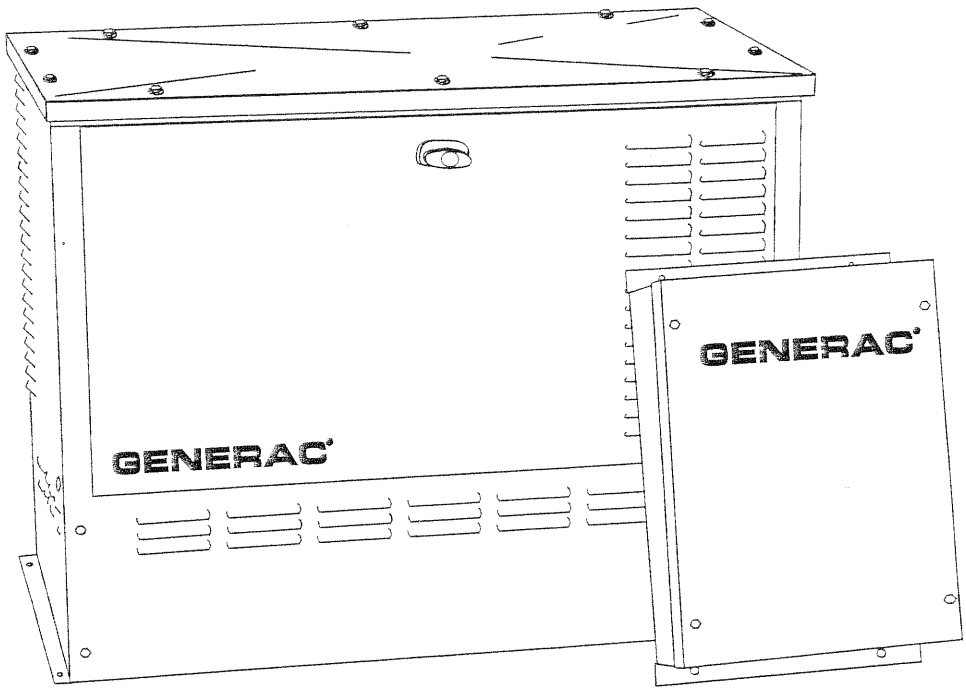
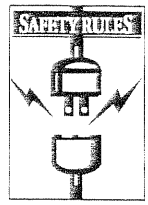
Manual No. A8432

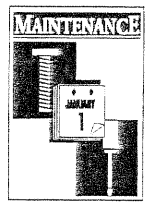
Generac II
Emergency Power Systems

OWNER'S MANUAL





General Information



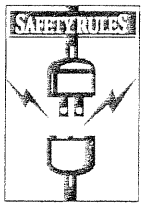
GENERAC®
POWER SYSTEMS, INC.

Model No. 00921-1

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.

Revision 0 (10/6/98)

Printed in U.S.A.



IMPORTANT SAFETY RULES

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.

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 equipment are, therefore, not all-inclusive. If you use a procedure, work method or operating technique that Generac did not specifically recommend, you must satisfy yourself it is safe for you and others.

Generac suggests these SAFETY RULES be copied and posted near the standby electric system installation. STRESS SAFETY TO ALL OPERATORS AND POTENTIAL OPERATORS OF THIS EQUIPMENT.

1. Due to safety concerns, Generac highly recommends an Authorized Generac Dealer be involved with installation.
2. For fire safety, install and maintain this equipment 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.
3. Do not smoke around generator. Wipe up all fuel and oil spills immediately. Do not leave oily rags in generator compartment. Keep the area around the generator clean and free of debris.
4. Adequate unobstructed flow of cooling and ventilating air is required for cooling, expelling toxic and flammable fumes, and engine combustion. Do not alter the installation or permit cooling and ventilation openings in the generator compartment to become obstructed. The generator MUST be installed outdoors.
5. The engine exhaust system gives off DEADLY carbon monoxide gas. This dangerous gas, if breathed in sufficient concentrations, can cause unconsciousness or even death. Inspect exhaust system often. Make sure it is not possible for exhaust fumes to enter any building or room where people or animals are located.
6. Keep hands, feet, clothing, etc., away from drive belts, fans, and other moving parts.
7. The National Electric Code requires the frame and external electrically conductive parts of the generator be connected to an approved earth ground. Local electrical codes may also require proper grounding of the generator. Proper grounding helps prevent electrical shock in the case of a ground fault condition.
8. When working on this equipment, remain alert at all times. Never work on the equipment when you are physically or mentally fatigued.
9. After installing this home standby electrical system, the generator may crank and start at any time without warning. When this occurs, load circuits are transferred to the STANDBY (generator) power source. To prevent possible injury if such a start and transfer occur, always set the generator's Manual/Off/Auto switch to its OFF position before working on 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.

10. UTILITY power delivers extremely high and dangerous voltages to transfer switch as does standby generator when it is running. Making contact with bare wires, terminals or connections can result in very hazardous and possibly FATAL, electrical shock.
11. Do not handle any kind of electrical device while standing in water, while barefoot, or while hands or feet are wet. DANGEROUS ELECTRICAL SHOCK WILL RESULT.
12. In case anyone receives a severe electrical shock, shut down the source of electrical power at once. If you cannot do this, free the victim from the live conductor, but AVOID DIRECT CONTACT WITH THE VICTIM. Use a dry board, dry rope or other non-conducting implement to free the victim. If the victim is unconscious, apply first aid and get medical help.
13. Gaseous fluids such as natural gas and LP (propane) gas are extremely EXPLOSIVE. Install fuel supply system according to applicable fuel-gas codes. Before placing home standby electric system into service, fuel system lines must be properly purged and leak tested according to applicable code. After installation, you must inspect fuel system periodically for leaks. No leakage is permitted.
14. Inspect home standby system periodically. Repair or replace all damaged or defective parts immediately.
15. Keep a fire extinguisher on hand near the generator set. Extinguishers rated "ABC" by the National Fire Protection Association are appropriate to use on the standby electric system. Keep the extinguisher properly charged and be familiar with its use. If you have any question pertaining to fire extinguishers, consult your local fire department. .
16. Never wear jewelry while working on this equipment. Jewelry conducts electricity and can cause dangerous electrical shock.
17. Keep this manual for reference.

DANGER! Despite the safe design of the generator, operating this device imprudently, neglecting its maintenance, or being careless can cause possible injury or death. The generator is powerful enough to deliver fatal electric shocks. Utility power source voltage delivered to a transfer switch can also cause fatal electrical shock. Permit only responsible and capable persons to operate or maintain this equipment.

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

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.

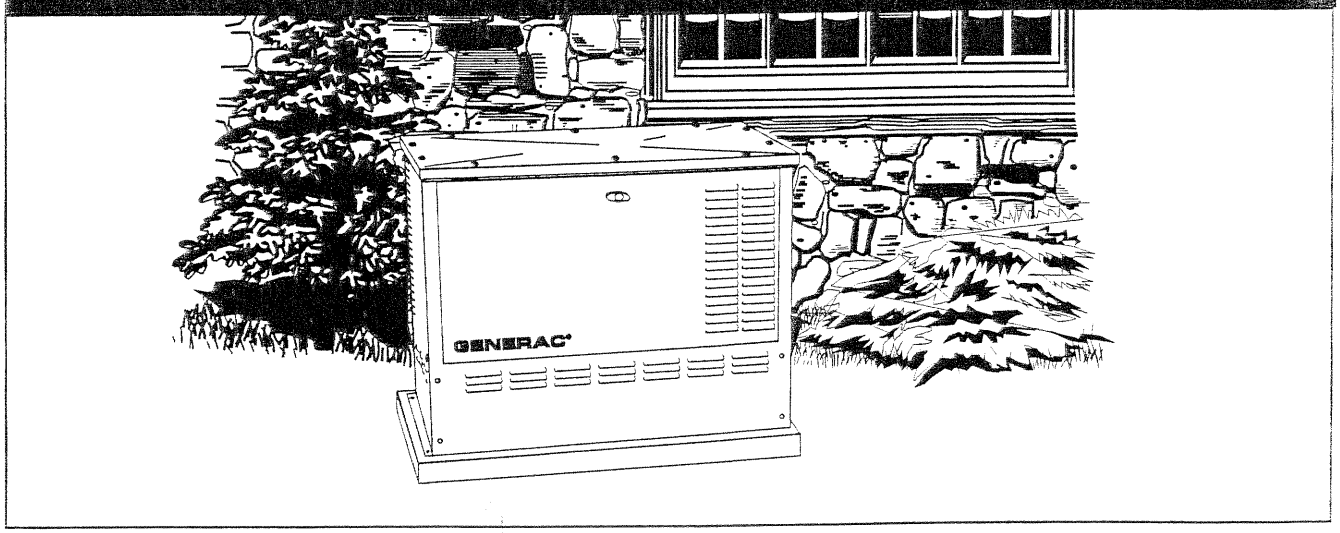
Table of Contents

DEALER LOCATOR PHONE NUMBER

To better assist our customers we have established a Dealer Locator phone number which allows the customer to call 24 hours a day to find the nearest Generac dealer. This is just a dealer locator number. No technical service can be provided on this line.

1-800-333-1322

Figure 1 — Model 00921 Emergency Power System



GENERATOR

This equipment is an air-cooled, engine-driven generator set. The generator is designed for supplying electrical power that operates critical loads during a utility power failure.

The unit has been factory installed in a weather protective, all metal enclosure and is intended for outdoor installation only.

Use Model 00921 as a source of electrical power for operating 120 and/or 240 volts, 1-phase, 60 Hz, AC electrical loads requiring up to 5000 watts (5 kW) of power. Compatible electrical loads require up to 41.6 AC amperes of current at 120 volts, or up to 20.8 AC amperes at 240 volts.

TRANSFER SWITCH

A 2-pole transfer switch, rated 100 AC amperes maximum at 250 volts maximum, is shipped with the generator. The transfer switch is intended for indoor use. The transfer switch enclosure has been UL approved.

WARNING: If this generator is used to power electrical load circuits normally powered by a utility power source, you are required by code to install a transfer switch. The transfer switch must effectively isolate the electric system from the utility distribution system when the generator is operating (NEC 701). Failure to isolate an electrical system by such means will result in damage to generator and may also result in injury or death to utility power workers due to backfeed of electrical energy.

AUTOMATIC SYSTEM OPERATION

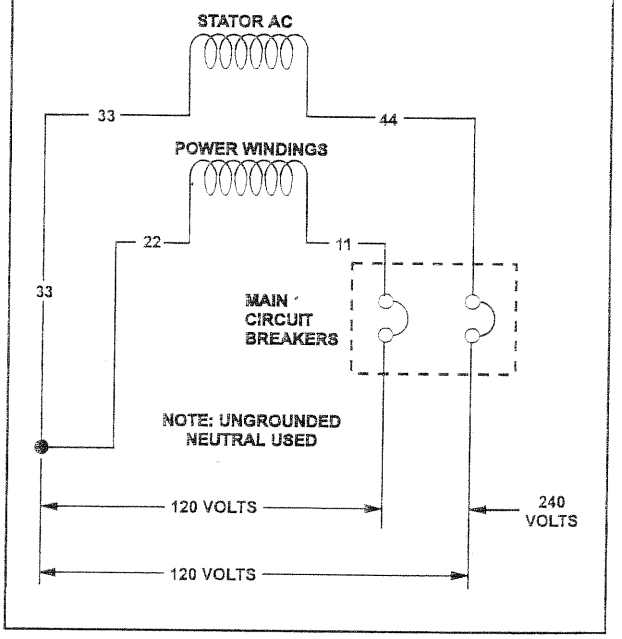
When this generator with transfer switch as been properly installed and interconnected, a circuit board in the generator panel constantly monitors utility power source voltage. Should that voltage drop below a pre-set value, and remain at such a low state for a pre-set amount of time, the generator cranks and starts. After the generator starts, the transfer switch transfers load circuits to generator output. When utility source voltage has been restored, the switch re-transfers back to the utility source voltage and the generator shuts down.

Once every seven days, on a day and at a time of day you select, the generator will start and run for about 20 minutes. During this weekly "exercise cycle", the utility loads are not transferred to standby.

GENERATOR AC CONNECTION SYSTEM

The generator AC power winding is a dual winding type (Figure 2), which provides a 3-wire AC connection system. Each single stator AC power winding can supply 120 volts AC. When the two windings are connected in series, a 240 volts AC output results. Stator AC output leads 11 and 44 are the two "hot" leads; the junction of leads 22 and 33 form the neutral lead.

Figure 2—Generator AC Connection System



ENGINE PROTECTIVE DEVICES

Unlike an automobile engine, the generator may have to run for long periods of time with no operator in the vicinity to monitor engine conditions. For that reason, the engine is equipped with several devices which protect it against such potentially damaging conditions as (a) low oil pressure and (b) high temperature.

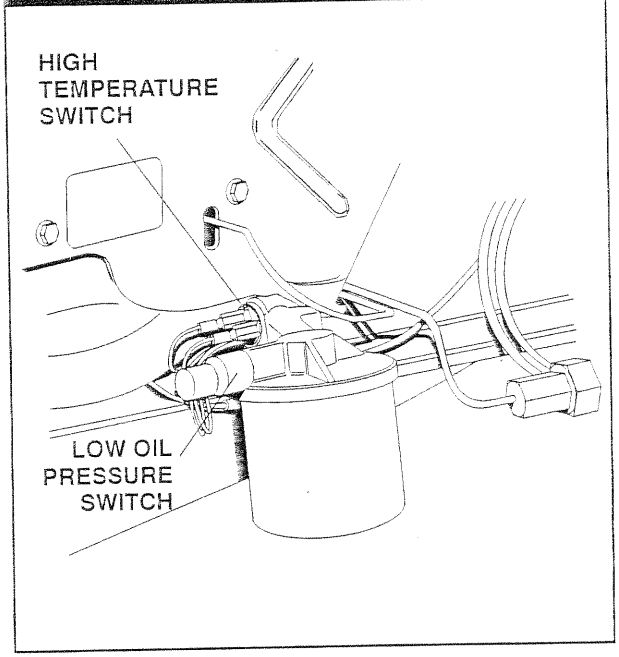
LOW OIL PRESSURE SWITCH

Switch (Figure 3) has normally closed (N.C.) contacts which are held open by engine oil pressure during cranking and operating. Should oil pressure drop below about 8-12 psi, switch contacts close and the engine shuts down.

HIGH TEMPERATURE SWITCH

Switch (Figure 3) contacts close if temperature should exceed about 284°F (140°C) to initiate an engine shutdown.

Figure 3 — Low Oil Pressure and High Temperature Switches



UNPACKING

UNPACKING PRECAUTIONS

Handle shipping cartons and crates with care. Use care to avoid damage from dropping, bumping, collision, etc. Store and unpack cartons with the proper side up, as noted on the shipping carton.

INSPECTION

After unpacking, carefully inspect the generator and transfer switch for any damage that may have occurred during shipment. If loss or damage is noted at the time of delivery, have the person(s) making delivery note all damage on the freight bill or affix his signature under the consignor's memo of loss or damage.

If you note loss or damage after delivery, separate the damaged materials and contact the carrier for claim procedures.

"Concealed damage" is understood to mean damage to the contents of a package which is not in evidence at the time of delivery, but it is discovered later. The carrier or carriers are responsible for merchandise lost or damaged in transit. The title to goods rests with the consignee when generators are shipped FOB factory and only the consignee can legally file claims.

LIFTING THE GENERATOR

WARNING: If lifting or hoisting equipment is used, be carful not to touch overhead power lines. The generator weighs more than 300 pounds. Proper tools and equipment and qualified personnel should be used in all phases of handling and unpacking.

SPECIFICATIONS

GENERATOR

Rated Maximum Continuous Power Capacity	‡5000 watts (5.0 kW)
Rated Voltage	120 and/or 240 volts
Rated Maximum Continuous Load Current	
120 Volts	41.6 amps
240 Volts	20.8 amps
Phase	1-Phase
Number of Rotor Poles	2
Rated AC Frequency	†60 Hertz at 3600 rpm
Power Factor	1.0

‡ Minimum wattage and current are subject to and limited by such factors as fuel BTU content, ambient temperature, altitude, engine power and condition, etc. Maximum power decreases about 3.5% for each 1000 feet above sea level; and will also decrease about 1% for each 10°F above 60°F.

† For Model 00921, a rotor speed of 3600 rpm is obtained at an engine governed speed of 2900 rpm.

ENGINE

Type of Engine	4-cycle, air-cooled
Number of Cylinders	1
Rated Horsepower	14.5 at 3600 RPM
Displacement	407 cc
Cylinder Block	Aluminum
Valve Arrangement	Overhead Valves
Ignition System	Solid State
Recommended Spark Plugs	Champion R12YC
Spark Plug Gap	0.030 inch (0.76mm)
Compression Ratio	8.5 to 1
Starter	12 volts DC

ENGINE(continued)

Oil Filter	Generac #70185
Crankcase Oil Capacity	1.5 U.S. quarts
Valve Clearance	
Intake	0.004-0.006 inch
Exhaust	0.004-0.006 inch

FUEL CONSUMPTION

(cubic feet per hour)

The following lists the approximate amount of fuel the unit consumes at 100% rated load. Actual fuel consumption may vary depending on BTU content of fuel, applied load, ambient conditions, engine conditions, etc.

When using natural gas	133 cubic ft. per hour
When using propane	47 cubic ft. per hour

TORQUE SPECIFICATIONS

Engine flywheel	125 foot-pounds
Cylinder head bolts	165 inch-pounds
Connecting rods	115 inch-pounds
Crankcase cover	150 inch-pounds
Governor lever lock nut	70 inch-pounds
Spark plugs	200 inch-pounds
Starter mounting	140 inch-pounds

ENGINE OIL RECOMMENDATIONS

Use a high quality detergent oil that meets or exceeds API Service SF, SF/CC or SF/CD requirements for gasoline engines.

The PRIMARY recommended oil is a synthetic oil such as MOBIL Formula 5W-30. Synthetic oil promotes easier starts in cold weather and provides maximum protection in hot weather.

If you use a non-synthetic oil, viscosity MUST be suitable for the lowest temperature range at which the engine is operated. The chart below lists the viscosity ranges for the lowest ambient operating temperatures:

TEMPERATURE	OIL GRADE (recommended)
Above 60°F (16°C)	SAE30
20° to 59°F(-7° to 15°C)	SAE 10W-30
Below 20°F (-7°C)	SAE 5W-20 or 5W-30
All Seasons	SAE 5W-30 Synthetic Oil

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

FUEL REQUIREMENTS

With LP gas, use only the vapor withdrawal system. This type of system uses the vapors formed above the liquid fuel in the storage tank.

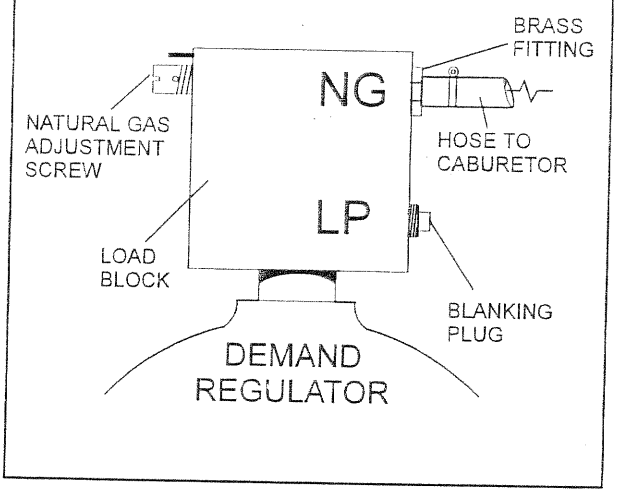
The engine has been fitted with a fuel carburetion system which meets the specifications of the 1998 California Air Resources Board for tamper proof dual fuel systems. The unit will run on natural gas or propane fuel and has been factory set to run on natural gas. Should the primary fuel need to be changed to propane, then the fuel system needs to be reconfigured.

RECONFIGURING THE FUEL SYSTEM

To reconfigure the fuel system, follow these steps:

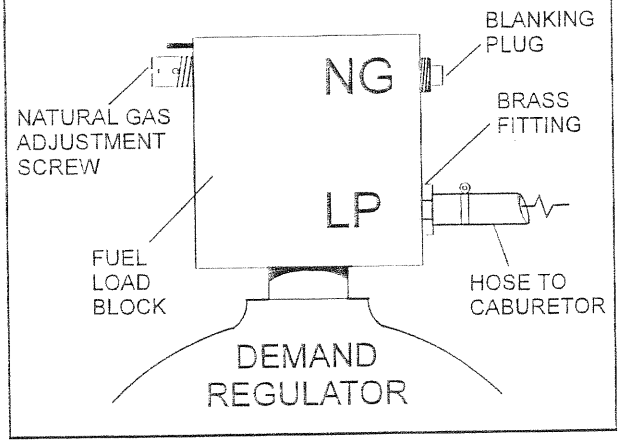
- Remove the carburetor fuel hose from the natural gas port of the fuel load block and the brass fitting (Figure 4).

Figure 4—Set up for Natural Gas



- Remove the blanking plug from the LP port of the load block (Figure 4).
- Refit the fitting and hose to the LP port and the blanking plug to the natural gas port (Figure 5 on Page 7).

Figure 5—LP Gas Set Up



ADJUSTING THE LOAD BLOCK

When the natural gas system is being used, the load block is fitted with an adjustment screw which has been calibrated to provide maximum power. However, because of variations in the BTU content of natural gas across the country, it may be necessary to readjust the load block.

- Connect frequency meter to the output of the generator.
- Start the unit and apply full load (20.8 amps at 240 volts - 41.6 amps at 120 volts AC).
- Allow the unit to stabilize, then turn the adjustment screw slowly clockwise or counter clockwise and watch the frequency.
- When the highest frequency is reached, turn the adjustment screw counterclockwise 1/4 turn.
- The fuel system is now set.
- For LP gas operations, no adjustments will be required. The unit is set to provide maximum power using LP gas.

RECOMMENDED FUEL

Recommended fuels should have a BTU content of at least 1000 BTUs per cubic foot for natural gas; or at least 2520 BTUs per cubic foot for LP gas. Ask your fuel supplier for the BTU content of your fuel.

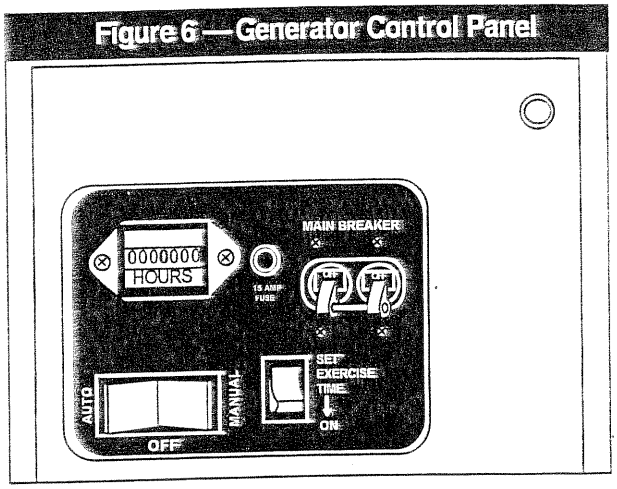
WARNING: Gaseous fuels such as natural and LP (propane) gas are highly explosive. Even the slightest spark can ignite such fuels and cause an explosion. No leakage of fuel is permitted. Natural gas, which is lighter than air, tends to collect in high areas. LP gas is heavier than air and tends to settle in low areas.

USING THE MANUAL-OFF-AUTO SWITCH (Figure 6)

"MANUAL" POSITION

1. Set the switch to "Manual" to crank and start the engine.
2. This switch position is a test of automatic operation.
3. Transfer to standby power will not occur after any manual start.

Figure 6—Generator Control Panel



"AUTO" POSITION

1. Provides fully automatic system operation.
2. Selecting this switch position allows you to start and exercise the engine every 7 days with the setting of the weekly exercise cycle (see Page 7).

"OFF" POSITION

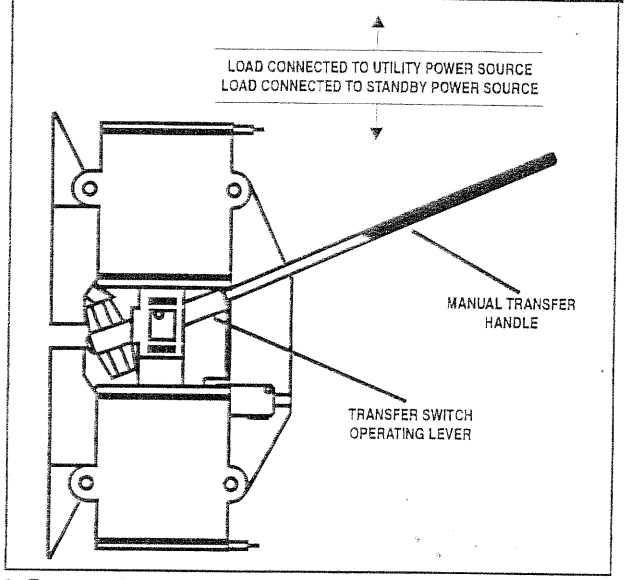
1. Shuts down the engine.
2. Prevents operation.

WARNING: With switch set to AUTO, engine may crank and start at any time without warning. Such automatic starting normally occurs when utility power source voltage drops below pre-set level. To prevent possible injury that might be caused by such sudden starts, always set switch to OFF before working on or around the generator or transfer switch. Then place a "DO NOT OPERATE" tag on the generator panel and on the transfer switch.

TO SELECT AUTOMATIC OPERATION

1. Make sure the transfer switch main contacts are actuated to their "Utility" position, i.e., load connected to utility power source side (Figure 7).

Figure 7 — Manual Transfer Switch Operation



2. Be sure that normal utility power source voltage is available to transfer switch terminal lugs N1 and N2.
3. Set the generator's Manual-Off-Auto switch to "Auto."
4. Actuate the generator main circuit breaker to its "ON" or "CLOSED" position.

With the preceding steps completed, the generator will start automatically when utility source voltage drops below a preset level. After the unit starts, loads are transferred to the standby power source. Refer to "Sequence of Automatic Operation."

MANUAL OPERATION

To start the generator and actuate the transfer switch manually, proceed as follows:

1. On the generator panel, set the Manual-Off-Auto switch to "OFF".
2. Set generator's main circuit breaker to "OFF" or "OPEN".
3. Turn OFF the utility power supply to the transfer switch, using whatever means provided (such as a utility main line circuit breaker).

DANGER: Do not attempt to accurate transfer switch manually until after all power voltage supplies to the switch have been positively turned OFF. Failure to turn off all power voltage supplies may result in extremely hazardous and possibly fatal electrical shock.

4. Use the manual transfer handle inside transfer switch to actuate the main contacts to their "Standby" position, i.e., loads connected to the standby power source (Figure 7).
5. To crank and start the engine, set the Manual-Off-Auto switch to "MANUAL".
6. Let the engine stabilize and warm up for a few minutes.
7. Set the generator main circuit breaker to its "ON" or "CLOSED" position. The standby power source now powers the loads.

RE-TRANSFER BACK TO UTILITY POWER SOURCE

When utility power has been restored, you will want to re-transfer back to that source and shut down the generator. This can be accomplished as follows:

1. Actuate the generator's main circuit breaker to "OFF" or "OPEN".
2. Let the engine run for a minute or two at no-load to stabilize the internal temperatures.
3. Set the generator's Manual-Off-Auto switch to "OFF". The engine should shut down.
4. Check that utility power supply to transfer switch is turned OFF.

DANGER: Do not attempt to accurate transfer switch manually until after all power voltage supplies to the switch have been positively turned OFF. Failure to turn off all power voltage supplies to the transfer switch may result in extremely hazardous and possibly fatal electrical shock.

5. Manually actuate the transfer switch main contacts back to their "Utility" position, i.e., loads connected to the utility power source (Figure 7).
6. Turn ON the utility power supply to the transfer switch, using whatever means provided.
7. Set the system to automatic operation as outlined in "To Select Automatic Operation".

SEQUENCE OF AUTOMATIC OPERATION

The generator control panel houses a control logic circuit board. This board constantly monitors utility power source voltage. Should that voltage drop below a pre-set level, circuit board action will signal the engine to crank and start. After the engine starts, the circuit board signals the transfer switch to actuate and connect load circuits to the standby power supply (load terminal lugs T1/T2 connect to terminal lugs E1/E2).

On restoration of utility source voltage above a pre-set level, generator circuit board action signals the transfer switch to re-transfer loads back to that power supply. After retransfer, the engine is signalled to shut down.

The actual sequence of operation is controlled by sensors and timers on control logic circuit board, as follows:

A. Utility Voltage Dropout Sensor

- Senses utility source voltage.
- If utility voltage drops below about 60% of the nominal supply voltage, sensor energizes a 6-second timer.
- If the utility voltage drops below 60% of nominal supply for more than 6 seconds, engine cranks and starts.

B. Engine Warm-up Time Delay lets engine warm up for about 15 seconds before load is transferred to standby source.

C. Standby Voltage Sensor senses generator AC output voltage. When voltage has reached 50% of nominal rated voltage, transfer to standby can occur.

D. Utility Voltage Pickup Sensor monitors utility power supply voltage. When that voltage is restored above 80% of the nominal source voltage, a re-transfer time delay starts timing.

E. Re-Transfer Time Delay times for about 6 seconds.

- At end of 6-second delay, circuit board action de-energizes transfer relay in transfer switch.
- Re-transfer back to utility power source then occurs.

F. Engine Cooldown Timer

- When the load is re-transferred back to utility source, the engine cooldown timer starts timing.
- Timer will run for about one minute and generator will then shut down.

SET WEEKLY EXERCISE CYCLE

The generator will start and exercise once every 7 days. During this weekly exercise, the unit runs for about 20 minutes and shuts down. Transfer of loads to generator output does not occur during the exercise cycle.

A switch on the control panel permits the day and time of day for system exercise to be selected. To select the desired day and time of day, proceed as follows:

1. Set the Manual-Off-Auto switch to "OFF".
2. Set the generator main circuit breaker to "OFF" or "OPEN".
3. On the control panel, locate the rocker switch identified with the words "Set Exercise" (Figure 8).
4. Push Set Exercise switch in the "ON" (downward) position for between 20 to 30 seconds. Switch springs back into original position when released.
5. Wait about 30 seconds before setting the Auto-Off-Manual Switch to "AUTO" position.

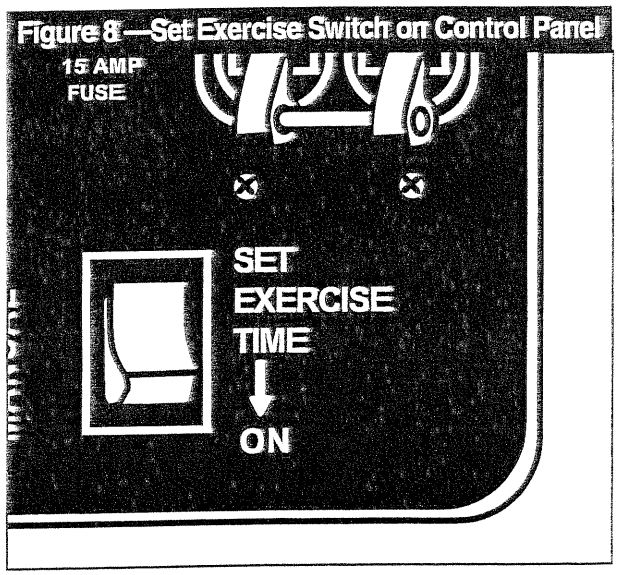


Figure 8—Set Exercise Switch on Control Panel

CAUTION: If you reset the Manual/Off/Auto switch too soon, the engine may start. If engine does start, it shuts off automatically in two minutes.

6. Set generator main circuit breaker to ON or CLOSED position. The generator will start and exercise every 7 days thereafter, on the day and the time of day you pressed the switch.

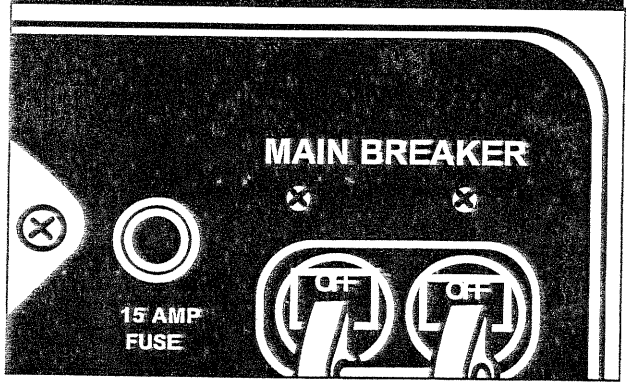
It is the owner/operator's responsibility to perform all safety checks; to ensure that all maintenance required for safe operation is performed; and to have the equipment checked by an authorized service technician periodically. Normal maintenance service and replacement of parts are the responsibility 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 will contribute to the need for maintenance.

Proper maintenance and care of your emergency power system system will help assure a minimum number of problems and will keep overall operating expenses at minimum. Keeping the unit clean and dry should be a part of the overall maintenance effort. Never operate any transfer switch or generator set that has damaged or defective parts.

15 AMP FUSE

The generator panel's 15 amp fuse (Figure 9) protects the DC control circuit against overload. The fuse is wired in series with the battery output lead to the panel. If the fuse element has melted open, you cannot crank or start the engine. Should you replace the fuse, use only an identical 15 amp replacement .

Figure 9—Location of 15-amp Fuse



CHECKING ENGINE OIL LEVEL

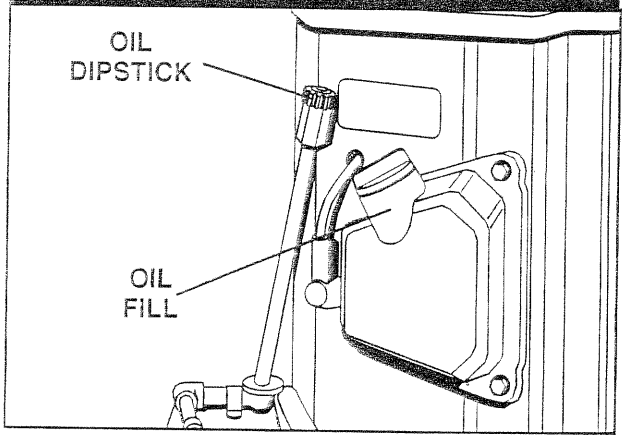
For recommended oils and capacities, see "Specifications" on Page 5 and "Engine Oil Recommendations" on Page 6. It is recommended that you check engine oil level every 10 hours of operation or at least once each month, whichever comes first. To check engine oil level, proceed as follows (Figure 10):

1. Remove DIPSTICK and wipe it dry with clean cloth.
2. Install and tighten dipstick cap then remove again. Oil level should be at the dipstick "FULL" mark. If necessary, add oil to the "FULL" mark only. DO NOT FILL ABOVE THE "FULL" MARK.

CAUTION! Never operate the engine with oil level below the ADD mark on dipstick. Doing this could damage the engine.

3. Install and tighten dipstick.

Figure 10—Oil Dipstick and Fill

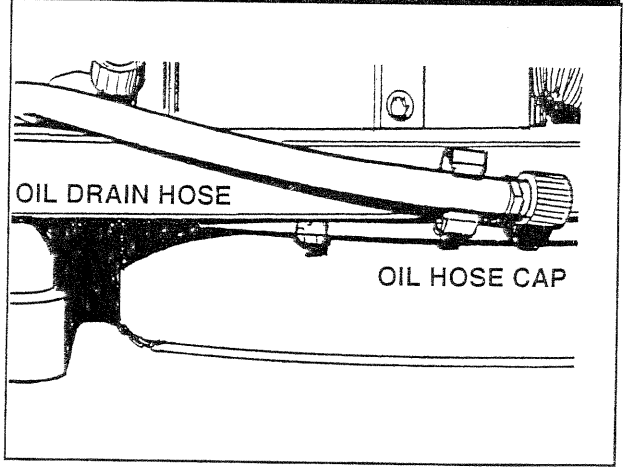


CHANGE ENGINE OIL

Change engine oil after the first five hours of operation. Thereafter, change oil every 50 operating hours. Change oil more frequently if operating consistently under heavy load or at high ambient temperatures. To change oil, proceed as follows:

1. Run engine until it is thoroughly warmed up then shut OFF the engine.
2. Immediately after the engine shuts OFF, pull OIL DRAIN HOSE (Figure 11) free of its retaining clip. Remove CAP from hose and drain oil into suitable container.

Figure 11—Oil Drain Hose



CHANGE ENGINE OIL (continued)

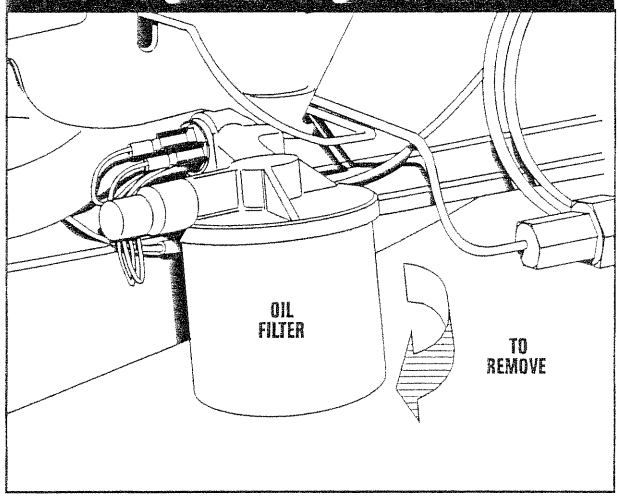
3. When oil has drained, install cap onto end of oil drain hose. Retain hose in clip.
4. Refill with proper recommended oil (see Page 6).

CHANGE OIL FILTER

Change engine oil filter every 100 operating hours (or every second oil change), as follows:

1. Remove old oil filter by turning counterclockwise.
2. Apply a light coating of clean engine oil to gasket of new filter.
3. Screw new filter on by hand until its gasket contacts the oil filter adapter lightly. Then, tighten filter an additional 3/4 to one turn (Figure 12).
4. Start engine and check for leaks.

Figure 12—Engine Oil Filter



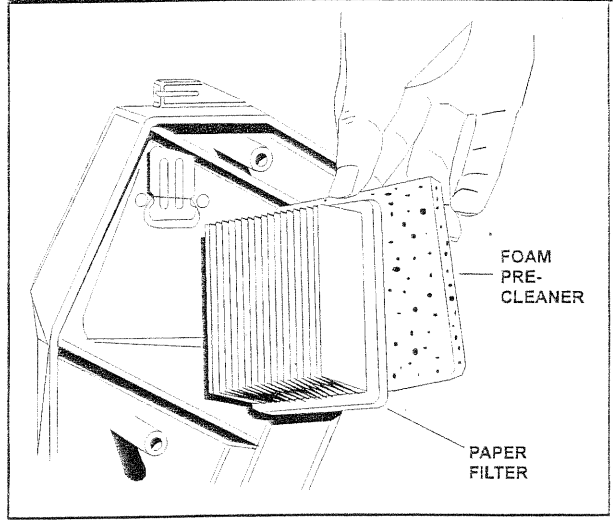
SERVICE ENGINE AIR CLEANER

Clean and oil the FOAM PRE-CLEANER (Figure 13) every three months or every 25 operating hours, whichever comes first. Service more frequently if operating under extremely dusty or dirty conditions. Service the FOAM PRE-CLEANER as follows:

1. Turn both screws counterclockwise to loosen them.
2. Remove the COVER, FOAM PRE-CLEANER and PAPER FILTER.
3. Replace FOAM PRE-CLEANER or wash in kerosene or in liquid detergent and water. Wrap FOAM PRE-CLEANER in cloth and squeeze dry.
4. Saturate FOAM PRE-CLEANER in engine oil. Squeeze to remove excess oil.
5. Install foam pre-cleaner into cover, followed by PAPER FILTER.
6. Install air cleaner assembly and retain with screws.

Once annually or every 100 hours of operation (whichever comes first), clean paper filter by tapping gently on a flat surface. If extremely dirty, replace it.

Figure 13—Engine Air Cleaner Assembly



CAUTION! DO NOT oil the PAPER FILTER. DO NOT use any petroleum solvents, such as kerosene, to clean the filter. DO NOT use air pressure to clean or dry paper filter.

COMPLETE ENGINE TUNE UP

Once annually, an authorized service technician should tune up the engine. This annual tune up should include the following tasks:

- Remove engine air cleaner and inspect. Clean or replace as necessary.
- Change oil filter.
- Drain oil completely and refill crankcase.
- Clean the engine and generator.
- Check engine intake manifold for damaged gaskets.
- Inspect engine governor springs for damage. Replace any damaged components.

COMPLETE ENGINE TUNE-UP (continued)

- Check governed speed and adjust governor, if necessary.
- Check engine for evidence of oil leaks.
- Check for proper ignition spark using an appropriate engine spark tester.
- Check valves for lash adjustment.
- Clean spark plug, inspect and reset plug gap. Replace plug if necessary.
- Check exhaust muffler and engine exhaust manifold for restrictions, damage.
- Run engine and check operation. Adjust load block if necessary.

INSPECT COOLING SYSTEM OF GENERATOR

At least once each month, inspect air inlet and outlet openings in the generator compartment. All air openings must be clean and unobstructed.

EMERGENCY POWER SYSTEM INSPECTION

Have qualified electricians or emergency power system technicians inspect your emergency power system at least once annually. Have them repair any discrepancies at this time.

TRANSFER SWITCH MAINTENANCE

Keep your transfer switch clean and dry. Have the switch inspected at least once each year by a qualified electrician or service technician.

Check switch contacts for evidence of arcing, burning, discoloration or damage.

Check transfer switch manual and automatic operation as outlined in Operation section.

BATTERY MAINTENANCE

At least once each month, check battery posts, cables and clamps for cleanliness, corrosion, tightness. Clean and tighten as required. Also check fluid level in all cells, and, if necessary, add distilled water.

Every 6 months have a service technician test the battery. The technician will use a battery hydrometer to test battery state of charge and condition. He will recharge the battery, if necessary, to a 100% state of charge. If battery is worn out, he will replace it.

WARNING: Be sure the Manual-Off-Auto switch is set to OFF position before connecting battery cables. If switch is set to MANUAL or AUTO, generator can crank and start as soon as battery cables are connected. Also, be sure utility power supply is turned off, or else sparking can occur at battery posts as you attach the cables and cause an explosion.

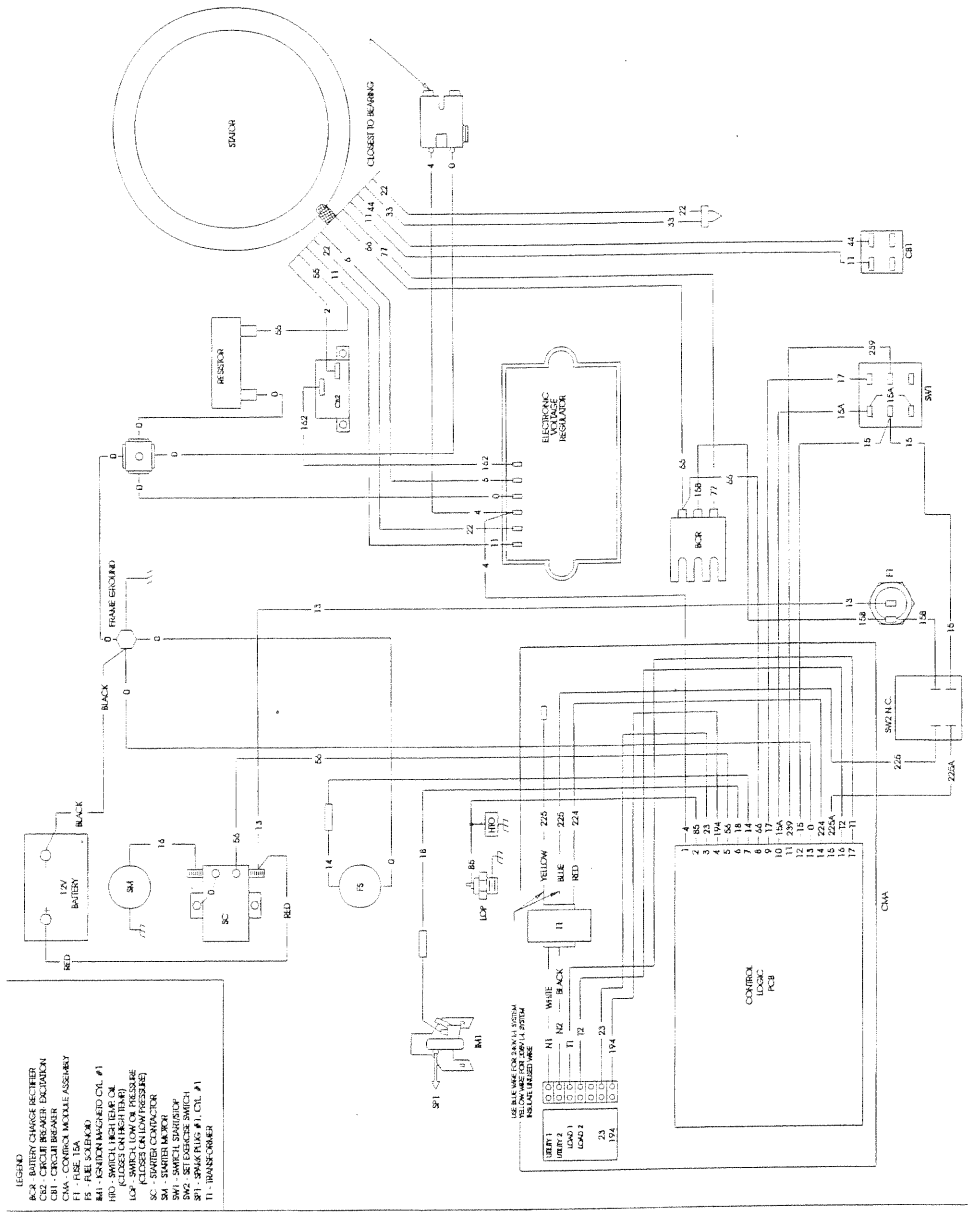
TROUBLESHOOTING POINTS

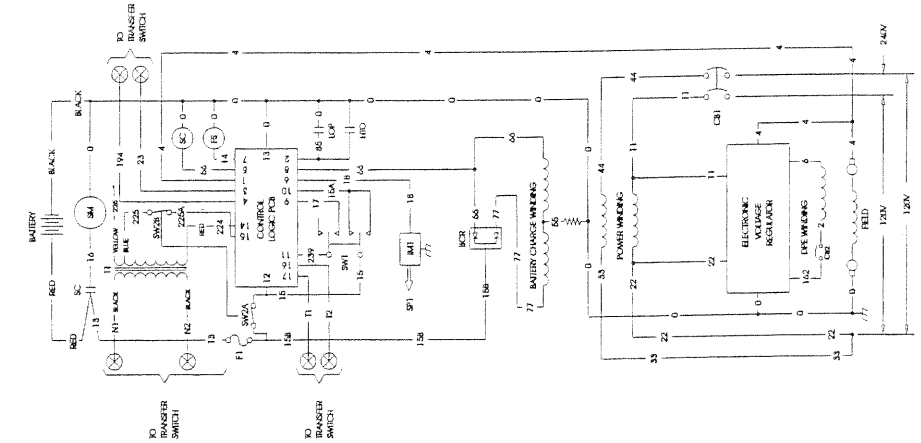
PROBLEM	CAUSE	CORRECTION
Engine won't crank.	1. 15 amp fuse blown. 2. Loose or corroded or defective battery cables 3. Defective starter contactor. 4. Defective starter motor. .5. Dead Battery.	1. Replace fuse. 2. Tighten, clean or replace as necessary. 3. Replace contactor. 4 Replace starter motor. .5 Charge or Replace Battery.
Engine cranks but won't start	1. Out of fuel. 2. Fuel solenoid (FS) is defective 3. Open Wire #14 from Engine Control. circuit board 4. Engine is flooded. 5. Spark plug defective.	1. Replenish fuel. 2. Replace solenoid. 3. Reconnect wire. 4. Wait 5-10 minutes before trying. 5. Clean, regap or replace plug.
Engine starts hard, runs rough.	1. Flame arrestor (air cleaner) plugged or damaged. 2. Defective spark plug.	1. Clean or replace as needed. 2. Clean, regap or replace plug.
Engine starts, shuts down when Start/Stop switch is released.	1. Engine oil level is low. 2. Defective Low Oil Pressure Switch 3. Defective High Temperature Switch 4. Defective Control Module circuit board.	1. Check oil and add oil as needed. 2. Replace switch. 3. Replace switch. 4. Replace board.
Auto/Off/Manual Switch at OFF, engine continues to run	1. Defective Auto/Off/Manual switch 2. Defective Control Module circuit board	1. Replace switch. 2. Replace board.
No AC output from generator.	1. Check main line circuit breaker. 2. Generator internal failure.	1. Reset to ON or CLOSED. 2. Take generator to an Authorized Generac facility.
No transfer to STANDBY after UTILITY source failure.	1. Defective transfer switch coil. 2. Defective transfer relay. 3. Transfer relay wires are open. 4. Defective Control Logic board.	1. Test/replace actuating coil. 2. Test/replace transfer relay. 3. Repair/replace bad wires. 4. Replace defective circuit board.

NOTES

SCHEMATIC AND WIRING DIAGRAM — GENERATOR

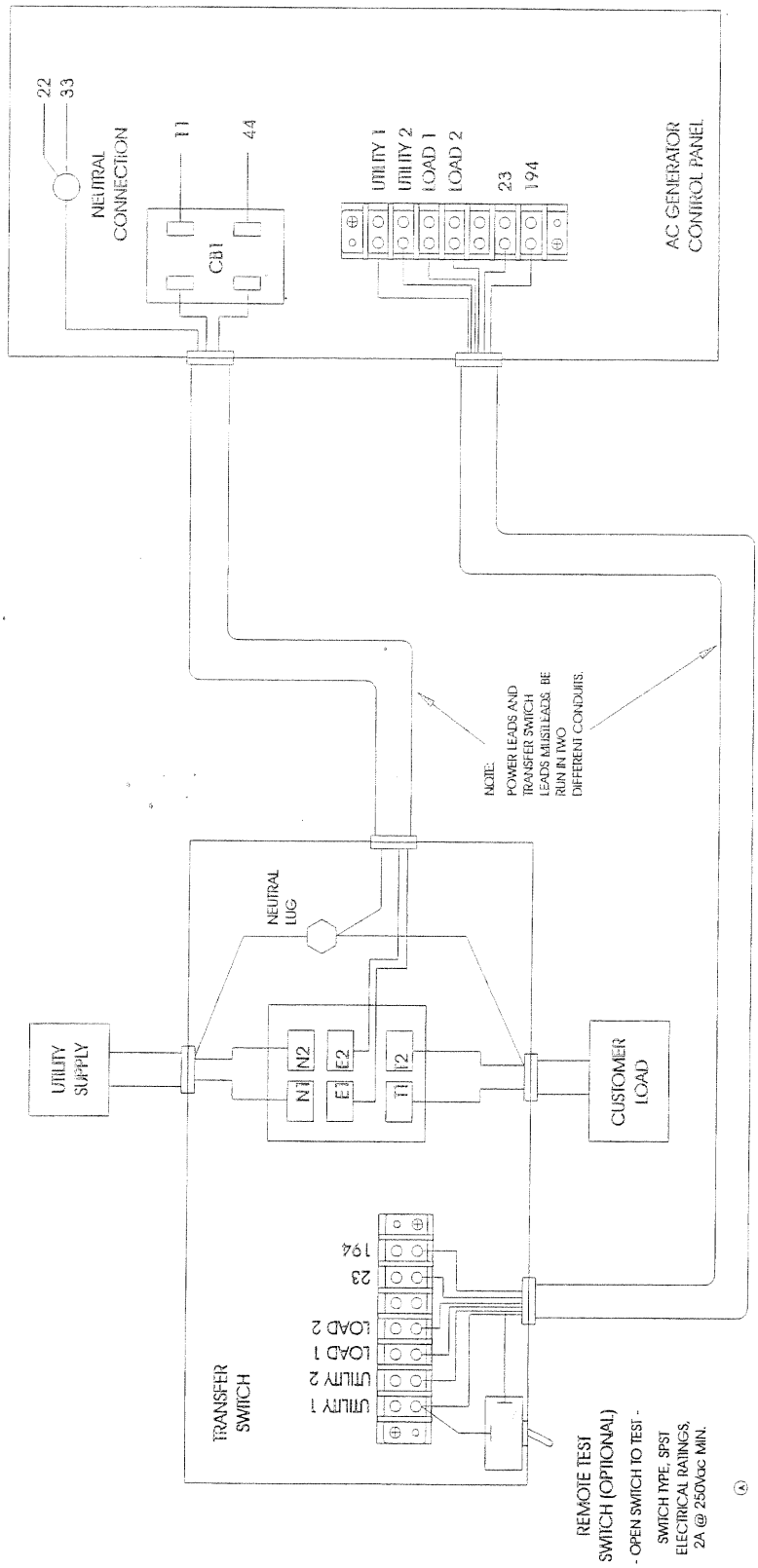
Drawing No. A5624 Rev. *





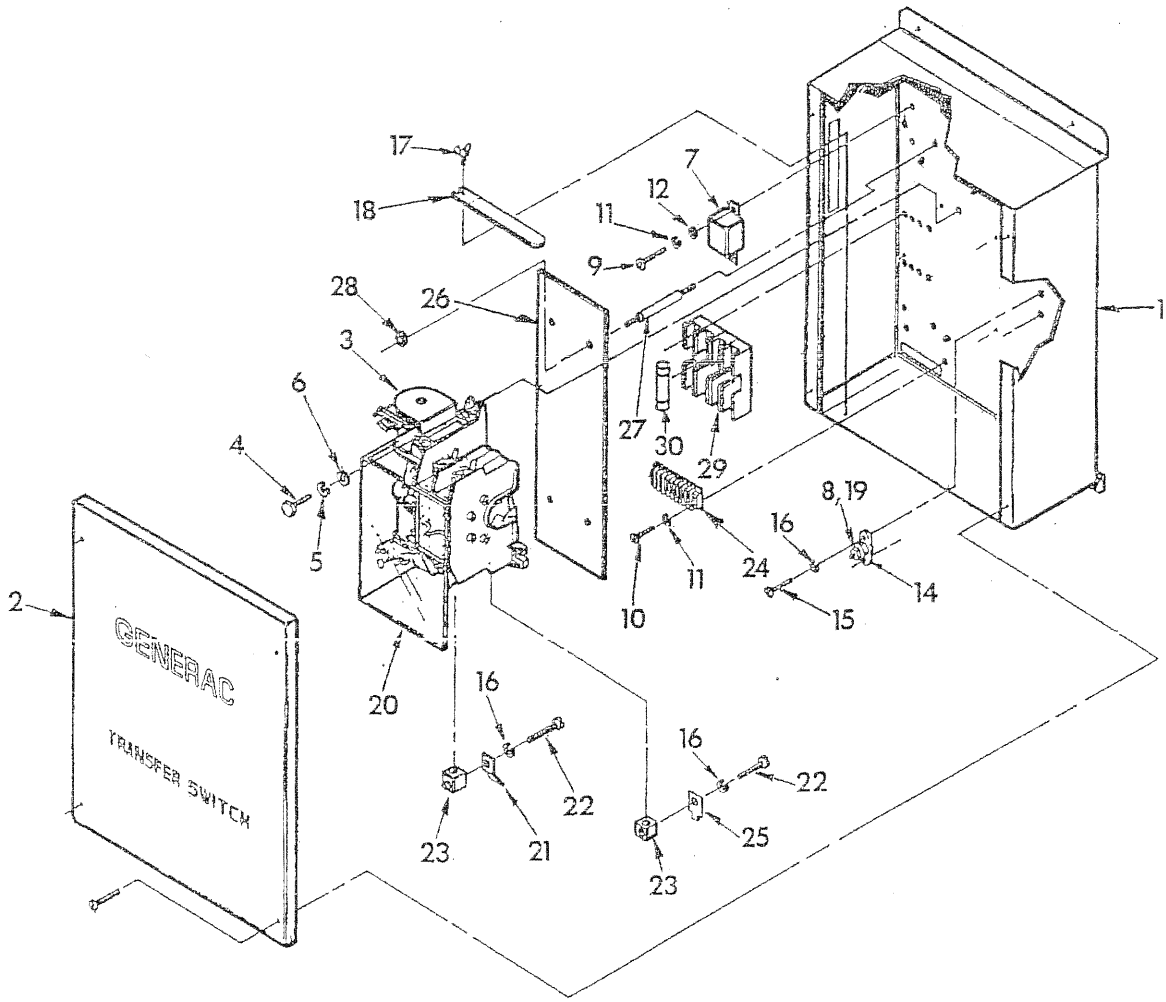
INTERCONNECTION WIRING DIAGRAM

Drawing No. 74106 Rev. A



EXPLODED VIEW — TRANSFER SWITCH

Drawing No. 81231 Rev. A



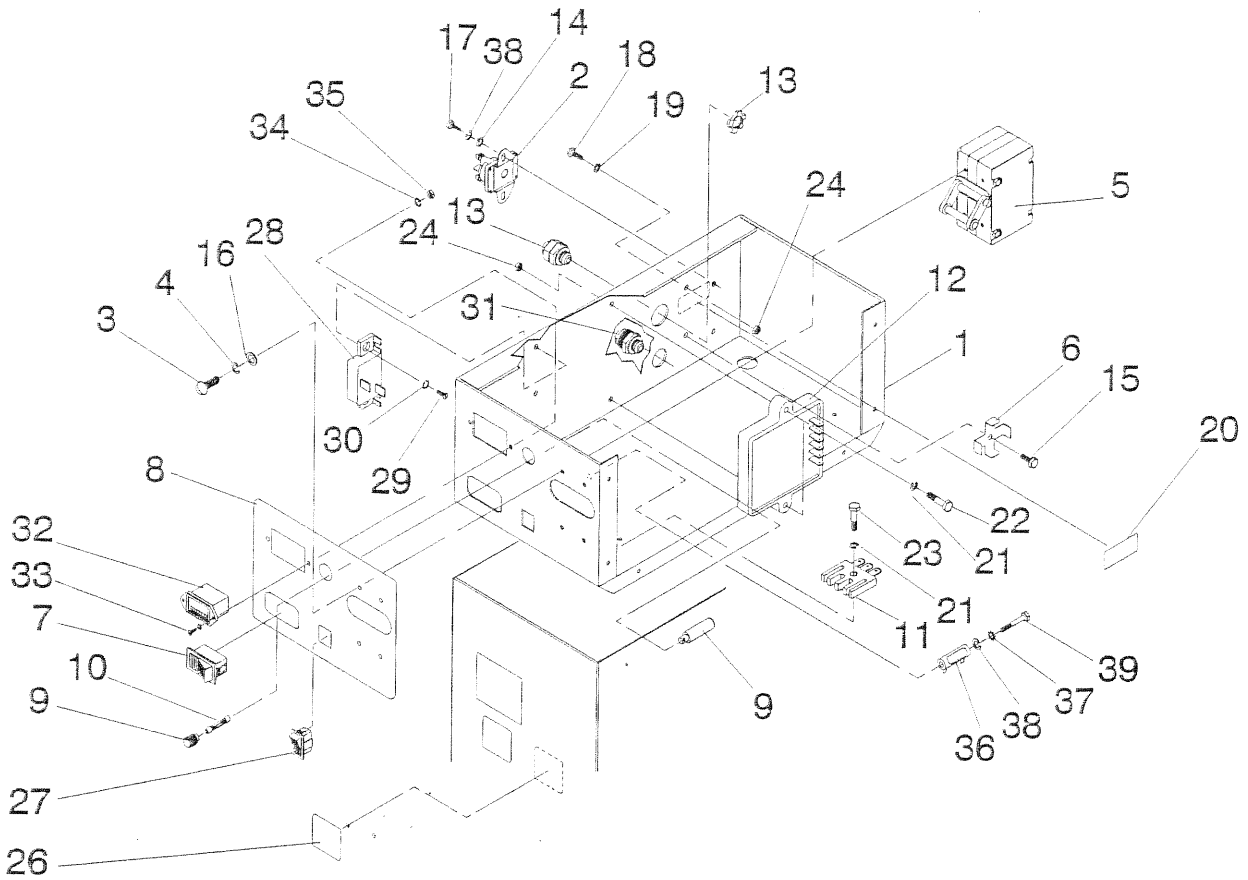
ITEM	PART NO	QTY.	DESCRIPTION
1	79849	1	TRANSFER SWITCH ENC.
2	74975	1	ENCLOSURE COVER
3	71340	1	TRANSFER MECHANISM-100AMP, 2-POLE
4	45770	3	CAPSCREW, HEX HEAD-M5-.8 x 10MM
5*	49226	3	LOCK WASHER-M5
6*	51713	1	FLAT WASHER-M5
7	63617	1	RELAY-10AMP, 12 VOLTS DC
8*	27628	1	HEX NUT-3/8"-16
9*	36917	2	PAN HEAD SCREW-NO. 8-32 x 3/8"
10*	36919	6	PAN HEAD SCREW-NO. 8-32 x 5/8"
11*	22264	8	LOCK WASHER-NO.8
12*	38150	6	FLAT WASHER-NO. 8
13	57593	5	TIE WRAP MOUNT
14	57073	1	NEUTRAL LUG
15*	33530	2	PAN HEAD SCREW-NO. 10-32 x 5/8"

ITEM	PART NO	QTY.	DESCRIPTION
16*	22152	8	LOCK WASHER-NO. 10
17	64113	1	WING STUD
18	77441	1	MANUAL TRANSFER HANDLE
19	22131	1	FLAT WASHER-3/8"
20	77440	1	COVER, POWER TERMINAL
21	74138	4	MALE DISCONNECT ADPT.
22	36932	6	SCREW, PAN HEAD NO. 10-32 x 1/4"
23	77033	6	SOLDERLESS LUG
24	47822	1	TERMINAL BLOCK-7 POS.
25	77052	2	MALE DISCONNECT ADPT.
26	79840	1	RELAY, COVER
27	79846	4	STAND-OFFS
28	22471	4	HEX NUT, #8-32
29	73591	4	FUSE HOLDER
30	73590	4	FUSE, 2A. 600VOLT

*COMMON HARDWARE ITEM AVAILABLE LOCALLY

EXPLODED VIEW — CONTROL PANEL

Drawing No. 94686 Rev. C

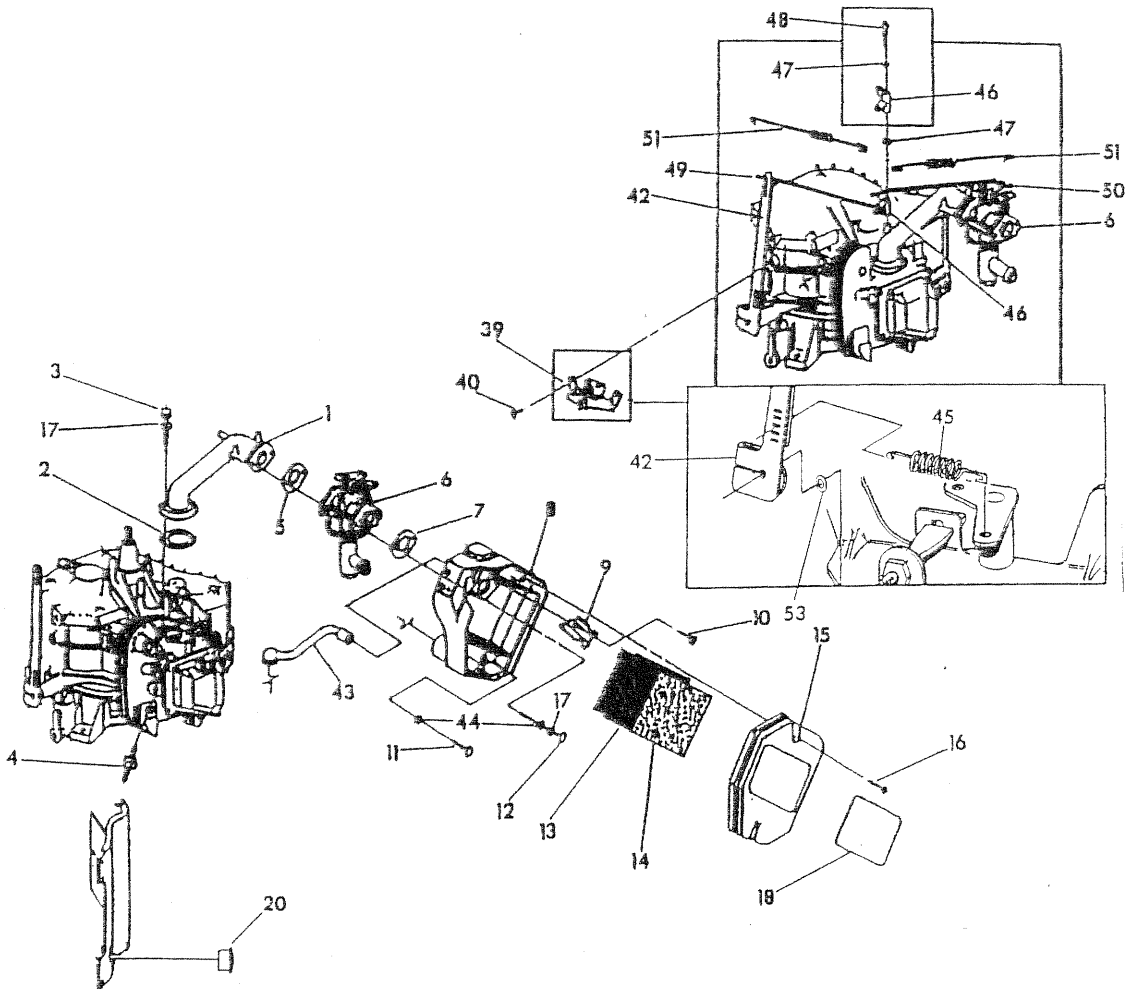


ITEM	PART NO	QTY.	DESCRIPTION
1	94510	1	BOX PANEL CONNECTION
2	86729	1	CONTACTOR, STARTER
3	36917	4	SCREW, RD. HD.-NO. 8-32 x 3/8"
4	22264	4	LOCK WASHER-M5
5	74968	1	BREAKER, CIRCUIT-25AMP.
6	57345	1	LUG-4 TABS
7	33873	1	SW.-MANUAL-OFF-AUTO
8	94516-A	1	DECAL-PANEL
9	32300	1	HOLDER, FUSE
10	22676	1	FUSE, 15AMP
11	65795	1	RECTIFIER, BATTERY CHARGER
12	74074	1	REGULATOR, VOLTAGE
13	34616	1	CONNECTOR, STRAIGHT
14	22473	2	FLAT WASHER-M6
15	63936	1	CRIMPTITE #8-18 x 1/4"
16	38150	2	FLAT WASHER-M4
17	43146	2	CAPS., HEX HD.-M6-1.00 x 10MM
18	75477	1	PH. PAN HD. MACH. SCREW-M5-0.8 x 20MM
19	22769	1	L/WASHER, SHAKEPROOF-M5 #10

ITEM	PART NO.	QTY.	DESCRIPTION
20	40495	1	DECAL, NEUTRAL
21	49226	3	LOCK WASHER-M5
22	75235	2	CAPS., HEX HD.-M5-0.80 x 30MM
23	49815	1	CAPS., HEX HD.-M5-0.80 x 16MM
24	51716	3	NUT, HEX-M5-0.80
26	81988	1	INSTRUCTION DECAL
27	82573	1	SWITCH, EXERCISE
28	53623	1	CIRCUIT BREAKER
29	33500	2	SCREW, 6-32 x 3/8"
30	22155	2	LOCK WASHER #6
31	22206	1	CONNECTOR
32	77604	1	HOURMETER
33	43181	2	PPHMS M3-0.5 x 10LG.
34	22159	2	LOCK WASHER
35	51714	2	HEX NUT M3-0.5
36	75234	1	RESISTER, 1.0HM
37	26850	1	SHAKEPROOF WASHER, 6MM
38	22097	1	LOCK WASHER, 6MM
39	74095	1	SCREW, M6-1.0 x 60LG.

EXPLODED VIEW — NATURAL GAS CARBURETOR

Drawing No. A6329 Rev. C

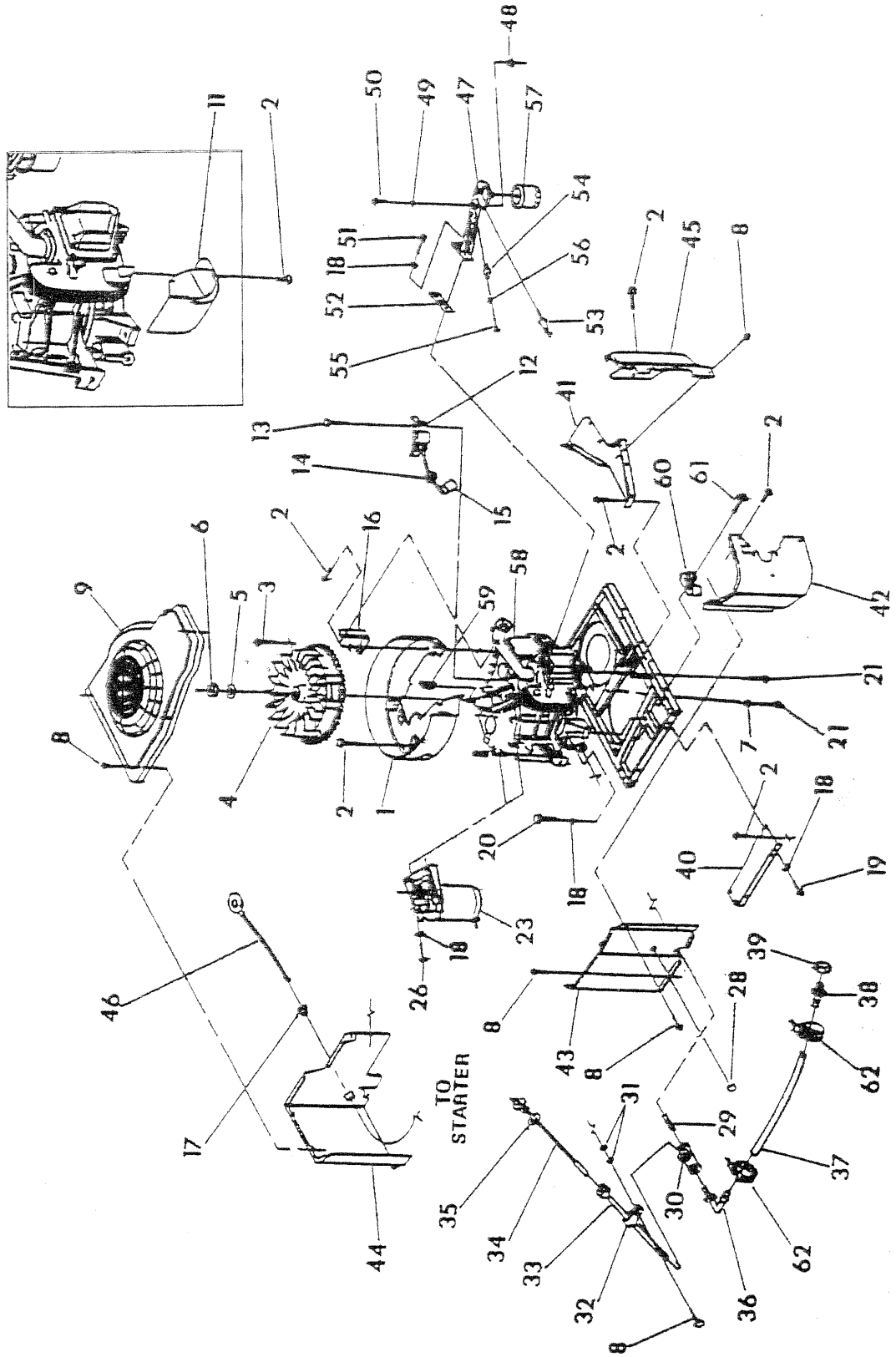


ITEM	PART NO.	QTY.	DESCRIPTION
1	90896	1	MANIFOLD, INTAKE
2	91039	1	GASKET, MANIFOLD/HEAD
3	42568	2	HEX HD. CPSCR.-M6-1.0 x 20
4	72347	1	SPARK PLUG, CHAMP#RC12YC
5	89228	1	GASKET, CARB./MANIFOLD
6	A2775B	1	CARBURETOR
7	90970	1	GASKET, CARB./AIR FILTER
8	73108C	1	BASE, AIR FILTER
9	91204	1	PLATE, CARB. SHIELD
11	66476	2	BOLT, HEX HD. CAPSCR., & LOCK WASHER-M6 x 12 LG
12	92695	2	BOLT, CARB. MOUNT 80 LG
13	73111	1	FILTER, AIR
14	81646	1	PRE-CLEANER, AIR FILTER
15	73104B	1	COVER, AIR FILTER
16	78609	2	BOLT, AIR FILTER COVER
17	22097	4	M6 LOCK WASHER
18	A6315	1	DECAL, A/C DATA

ITEM	PART NO.	QTY.	DESCRIPTION
20	20139	1	SNAP BUSHING
39	92164	1	GOV. SPRING ADJ. BRACKET
40	83512	2	BOLT, TAPTITE M8 x 15 LG
42	91916	1	LEVER, GOV. ARM ASSY
43	91645	1	BREATHER TUBE
44	22473	4	M6 FLAT WASHER
45	A8222	1	SPRING, GOVERNOR
46	91633	1	BELLCRANK, GOV. RODS
47	92586	2	WASHER, FELT
48	91161	1	BOLT, M6 x 15 LG
49	91636	1	ROD, LINKAGE GOV. LEVER-BELLCRANK
50	91637	1	ROD, LINKAGE BELLCRANK-CARB.
51	91649	2	SPRING, A/L GOV. LEVER-BELLCRANK
53	A7029	1	NYLON WASHER-.31 X .26 X .13

EXPLODED VIEW — ENGINE ENCLOSURE

Drawing No. A5637 Rev. B



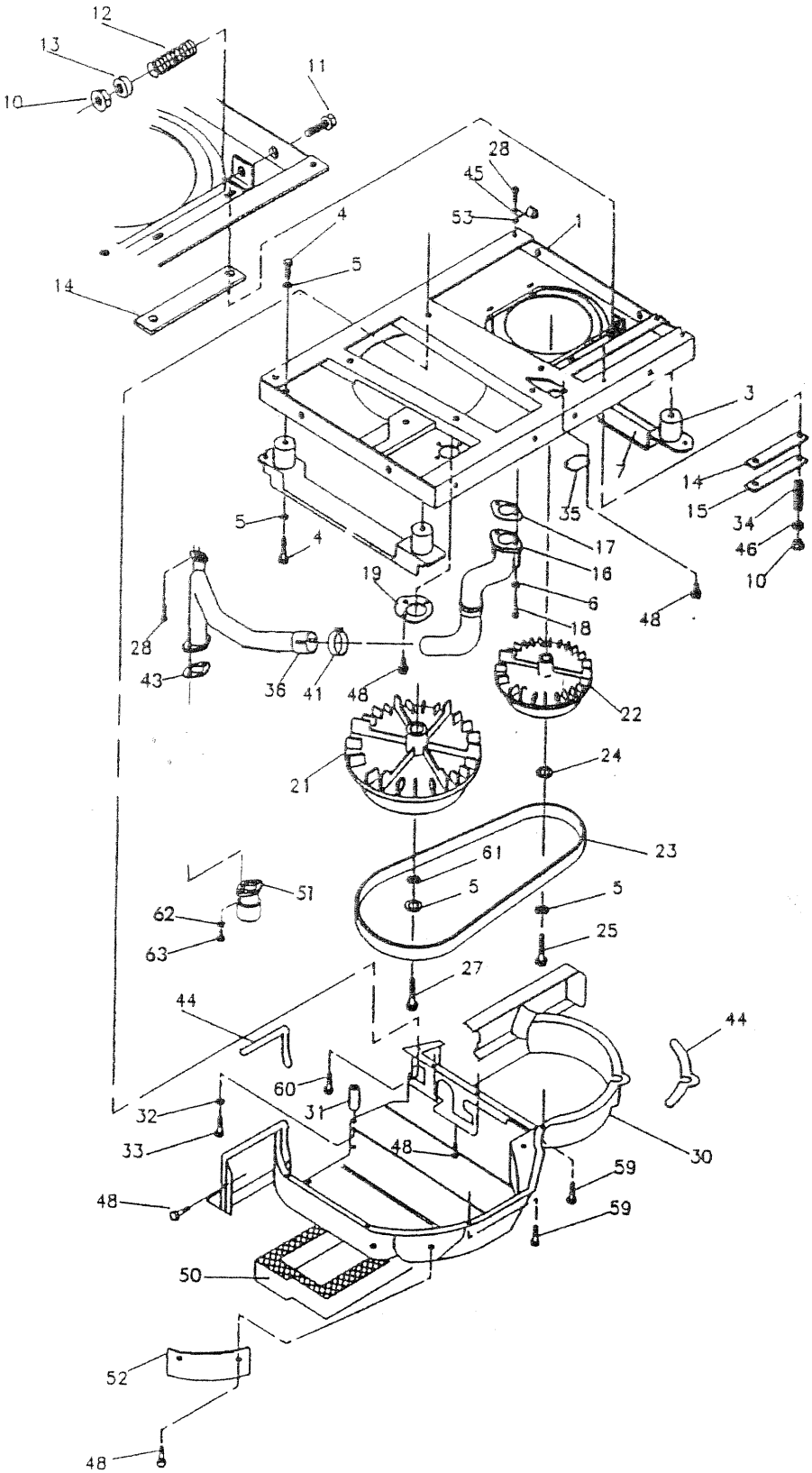
REPAIR PARTS — ENGINE ENCLOSURE

Drawing No. A5637 Rev. B

ITEM	PART NO.	QTY.	DESCRIPTION
1	90953	1	SCROLL, FLYWHEEL
2	45756	8	SCREW, M6-1.0 x 10 LG
3	90388	1	SCREW, M6-1.0 x 12 LG
4	91222B	1	FLYWHEEL
5	67198N	1	WASHER, BELLVILLE M20
6	67890	1	NUT, M20 x 1.5
7	A4456	1	3/8" SPECIAL LOCK WASHER
8	56893	23	SCREW, #10-24 x .5 LG
9	98769	1	COVER,TOP FLYWHEEL NP50
11	91646	1	DEFLECTOR, EXHST. PORT
12	92572	1	ASSEMBLY, IGNITION COIL
13	92079	2	SCREW, M6-1.0 x 25MM
14	22717A	1	GROMMET, RUBBER
15	73132	1	BOOT, SPARK PLUG
16	91643	1	BRACKET, INTAKE MANIFOLD
17	22717B	1	GROMMET, RUBBER
18	22129	8	LOCK WASHER-M8
19	42907	2	CAPSCR., M8-1.25 x 16 LG
20	57821	2	CAPSCR., M8-1.25 x 40 LG
21	59637	2	SCREW, 3/8-16 x .75 LG
23	21544	1	MOTOR, STARTER-12VOLT
26	40976	2	CAPSCR., M8-1.25 x 20 LG
28	25034	1	PLUG, BUTTON-1.06
29	35467	1	CLOSE NIPPLE 3/8 NPT
30	27738A	1	PIPE TEE 3/8" NPT
31	22145	2	FLAT WASHER
32	55934T	1	CLAMP-VINYL COATED
33	91519	1	TUBE-DIPSTICK
34	91520	1	ASS'Y, CAP AND DIPSTICK
35	91648	1	©O® RING DIA.-14 x 3 WALL
36	43790	1	ELBOW, 3/8 I.D. -BRASS
37	47290	1	HOSE, 3/8 I.D.
38	35461	1	FITTING-1/4" NPT-3/8 HOSE
39	69811	1	CAP-1/4" NPT
40	90951	1	COVER-BASE, STARTER SIDE
41	90952	1	COVER-BASE, CARB. SIDE
42	91137	1	WRAPPER, SPARK PLUG
43	90954	1	WRAPPER, STARTER SIDE
44	90955	1	WRAPPER, REAR GEAR CASE
45	90956	1	WRAPPER, CARB. SIDE
46	74260-11	1	ASS'Y, WIRE-STARTER(#16)
47	90892	1	SUPPORT, OIL FILTER
48	91159	1	BUSHING, RUBBER
49	91160	1	WASHER, RUBBER
50	91161	1	BOLT, SHOULDER-M6 x 15 LG
51	49821	2	CAPSCR.-M8-1.25 x 30 LG
52	86999	1	GASKET, OIL FILTER SUPPORT
53	60108	1	SWITCH, OIL PRESS.-10 PSI
54	75281	1	SWITCH, OIL TEMPERATURE
55	70728	2	SCREW, MACH.-M3-.05 x 5 LG
56	43182	2	LOCK WASHER-M3
57	70185	1	FILTER, OIL
58	99673	1	ENG., LONG BLOCK-GN410RV
59	82774	1	KEY, WOODRUFF 4 x 19 DIA
60	65852	1	CLIP, HOSE RETAINER
61	74908	1	SCREW, M5-0.8 x 10 LG
62	48031E	2	HOSE CLAMP

EXPLODED VIEW — BASE AND PULLEYS

Drawing No. A5635 Rev. B



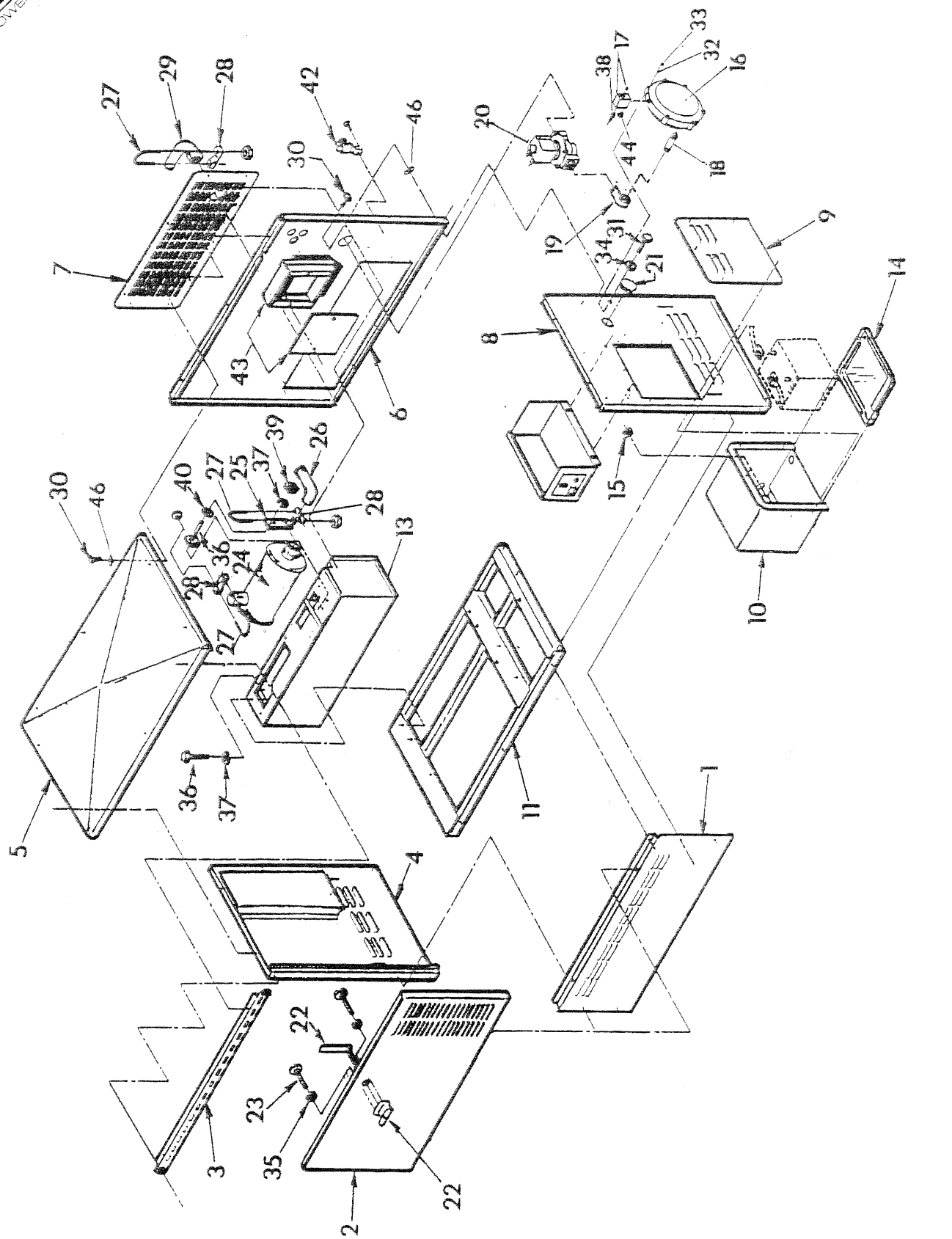
REPAIR PARTS — BASE AND PULLEY

Drawing No. A5635 Rev. B

ITEM	PART NO.	QTY.	DESCRIPTION
1	92603	1	MOUNTING BASE
3	46911	4	MOUNT, (RUBBER)
4	25017	8	CAPSCREW, HEX HD. 3/8"-16 X 1/2"
5	22237	10	LOCKWASHER-3/8"
6	22129	4	LOCKWASHER-M8
7	72391	2	SKID, RUBBER MOUNT
10	52858	6	NUT, FLANGED LOCK M8-1.25
11	51730	2	CAPSCR., HEX HD.- M8-1.25 X 60MM
12	29459	2	SPRING, BELT TENSION
13	75215	2	WASHER, SPRING CNTR.
14	73146	4	SLIDE (NYLON)
15	75209	2	SUPPORT, NYLON SLIDE
16	91032	1	MANIFOLD, EXHAUST
17	90239	1	GASKET, EXH. MANIFOLD
18	57636	2	SOCKET, HD. CAPSCREW M8-1.25 X 65 LG.
19	92645	1	GASKET, COLLECTOR PAN
21	75224G	1	PULLEY, ENGINE
22	73106G	1	PULLEY, ALT.
23	75216	1	BELT (POLY V 4L)-40"
24	49451	1	WASHER, PULLEY RETAINER
25	42633	1	CAPSCR., SOCKET HD. 3/8"-24 X 1" (GRADE 5)
26	77017	1	GUIDE, BLOWER HOUSING
27	73118	1	CAPSCR., HEX HD. 3/8"-24 X 2-1/2"
28	74906	2	SCREW (TAPTITE) -M6-1.00 X 20
30	72375A	1	HOUSING, BLOWER
31	73185	1	SPACER, BLOWER HOUSING
32	22152	1	LOCKWASHER-M5
33	77682	1	CAPSCR. HEX HD. M5-0.80 X 80MM
34	75242	4	SPRING, GEN. SET MT
35	92203	1	COVER PLATE, EXH. BASE
36	A6122	1	EXH. ADPT BOTTOM OUT
41	96289	1	CLAMP, EXH. PIPE- 1-1/4 DIA.
43	77643	1	GASKET, EXH. PIPE
44	29289	10 FT.	FOAM TAPE
45	62684	1	LUG, GROUNDING
46	75237	4	WASHER, SPRING RETAINER
47	75405	1	COVER, AIR OPENING
48	56893	22	SCREW (CRIMPTITE) #10-24 X .5 LG.
50	74998	1	ENG. EXHAUST GASKET
51	77642	1	ADAPTOR, EXH. OUTLET
52	72384B	1	COVER, EXH. OUTLET
53	22447	2	LOCK WASHER, SHAKEPROOF-M6
60	45756	3	SCREW, TAPTITE M6-1.0 X 10 LG.
61	22131	1	FLAT WASHER-M10
62	22097	2	LOCK WASHER-M6
63	68527	2	CAPSCREW, HEX HD. M6-1.0 X 20MM

EXPLODED VIEW — ENCLOSURE

Drawing No. A5638 Rev. A



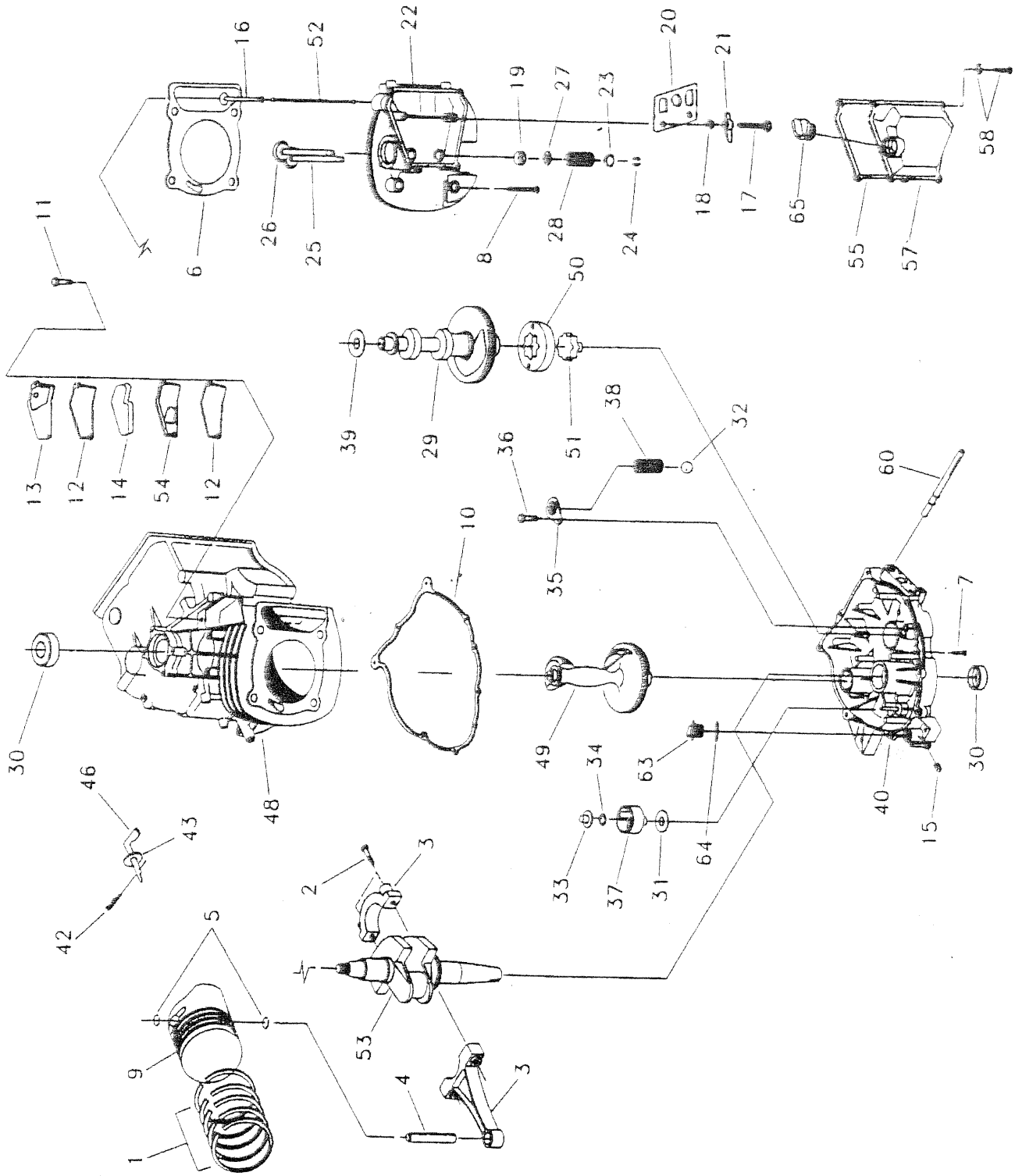
REPAIR PARTS—ENCLOSURE

Drawing No. A5638 Rev. A

ITEM	PART NO.	QTY.	DESCRIPTION
1	74923	1	RAIL, LOWER FRONT
2	74924	1	DOOR ASSEMBLY, ENCLOSURE
3	74922	1	RAIL, TOP FRONT
4	74925	1	PANEL, LEFT SIDE
5	74928	1	COVER, ENCLOSURE TOP
6	79845	1	PANEL, REAR
7	74996	1	COVER, MUFFLER BOX
8	81223	1	PANEL, RIGHT SIDE
9	74931	1	COVER, BATTERY BOX
10	74988	1	ENCLOSURE, BATTERY
11	74919	1	FLOOR, ENCLOSURE
13	74986	1	BOX, MUFFLER
14	75228	1	TRAY, BATTERY (PLASTIC)
15	23484-F	1	BUSHING, SNAP
16	75211	1	REGULATOR, GASEOUS FUEL
17	A2781C	1	DUAL FUEL LOAD BLOCK ASSEMBLY
18	26915	1	NIPPLE, PIPE-3/4" x 1-3/8"
19	26307	1	ELBOW, STREET-90 DEGREE x 3/4"
20	A2666	1	FUEL SOLENOID 12VDC
21	74997	1	PLUG, CAP-2-1/2" DIAMETER
22	67042	1	LATCH-RH (#1ML)
23	67035	2	SCREW, PAN HEAD MACHINE-NO.8-32 x 5/16"
24	52108	1	MUFFLER, EXHAUST
25	75407	1	STRAP, EXHAUST MUFFLER
26	75411	1	BOX, MUFFLER OUTLET
27	28238	3	U-BOLT-1-3/8
28	28237	3	CLAMP, SADDLE-1-3/8" DIAMETER
29	75412	1	ELBOW, EXHAUST TIP
30	A2110	53	SCREW (CRIMPTITE)-1/4"-20 x 1-1/4"
31	22203	2	CAPSCREW, HEX HEAD-1/4"-20 x 1-1/4"
32	22097	2	LOCK WASHER-1/4"
33	22127	2	NUT, HEX-1/4"-20
34	22473	2	FLAT WASHER-1/4"
35	22264	2	LOCK WASHER-NO.8
36	22238	3	CAPSCREW, HEX HEAD-3/8"-16 x 1"
37	22237	3	LOCK WASHER-3/8"
38	63463	1	1/2" x 3/8" HOSE FITTING
39	22241	1	NUT, HEX-3/8"-16
40	22131	1	FLAT WASHER-3/8"
42	55414	1	LUG, GROUNDING-FOR 2 THRU 8 AWG WIRE
43	79844	1	CMA ASSEMBLY
44	26925	1	3/8" PIPE PLUG
46	A2115	51	NYLON WASHER

EXPLODED VIEW — ENGINE PARTS

Drawing No. A7894 Rev.*



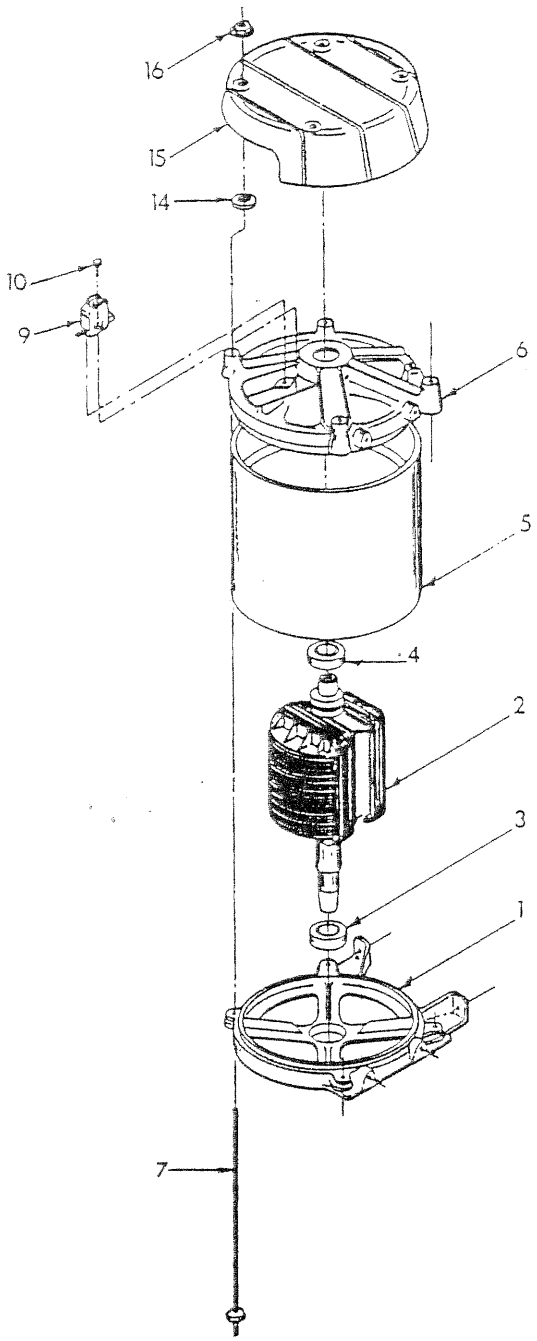
REPAIR PARTS — GN-ENGINE (LONG BLOCK)

Drawing No. A7894 Rev.

ITEM	PART NO.	QTY.	DESCRIPTION
1	21533	1	PISTON RING SET
2	71979	2	CONNECTING ROD BOLT
3	71978	1	CONNECTING ROD WITH CAP & BOLT
4	71980	1	PISTON RING
5	71983	2	PISTON PIN RETAINER
6	21713B	1	CYLINDER HEAD GASKET
7	73144	8	FLANGED HEX HD. CAPSCREW
8	73149	4	M10 X 100MM HD. BOLT
9	96699	1	PISTON
10	76701	1	CRANKCASE GASKET
11	45756	2	M6 SCREW (THD. FORMING)
12	80308	2	BREATHER GASKET
13	80309	1	BREATHER COVER
14	80338	1	OIL BREATH. SEPARATOR
15	26925	1	PIPE PLUG-3/8"
16	83897	2	TAPPET
17	72694	2	PIVOT BALL STUD
18	72696	2	JAM NUT (ROCKER ARM)
19	78672	1	SEAL, VALVE STEM
20	78694	1	PUSH ROD GUIDE PLATE
21	83907	2	ROCKER ARM
22	21714	1	CYLINDER HD. W/VALVE SEATS AND GUIDES
23	86514	2	VALVE SPRING RETAINER
24	88515	4	VALVE SPRING KEEPER
25	86516	1	EXHAUST VALVE
26	86517	1	INTAKE VALVE
27	89673	2	WASHER, VALVE SPRING
28	91308	2	VALVE SPRING
29	A7081	1	CAMSHAFT ASSEMBLY
30	72655	2	CAMSHAFT SEAL
31	76361	1	THRUST WASHER
32	A5776	1	PRESSURE RELIEF BALL
33	A7308	1	GOVERNOR SPOOL
34	78645	1	GOV. RETAINER (C-RING)
35	78691	1	OIL PRESSURE SPRING RETAINER
36	74908	1	M5-0.80 X 8MM SCREW (THD. FORMING)
37	83912	1	GOV. GEAR ASSEMBLY
38	A5771	1	OIL PRESSURE SPRING
39	B2104	1	SPRING WASHER
40	83981A	1	OIL SUMP
41	72654	1	SLEEVE BEARING
42	78658	1	GOV. ARM "R" PIN
43	78659	2	THRUST WASHER
44	78699B	1	SLEEVE DOWEL PIN DIA. 12
45	78699C	2	SLEEVE DOWEL PIN DIA. 14
46	83948	1	GOVERNOR ARM
47	88590	1	DOWEL PIN DIA. 12 X 20 LG.
48	89288C	1	CRANKCASE SUB ASSY.
49	84430	1	BALANCER
50	86002	1	OUTER GEROTER
51	86026	1	INNER GEROTER
52	88396B	2	PUSH ROD
53	90416A	1	CRANKSHAFT ASSY.
54	90747	1	BREATHER VALVE ASSY.
55	71987	1	ROCKER COVER GASKET
57	92362	1	ROCKER COVER W/FILL
58	79246	4	M6-1.00 X 16MM PAN HD. SCR. & LOCKWASHER
59	83921	1	BEARING TUBE SHAFT
60	77158	1	OIL SCREEN PICKUP ASSY.
61	80342	2	"O" RING 14 I.D. X 2.4 THICK
63	76329	1	OIL FILL PLUG
64	86254	1	"O" RING 17.8 I.D. X 2.4 THICK
65	93064	1	OIL FILL CAP ASSEMBLY

EXPLODED VIEW — GENERATOR

Drawing No. 81924 Rev. B

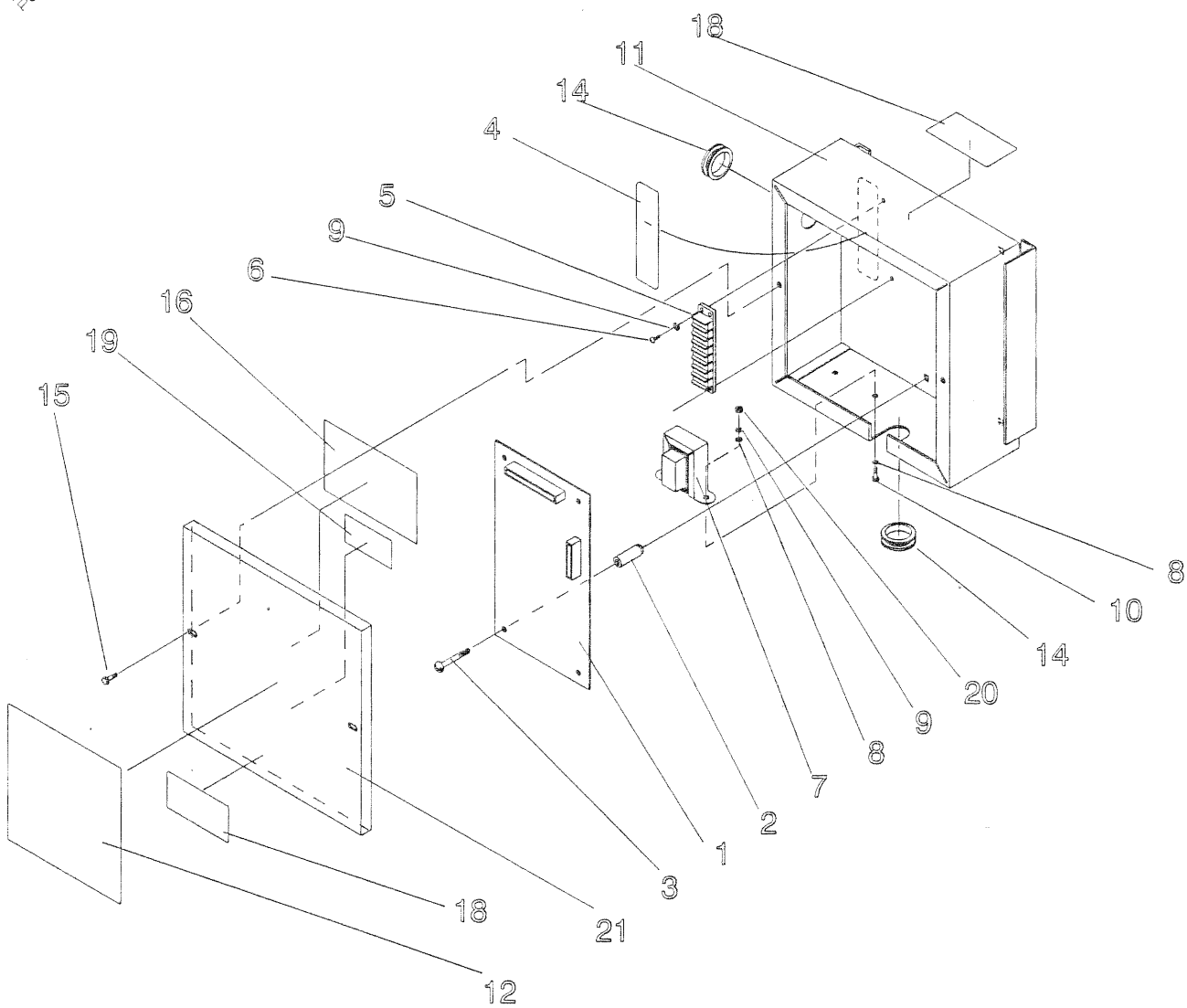


ITEM	PART NO.	QTY.	DESCRIPTION
1	75995	1	LOWER BEARING CARRIER
2	77005H	1	ROTOR ASSY.-5KW UNITS
	73163H	1	ROTOR ASSY.-8KW UNITS
3	31971	1	LOWER BALL BEARING
4	73159	1	UPPER BALL BEARING
5	85622H	1	STATOR ASSEMBLY-5KW
	85619H	1	STATOR ASSEMBLY-8KW

ITEM	PART NO.	QTY.	DESCRIPTION
6	72379B	1	UPPER BEARING CARRIER
7	77006	4	GENERATOR STUD
9	66386	1	BRUSH HOLDER ASSEMBLY
10	66849	2	SCREW -M5-0.80 x 15MM
14	27756	4	NYLON WASHER
15	73195	1	GENERATOR TOP COVER
16	52858	4	FLANGED LOCK NUT-M8-1.25

EXPLODED VIEW — CMA ASSEMBLY

Drawing No. 81086



ITEM	PART NO.	QTY.	DESCRIPTION
1	74100	1	BOARD, CIRCUIT-DC CONTROL/CRANK LATCH (MODELS 921, 863, 865)
	76009A	1	BOARD, CIRCUIT-DC CONTROL/CRANK LATCH (MODEL 9428)
2	72566	4	STANDOFF, CIRCUIT BOARD SUPPORT
3	80882	4	SCREW, PPH TAPPING #6 x 5/8"
4	74978	1	DECAL, TERMINAL STRIP
5	47822	1	BLOCK, TERMINAL STRIP
6	75476	2	SCREW, PPHM M4-0.7 x 16MM
7	83264	1	TRANSFORMER 24VA, 12 SEC
8	22985	4	WASHER, FLAT M4
9	22264	4	WASHER, LOCK M4

ITEM	PART NO.	QTY.	DESCRIPTION
10	51787	2	HHCS M4-0.7 x 16
11	79847	1	BOX, CMA
12	A8504	1	DECAL, COVER-CMA(MODEL 921, 863, 865)
	A8504A	1	DECAL, COVER-CMA(MODEL 9428)
13*	22661V	.083'	HEAT SHRINK RED .19
14	38057	2	GROMMET
15	58443	2	CRIMPTITE
16	81224	1	DECAL, MFG NAMEPLATE
17*	79682	1	WIRE HARNESS
18	86093	2	DECAL, CMA WARNING
19	83736	1	DECAL, CSA
20	51715	2	NUT, HEX M4-0.7
21	74495	1	COVER, CMA BOX
	*NOT SHOWN		

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 utility or lawn and garden equipment engine. In California, new utility and lawn and garden equipment engines 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 utility or lawn and garden equipment for the periods of time listed below provided there has been no abuse, neglect, unapproved modification, or improper maintenance of your utility or lawn and garden equipment 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 utility or lawn and garden equipment 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 utility and lawn and garden equipment engines 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 utility or lawn and garden equipment 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 utility or lawn and garden equipment 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 utility or lawn and garden equipment engine owner, you should, however, be aware that Generac Corporation may deny you warranty coverage if your utility or lawn and garden equipment engine or a part thereof has failed due to abuse, neglect , improper maintenance or unapproved modifications.

You are responsible for presenting your utility or lawn and garden equipment 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) 544-4851
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 Utility and Lawn and Garden Equipment Engines:

A. Applicability: This warranty shall apply to 1995 and later model year utility and lawn and garden equipment engines. 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 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 utility and lawn and garden equipment engines 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. Carburetor assembly and it's internal components.
   a. Fuel filter
   b. Carburetor gaskets
   c. Intake pipe
2. Air cleaner assembly
   a. Air filter element
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 GENERATORS' STANDARD ONE YEAR

LIMITED WARRANTY FOR STANDBY POWER SYSTEMS

For a period of one (1) year or 1500 hours of operation from the date of original sale, whichever occurs first, an Generac dealer will at its option repair or replace any part which, upon examination by an Generac dealer, is found to be defective under normal use and service. Any equipment which the buyer claims to be defective must be examined by an Generac dealer's nearest authorized warranty service facility. All transportation costs under warranty, including return to the factory, are borne by the buyer and pre-paid.

WARRANTY SCHEDULE

YEAR ONE - 100% coverage on mileage*, labor and parts listed.

ENGINE - All components.

ALTERNATOR - All components.

TRANSFER SYSTEM - All Components.

* Mileage allowance is limited to 300 miles or 7.5 hours, whichever occurs first, and applies only to permanently wired and mounted units.

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

Units which have been resold are not covered under the Generac Generators warranty.

The warranty shall not apply to:

- Costs of maintenance, adjustments, installation and startup.
- Failures due to normal wear, accident, abuse, misuse, negligence, or improper installation.
- Products which are modified or altered in a manner not authorized by Generac in writing.
- Any incidental, consequential or indirect damages caused by defects in materials or workmanship, or any delay in repair or replacement of the defective parts.
- Failure due to misapplication.
- Telephone, telegraph, teletype or other communication expense.
- Living or travel expenses of persons performing service, except as specifically included within the terms of a specific unit warranty.
- 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 GENERATORS MAKE NO OTHER WARRANTIES AS TO MERCHANTIBILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

GENERAC GENERATORS' ONLY LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF PARTS AS STATED ABOVE. IN NO EVENT SHALL GENERAC GENERATORS BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF SUCH DAMAGES ARE A DIRECT RESULT OF GENERAC'S NEGLIGENCE. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the the above limitation may not apply to you. Buyer agrees to make no claims against Generac Generators based on negligence.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Manufactured by

GENERAC POWER SYSTEMS INC. • P.O. Box 8 Waukesha, WI 53187

Telephone: (414) 544-4811 • FAX: (414) 544-4851