Control panel decal
	73129-A*	1	Control panel decal
12	22769	4	No. 10 Lock washer
13	22473	4	Flat washer
14	27756	4	Nylon washer
15	74905	1	Top housing
16	52858	4	M8-1.25 Flanged lock nut
17	29451	—	Foam Rubber Tape - 3" long
18	75201	1	Panel bracket
19	74906	4	M6-1.00 x 20mm Screw
20	77663	1	Fuel pump
21	22097	9	M6 Lock washer
22	43116	4	M6-1.00 x 12mm Capscrew
23	56739	1	Starter contactor
24	74260-10	1	Starter cable
25	77661	2	Panel ground cable
26	32552	1	Pump inlet elbow
27	40173	4	5/16" Hose clamp
28	75213	1	Fuel filter
29	71908	4	Rubber mount
30	22473	4	M6 Flat washer
31	49813	5	M6 Hex nut
32	75202	1	Panel housing
33	34616	1	3/4" Connector
34	39271	1	
35	73601	1	

ITEM	PART NO.	QTY.	DESCRIPTION
36	74074	1	Voltage Regulator
37	22264	5	M4 Lock washer
38	51787	5	M4-0.7 x 16mm Hex screw
39	75235	2	M5-0.8 x 30mm Screw
40	75234	1	Resister
41	74095	1	M6-1.00 x 60mm Capscrew
42	75210-A	1	Terminal block
43	49226	2	M5 Lock washer
44	65795	1	Battery charge rectifier
45	75205	1	12 Volts a-c Relay
46	75204	1	12 Volts d-c Relay
47	75200	1	Control panel
48	75208	1	Start/Stop switch
49	32300	1	Fuse holder
50	22676	1	15 amp Fuse
51	53650	1	Connector
52	75244	1	Remote cable assembly
53*	70451	1	30 amp Circuit breaker
	70452**	1	20 amp Circuit breaker
	75471*	1	30 amp Circuit breaker CSA
	75470**	1	20 amp Circuit breaker CSA
54	70451	1	30 amp Circuit breaker
	75471	1	30 amp Circuit breaker CSA
55	47662-AW	1	5/15" dia. x 4-1/2" Hose
56	73513	4	No. 10-32 x 1/2"Screw
57	57345	2	Lug
58	63036	2	No. 8-18 x 1/4" Screw
59	33136	4	No. 6-32 x 5/8" Screw
60	22155	4	No. 6 Lock washer
61	22985	4	No. 6 Flat washer
62	22188	4	No. 6-32 Hex nut
63	51715	5	M4-0.70 Hex nut
64	25433	1	Ground lug
65	56893	1	No. 10-24 Screw
66	70728	4	Pan head machine screw
67	73129	1	Control decal
68	22152	2	No. 10 Lock washer
69	22447	1	Shakeproof lock washer
70	52219	1	Barbed fitting
71	47662-BF	1	5/16" dia. Hose

* FOR SERIES NP72G & NP66G UNITS
** FOR SERIES NP52G UNITS

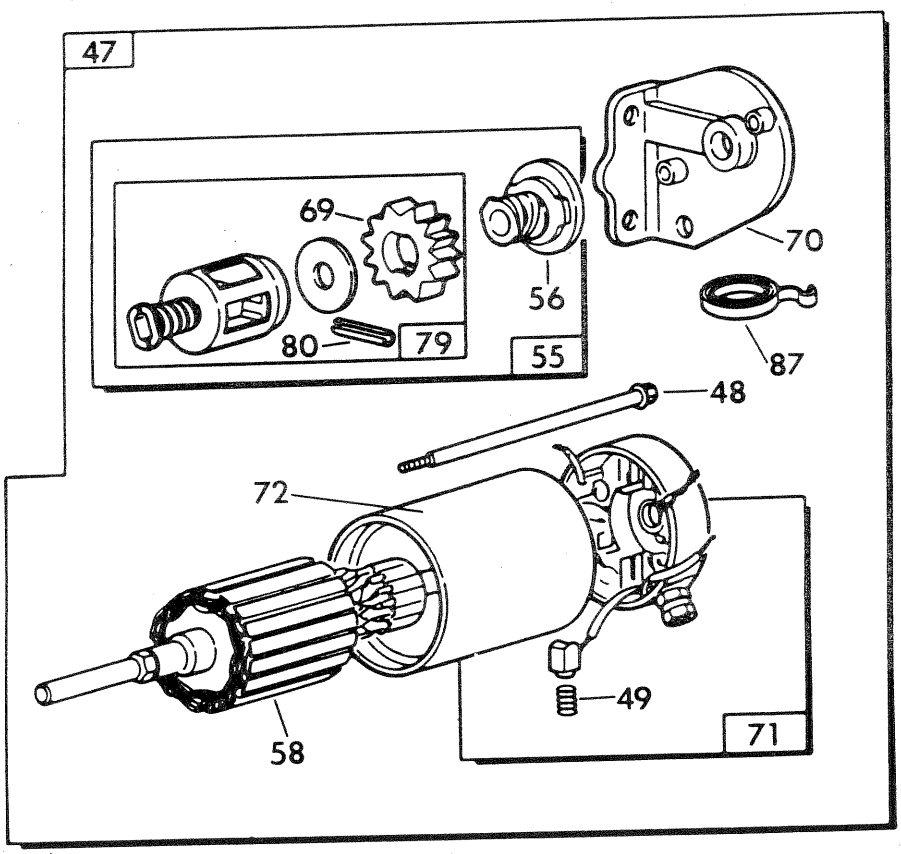
EXPLODED VIEW -- V-TWIN ENGINE PARTS

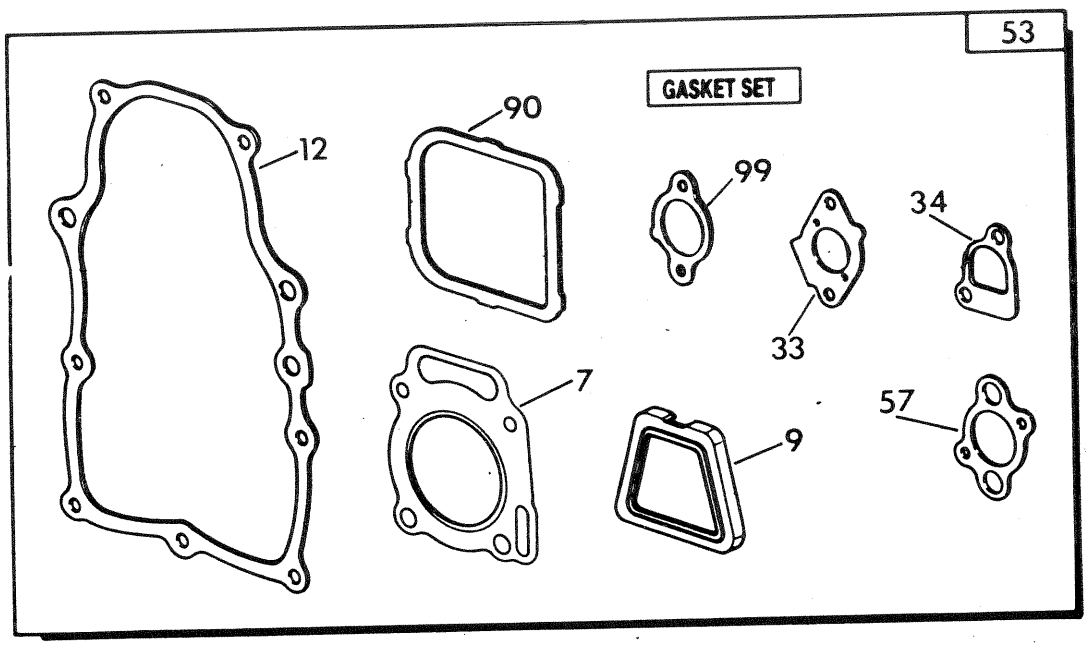
Drawing No. 79216



EXPLODED VIEW -- V-TWIN ENGINE PARTS

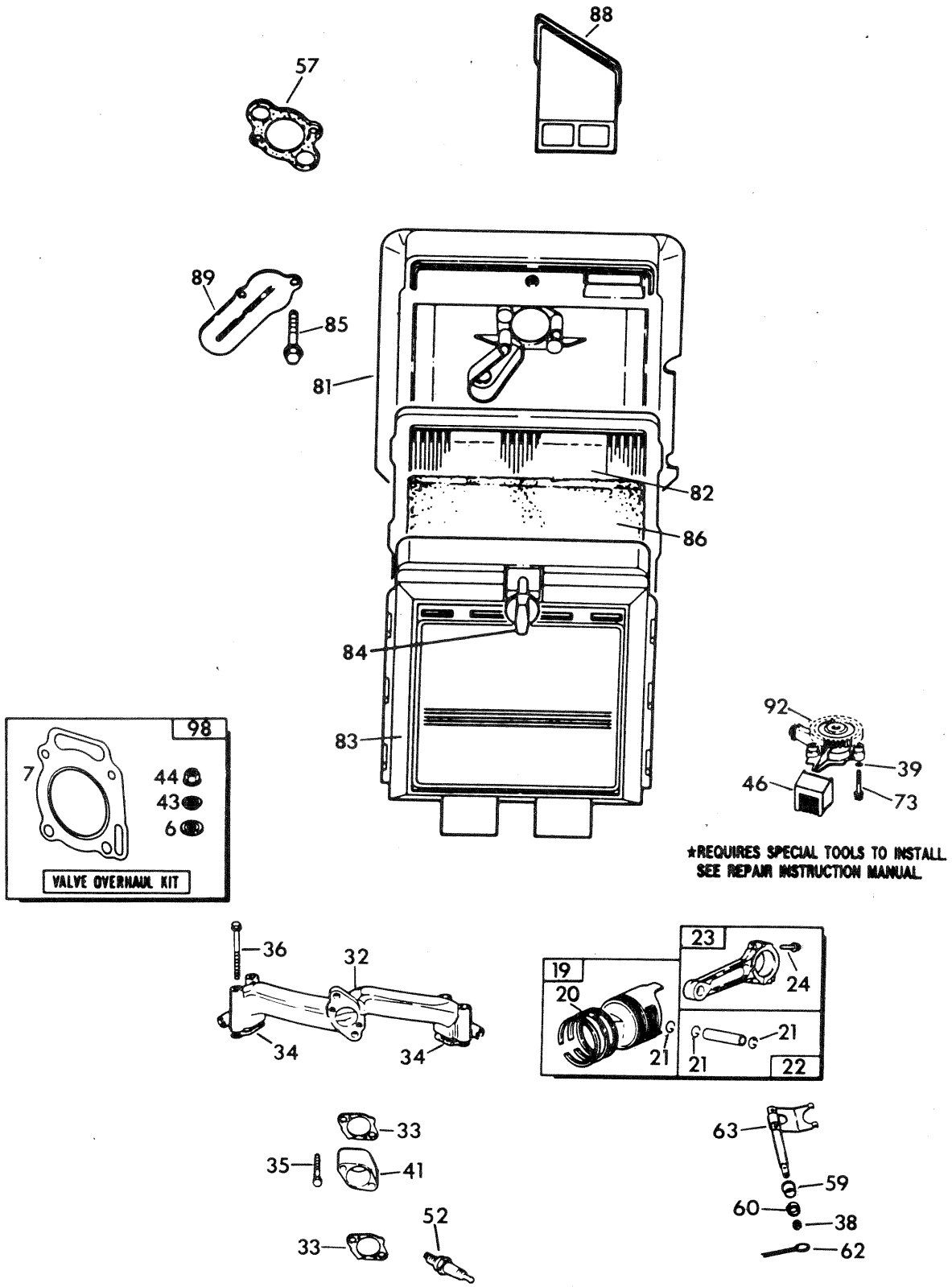
Drawing No. 79216





EXPLODED VIEW -- V-TWIN ENGINE PARTS

Drawing No. 79216



REPAIR PARTS -- V-TWIN ENGINE PARTS

Drawing No. 79216

ITEM	PART NO.	QTY.	DESCRIPTION
1	69331	1	CYLINDER ASSEMBLY
2	69333	1	SLEEVE BEARING-30 DIA.
3	67805	1	OIL SEAL-30 DIAMETER
4	79234	1	CYLINDER HEAD ASSEM.-NO. 1
5	79235	1	CYLINDER HEAD ASSEM.-NO. 2
6	70169	4	SEALING WASHER
7	69332	2	GASKET-CYLINDER HEAD
8	72301	1	BREATHER ASSEMBLY
9	72315	1	GASKET, BREATHER
10	70190	1	SCREW, BREATHER
11	70596	1	TUBE, BREATHER
12	69336	1	GASKET, OIL SUMP
13	69325	8	BOLT, CYLINDER HEAD
14	67888	2	PLUG, OIL DRAIN-3/8" NPT
15	72334	1	CRANK SHAFT ASSEMBLY
16	75247	1	OIL SUMP ASSEMBLY
17	67924	1	OIL SEAL-35 DIAMETER
18	67878	9	BOLT, OIL SUMP
19	75248	2	PISTON ASSEMBLY-STANDARD
20	75249	2	RING SET- PISTON-STANDARD
21	69327	4	LOCKING RING, PISTON
22	75250	2	PISTON PIN-STANDARD
23	75251	2	CONNECTING ROD ASSEMBLY
24	72346	4	BOLT, CONNECTING ROD
25	69316	2	EXHAUST VALVE
26	69317	2	INTAKE VALVE
27	67816	4	VALVE SPRING
28	69320	4	RETAINER, VALVE SPRING
29	70513	4	KEEPER, VALVE
30	70584	4	TAPPET, VALVE
31	70530	1	CAMSHAFT ASSEMBLY
32	72358	1	INTAKE MANIFOLD
33	69379	2	GASKET, CARBURETOR MNTG.
34	67895	2	GASKET, INTAKE MANIFOLD
35	70594	2	BOLT, CARBURETOR MNTG.
36	67158	4	BOLT, INTAKE MANIFOLD MNT.
37	68574	1	PIPE-PLUG, 1/8" NPT
38	68554	1	SEAL, GOVERNOR SHAFT
39	68573	1	O-RING, OIL PUMP
40	70506	1	O-RING, OIL GALLEY
41	70554	1	SPACER, CARBURETOR
42	70568	4	STUD, ROCKER ARM
43	75253	4	SEAL, WASHER-VALVE COVER
44	67885	4	NUT, NYLOK-M6
45	75254	4	SCREW, VALVE ADJUST
46	70535	1	SCREEN, OIL
47	75255	1	STARTER MOTOR
48	75256	2	BOLT, STARTER MOTOR
49	75257	4	BRUSH ASSEMBLY
50	67891	1	IGNITION ARMATURE ASSEM.
51	72356	2	SCREW, IGNITION ARMATURE
52	72347	2	SPARK PLUG-CHAMPION R12YC
53	75258	1	GASKET KIT-ENGINE
54	75259	1	WASHER, BREATHER SCREW
55	75260	1	STARTER DRIVE ASSEMBLY
56	75261	1	CLUTCH ASSEMBLY
57	66480	1	GASKET, AIR CLEANER
58	75269	1	ARMATURE ASSEMBLY
59	72361	1	BUSHING, GOVERNOR SHAFT
60	72362	1	BUSHING, GOVERNOR SHAFT
61	70199	1	BAFFLE, BREATHER
62	72366	1	COTTER PIN
63	72367	1	GOVERNOR FORK
64	72365	1	WASHER, GOVERNOR SHAFT
65	68555	2	DOWEL, CRANKCASE
66	67806	4	DOWEL, CYLINDER HEAD
67	75262	1	SEAL, BREATHER SCREW
68	75263	1	SEAL, BREATHER SCREW
69	75264	1	STARTER GEAR
70	75265	1	STARTER END CAP ASSEMBLY
71	75266	1	COMMUTATOR CAP ASSEMBLY
72	75267	1	STARTER HOUSING ASSEM.
73	68572	2	SCREW, OIL PUMP
74	75272	2	TERMINAL, SPARK PLUG
75	70122	2	SEAL, VALVE STEM
76	67910	2	SEAT, INTAKE VALVE
77	67911	2	SEAT, EXHAUST VALVE
78	67813	4	VALVE, GUIDE
79	75268	1	RETAINER AND PIN
80	75270	1	ROLL PIN
81	70592	1	AIR CLEANER BASE
82	73123	1	AIR FILTER(FLAME RETARDENT)
83	70593	1	COVER, AIR CLEANER
84	72300	1	SCREW, AIR CLEANER COVER
85	67156	2	SCREW, AIR CLEANER BASE
86	69341	1	PRE-FILTER
87	490316	1	SPRING, BRUSH SET
88	70597	1	TUBE, AIR INLET
89	69358	1	DEFLECTOR-BREATHER
90	67920	2	GASKET, VALVE COVER
91	69328	2	VALVE COVER
92	70547	1	OIL PUMP ASSEMBLY
93	70536	1	GOVERNOR SLIDER
94	70577	4	PUSH ROD
95	70599	4	ROCKER ARM ASSEMBLY
96	70567	2	SHAFT-ROCKER ARM
97	70566	4	SUPPORT, ROCKER ARM
98	75271	1	KIT, VALVE OVERHAUL
99	67897	2	GASKET, EXHAUST

GENERAC'S 3-YEAR LIMITED WARRANTY

FOR

NP SERIES RECREATIONAL VEHICLE 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 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.

3-YEAR WARRANTY SCHEDULE

1. All NP Series generators used in a recreational vehicle shall be warranted from date of purchase for a period of three (3) years or 2000 hours of operation, whichever occurs first. All parts, labor, removal and reinstallation shall be covered for the first two years. Parts and labor on selected generator and engine parts shall be covered during the third year or 2000 hours.

2. The drive train, belt and pulleys on NP series 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 a $50.00 payment upon return of the failed belt or pulley by the original owner. For succeeding owners, this power train warranty shall cover belt or pulley parts only.

3. Rental units, demonstrators or commercial applications, such as construction or utility, are warranted for one year or 2000 hours, whichever comes first.

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 startup.
- Failures due to normal wear, accident, misuse, abuse, negligence or improper installation.
- Products which are modified or altered in a manner not authorized by the manufacturer in writing.
- 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 communications expenses.
- Living or travel expenses of persons performing service.
- All transportation/travel expenses.
- Rental equipment used while warranty repairs are being performed.
- Overtime labor.
- Starting batteries, fuses, light bulbs and engine fluids.

This warranty is in place of all other warranties, express or implied. Specifically, Generac makes no other warranties as to merchantability or fitness for a particular purpose. Generac's only liability shall be the repair or replacement of parts as stated above. In no event shall Generac be liable for any incidental or consequential damages, even if such damages are a result of Generac's negligence. Buyer agrees to make no claims against Generac based on negligence.

GENERAC CORPORATION, P.O. Box 8, Waukesha, WI 53187

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