



A GUIDE TO:

Warranty Policies
and Procedures,
Flat Rates, Quick
Reference Parts
Information
and Technical
Publications for
GUARDIAN[®]
Home Standby
Generators



2003

www.guardiangenerators.com

FOREWORD

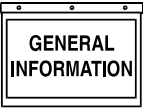
This publication was created to assist the GUARDIAN dealer with the basic information related to GUARDIAN service. Should you require further materials, please order them through your normal source of distribution.

PARTS ORDER LINE:

1-800-883-7535

1-262-472-6515 (FAX)

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GENERAL OVERVIEW

Generac Power Systems, Inc. (Generac) tests each of its products under load conditions. During final test, any necessary adjustments are made to the product based on atmospheric and fuel conditions at the factory. Each unit is treated to help prevent rust under normal storage conditions. Extended storage periods or poor storage environment may require pretreatment.

Loose parts ordered with any product are carefully checked and packed in the crate with the unit, or are packaged separately. Each loose part is listed on the Bill of Lading for your reference. Product is shipped via the requested transportation method or the best way.

FREIGHT DAMAGE AND SHORTAGE

The **receiver** is responsible for checking equipment received against the Bill of Lading. The number of cartons or crates **must** agree with the number of items listed on the Bill of Lading before a delivery receipt is signed. Any missing cartons or crates, and/or signs of damage **must be** noted on the delivery receipt, which then **must be** signed by the driver. It is the **receiver's** responsibility to file a claim with the freight company for damages and/or shortages of crates and cartons. Missing or damaged cartons, crates or product **are not** warrantable.

It is the **receiver's** responsibility to inspect all crates and cartons upon receipt and give them a thorough inspection. If the contents are damaged from handling, the **receiver** should request a concealed damage inspection report from the Freight Company within 15 days of delivery. Freight damage and missing items **are not** warrantable.

Concealed damage may have occurred even though crates and cartons appear undamaged. It is the **receiver's** responsibility to file a claim with the Freight Company for damages. Freight damage and missing items **are not** warrantable.

The **receiver** of any Generac product and/or parts shipment **should** check for content shortages **immediately** upon receipt by comparing each item against the Bill of Lading. Shortages are to be reported to the Freight Company and the Generac Sales Department (products) or Parts Department (replacement parts) within 10 days of delivery. If records indicate the goods were shipped, the **receiver** will be notified and **must** then file claim with the Freight Company. If Generac finds that the item was not sent, that item will be furnished at no charge, transportation prepaid. Freight damage and missing items **are not** warrantable.

It is the **receiver's** responsibility to get the delivery receipt noted and signed, and to file the appropriate claim. Freight damage and missing items **are not** warrantable.

INCORRECT AND WRONG ITEMS

As with shortages, items or accessories received in a manner other than that in which they were ordered **must be** reported to the Generac Sales Department or Parts Department, respectively. Expenses incurred in correcting these situations **are not** warrantable unless specifically authorized by the Generac Warranty Department.

INSTALLATION

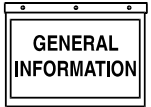
Installation is extremely important. Generac products **must be** installed in accordance with the manufacturer's recommendations. If you encounter installations that do not comply with these recommendations, you **must** notify the customer and/or installer of the deficiencies in writing.

If the purchaser/owner should experience problems as a result of improper mounting, ventilation, exhaust, locations, fuel lines, wiring, etc., the purchaser/owner should contact the **installer** for corrective actions. The Generac Authorized Service Dealer, or a branch thereof, may be able to correct the situation; however, such repair work **is not** warrantable.

ADJUSTMENTS AND START-UP

These services are the **responsibility** of the selling organization or the customer, respectively, and are not warrantable.

Make sure the engine is properly installed and ready for operation. Perform initial service and minor adjustments – service the air cleaner, fill the crankcase with specified lubricating oil, fill the cooling system with proper coolant if required, and check and tighten **all** external connections to see if they are secured and correct. Refer to the appropriate manual for instructions on equipment operations and start-up. To compensate for local atmospheric conditions (i.e., altitude, etc.), it may be necessary to make minor external adjustments to the carburetor, governor, automatic choke, etc. Repairs due to loose connections, clamps, clips, wire connections, adjustments, etc., **are** part of the start-up procedure and **are not** warrantable at anytime unless authorized by Generac Technical Service Personnel, and unless a Generac-issued Control Number is obtained for warranty claim submittal. **Without** a Control Number, the warranty claim **will be** rejected and returned.



MAINTENANCE

Planned Preventative Maintenance Programs are necessary for efficient operation and long life of Generac products. Neglecting routine and regular maintenance may result in premature failure and permanent damage to products. Generac product manuals contain recommended maintenance schedules and procedures. It is the **Dealer's** obligation to inform the user of proper use and care of this product.

WARRANTY REGISTRATION

The **Selling Dealer** has 180 days from the initial shipping/delivery date of the Guardian generator set to fill out the "Warranty Registration Form".

No registration will be accepted after 180 days from the initial shipping/delivery date to the first purchaser/owner. Generac reserves the right to reject late registration.

WARRANTY START DATE

For Generac Guardian generator sets stored within a controlled environment for extended periods of time, the Warranty Start Date will be **no later than** 12 months from the original invoice date, or six months from the original shipping/delivery date from Generac to the Selling Dealer.

WARRANTY ADMINISTRATION

Warranty of Generac products is administered through the Generac Authorized Distributors and Service Dealers. These dealers are authorized to settle warranty claims within the limits of the Generac warranty policies and procedures.

Generac reserves the right to change these warranty policies and procedures.

WARRANTY POLICIES AND DEFINITIONS

Warranty reports **must be** filled out completely, legibly and **must be filed within 30 days of repair completion** so that Generac can properly evaluate the claim and honor the warranty on a timely basis. Incomplete reports will be returned unprocessed. Missing information must be supplied within 10 working days.

Repair costs exceeding \$700 unit must be authorized by the Generac Technical Service Department prior to the performance of the repair. The authorization will be in the form of a Control Number.

Batteries, fuses, bulbs, normal adjustments and preventive maintenance **will not be** covered by warranty unless there is some obvious defect in materials or workmanship that would require this type of service.

WARRANTY PARTS

Generac will pay you a 15 percent commission for defective parts replaced under warranty based on your Dealer **net cost** for the parts.

All (defective) parts with a list price of more than \$100 **must be** returned to Generac with the original copy of the Warranty Repair Report as a Bill of Lading. Those parts less than \$100 list are to be retained by the Servicing Dealer until payment is received. A warranty claim **will not be** processed until all required warranty parts have been returned with the original claim in the same box.

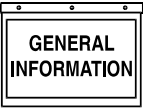
Upon inspection and testing, any part(s) that prove to have no defects, or show evidence of abuse or tampering, **will not be** accepted for warranty claim reimbursement. Such part(s) will be returned freight-collect to the Generac Authorized Warranty Service Facility, and the cost of the part(s) and associated labor allowance **will be** deducted from the applicable warranty claim.

WARRANTY TRAVEL ALLOWANCE

Generac will reimburse a fifty dollar trip charge per claim, as printed on the new Guardian claim form.

WARRANTY LABOR RATE AND FLAT RATE ALLOWANCE

Warranty payments for repairs will be made within the time allowances designated in the "Flat Rate" section (Page 14) of this manual. Repair time exceeding the flat rate allowance **will not be** honored unless the Generac Technical Service Department, **prior to** submittal of the claim, authorizes the additional time by issuance of a Control Number. Educational time and time spent on the telephone **will not be** allowed. Warranty payments will be paid **only** at full-posted shop labor rate (not to surpass Generac's limits) for warranty labor in accordance with Generac's current Flat Rate listings. This rate is predicated upon the Service Dealer's adherence to the Service Dealer Agreement; any failure to comply with its requirements shall be proper cause to adjust such.



SHIPPING EXPENSES ON WARRANTY PARTS

Normal shipping/freight expenses to and from Generac are covered under the warranty provisions. They should be reported under the “Freight” and “Duty” sections (if applicable) of the Warranty Repair Report. Overnight, express or “red” shipments **will not be** covered under the provisions of warranty unless a Control Number is obtained from the Technical Service Department prior to the shipment, and details appear in the “Details of Problem and Correction” section of the Generac Warranty Repair Report.

CONTROL NUMBERS

Authorization for unusual repairs, policy adjustments, or repairs exceeding \$700, **must be** in the form of a Control Number (see “Warranty Policies and Definitions” on page 3). Prior to the repair work being performed, the Generac Technical Service Department **must** authorize any exceptions or deviations to the Generac warranty policies. The Control Number **must** appear in the space provided at the upper left side of the Generac Warranty Repair Report. The Warranty Repair Report **must** be submitted with an attached copy of the facsimile that is sent by the Generac Technical Service Department.

SUBMITTAL TIME PERIOD

A Generac Warranty Repair Report and any defective part(s) more than \$100 list price **must be** received at Generac within 30 (thirty) days of the repair completion date for the warranty work performed.

Warranty Repair Reports received at Generac from 31 (thirty-one) to 60 (sixty) days after completion of repairs **will be** reduced by the application of a 15 percent late filing charge.

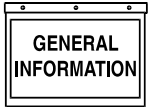
Reports received later than 60 (sixty) days following completion of the repairs **will not be** honored.

GUARDIAN WARRANTY EXCLUSIONS AND LIMITATIONS

The following list may be used as a reference in conjunction with those exclusions and limitations that appear in Generac’s product-specific warranty policies and other warranty materials:

- Failure to follow maintenance procedures given in the appropriate manufacturer-supplied manual.

- Costs of normal maintenance and related items (i.e., filters, fluids, V-belts, hoses, etc.), testing, load banking, adjustments, installation and start-up procedures.
- Contaminated fuel and/or oils are not warrantable.
- Use of attachments, accessories or parts that are not sold, originally supplied or approved by Generac.
- Units used for prime power in place of existing utility power where utility power is present or in place of utility power where utility power does not normally exist.
- Failures due, but not limited, to normal wear and tear, accident, misuse, abuse, negligence, improper installation or misapplication.
- Damage related to rodent infestation.
- Repair or alteration not made by a Generac Authorized Service Dealer.
- Performance complaints unless they are caused by the failure of a covered part.
- Paint, batteries, sump pumps, pre-lube pumps, protection systems, starting aids, guards, clutches, and couplings. Also, containers, under carriage (trailer units), fuel storage tanks, stabilizing jacks, fuses, light bulbs, engine fluids and block heaters.
- Incidental, consequential or indirect damages caused by defects in materials or workmanship, or any delay in repair or replacement of the defective part(s).
- Items made by others and supplied by Generac on a special order.
- Overtime or rental equipment used while covered repair is being performed.
- Disposal of waste products including, but not limited to, waste oil and antifreeze.
- Applicable taxes.
- Labor expenses (a second or third person labor expense), or hiring of special cranes, hoists or other devices for product removal and/or reinstallation of a covered repair.
- Fines associated with product’s non-conformance to local, state, federal or other emissions and safety laws or regulations.
- Communication expenses, meals, lodging, downtime expenses, contract penalties, cargo damage, and any other miscellaneous costs or losses.
- Corrosion or erosion of sheet metal and bases resulting from lack of maintenance or extreme environment.
- Failures caused by, but not limited to, any external cause or act of God, such as collision, theft, vandalism, riot or war, nuclear holocaust, fire, freezing, lightning, earthquake, windstorm, hail, volcanic eruption, water or flood, tornado or hurricane.



Generac's responsibility under the Base Warranty Coverage is limited to the provision of material and labor specified herein.

Generac disclaims any expressed or implied warranty in connection herewith. Generac is not responsible for incidental or consequential damages.

Replacement parts furnished under the terms of this coverage are covered under the applicable replacement parts warranty.

Misrepresentation of the covered unit's actual accumulated hours or age shall result in immediate cancellation of the warranty by Generac.

WARRANTY PROCEDURES

WARRANTY REPAIR PROCEDURE FOR GUARDIAN GENERATORS

1. Obtain a copy of the customer's proof-of-purchase (**to be attached to the warranty claim**).
2. Verify that a repair is warrantable under the provisions of Generac's warranty policies and procedures.:
 - a) Is the repair within Generac's warranty period?
 - b) Is the failure of the Generac product due to a manufacturing defect?
 - c) Make sure that **you** obtain a Control Number from Generac's Technical Service Department **prior to** repairs listed under "Warranty Policies and Definitions" on page 3, or any other unusual repairs or policy adjustments.
 - d) Owner abuse, misuse, neglect, lack of proper recommended maintenance, and alterations or modifications not recommended by Generac **are not** warrantable and **will not be** covered by Generac.
 - e) Failure due to any external cause or act of God, such as collision, theft, vandalism, explosion, riots or wars, nuclear holocaust, fire, freezing, lightning, earthquake, windstorm, hail, volcanic eruption, water or flood, tornado or hurricane, **is not** warrantable and **will not be** covered by Generac.
 - f) The repair of valves and/or rings for the purpose of raising the engine's compression when a failure has not occurred **will not be** covered by Generac.
 - g) Damage related to rodent infestation.
 - h) All labor rates are calculated based on the posted Shop Labor Rate (in shop and on site).
3. Obtain replacement part(s) directly from the Generac

Parts Department.

4. Completely and legibly fill out the Generac Warranty Repair Report, including the Control Number (if applicable), a list of parts and part numbers used for the repair(s), the customer complaint, the cause of failure and the corrective action taken to complete the repair. **DO NOT** use the terminology "**part failed**" or "**part is defective.**" Describe how or why the part(s) failed or is defective. You must use the Generac Warranty Failure Codes supplied in this manual (Page 16).

Damage related to rodent infestation.

5. Send a completed and legible Generac Warranty Repair Report along with all parts that are more than \$100 list to the following address:

**Air -Cooled GUARDIAN Product
Attention Warranty Department
Generac Power Systems, Inc.
757 N. Newcomb Street
Whitewater, WI 53190**

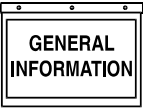
**Parts, Service and Warranty
(800) 526-2871**

This toll-free number is for Generac Servicing Dealers only. Do not refer your customer or other consumers to contact Generac at this number. Servicing Dealers who require assistance should have their Generac Service Dealer account number available.

RESPONSE TO YOUR WARRANTY CLAIM

The Generac Warranty Department will respond to your warranty claim in one of the following ways:

1. A Credit Memo/Check to indicate the amount of reimbursement for the claim.
2. A request for additional information and/or parts.
3. A denial of the warranty claim.



PAYMENT OF WARRANTY CLAIMS

Warranty claim payments for **GUARDIAN** generators and parts are subject to compliance with Generac's **GUARDIAN INFORMATION MANUAL**; this includes compliance with the "Flat Rate" section (Page 14) of the manual. Submission of warranty claims and the results of all parts tested is to be on a timely basis. Generac reserves the right to adjust the amount claimed on a Warranty Repair Report in order to achieve compliance with its **GUARDIAN INFORMATION MANUAL**. Any exceptions **must be** authorized with the Technical Service Department by obtaining a Control Number **prior to** the time of repair.

Warranty claims processing is computerized and results in the generation of a Credit Memo or Check (if applicable). If the Servicing Dealer believes that more credit is due, the Dealer must respond **immediately** to the Generac Warranty Department. Failure to respond within 30 (thirty) days of the Credit Memo/Check issue date will be considered acceptance of the Credit Memo/Check as full and final payment of the warranty claim.

Warranty Claim Charge Backs

Warranty claim charge backs to the Servicing Dealer will accrue due to the following:

1. Overpayment of a Warranty Claim.
2. Payment of a Warranty Claim for a non-covered item.
3. Payment of a False or Fraudulent Warranty Claim.
4. Payment made and part(s) stated as defective, and subsequently checked, inspected and tested, prove to be **without** defects or show evidence of abuse, misuse or tampering.
5. Charge backs are not limited to the above mentioned items. Adherence to Generac's Servicing Dealer agreements **will be** enforced.
6. The Servicing Dealer will have 30 (thirty) days from the date of issue of the Credit Memo/Check to dispute the charge back. After that time, it **will be** full and final settlement for the claim.
7. Warranty deductions to the Generac Credit Account **must not be** taken without prior approval of the Generac Credit Manager.

LABOR RATE CHANGE REQUESTS

A servicing dealer can request a change in their labor rate once per calendar year. To submit a request, you can mail the request to the warranty department. It must be submitted on company letterhead to the following location:

**Generac Power Systems, Inc.
757 N. Newcomb Street
Whitewater, WI 53190**

Please include your old labor rate, new labor rate, effective date and dealer customer number. If your request is approved, a confirmation letter will be mailed to you. All labor rates are evaluated according to the average rates in your particular region.

If the request is denied, a letter will be mailed to you explaining why.

DETERMINING GUARDIAN WARRANTY COVERAGE

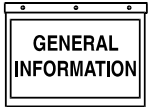
Generac Power Systems, Inc. (Generac) has changed the warranty coverage for the Guardian Home Standby Generators. It is important that when filing warranty claims you follow the correct warranty coverage. The changes in the warranty coverage are listed below.

Old Coverage = One Year/1500 Hours

New Coverage = Two Year/2000 Hours

Complete statement found page 10

All Generac Power Systems Guardian Standby generators sold with the one year warranty **WILL NOT** be grandfathered to the new two year warranty. Should you have any questions regarding warranty coverage please contact the warranty department at 1-800-526-2871, option #2.



EXAMPLE

GUARDIAN® Product Warranty Card

For your protection, complete and mail immediately. Please print or type all information.

MODEL# _____ OWNER NAME _____
 male female
 SERIAL# _____ ADDRESS _____
 street
 PURCHASED AT: _____
 city state zip
 city state
 PURCHASE DATE: ____/____/____ OWNER SIGNATURE _____ DATE _____

- 1. OWNER AGE GROUP:**
 A. 20 - 29 D. 50 - 59
 B. 30 - 39 E. 60+
 C. 40 - 49
- 2. HOW DID YOU FIRST LEARN OF THIS PRODUCT:**
 A. Magazine F. Exhibition
 B. Newspaper G. Direct Mail
 C. Radio H. From Friend
 D. TV I. Catalog
 E. Store Display J. Other _____
- 3. WHEN YOU PURCHASED THIS MODEL, DID YOU COMPARE WITH OTHER MODELS?**
 YES NO
- IF YES:** BRAND _____
 MODEL _____
 PRICE _____
- 4. WHICH GROUP BEST DESCRIBES YOUR FAMILY INCOME:**
 A. \$35,000 - \$60,000 D. \$101,000 - \$200,000
 B. \$61,000 - \$80,000 E. \$201,000 - OVER
 C. \$81,000 - \$100,000
- 5. MODEL INSTALLATION:**
 Primary Residence -
 Single Family Home Multi-Family Home
 Secondary Residence
 Business
 Other _____
- 6. NUMBER OF CHILDREN IN HOME** _____
- 7. DOES YOUR RESIDENCE HAVE A HOME OFFICE OR TELECOMMUTE?**
 YES NO
- 8. THE VALUE OF YOUR HOME? \$ _____ SQ.FT _____**
- 9. DO YOU OR YOUR SPOUSE TRAVEL FOR BUSINESS?**
 YES NO

PRE-START CHECKS

- Inspect for the following:
- Freight damage (components tight, straight, etc.)
 - Governor rod movement
 - Fluid levels (oil, anti-freeze, battery, governor, etc.)
 - Correct fuel and exhaust plumbing
 - Adequate airflow
 - Properly sized battery(ies)

PREPARATION FOR START-UP

- Connect AC frequency meter and ammeter
- Connect battery(ies)

INSTALLER NAME _____

RUNNING CHECKS

Start the engine. Bring up to speed slowly by holding the carburetor/governor linkage. Complete the following checks:

- Check no-load voltage. Adjust voltage regulator if necessary.
- Test automatic shutdowns (low oil pressure, low coolant level, high coolant temperature, overspeed set to _____Hz.)
- Check for fluid leaks.
- Transfer customer loads to alternator. Load amps=_____.
- No-load voltage=_____ Full load voltage=_____.
- No load frequency=_____ Full load frequency=_____.

INSTRUCT END USER OF FUNCTIONS OF UNIT. Set times to customer's request and run a simulated power outage.

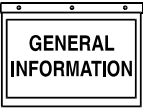
TRANSFER SWITCH DATA

INSTALLER SIGNATURE _____ START-UP DATE _____ EXERCISE DAY _____

COMPANY NAME _____ EXERCISE TIME OF DAY _____

LICENSE # _____

PART NO. D3172



WARRANTY REPAIR REPORT CHECKLIST

Please use the following checklist to ensure that you fill out all information necessary to submit a Warranty Repair Report, as well as complete any other steps related to the submittal procedure. An example of a completed Warranty Repair Report is shown on Page 9.

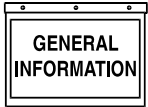
- Servicing Dealer's full business name, complete address, city, state and zip code
- Servicing Dealer's telephone number with area code
- Customer's complete name, address, city, state and zip code
- Customer's telephone number with area code
- Dealer's customer number
- Type of application: Check two boxes-either Residential or Commercial, and Prime Power or Emergency Standby.
- Type of claim: Check one box
- Purchase/Start up date of the unit – Month, Day, Year
- Date of failure of the unit – Month, Day, Year
- Repair completion date of the unit – Month, Day, Year
- Ext. Labor - Leave blank
- PC - Leave blank
- Complete Generac model number
- Complete Generac serial number
- Hours of operation; needed to see if maintenance is being performed by guidelines
- Type of installation: Professional or Customer (check one box) Has preventative maintenance been performed - check box. Is a preventative maintenance contract in effect? - check box.
- Quantity of parts used
- Part number; this is the Generac part number only
- Fail code; see "Failure Codes," Page 16 (if applicable)
- Description; this is the description of the part used to repair unit
- Flat rate; see "Flat Rate Schedule," Page 21, for correct time allowed for repair
- List price; this is the list price of the part
- Extended list price; if more than one of the same part is used, add together for total
- Details; Customer complaint, what is the customer's complaint of the unit?
Cause, what caused the complaint, what is the failure to the unit?
Correction, what steps had to be taken to correct the customer's complaint?
- Customer signature and date; have the customer sign and date the Repair Report
- Dealer signature and date;
- Total list price
- Multiplier .7475: Multiply total list by .7575, this takes into account your 35% discount price and adds your 15% parts commission
Total list less 35% parts discount plus 15% commission = .7475 multiplier
Example: \$100.00-35% = 65.00; 65.00 + 15% = 74.75; 100.00 x .7475 = \$74.75.
- Freight; add freight cost here, attach copy of freight bill (will be paid at net)
- Miscellaneous; for parts obtained at a local parts house (copy of receipt needed, paid at net)
- Standby Travel: A standard fifty dollar travel allowance is allowed.
- Labor time; the amount of Flat Rate hours times your hourly shop rate
- Total; add all the lines for your total
Control Number (if applicable)
 - A. Control Number prior to repairs being made if ...
 1. the repair will be more than \$700
 2. the repair is a policy adjustment to the scheduled warranty
 3. the flat rate labor time is going to be changed due to the repair
 4. the parts used in the repair are being sent out at no charge
 5. the repair is unusual or out of the ordinary and needs special consideration
 - B. Control Numbers are obtained from the Generac Technical Service Department – this is not a blank check for repairs; labor time must be agreed upon **PRIOR** to repair; a copy will be faxed to you and must be attached to the Warranty Repair Report when submitted for review
 - C. Failure to obtain a Control Number will result in either the claim being adjusted per the Flat Rated Schedule or rejected per the terms and conditions of the Generac policies and procedures

DO NOT write in the shaded areas. Fill out the Warranty Repair Report legibly.

A Generac Warranty Repair Report and **ALL** defective part(s) more than \$100 list price **MUST BE** received at Generac within 30 (thirty) days of the repair completion date for the warranty work performed.

Warranty Repair Reports received at Generac from 31 (thirty-one) days to 60 (sixty) days after completion of repairs **WILL BE** reduced in payment by the application of a 15 percent late filing charge.

Warranty Repair Reports received later than 60 (sixty) days following completion of repairs **WILL NOT BE** honored.



EXAMPLE

GUARDIAN HOME STANDBY GENERATORS

GENERAC® POWER SYSTEMS, INC. *Shaded areas for factory use only* **WARRANTY REPAIR REPORT NUMBER**
 P.O. BOX 297 **G**
 757 N. NEWCOMB STREET *Fill out completely*
 WHITEWATER, WI 53190 *Please print or type*

DEALER NAME AND ADDRESS ABC POWER & EQUIPMENT	CUSTOMER NAME AND ADDRESS JOHN SMITH
1234 COUNTRY LANE	5678 RIVER ROAD
YOUR TOWN, YOUR STATE 12345 ZIP CODE	HIS TOWN, HIS STATE 67890 ZIP CODE
DEALER TELEPHONE 123-456-7890	CUSTOMER TELEPHONE 121-555-2222

DEALER CUSTOMER NUMBER 0 0 0 0 0 0	TYPE OF APPLICATION <input checked="" type="checkbox"/> RESIDENTIAL <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> PRIME POWER <input checked="" type="checkbox"/> EMERGENCY STANDBY
---------------------------------------	--

TYPE OF CLAIM
 WARRANTY REPAIR NEW DEFECTIVE SERVICE PARTS EXTENDED WARRANTY "LIQUID COOLED" DISPUTED CLAIM / POLICY ADJUSTMENT (NEEDS CONTROL NUMBER)

PURCHASE DATE 0 1 1 2 0 2 M M D D Y Y	DATE OF FAILURE 1 0 0 1 0 2 M M D D Y Y	REPAIR COMPLETION DATE 1 0 1 2 0 2 M M D D Y Y	R/R TIME	DIAG. TIME
---	---	--	----------	------------

MODEL NUMBER 0 0 4 4 5 6 0	SERIAL NUMBER 3 9 9 1 2 1 3	HRS. OF OPERATION 23.5	INCHES OF WATER COLUMN 12.5
-------------------------------	--------------------------------	---------------------------	--------------------------------

PROFESSIONAL INSTALLATION PREVENTATIVE MAINTENANCE PERFORMED LP
 CUSTOMER INSTALLATION PREVENTATIVE MAINTENANCE CONTRACT IN EFFECT NG

RETURN DEFECTIVE PARTS, LIST \$100 OR GREATER, WITH THIS REPORT, WITHIN 30 DAYS SHIPMENT TRACKING NUMBER

QTY	PART NO.	FAIL CODE	DESCRIPTION	FLAT RATE	LIST PRICE	EXTENDED LIST PRICE
1	83049	C8808	VOLT REGULATOR	0.5	159.45	159.45

GIVE DETAILS OF PROBLEM, CORRECTION, AND ALL MISC EXPENSES <i>(Word "defective" not sufficient)</i>	TOTAL LIST	159.45
Service call - Unit delivers no AC output. Diagnose - Performed fixed excitation test. Voltages - 95V at 11 & 22, 97V at 2 & 6. DPE circuit breaker found to be good Perform rotor amp draw - .8 - good. Replace voltage regulator, retested OK.	MULTIPLIER (.7475) EQUALS 35% DISCOUNT PLUS 15% COMMISSION	(TOTAL x .7475) 119.18
	FREIGHT	8.90
Replace voltage regulator 0.5 hrs. Diagnose and retest 1.5 hrs. Total 2.0 hrs.	MISC. GUARDIAN STANDBY TRAVEL ALLOWANCE	50.00
	LABOR HRS. x POSTED SHOP LABOR RATE 2 x 45	90.00
PER FLAT RATE MANUAL	TOTAL	268.08

IF TOTAL IS OVER \$700.00 A CONTROL NUMBER IS REQUIRED

AUTHORIZED CONTROL NO.
(ISSUED BY GPS, INC.)

Customer Signature: *John Smith* Date: 10-12-02 Dealer Signature: *Ryan Davis* Date: 10-12-02
 White Copy-Dealer Yellow Copy-Quality Pink Copy-Dealer



GENERAC POWER SYSTEMS STANDARD “TWO YEAR” LIMITED WARRANTY FOR

“GUARDIAN®PREPACKAGED EMERGENCY AUTOMATIC STANDBY GENERATORS”

For a period of two years from the date of original sale, Generac Power Systems, Inc. (Generac) will, at its option, repair or replace any part which, upon examination, inspection and testing by Generac or a Generac Authorized Warranty Service Dealer, is found to be defective under normal use and service, in accordance with the warranty schedule set forth below. Any equipment that the purchaser/owner claims to be defective must be returned to and examined by the nearest Generac Authorized Warranty Service Dealer. All transportation costs under the warranty, including return to the factory, are to be borne and prepaid by the purchaser/owner. This warranty applies only to Generac prepackaged emergency automatic standby generators sold and rated for use in “Standby” applications.

WARRANTY SCHEDULE

YEARS ONE and TWO – 100% (one hundred percent) transferable coverage on Labor and Part(s) listed (proof of purchase and maintenance is required):

ENGINE – All Components, **ALTERNATOR** – All Components, **TRANSFER SYSTEM** – All Components

All warranty expense allowances are subject to the conditions defined in Generac's *Warranty Policies, Procedures and Flat Rate Manual*.

THIS WARRANTY SHALL NOT APPLY TO THE FOLLOWING:

- Generac/Guardian generators that utilize non-Generac replacement parts.
- Generac/Guardian generators utilizing non-Generac/Guardian automatic transfer switches.
- Any Generac Guardian generators used as rental or trailer mounted applications.
- Units used for prime power in place of existing utility power where utility power is present or in place of utility power where utility power service does not normally exist.
- Costs of normal maintenance, adjustments, installation and start-up.
- Failures caused by any contaminated fuels, oils, coolants or lack of proper fluid amounts.
- Failures due, but not limited, to normal wear and tear, accident, misuse, abuse, negligence or improper installation. As with all mechanical devices, the Generac engines need periodic part(s) service and replacement to perform well. This warranty will not cover repair when normal use has exhausted the life of a part(s) or engine.
- Failures caused by any external cause or act of God, such as collision, theft, vandalism, riot or wars, nuclear holocaust, fire, freezing, lightning, earthquake, windstorm, hail, volcanic eruption, water or flood, tornado or hurricane.
- Damage related to rodent infestation.
- Products that 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 part(s).
- Failure due to misapplication.
- Telephone, cellular phone, facsimile, internet access or other communication expenses.
- Living or travel expenses of person(s) performing service, except as specifically included within the terms of a specific unit warranty period.
- Expenses related to “customer instruction” or troubleshooting where no manufacturing defect is found.
- Rental equipment used while warranty repairs are being performed.
- Overnight freight costs for replacement part(s).
- Overtime labor.
- Starting batteries, fuses, light bulbs and engine fluids.

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

GENERAC'S ONLY LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF PART(S) AS STATED ABOVE. IN NO EVENT SHALL GENERAC 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 above limitation may not apply to you.

This warranty gives you specific legal rights. You also have other rights from state to state.

**GENERAC® POWER SYSTEMS, INC.
P.O. BOX 297, WHITEWATER, WI 53190**

Revision (01/01/02)



GENERAC POWER SYSTEMS' 90-DAY LIMITED WARRANTY FOR GENERAC POWER SYSTEMS REPLACEMENT PARTS

NOTE: ALL PARTS MUST BE INSTALLED BY GENERAC POWER SYSTEMS AUTHORIZED SERVICE FACILITIES. For a period of 90 (ninety) days from the date of original sale or installation of a Generac Power Systems, Inc. (Generac) supplied replacement part, whichever provides the greater coverage, Generac will, at its option, repair or replace any part which, upon examination, inspection and testing by Generac or a Generac Authorized Warranty Service Facility, is found to be defective under normal use and service. Any equipment that the purchaser/owner claims to be defective must be returned to and examined by the nearest Generac Authorized Warranty Service Facility. All transportation costs under the warranty, including return to the factory, are to be borne and prepaid by the purchaser/owner. This warranty applies only to original Generac replacement parts as Generac has defined said parts.

All warranty expense allowances are subject to the conditions defined in Generac's "A Guide to Warranty Policies and Procedures, Flat Rates, Quick Reference Parts Information and Technical Publications for Guardian Home Standby Generators" manual.

THIS WARRANTY SHALL NOT APPLY TO THE FOLLOWING:

- Any and all labor to troubleshoot, remove, replace or adjust a part(s).
- Normal customer maintenance items.
- Failures due, but not limited, to the following:

1. Storage	7. Misuse
2. Improper installation	8. Abuse
3. Improper repair/diagnosis	9. Overspeeding
4. Improper maintenance	10. Overloading
5. Normal wear and tear	11. Accident
6. Negligence	12. Misapplication
- Failures caused by any contaminated fuels or oils.
- Failures caused by any external cause or act of God, such as collision, theft, vandalism, riot or wars, nuclear holocaust, fire, freezing, lightning, earthquake, windstorm, hail, volcanic eruption, water or flood, tornado or hurricane.
- Products and/or part(s) that 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 part(s).
- Failure due to misapplication.
- Telephone, telegraph, teletype or other communication expenses.
- Living or travel expenses of person(s) performing service, except as specifically included within the terms of a specific unit warranty period.
- Rental equipment used while warranty repairs are being performed.
- Overnight freight costs for replacement part(s).
- Overtime labor.

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

GENERAC'S ONLY LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF PART(S) AS STATED ABOVE. IN NO EVENT SHALL GENERAC 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 above limitation may not apply to you. Purchaser/owner agrees to make no claims against Generac based on negligence.

This warranty gives you specific legal rights. You also may have other rights that vary from state to state.

PROCEDURE FOR CLAIMING NEW DEFECTIVE PART:

A Warranty Repair Report must be filled out completely in order to claim a new part installed on a genset failed within the 90-day part warranty.

The date the part was purchased from Generac goes in the area of Purchase Date.

The date the service part was installed as a replacement part goes in the area of Date of Failure.

The date the new part is installed to replace the defective service part goes in the area of Date of Completion.

The Model Number and Serial Number of the genset must be filled out completely along with the original start-up date of the genset in the appropriate areas of the Warranty Repair Report.

Under the area marked "details of problem, cause and correction" fill this area out with the explanation of the complaint, what caused the problem, what corrected the problem.

Complete the Warranty Repair Report by filling in the dollar amounts, less discount, plus commission for the part, freight charge if any and the total.

NOTE: travel time, mileage and labor is not allowed on service part replacement.



CALIFORNIA AND FEDERAL EMISSION CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

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

Your emission control system may include parts such as the carburetor, ignition and exhaust systems. Generac will repair your engine at no cost to you for diagnosis, replacement parts and labor, should a warrantable condition occur.

MANUFACTURER'S EMISSION CONTROL SYSTEM WARRANTY COVERAGE:

Emissions control systems on 1997 and later model year engines are warranted for two years as hereinafter noted. If, during such warranty period, any emission-related component or system on your engine is found to be defective in materials or workmanship, repairs or replacement will be performed by a Generac Authorized Warranty Service Facility.

PURCHASER'S/OWNER'S WARRANTY RESPONSIBILITIES:

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

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

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

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

1-800-333-1322 -OR- www.guardiangenerators.com

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

Warranty service can be performed only by a Generac Authorized Warranty Service Facility. When requesting warranty service, evidence must be presented showing the date of the sale to the original purchaser/owner. The purchaser/owner shall be responsible for any expenses or other charges incurred for service calls and/or transportation of the product to/from the inspection or repair facilities. The purchaser/owner also shall be responsible for any and/or all damages or losses incurred while the engine is being transported/shipped for inspection or warranty repairs.

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

**ATTENTION WARRANTY DEPARTMENT
GENERAC® POWER SYSTEMS, INC.
P.O. BOX 297, WHITEWATER, WI 53190**



EMISSION CONTROL SYSTEM WARRANTY

Emission Control System Warranty (ECS Warranty) for 1997 and later model year engines:

- (a) **Applicability:** This warranty shall apply to 1997 and later model year engines. The ECS Warranty Period shall begin on the date the new engine or equipment is purchased by/delivered to its original, end-use purchaser/owner and shall continue for 24 consecutive months thereafter.
- (b) **General Emissions Warranty Coverage:** Generac warrants to the original, end-use purchaser/owner of the new engine or equipment, and to each subsequent purchaser/owner, that each of its engines is ...
 1. Designed, built and equipped so as to conform with all applicable regulations adopted by the EPA and CARB pursuant to their respective authority, and
 2. Free from defects in materials and workmanship which, at any time during the ECS Warranty Period, may cause a warranted 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 that are not scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the ECS Warranty Period. If any such part fails during the ECS Warranty Period, it shall be repaired or replaced by Generac according to Subsection (4) below. Any such part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period.
 2. Any warranted, emissions-related part that is scheduled only for regular inspection as specified in the Owner's Manual shall be warranted for the ECS Warranty Period. A statement in such written instructions to the effect of "repair or replace as necessary" shall not reduce the ECS Warranty Period. Any such part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period.
 - (3) Any warranted, emissions-related part that is scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part shall be repaired or replaced by Generac according to Subsection (4) below. Any such emissions-related part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period prior to the first scheduled replacement point for such emissions-related part.
 - (4) Repair or replacement of any warranted, emissions-related part under this ECS Warranty shall be performed at no charge to the owner at a Generac Authorized Warranty Service Facility.
 - (5) When the engine is inspected by a Generac Authorized Warranty Service Facility, the owner shall not be held responsible for diagnostic costs if the repair is deemed warrantable.
 - (6) Generac shall be liable for damages to other original engine components or approved modifications proximately caused by a failure under warranty of any 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 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 purchaser/owner. Such use shall not reduce Generac's ECS Warranty obligations.
 - (9) Unapproved, add-on, modified, counterfeit and/or "grey market" parts may not be used to modify or repair a Generac engine. Such use voids this ECS Warranty and shall be sufficient grounds for disallowing an ECS Warranty claim. Generac shall not be held liable hereunder for failures of any warranted parts of a Generac engine caused by the use of such an unapproved, add-on, modified, counterfeit and/or "grey market" part.

EMISSION RELATED PARTS INCLUDE THE FOLLOWING:

- | | |
|---|--|
| <ol style="list-style-type: none"> 1) Fuel Metering System: <ol style="list-style-type: none"> 1.1) Gasoline carburetor assembly and its internal components (if so equipped). <ol style="list-style-type: none"> a) Fuel filter (if so equipped) b) Carburetor gaskets c) Fuel pump (if so equipped) 1.2) LPG carburetion assembly and its internal components (if so equipped). <ol style="list-style-type: none"> a) Fuel controller (if so equipped) b) Mixer and its gaskets (if so equipped) c) Carburetor and its gaskets (if so equipped) d) Primary gas regulator (if so equipped) e) LP liquid vaporizer (if so equipped) | <ol style="list-style-type: none"> 2) Air Induction System including: <ol style="list-style-type: none"> a) Intake pipe/manifold b) Air cleaner 3) Ignition System including: <ol style="list-style-type: none"> a) Spark plug b) Ignition module 4) Catalytic Muffler Assembly (if so equipped) including: <ol style="list-style-type: none"> a) Muffler gasket b) Exhaust manifold 5) Crankcase Breather Assembly including: <ol style="list-style-type: none"> a) Breather connection tube |
|---|--|

*Generac engine types covered by this warranty statement include the following:

- 1) Utility
- 2) Lawn and Garden Equipment
- 3) Recreational Vehicle (RV) Generator
- 4) Industrial Mobile (IM) Generator



FLAT RATE SCHEDULE — GUARDIAN Air-Cooled Generators

Flat Rate times are listed in tenths of hours and include the removal of all parts necessary to replace defective part.

All rates are calculated based on the posted shop labor rate (in shop and on site).

Travel allowance will be fifty dollar flat fee as per warranty repair report form.

Failure Code	Description	Model	6 kW 4077	8 kW 4109	10 kW 4079	6/7 Kw 4389	10/12 kW & 13/15 kW 4456 & 4390
ALTERNATOR PARTS							
A18	Brushes		0.5	0.5	0.5	1.5	1.5
A17	Brush Holder		0.5	0.5	0.5	1.5	1.5
A70	Rotor		*1.5	*1.5	*1.5	2.75	2.75
A79	Stator		1.0	1.0	1.0	2.5	2.5
A13	Bearing Carrier - Brush		*0.8	*0.8	*0.8	2.0	2.0
A13	Bearing Carrier - Lower		*1.5	*1.5	*1.5	n/a	n/a
A12	Rotor Bearing NA		*1.3	*1.8	*1.8	2.3	2.3
A10	Engine to Alternator Adapter		*0.5	*0.5	*0.5	n/a	n/a
CONTROL CIRCUITRY							
C18	Voltage Regulator		0.3	0.3	0.3	0.5	0.5
C41	Fuse Holder		0.3	0.3	0.3	0.5	0.5
C22	Circuit Breaker		0.3	0.3	0.3	0.5	0.5
C62	Printed Circuit Board		0.5	0.5	0.5	0.6	0.6
C81	Switch		0.3	0.3	0.3	0.5	0.5
F44	Hourmeter		0.3	0.3	0.3	0.5	0.5
E56	Low Oil psi Switch or High Temperature Switch		0.3	0.3	0.3	0.3	0.3
C83	Transformer		0.3	0.3	0.3	0.5	0.5
ENGINE AND ASSOCIATED PARTS							
E29	Engine Short Block / Long Block		6.0	8.0	8.0	3.75*	4.0*
O60	Oil Pump		*2.0	*2.0	*2.0	2.0	2.0
E49	Ignition Coil or Module		0.3	0.3	0.3	1.2	1.2
E75	Spark Plug Wire		0.2	0.2 (ea)	0.2 (ea)	0.2	.2(ea)
E77	Starter		*1.0	*1.0	*1.0	1.0	1.5
E78	Starter Solenoid		*0.3	*0.3	*0.3	n/a	n/a
E35	Flywheel		*0.5	*0.5	*0.5	1.5	1.5
E43	Intake Manifold Gasket		*0.7	*1.3	*1.3	0.25	0.5
E43	Exhaust Manifold Gasket		*0.5	*0.7	*0.7	0.75	1.0
E43	Head / Head Gasket(s)		*1.0	*2.0	*2.0	1.5	1.5
E43	Valve Cover Gasket		0.3	0.3	0.3	0.3	0.3
E16	Breather Assembly		0.5	0.5	0.5	0.5	1.5
G54	Governor Lever		0.3	0.5	0.5	0.5	0.5
E61	Battery Charger DC Regulator—		*0.5	*0.5	*0.5	0.5	0.5
D20	Carburetor / Mixer		0.5	0.5	0.5	0.75	1.0
D40	Fuel Solenoid LP / Regulator LP		0.5	0.5	0.5	0.5	0.5
E24	Crankshaft		†7.7	†10.7	†10.7	5.5	6.7
E43	Flywheel / Upper Crankshaft Seal		0.8	0.8	0.8	2.0	2.0
E43	PTO / Lower Crankshaft Seal		0.3	0.3	0.3	3.25	3.25
O10	Oil Filter Support Assembly		0.5	1.5	1.5	0.5	n/a
E63	Piston(s)						
	0.3 for each additional		†7.0	†9.2	†9.2	5.0	6.0
E86	Valves Replace (one or all)		‡1.5	‡2.5	‡4.0	2.0	2.0
E19	Camshaft		†7.0	†9.5	†9.5	5.0	6.0
E43	Piston Rings		†7.1	†9.5	†9.5	5.2	6.2
ELECTRICAL DIAGNOSTIC, TEST AND ADJUSTMENT TIME							
	Allowance (up to)		2.0	2.0	2.0	2.0	2.0
* ENCLOSURE REMOVAL AND INSTALLATION TIME ALLOWANCE							
	Standard Enclosure (up to)		1.5	1.5	1.5	1.0	1.0
ENGINE DIAGNOSTIC, TEST AND ADJUSTMENT TIME							
	Allowance (up to)		1.0	1.0	1.0	1.0	1.0

† Includes engine removal and installation.
 ‡ Includes removal and installation of cylinder head.
 No need for removal of enclosure.

FLAT RATE SCHEDULE - WATER COOLED ENGINE DRIVEN STANDBY / PRIME Power GENERATORS Units With Gaseous Engines

Flat Rate times are in tenths of hours and include the removal of all necessary part(s) to repair / replace the defective component. Certain sections or individual part(s) listed will be followed by a CODE designation in parentheses.

EXAMPLE: Rotor/Stator Asm. (A)

The CODE explanations are as follows:

- (A) - Contact Generac® Power Systems Technical Service Department for APPROVAL and CONTROL NUMBER
- (B) - Change out as a component assembly.

All rates are calculated based on the posted shop labor rate (in shop and on site).
Travel allowance will be fifty dollar flat fee as per warranty repair report form.

Failure Code	Description	1.5G	4.3G
		4188 / 4189 4370 / 4371 4474 / 4475	4373
ALTERNATOR			
	Rotor / Stator Asm. (A)	5.0	5.0
A32	Fan	5.0	5.0
A79	Stator (only) Asm. (A)	3.0	3.0
A12	Bearing	1.2	2.0
A13	Carrier	1.0	2.0
A79	Armature (exciter) (A)	1.0	1.0
A83	Diode	0.5	0.5
A79	Stator (exciter) (A)	1.0	1.0
A10	Blower Housing	3.5	3.5
A17	Brush Holder	0.3	0.3
A18	Brush	0.4	0.4
A87	Vibration Dampener	0.3	0.4
	Flex Plate	5.0	5.0
CONTROL PANEL			
C18	Voltage Regulator (B)	0.5	0.5
C62	Printed Circuit Board (B)	0.5	0.5
F22	Circuit Breaker	0.3	0.3
68	Relay	0.3	0.3
F38	Fuel Solenoid Breaker	0.4	0.4
F41	Fuse Holder	0.3	0.3
F81	Switches	0.3	0.3
	Potentiometer	0.7	0.7
F69	Resistor	0.3	0.3
F44	Hertz Meter	0.3	0.3
F44	Ammeter	0.3	0.3
F44	Hour Meter	0.3	0.3
F44	Volt Meter	0.3	0.3
F44	Temperature Gauge	0.3	0.3
F99	Terminal Block	0.5	0.5
F99	Lamp	0.1	0.1
F99	Jumper Terminal Block	0.5	0.5
F99	Heat Sink	0.5	0.5
F69	Rectifier (only)	0.3	0.3
F83	Transformer	0.4	0.4
TRICKLE CHARGER			
C22	Circuit Breaker	0.5	0.5
C83	Transformer	0.5	0.5
C62	Printed Circuit Board (B)	0.5	0.5
DIAGNOSES, TEST & ADJUSTMENT ALLOWANCE			
	Electrical Components	2.0	2.0
	Engine Components	1.0	1.0

Failure Code	Engine Size	1.5G	4.3G
		4188 / 4189 4370 / 4371 4474 / 4475	4373
ENGINE			
E29	Long Block (A)	5.5	9.5
E29	Short Block (A)	8.0	12.0
E59	Oil Pan / Gasket (A)	3.5	4.0
E25	Head(s) R&R / Replace (A)	4.0	6.0
E77	Starter Motor	0.5	0.5
E71	Speed Sensor Asm.	0.3	0.3
E35	Flywheel & Ring Gear	5.5	5.5
	Air Cleaner	0.2	0.2
E87	Engine Mount	0.5	1.0
E26	Alternator - DC (B)	0.5	0.5
E56	Oil Pressure Sender	0.3	0.3
E56	Oil Pressure Switch	0.3	0.3
W56	Water Level Switch	0.3	0.3
W72	Water Temp. Switch	0.3	0.3
W72	Water Temp. Sender	0.3	0.3
E82	Thermostat & Gasket	1.0	1.0
E32	Fan	0.5	0.5
D39	Fuel Pump	0.8	0.8
	Battery Cable (each)	0.2	0.2
	Timing Cover / Gasket (A)	3.5	3.5
	Timing Chain & Gears (add)(A)	0.5	0.5
E90	Water Pump Asm. (B)	2.0	2.0
E30	Exhaust Manifold & Gsk.	1.0	2.0
E51	Intake Manifold & Gsk.	1.0	3.0
D20	Carburetor	0.3	0.3
D38	Fuel Solenoid	0.5	0.5
G46	Governor / Actuator	1.0	1.0
E78	Starter Solenoid	0.3	0.3
E15	Block Heater	1.0	1.0

NOTE: Contact Generac® Power Systems Technical Service Department Prior to Major Engine Repairs

RADIATOR ASSEMBLY			
W66	Radiator	2.0	2.0
W48	Hose (each)	0.3	0.3
	Coolant Return Bottle	0.2	0.2
ENCLOSURE			
S73	Lock	0.5	0.5
	R & R Assembly	1.0	3.0
	Sound Attenuation (If Applicable)	1.0	1.5



EXAMPLE

Generac Power Systems, Inc.
 Attn: Warranty Manager
 757 N. Newcomb Street
 Whitewater, WI 53190

Date _____

SUGGESTED FLAT RATE CHANGE

We request that the time allowance on the following operation be reviewed because this operation has occurred in our shop a sufficient number of times to establish the time suggested as our average.

Model _____ Serial Number _____
 Type _____ Engine _____

Type of Failure	Part Replaced	Flat Rate Time Allowed	Our Average Shop Time

Describe how operation was performed _____

Tools used _____

Signature _____ Title _____

Dealer _____
 Address _____
 City _____
 State _____ Zip _____
 Phone () _____



WARRANTY FAILURE CODES

Procedure for finding correct failure codes: A + B + C = the failure code

Example: Unit has fuel leak

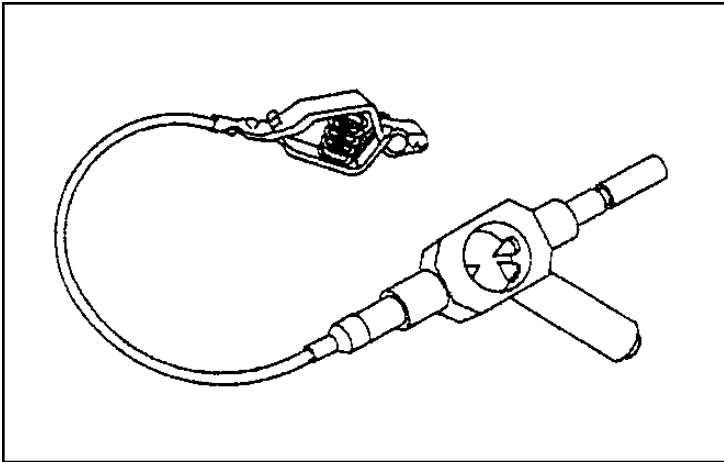
A = D (fuel system) This is the Primary Failure Code for the system that has failed.

B = 40 (fuel regulator) This is the Secondary Failure Code for the item that has failed.

C = 06 (leak) This is the Reason For Failure (what was wrong with the part).

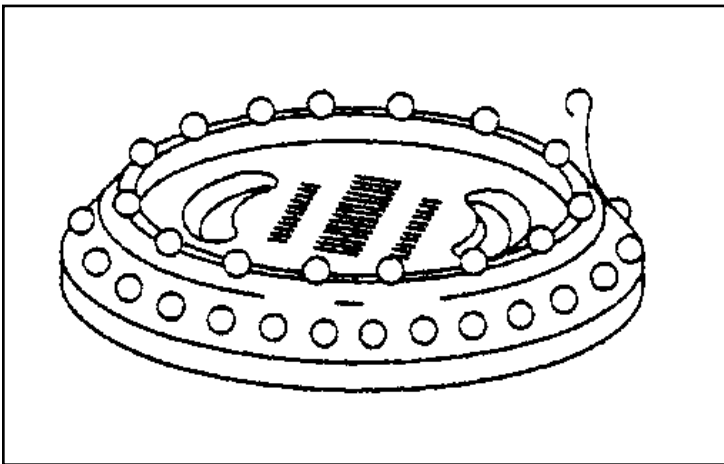
A — PRIMARY FAILURE CODE (WHAT SYSTEM?)		C — Reason For Failure	
A	Alternator	00	Open
C	PCB — Control Circuitry	01	Shorted
D	Fuel Systems	02	Missing / Wrong
E	Engine Related	03	Frozen / Tight / Rough
F	Control Panel	04	Broken / Cracked
G	Governor	05	Burnt / Bent / Distorted
H	Ignition System	06	Leak
L	Transfer Switch	07	Miswired / Misadjusted
O	Oil System	08	Defective
P	Gear Box	09	Post Manuf. Update
S	Sheet Metal	10	Dirty / Clogged
W	Water System	11	Loose
Z	Other (Misc)	12	Weak
		13	Noisy
		14	Re-establish Magnetism
		15	Rebuilt Stock
		16	New Defective
		17	PCB Timer Wiring
		99	Other / Misc

B — SECONDARY FAILURE CODE (WHAT ITEM FAILED?)			
10	Adapter Casting	39	Fuel Pump
11	Alarm Circuit	40	Fuel Regulator
12	Bearing	41	Fuse Holder
13	Bearing Carrier	42	Fuses / Lamps
14	Belt	43	Gaskets / Seals / Plugs
15	Block Heater	44	Gauge / Meter
16	Breather	45	Genister
17	Brush Holder	46	Governor
18	Brushes	47	Hardware
19	Camshaft	48	Hose
20	Carburetor	49	Ignition Coil
21	Choke Mechanism	50	Ignition Module
22	Circuit Breaker	51	Intake Manifold
23	Clamps	52	Inverter
24	Crankshaft	53	Lines
25	Cylinder Head	54	Linkage
26	DC Alternator	55	Locks / Hinges
27	Distributor	56	Low Oil Pressure Switch
28	Engine Overhaul	57	Misc / Other
29	Engine / Long Block	58	Muffler
30	Exhaust Manifold	59	Oil Pan / Sump Cover
31	Exhaust System	60	Oil Pump
32	Fan	61	All Battery Chargers
33	Field Boost Diode	62	PCB / General
34	Filters / Elements	63	Piston
34	Fittings	64	Pulley
35	Flywheel / Ring Gear	65	Pushrod
36	Frame / Support	66	Radiator
37	Fuel Injector / Primer	67	Receptacle / Outlet
38	Fuel Lock Off Solenoid	68	Relay
		69	Resistor
		70	Rotor
		71	RPM Sensor / Mag PU
		72	Sensor
		73	Sheet Metal Cover
		74	Slip Rings
		75	Spark Plug
		76	Spring
		77	Starter
		78	Start Solenoid
		79	Stator
		80	Stepper Motor
		81	Switch
		82	Thermostat
		83	Transformer
		84	Valve Cover
		85	Valve Retainer / Keeper
		86	Valves
		87	Vibration Mount
		88	V/Reg 83048 / 83049
		89	V/Reg 67680 / 79018
		90	Water Pump
		91	Wiring



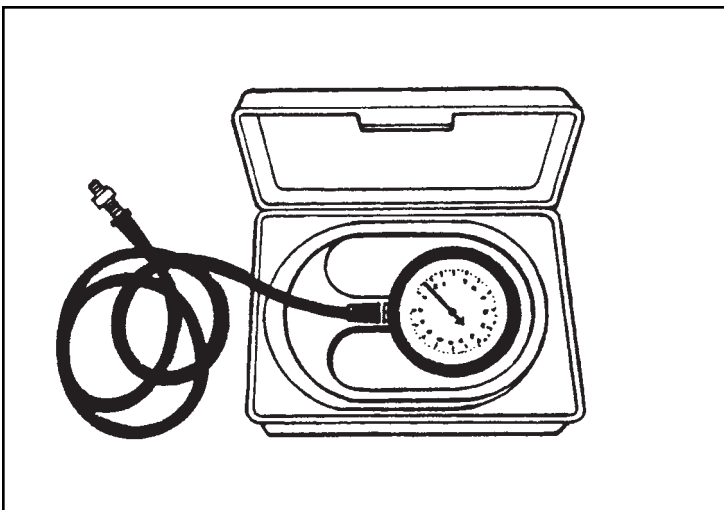
SPARK TESTER — P/N C5969

Used to check for ignition spark on all model series.



VIBRA TACH — P/N 42223

Used to set correct idle and top no load RPM on all model series.

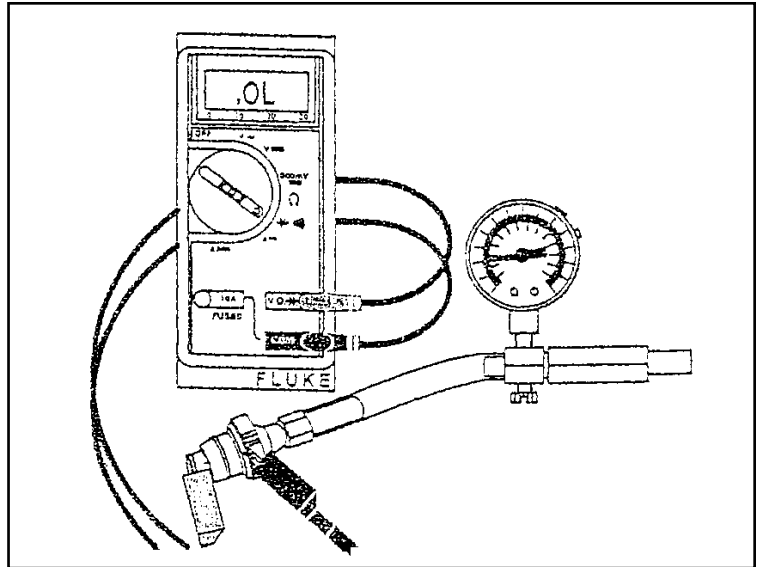


GAS PRESSURE TESTER/VIDEO KIT — P/N 0C7977

- Tester is rated from 0-35 inches water column, and includes a 1/8 inch NPT barbed fitting and hose.
- Fits all air cooled and liquid cooled gaseous units up to 40kW.
- Mounted in it's own durable plastic case, with storage room for larger fittings and hardware. (Customer must supply fittings and hardware to allow testing of larger gaseous units - above 40kW).

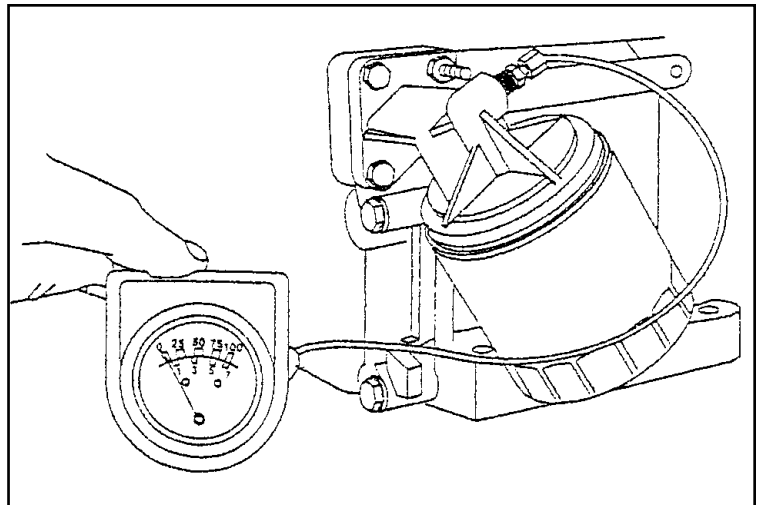
TEST METHOD FOR GENERAC — P/N 99236(LOS)

- Apply 20PSI air pressure to switch.
- Connect an audible continuity meter to the switch and ground.
- Release the air pressure and note the pressure when the meter sounds.
- Accept the part if the switch closes at the specified pressure, reject the part if it does not.



CHECK OIL PRESSURE

- When checking for oil pressure, remove plug or LOS switch from engine and install a pressure gauge.
- Start and run engine and notice how much oil pressure you have.
- Oil pressure should be between 10-30 psi.





AIR-COOLED ENGINE TECHNICAL PUBLICATIONS LIST

TITLE OF MANUAL	PART #	PRICE	DESCRIPTION
Service and Repair Manual- Overhead Valve Engine Models GN190 thru 410	C1103	\$15.00	Two books in one. Manual covers all information normally required to service and repair GENERAC's GN190 thru 410 single cylinder engines, and is divided into Small Frame and Large Frame sections. Illustrated with line drawings and digital photography. Also available on CD-Rom for on screen viewing using a personal computer (see below for details).
Service Manual- GN724 OHVI V-Twin	0C8221	\$10.00	Manual covers disassembly, inspection, repair and reassembly of the GN724 OHVI V-Twin engine.
Installation Manual	0C2165	\$5.00	Manual covers guidelines and recommendations for the installation of air-cooled generators.
Service Manual V-Twin 480/570 cc	081134	\$10.00	Manual covers disassembly, inspection, repair and reassembly of the GN480/570 OHVI V-Twin engine.

Note: For air-cooled engine parts, consult the unit's owner's manual.

LIQUID COOLED ENGINE TECHNICAL PUBLICATIONS LIST

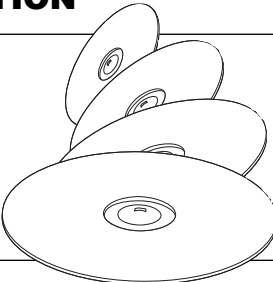
ENGINE REPAIR MANUAL	PART #	PRICE
1.5 Liter Gaseous Engine (Mitsubishi)	C1947	\$15.00
4.3 Liter Gas Engine (GM)	C8220	\$20.00

ENGINE PARTS MANUAL	PART #	PRICE
1.5 Liter Gaseous Engine (Mitsubishi)	015000G0PB	\$3.00

TECHNICAL PUBLICATIONS - GENERAL

Diagnostic Repair Manual for Generac II 8 kW to 25 kW using 480 cc and 1.2 L engines	083045	\$15.00	Comprehensive manual covering installation, adjustment, fault identification, troubleshooting and repair. Useful information that spans prepackaged home standby systems.
Installation Manual	079699	\$5.00	Manual covers guidelines and recommendations for the installation of air-cooled and liquid cooled generator systems.

CD-ROM SERVICE INFORMATION

<p>Generac introduces compilations of technical information on CD-rom. As easy to use as browsing on the internet, these CDs include the necessary viewing software.</p>		<p>Minimum system requirements for the use of these CDs:</p> <ul style="list-style-type: none"> • 386, 486 or Pentium® processor based personal computer • Microsoft Windows 3.1, Windows 95 or Windows NT® or later • 16MB of RAM • CD-ROM drive
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Service and Repair Manual for Single Cylinder GN Engines	CD-C1103	\$24.95	A CD version of the new Generac service manual covering the GN-190 thru 410 single cylinder engines. The CD also includes the owner's manuals for the engines to allow lookup of parts information.
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RECOMMENDED ON HAND PARTS LIST

The following list of parts is recommended field stock for servicing the Guardian Air and Liquid Cooled Home Standby Product.

GENERAC POWER SYSTEMS FIELD SERVICE PARTS KIT COVERS THE FOLLOWING HOME STANDBY MODELS:

04077	04079	04109	04176	04177	04178	04132	04389
04456	04390	04301	00789	00844	09067	00865	04373
04188	04189	04370	04371	04474	04475		

PART NUMBER 0858970ANL (RECOMMENDED PARTS FOR AIR AND LIQUID COOLED GUARDIAN)

PART #	DESCRIPTION	QUANTITY
0A6751	SW-TMP 245 DEG 3/8" NPT	1
0A8584	SWITCH OIL PRESSURE HOBBS	1
0C1537	ASSY HME STNDBY CNTR	1
0C3025	SWITCH, OIL PRESS GV	1
0C6211	ASSY HOME STANDBY CONTROLLER	1
0C6211A	ASSY HOME STANDBY CONTROLLER	1
022668	FUSE 30A x AGC30 HLDR 22669	2
022676	FUSE 15A x AGC15	2
032300	HOLDER, FUSE	1
035606	SENSOR HI COOLANT SHUTDOWN	1
056739	RELAY SOLENOID 12VDC PNL MNT	1
057522	SENSOR COOLANT LEVEL	1
063617	RELAY PNL 12VDC DPDT 10A@240VA	1
067680	ASSY VOLTAGE REGULATOR 60HZ	1
070042	FREQUENCY METER 240V 55-65HZ	1
073590A	FUSE 5A x BUSS	4
076009A	PP LOGIC ASM 50/60HZ	1
083048	ASSY POTTED REG WO/FIN	1
083049	ASSY POTTED REG W/FIN	1
086729	CONTACTOR, STARTER	1
098647K	STEPPER MOTOR KIT	1
099236	SWITCH, OIL 8.0 PSI	1



PRODUCT INFORMATION BULLETIN

- DATE:** August 2000
- SUBJECT:** Circuit Board 0C1537 Exercise Function
- MODELS AFFECTED:** GUARDIAN Models: 4109-0,1; 4077-0,1; 4078-0,1; 4079-0,1 Grainger (Dayton) Models: 4176-0,1; 4177-0,1; 4178-0,1
- SYMPTOM:** The exercise function on some units may be accelerated by approximately 5 minutes per week.
Example: Exercise may occur 5 minutes earlier, progressively, each week. In a 6 month period, the time could be accelerated by as much a 2 1/2 hours.
The acceleration of the exerciser timer does not affect the operation, or performance of the unit.
- CORRECTIVE ACTION:** It is recommended that the customer reset the exercise timer after performing the monthly battery inspection, as outlined in the maintenance schedule. (See instructions below.) These instructions are also located in the owner’s manual, and on the units control panel.
Please note that seasonal time changes (Spring ahead 1 hour and, Fall back 1 hour) are not automatically compensated. The exercise timer must be reset for this also.

SETTING THE EXERCISE TIMER

Your generator is equipped with an exercise timer. Once it is set, the generator will start and exercise once every seven (7), or fourteen (14) days, on the day of the week and at the time of day you complete the following sequence. During this exercise period, the unit runs for approximately seven (7), or twelve (12) minutes, and then shuts down. Transfer of loads to the generator output does not occur during the exercise cycle.

A switch on the control panel (see Figure 1 below) allows you to select the day and time for system exercise. To select the desired day and time of day, proceed as follows:

1. Verify that the Auto/Off/Manual switch is set to AUTO.
2. Hold down the set timer switch until the generator starts (approximately 10 seconds) and then release.
3. The generator will start and run for approximately seven (7), or twelve (12) minutes and then shut down on its own. The exerciser will then be set to run at that time of day every week.

NOTE: The exerciser will only work in the AUTO mode and will not work unless this procedure is performed. The exerciser will need to be reset every time the 12-volt battery is disconnected and then reconnected. The exerciser WILL NOT work if dip switch 2 (Remote Not Auto) is ON.

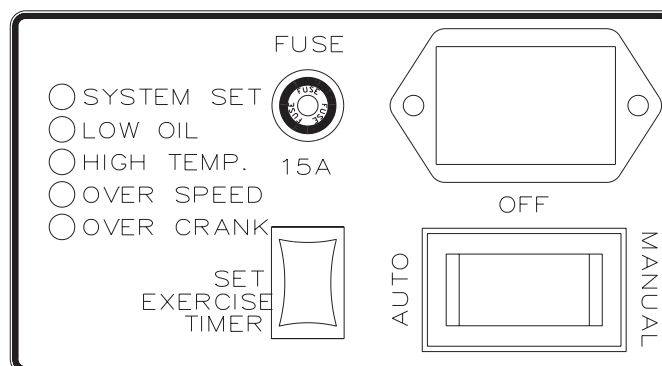


Figure 1 — Generator Control Panel

PIB00-4-M,S

PRODUCT INFORMATION BULLETIN

DATE: November 2000 (Supersedes PIB00-4-M,S dated July 2000)

SUBJECT: Belt Tension Inspection

MODELS AFFECTED: RV Models and Belt Driven Air Cooled Guardians

CORRECTIVE ACTION: Follow the assembly orders in manual for the belt tensioning. Remove all covers and inspect belt for proper tensioning. On all new product make sure that this is inspected before it is installed.

WARRANTY: Informative only.

Drive Belt Tension

- Drive belt tension is adjusted by means of two (2) BELT TENSIONING SPRINGS, CAPSCREWS, SPRING WASHER and FLANGED LOCK NUTS. Turning the CAPSCREWS moves the generator LOWER BEARING CARRIER axially on NYLON SLIDES, and changes the tension on the DRIVE BELT.
- To adjust belt tension, turn the two adjusting bolts until the compressed length of the springs is 5/8 inch (16mm). See Figures 1 and 2.

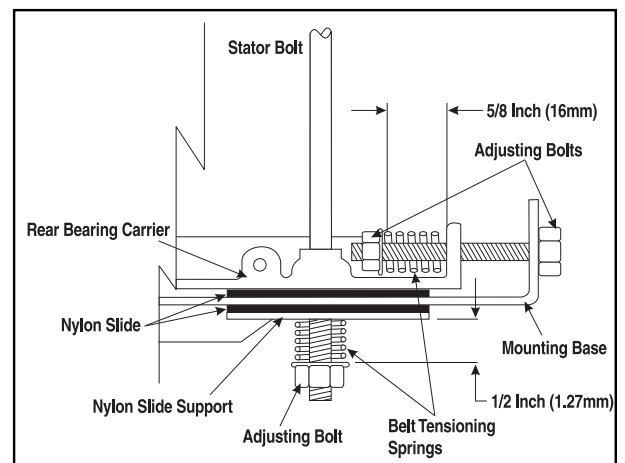


Figure 1 — Drive Belt Tension

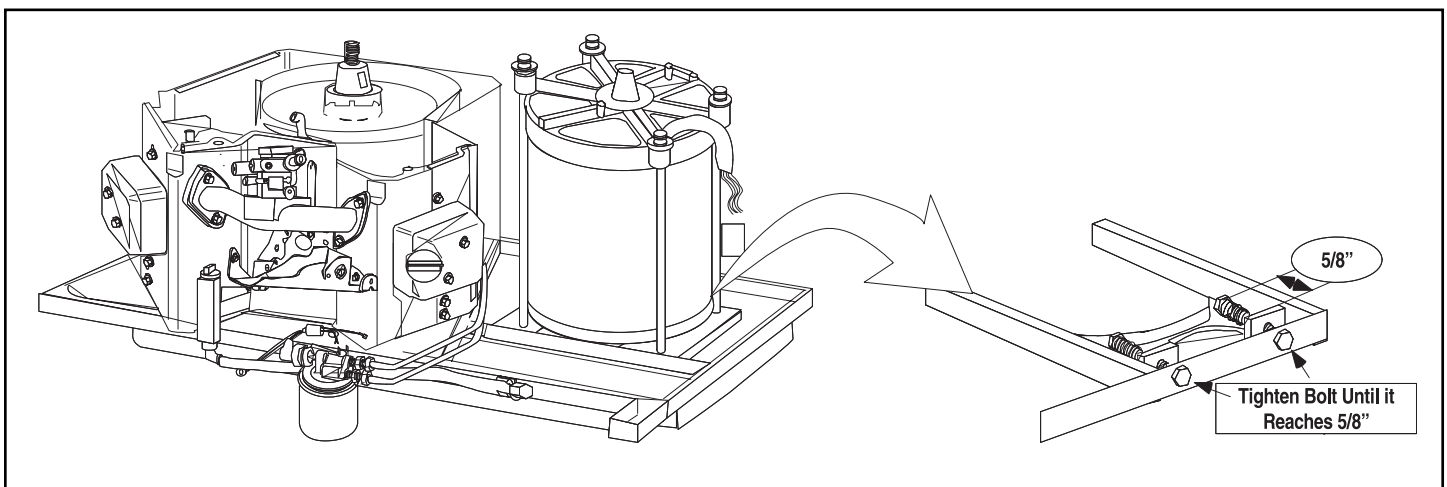


Figure 2 — Drive Belt Tension



PRODUCT INFORMATION BULLETIN

DATE: January 2001

SUBJECT: Fuel regulator adjustment.

MODELS AFFECTED: 4164-0, 4077-0,1, 587-4

PROBLEM: Hard starting GV410 gaseous fueled product.

SYMPTOM: The generator cranks over for an excessive amount of time before starting, or does not start at all.

CORRECTIVE ACTION: Check for proper spark using a spark tester. Check for the proper fuel supply to the regulator, 11 inches of water column should be available to the generators regulator. Also check the valve lash for proper adjustment, valves should be set between .002-.004. A sticking regulator can also cause a no start, verify that the regulator is not stuck (manually choke the unit to start, then retry) If all this checks out an adjustment of the regulator can be made. The regulator is fitted with a freeze plug located directly above the inlet. This freeze plug must be removed. Under the plug is a threaded adjuster, which applies a spring pressure to the inlet seal. Unscrew the adjuster to achieve a dimension of 5mm from the top of the adjuster screw to the top of the threaded casting. Under no circumstances should this adjuster be completely removed. Start the generator a number of times until you are satisfied that the condition is fixed. A new freeze plug part # D2529 MUST be reinstalled in to the regulator to retain the tamperproof status of the regulator. As an identification that the regulator has been adjusted put an X across the freeze plug with a permanent marker.

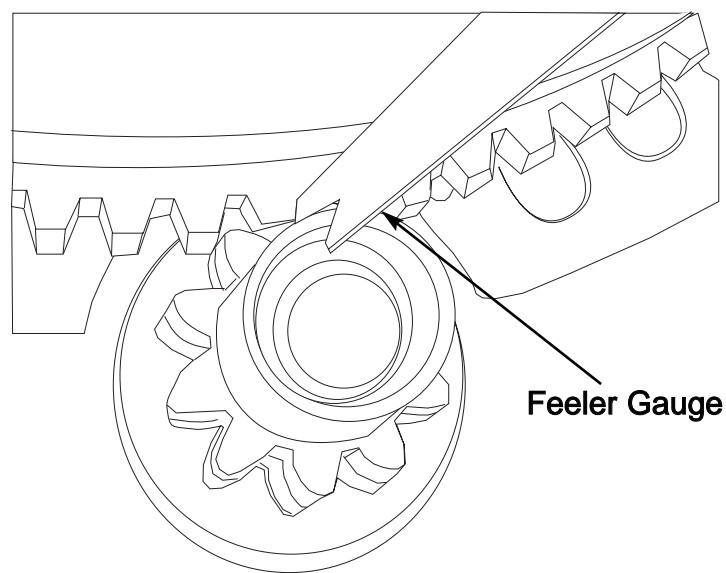
WARRANTY: 1 hour will be allowed for adjustment of the regulator.
Reference PIB01-1-M,S on warranty claim form.



PIB01-8-M,S

PRODUCT INFORMATION BULLETIN

- DATE:** September 2001
- SUBJECT:** GV410 Starters
- MODELS AFFECTED:** 916-0,1, 919-0,1, 2010-0, 4164-0, 862-0,1, 587-4, 4077-2, 4176-0
All models with a date code higher than 03220 are not affected.
- PROBLEM:** Starter pinion jammed into flywheel on initial cranking.
- CORRECTIVE ACTION:** Measure the voltage at the terminal of the starter contactor and verify 11-12 volts DC is available to the generator during cranking. If voltage is below 11 volts DC, measure at the battery terminals during cranking. If battery voltage is below 11 volts DC, recharge/replace battery. If battery voltage is above 11 volts DC, check for proper battery cable sizing, see owners manual.
- Manually engage the starter pinion into to ring gear on the flywheel and check for .020-.035 inch backlash. When checking backlash, measure at eight equally spaced locations and make sure the gear teeth are in contact in the direction of rotation. Shim or remove shims as necessary, use shim kit part number 0D4791. Visually check that the starter motor is perpendicular to the ring gear. Replace the starter motor if the starter motor mounting bracket is bent.
- Check for proper position of rectangular rubber bumper part number 0C3794. Older units used rubber dimples, they should be replaced if jamming is occurring. New rubber bumper gets placed at base of block right above sump cover, and on the centerline of the starter.
- WARRANTY:** 1.0 hours will be allowed for this procedure. Reference PIB01-8-M,S on warranty claim form. This Product Information Bulletin is effective for the original warranty period of the generator.





WARRANTY INFORMATION BULLETIN

DATE: May 2001
SUBJECT: Liquid Cooled GUARDIAN PCB, Part #76009A Test Procedure

Due to the fact that 76009A boards are being tested upon warranty return, Generac is finding that over 60% of the boards returned as “failed” are actually testing good and working on units in practical application testing. Please ensure that these simple tests are performed before replacement of the 76009A board. It will be necessary to record your measurements, and **include these findings on the Warranty Repair Report** in the Details of Correction section of the report submitted for payment.

PROCEDURE FOR CHECKING CONTROL BOARD NUMBER 76009A

With the Auto/Off/Manual switch in either the Auto or Manual Position, perform the following:

- Check for battery voltage from wire #15A (J1-10) to wire #0 (J1-13) this is battery voltage to the control board and should be the same as the voltage at the battery, 12-14 VDC.

IF STARTER DOES NOT CRANK

When unit cranks, the PCB applies battery voltage to the #56 wire (J1-5).

- Measure and record on #56 wire (J1-5) to ground #0 wire (J1-13) within 5 seconds of placing unit to manual; should measure greater than 10 VDC.
- If it measures less than 10 VDC, remove the #56 wire (J1-5) from J1 housing, this isolates the board from the rest of the starter solenoid circuit.
- With the #56 wire removed, place the switch in manual and re-measure voltage across the pins J1-5 to J1-13 (#0 wire). If it is still less than 10 VDC, replace the board.
- Also check for a short to ground on wire #56, a short on wire #56 could cause damage to the board.

IF STARTER CRANKS BUT UNIT DOES NOT COME UP TO SPEED

When unit is starting and running the board puts battery voltage on the #14 wire (J1-7) run circuit.

- Measure and record #14 wire (J1-7) to ground (J1-13) while engine is cranking; should read greater than 10 VDC.
- If voltage on #14 (J1-7) to ground measure less than 10 VDC remove the #14 wire (J1-7) from J1 housing, this isolates the board from the rest of the run circuit.
- With the #14 wire removed, re-measure voltage across pins J1-7 to J1-13 (#0 wire). If the voltage is still less than 10 VDC, replace the board.
- If the board measures greater than 10 VDC, check for a short to ground on the #14 wire, this may be the problem.

IN AUTO- UNIT DOES NOT TRANSFER AFTER UTILITY LOSS & 20 SECOND WARM-UP DELAY

- Measure voltage across #23 wire (J1-3) and #194 wire (J1-4); should be greater than 10 VDC.
- If not, remove #23 wire and #194 wire from housing and re-measure voltage across J1-3 and J1-4.
- If this measurement is less than 10 VDC replace the board.
- Be sure to check for a short to ground on #194 wire. If there is a short to ground on this wire it will stop the unit from transferring and possibly be causing damage to the board.

IN AUTO- UNIT DOES NOT TRANSFER BACK TO UTILITY WHEN UTILITY VOLTAGE IS RESTORED

- Check voltage between J1-14 (red wire) and J1-15 (#225A wire); should be greater than 12 VAC. This voltage is from the secondary winding of the Utility sensing transformer.
- If utility is close to rated (i.e. 208 VAC or 240 VAC) and is still less than 12 VAC on the secondary, check transformer wiring.
- If voltage across J1-14 (red wire) to J1-15 (#225A wire) is greater than 12 VAC and the system still does not return to utility, replace the board.



WIB01-3-G

NOTE: Before testing the Battery Charger or Weekly Exercise you must confirm the following:

- Test for 14-16vac between the Red wire (pcb pin #14) and wire #225A (pcb pin #15).
This voltage serves two (2) functions:
 1. Utility “Sensing” Voltage
 2. Battery Charger Voltage
- Test for “line to line” voltage between the wire #T1 (pcb pin #17) and wire #T2 (pcb pin #16). **Example:** 208 vac or 240 vac.
IMPORTANT: MUST BE “LINE TO LINE” VALUE!

This voltage serves two (2) functions:

1. Weekly Exercise (every 7 days)
2. Cycles the Battery Charger (On 4.85 Hrs. — Off 4.85 Hrs.)

If you do not obtain these values, refer to the diagnostic manual part # 83045.

TESTING THE BATTERY CHARGER

- Set the exercise timer, per the instructions in the Owner’s Manual, or on unit (this will set the PCB to the “zero” reading).
- Remove the DC fuse from the control panel.
- Measure the DC voltage at the battery (+) (-), record this value.

NOTE: If the battery voltage measures greater than 13 volts it should be discharged to less than 12.6 volts.

- From this point there are two methods for testing battery charging.
 1. The most accurate way is to measure current using a current meter across the fuse holder with the fuse removed. With the meter set to DC current, measure the direction of current flow. Current flow should be into the battery. The magnitude of the current is determined by the battery voltage and the utility voltage and would typically be in the .5 amp range.

NOTE: The direction of current is more important than magnitude.

2. If you cannot measure current flow, measuring voltage will give an indication of charging. Install the fuse back in the front panel and measure battery voltage again. Over a ten to fifteen minute time frame you should see a slow increase in the battery voltage.

TESTING THE WEEKLY EXERCISE CIRCUIT

- Remove the DC fuse from control panel.
- “Open” the control panel front (be careful not to short any wiring to the panel).
- Remove the cover from the CMA box.
- With a flashlight, locate SW1 on the circuit board (76009-A). This is a very small “push button” in the upper right corner of the PCB.
- Install the fuse, back in the control panel.
- Put the Auto-Off-Manual switch in the “Auto” position.
- With a non-conductive device (example: pencil eraser) push and hold SW1 until the unit starts (about 30 seconds). The unit will run for about 20 minutes, then shutdown. This tests the exercise circuit. (Be careful when pushing the SW1 switch, there is LIVE voltage present on the PCB.)

NOTE: When the 7 Day Exerciser is set at the SW1 switch (on PCB), the unit will exercise 7 days later at the time the exerciser was set. Example: If you push the SW1 switch at 12:00 PM, it will start at 12:00 PM 7 days later.

If the 7 Day Exerciser is set at the “exercise switch” on the front of the panel, it actually sets the “End of the Cycle”. Example: If you set the time for 12:00 PM, the unit will start (7 days later) at 11:40 and “shutdown” at 12:00 PM.

NOTE: The Warranty Claim will be **REJECTED** and the board **RETURNED** to the Servicing Dealer along with any shipping charges incurred if the 76009A passes the test and the findings to the tests described above are not included with the warranty claim.



PRODUCT INFORMATION BULLETIN

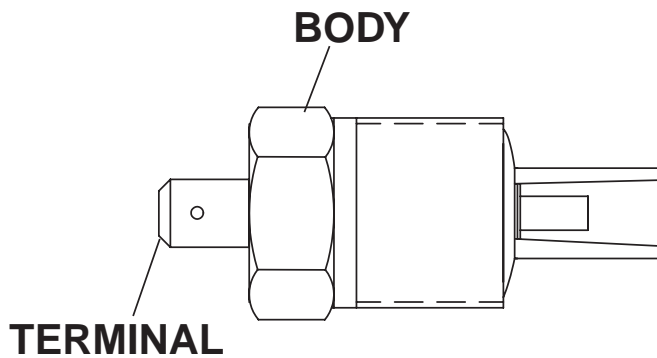
DATE: November 2001

SUBJECT: 057522 Water Level Sensor

MODELS AFFECTED: All Liquid-cooled Engines

PROBLEM: Incorrect information stated in the 079247 Diagnostic Repair Manual.

CORRECTIVE ACTION: The Diagnostic Repair Manual states that the 057522 Low Coolant Level is a Normally Open set of contacts. This is incorrect. The 057522 sensor has a resistance rating of about 45 to 60 ohms (with wire 85 disconnected) from the sensor connector to body (ground).





PIB01-14-S,G

PRODUCT INFORMATION BULLETIN

DATE: November 2001

SUBJECT: Block Heaters

MODELS AFFECTED: All Liquid-cooled Generators Utilizing a Block Heater

Enclosed are guidelines on how to test and prevent damage to the block heaters used on all liquid-cooled generators.

HEATER INSPECTION GUIDELINES

Our heaters utilize a standard resistance heating element. These elements are designed with a fixed resistance for the desired wattage using the specified voltage. In the event your heater has failed or is not properly operating, testing our heaters is easy with the right equipment.

WHAT YOU NEED

1. Phillips screwdriver. (Explosion proof models may require slip-joint pliers.)
2. Needle nose pliers or nut driver (For removing the connectors from the element pins.)
3. Ohmmeter

HOW TO TEST

1. Disconnect the heater from the power source.
2. For heaters equipped with a thermostat, allow the coolant to cool down below the thermostat range (or remove the heater from the engine).
3. Check for continuity with an ohmmeter between the element terminals inside the electrical box at the element end of the heater. Be sure to remove all of the wires from the terminals to avoid getting a false reading. In multiple hairpin configurations, one hairpin can fail while the others remain functioning. This leads to a reduced wattage but not a complete failure. If this occurs, remove the jumpers and measure the hairpins separately. Make sure that the jumper position is noted so they can be properly reassembled.
4. If there is continuity through the element, check for continuity across the thermostat terminals (if applicable).
5. If there is no continuity between the element or thermostat terminals (make sure the temperature is well below the thermostat rating) the heater has failed. The next step is to determine the cause of failure (See below).
6. If there is continuity through both the element and the thermostat, the heater is fine and the problem is improper installation, faulty wiring or an air pocket.

DETERMINING THE CAUSE OF FAILURE

Most engine heater failures are caused in one of the following ways:

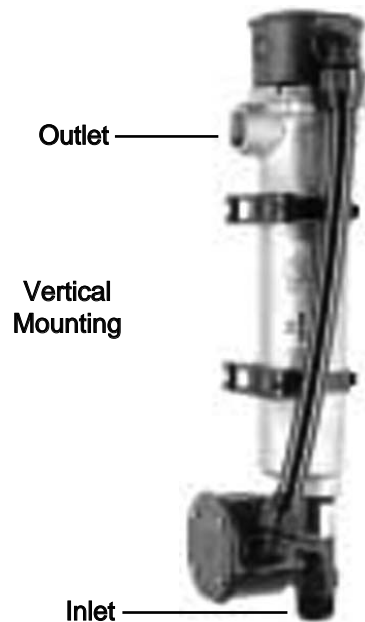
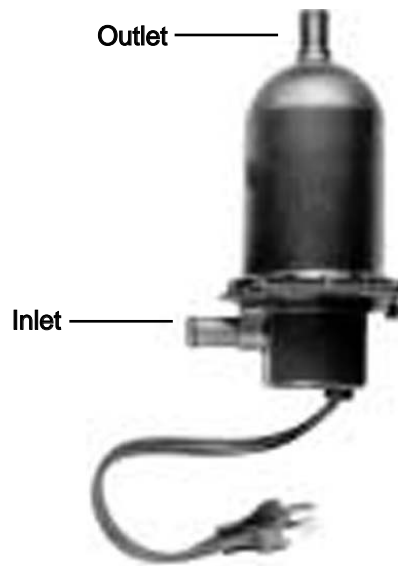
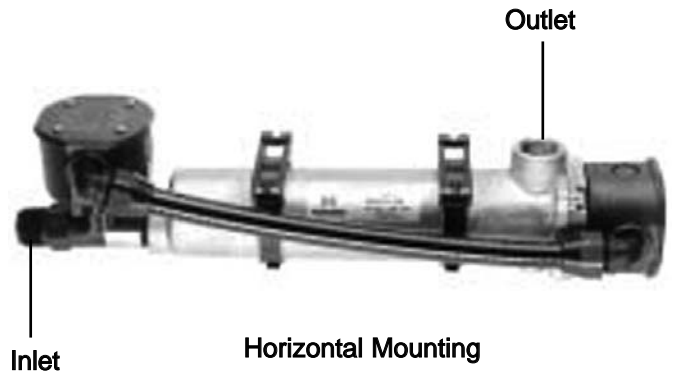
1. The heater has been installed in a manner that prevents it from properly rejecting its heat to the engine. This is primarily only a problem with the 'tank-style heaters' as opposed to direct immersion heaters or heating systems where a pump circulates the coolant.
2. The coolant conditions in the engine cause a scale to form on the heating element(s), which causes them to fail. The scale can be caused by minerals in the water used in the coolant mix, (hard water) an over-concentration of antifreeze relative to water or an over-concentration of the additives used in your coolant.
3. Thermostat failure can be a sign of an improper installation. If a heater is installed in such a manner that the hot coolant flows back toward the thermostat, it will cause the thermostat to cycle on and off rapidly. This can shorten the life of the thermostat. Exceeding the maximum ratings of the thermostat can also cause thermostat failure. Never use a voltage different from the heater rating.

TANK HEATER INSTALLATION GUIDELINES

As described in Kim Hotstart’s installation instructions, the most critical thing to remember when inspecting a tank heater installation is that heat rises. There is no pump in the heater to force circulation of the hot coolant to the engine. Instead, the heat causes the coolant to rise, which results in circulation, provided that the heater is properly installed.

One of the first installation keys is to mount the tank heater low relative to where the heated coolant is being put back into the engine. It is recommended that the heater be mounted below the lowest level of the coolant jacket (this maximizes the path for the coolant to rise and induce flow). Another very important factor is to make sure that the outlet hose does not have any downward trends from the point it leaves the heater to where it goes back into the engine. The heated coolant wants to rise and any dips in the hose routing will cause flow restriction and likely prevent the heater from heating the engine.

It is also important to spot any possible restrictions in the lines such as kinks in the hoses or fittings and hoses that are too small. Restrictions can cause the coolant to boil in the tank and vaporized coolant cannot remove the heat from the element fast enough to keep it from overheating. The other consideration is to make sure the outlet is properly oriented (it must be at the highest point on the heater). The metal tank heaters can be mounted in either a horizontal or vertical orientation. The “TPS” tank heater can only be mounted vertically. Below are some examples.



PIB01-14-S,G

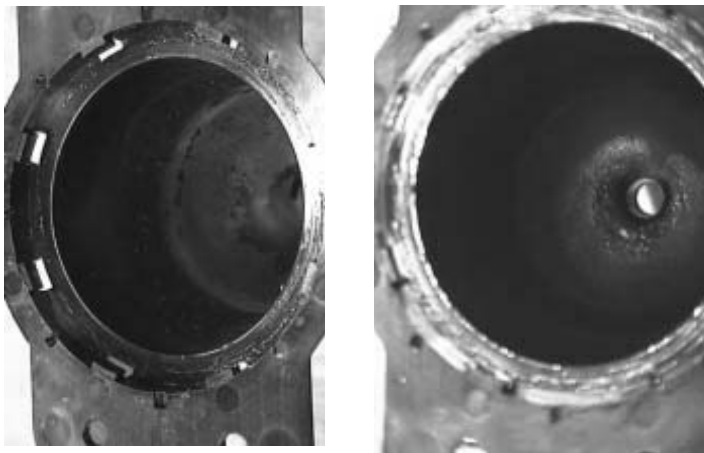
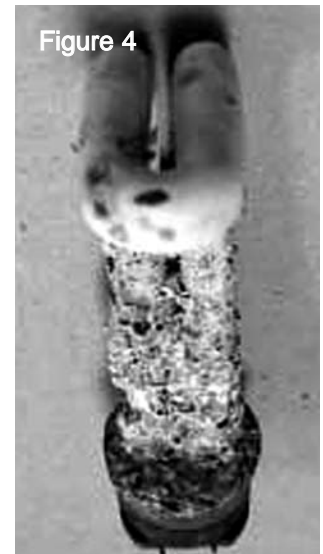
Hard water is one of the most common causes for failure of a heating element. The surface temperature of the heating element causes the minerals in the water to attach to the sheath. These minerals collect to form an insulation layer that increases the internal element temperature. As the insulation layer thickness continues to increase, the element temperature eventually increases to the point of failure. (Figure 1, 2)

SOLUTION

The cooling system should be completely drained and flushed. Only “de-ionized” water and low silicate anti-freeze and additives should be used. If this is not available in your area, you should use only pre-mixed 50/50 low silicate antifreeze and low silicate supplemental additives. Do not over-concentrate. If you mix your own antifreeze and water, never exceed a 60/40 mixture. Putting a new heater in this environment will not solve the problem; it will just ruin another heater.

- Because engine coolant reaches its hottest temperature inside our heater, the heater itself can be a great diagnostic tool for poor cooling system conditions that could have detrimental effects on the water pump, the after cooler, the oil cooler and the radiator.

This is a fairly common problem that leads to a "false failure". The heater has been subjected to an air pocket preventing the coolant from circulating. Although the heated coolant can't circulate, the heater thermostat continues to turn the heater on and off. The engine will then cool down, activating the low coolant temperature alarm. More often than not, the heater is still functional, but it is replaced without being checked. In the most extreme cases the tank can actually melt or “blister”. (Fig. 3,4)



SOLUTION

The engine should be thoroughly “purged” to eliminate any air pockets before the heater is energized. We recommend running the engine up to operating temperature to open the engine thermostat after the installation. This will insure that no air pockets are left within the cooling system. Also check the outlet hose and make sure there is no point in the line where it flows down. Remember that heat rises and a downward trend will stop the flow of hot water.

The heater (Fig. 5,6) was actually mounted with the outlet facing sideways. In the pictures it can be seen that the coolant never reached the top portion of the tank. This exposes the hairpins to air and eliminates the heaters ability to “pull” cold coolant from the engine. It is critical that the heater is completely full of coolant at all times. This means the outlet of the heater must be at the highest point of the heating system for it to work correctly.

Coolant concentration and additive levels are critical for proper heater and engine function. Always follow the engine manufacturer guidelines for coolant and additive levels. Over-concentration of coolant will cause a gel-like slime to accumulate on the element. In severe cases, it may burn on the element causing a black sludge to form. Over-concentration of additives will cause a similar slime, but usually in a different color. (Fig. 7)

Anti-freeze should never be added to an engine without being mixed with water first.

If the anti-freeze is added before the water, it will sit at the bottom of the engine. Tank heaters are designed to sit at the lowest point of the water jacket. If anti-freeze is added without mixing it with water first, the heater will be filled with pure anti-freeze. If energized in pure anti-freeze, scale will form almost immediately. The water pump will NOT mix the coolant in the engine. The pump will move a batch of water, then a batch of anti-freeze and it will keep repeating this. The coolant jacket, radiator and coolant lines are more like a series of pipes than a tank. (Fig. 8)

Figure 5

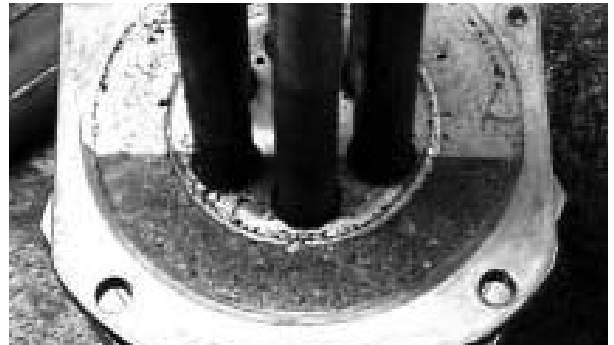


Figure 6 -The outlet should have been up here.

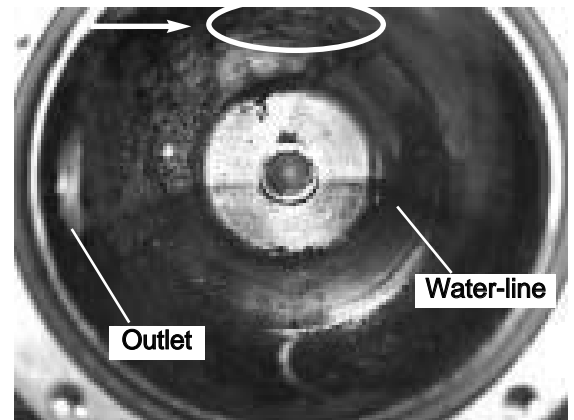


Figure 7

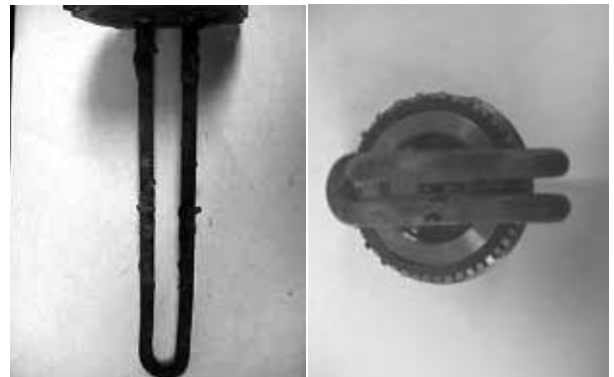
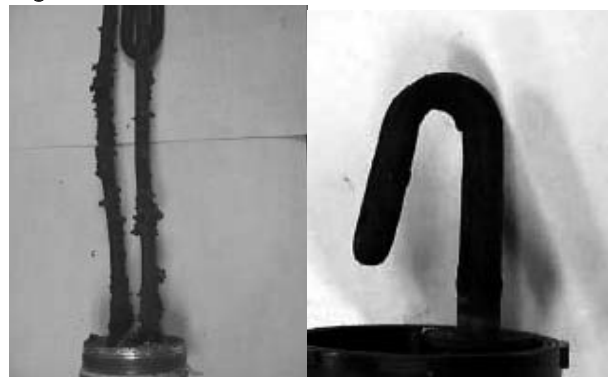


Figure 8





PIB02-06-S

PRODUCT INFORMATION BULLETIN

DATE: June 2002

SUBJECT: Liquid Cooled Guardian PCB, Part # 76009A **Revision F**

MODELS AFFECTED: All replacement circuit boards used for service on the Liquid Cooled GUARDIAN generators will receive the latest revision circuit board part # 76009A **Rev. F**. This board is available from our parts department on any new circuit board part orders.

UPDATED FEATURES: All circuit board functions remain the same. The circuit board part # 76009A **Rev. F** has three LED's added to the board to aid in diagnostic testing.

LED 1 "RED". This LED will be on when utility sensing is **not** available to the circuit board. This LED will function only when the Auto-Off-Manual switch is set in the Auto position

LED 2 "YELLOW". This LED will be on when the circuit board battery charger is on. This LED will cycle on and off with the battery charger, 4.85 hours **ON** - then 4.85 hours **OFF**.

LED 3 "GREEN". This LED will steadily flash when the circuit board has load voltage (load side of the transfer switch) available to it across T1 & T2. When the green LED is flashing, the circuit board is operating its internal clock that controls the battery charge and exercise timers.

WARRANTY: **Informative only.**



PRODUCT INFORMATION BULLETIN

DATE: June 2002

SUBJECT: Generator fuel supply pressure

MODELS AFFECTED: All GUARDIAN Home Standby Air-cooled Generators

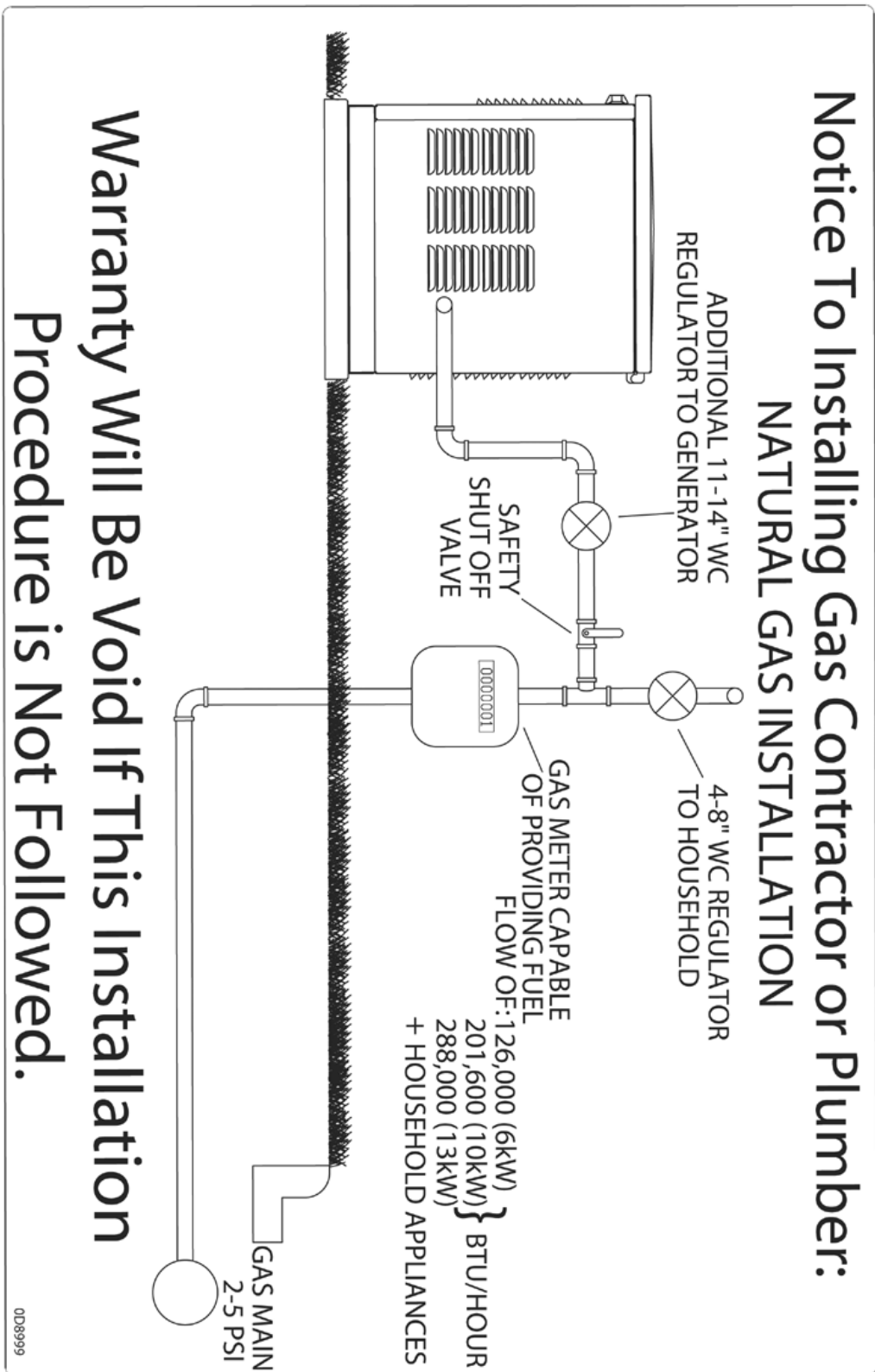
PROBLEM: Insufficient Natural Gas fuel pressure supplied to the generator.

SYMPTOM: Hard starting and poor performance.

CORRECTIVE ACTION: Eleven to fourteen inches of water column pressure must be supplied to the generator fuel inlet. **Refer to the accompanying drawing of a natural gas installation and the “Fuel Requirements and Recommendations” section of generator Installation and Owner’s Manual.**

WARRANTY: **Informative only. No warranty allowance.** If the fuel pressure supplied is not correct the Warranty will be void. Please note the measured fuel pressure at the generator’s fuel regulator on any GUARDIAN warranty claim for engine related performance problems. **Claims filed without the fuel pressure listed will be returned to dealer.**

PIB02-04-S



PRODUCT INFORMATION BULLETIN

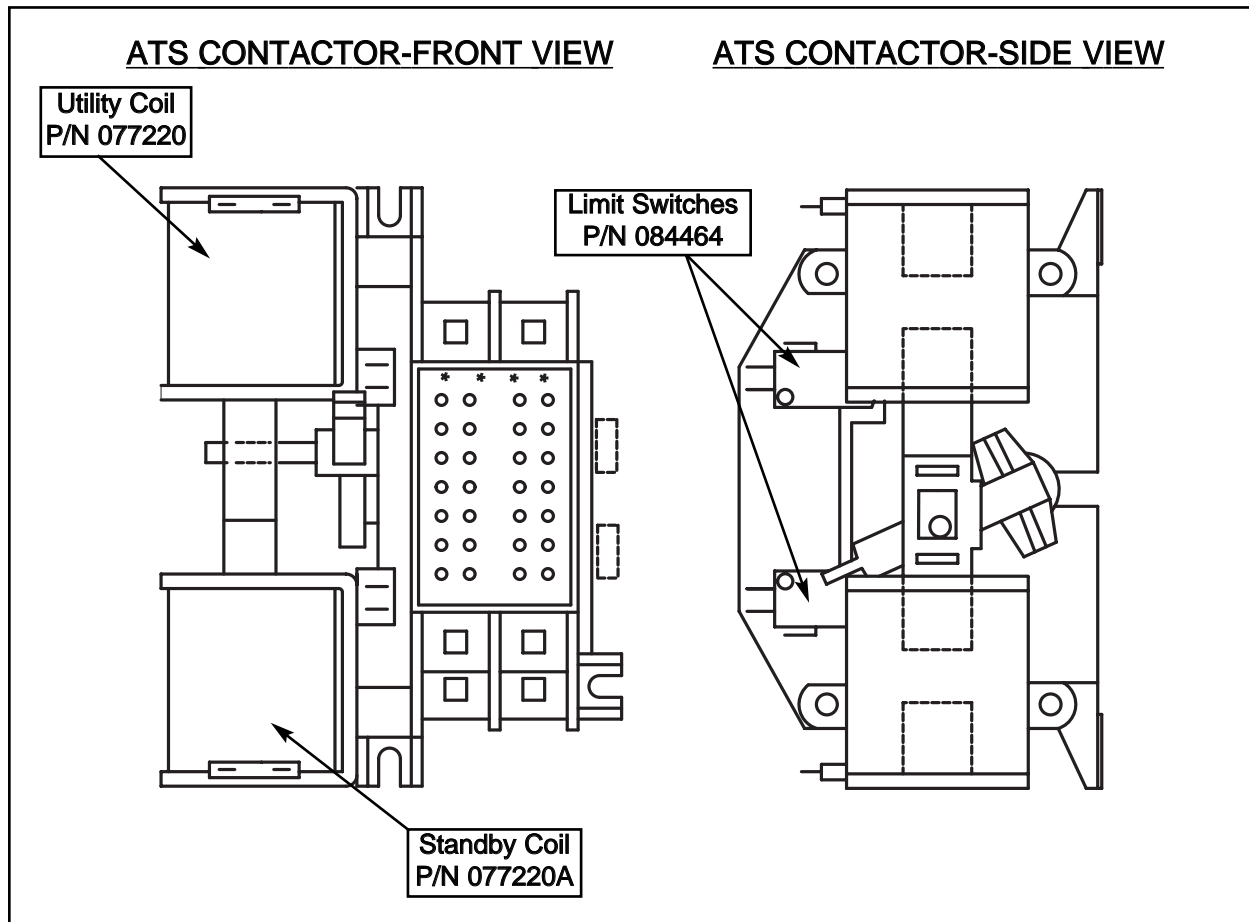
DATE: June 2002

SUBJECT: 100 Amp Transfer Switch

MODELS AFFECTED: All 100 Amp Transfer Switches.

PART AVAILABILITY: Components on the transfer switch can be replaced individually if required. Parts available for the transfer switch include the utility coil, standby coil, and limit switches. Reference the exploded view of available replacement parts for the 100 Amp transfer switch. All other components housed in the enclosure are also available and are referenced in the appropriate owners manual.

WARRANTY: Informative only. Claims filed for complete transfer switch assemblies when one of the individual components listed could have been replaced, will be paid at the defective component cost only.





PIB02-08-S

PRODUCT INFORMATION BULLETIN

- DATE:** June 2002
- SUBJECT:** Re-positioning fuel hose between fuel solenoid and fuel regulator on the 1.5 liquid cooled Mitsubishi engine.
- MODELS AFFECTED:** 907, 908, 909, 910, 911, 4112, 4113, 4114, 4115, 4116, 4117, 4118, 4119, 4090, 4091, 4092, 4093, 4094, 4095, 4096, 4097, 4474, 4124, 4125, 4126, 4127, 4128, 4130, 4131, 4475
(Includes all dash numbers for each model number)
- PROBLEM:** Chaffing of fuel hose on the engine timing belt cover
- CORRECTIVE ACTION:** Move fuel hose hold down clamp and fuel hose to new position.
1. Remove M8 bolt from clamp located on the side of engine block. See Fig. 1
 2. Reposition fuel hose and clamp to new mounting location on timing belt case cover. See Fig. 2
 3. Replace M8 bolt and tighten. See Fig. 2
- WARRANTY:** 15 minutes will be allowed for repositioning the fuel hose, If fuel hose needs replacing .5 hour will be allowed for re-positioning and replacement of fuel hose. This Product Information Bulletin is effective for the original warranty period of the generator.

Figure 1

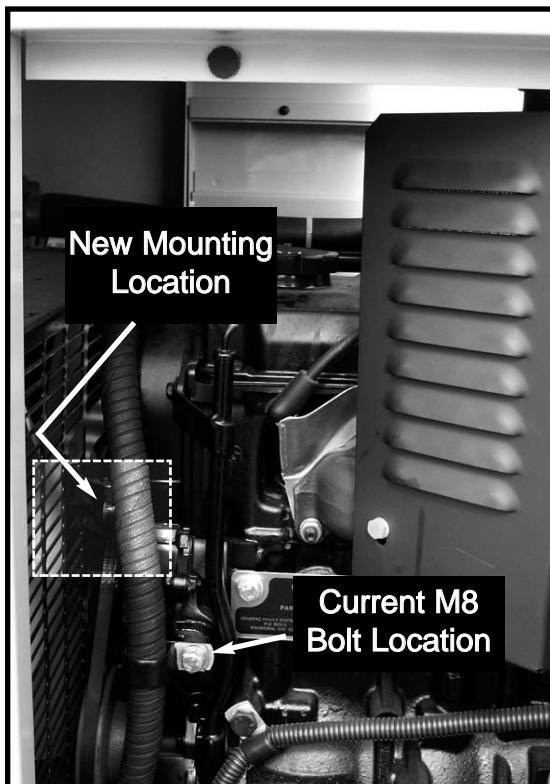


Figure 2





PRODUCT INFORMATION BULLETIN

DATE: November 2002

SUBJECT: LP conversion – Air-cooled standby using 992cc V-Twin engine

MODELS AFFECTED: 4456-1, 4390-1, 4759-0, 4760-0, 4674-0 & 4675-0

CONVERSION To reconfigure the fuel system from NG to LP, follow these steps:

NOTE: The primary regulator for the propane supply is NOT INCLUDED with the generator. You must supply a fuel pressure of 11 to 14 inches of water column (0.6 psi) to the fuel inlet of the generator.

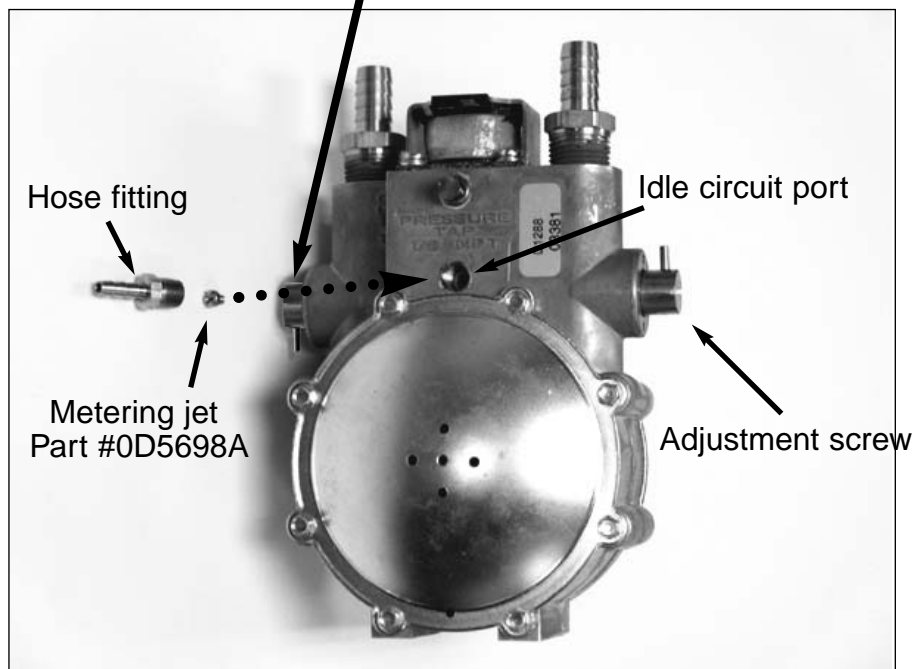
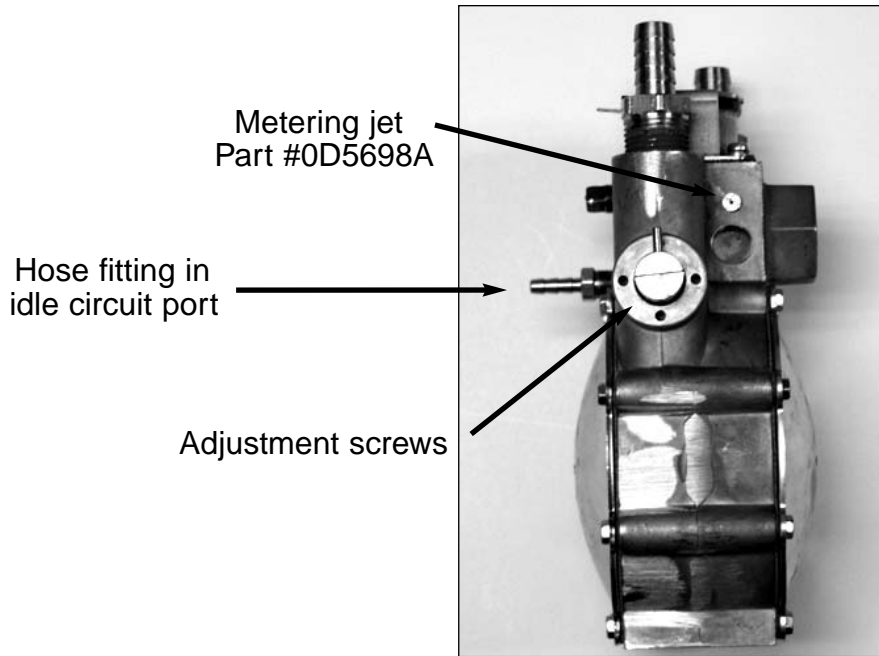
1. Turn off the main gas supply.
2. Remove the three carburetor fuel hoses from the outlet ports of the demand regulator.
3. Disconnect wire #0 and wire #14 from the gas solenoid located on the top of the demand regulator.
4. Remove the demand regulator from the enclosure by rotating counterclockwise.
5. Remove the small brass hose fitting from the idle circuit port of the regulator housing.
6. Remove the small jet (0D5698A) located in the side of the regulator port on the regulator.
7. Refit the brass hose fitting to the idle circuit port of the regulator. Use pipe thread sealant to reseal the threads on the hose fitting.
8. Identify both adjustment screws.

NOTE: One adjustment screw can be accessed from the front of the unit and the second can be accessed from the back of the unit, (Remove black cap in lower part of enclosure panel).

9. Reverse procedure steps 1-4 to reinstall the demand regulator.
10. To adjust the system to run on LP fuel, simply turn the both adjuster screws 1/4 turn clockwise.
11. The fuel system will now allow the engine to run on LP fuel. It may be necessary to make minor adjustments to the preset screw settings to achieve maximum power. If there are problems with the unit producing maximum power, follow the procedure in Section 2.6 of the Owner's Manual "Adjusting the Regulator."

WARRANTY: Informative only.

PIB02-18-S





WARRANTY INFORMATION BULLETIN

DATE: December 2001

SUBJECT: Policy Change–Travel Time & Liquid Cooled Extended Warranty

Generac Power Systems has made a policy change with regard to the amount of travel time that will be reimbursed under warranty. The new travel allowance will be a standard \$50.00 trip charge and will be pre-printed on the warranty repair report. This change will be effective on 2/01/02.

Generac Power Systems has also discontinued the extended warranty program for the liquid-cooled Guardian standby generators that now all have the standard two-year warranty. However, the liquid-cooled Guardian standby generators that were sold with the one-year warranty will have a grace period in which to apply for the extended warranty. All purchase orders for an extended warranty must be received at Generac Power Systems by 3/29/02. The warranty coverage and qualifications for the extended warranty have not changed.

AIR-COOLED QUICK REFERENCE PARTS LIST

Table with 7 columns: Engine, GN410, GH410, GN570, GN724, GT760, GT990. Rows include Model, Air Filter, Pre Cleaner, Oil Filter, Spark Plug, Carburetor, Carburetor Repair Kit, Airbox Mixer, LOS Switch, Thermal Switch.

LIQUID COOLED QUICK REFERENCE PARTS LIST

1.5 LITER GAS

Table listing parts for 1.5 liter gas engines: Oil Filter, Air Cleaner, Spark Plug, Spark Plug Wires, Distributor Cap, Distributor Rotor, Thermostat, Thermostat Seal Ring, PCV Valve, Valve Timing Belt, Water Pump, V-belt (1800 RPM), V-belt (3600 RPM).

4.3 LITER GAS

Table listing parts for 4.3 liter gas engines: Oil Filter, Duralite Air Filter, Air Filter (11 1/2" x 3 1/2"), Distributor Cap, Distributor Pick Up Coil, Distributor Ignition Module, Distributor Rotor, Ignition Coil, Thermostat, Thermostat Gasket.



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