



STANDBY GENERATOR SYSTEMS

WARRANTY POLICIES AND PROCEDURES

**FOR ALL AUTHORIZED U.S., CANADIAN AND INTERNATIONAL STANDBY GENERATOR
SERVICE ACCOUNTS**

BRIGGS & STRATTON POWER PRODUCTS GROUP, LLC

Effective April 1, 2012 replaces all previous dated Warranty Policies and
Procedures pertaining to Standby Generators.



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FOREWORD

About This Guide

Warranty policies, time analysis, and warranty claim filing procedures for Briggs & Stratton Power Products Group, LLC, Standby Generator Systems are outlined in this manual. It is important that you read and follow the policies in order to understand the filing procedures. In order for Briggs & Stratton to successfully complete the warranty process, claims must be complete and accurate. All policies and procedures noted herein are subject to change without notice. The policies in this manual supersede all previously dated Warranty Policy and Procedures pertaining to Standby Generator Systems.

FOR ALL AUTHORIZED U.S. AND CANADIAN SERVICE ACCOUNTS

Claim Processing Priority

To eliminate delays in the warranty claim process, make sure your claim is complete and accurate before submitting. Complete claims can be processed in a timely and efficient manner whereas an incomplete claim will cause delays in processing. To help you properly fill out and file the claim form, detailed instructions can be found at www.thepowerportal.com under HGS>Technical Information>Warranty>Warranty Documents and are also provided in this booklet. If the electronic claim is free of errors and meets the guidelines, the reimbursement check is typically issued within five business days from the claim submission date. Checks are mailed once a week.

Avoiding Claim Errors

Once the electronic claim has been submitted, you will be unable to access the claim to make corrections. To request changes, send an email to warrantyclaims@basco.com. Initial rejection of a warranty claim can be caused by numerous factors. The most common reasons for payment delays or claim returns are listed below:

- Claim is not filed on correct form. See How to File Warranty Claims for instructions on how to select the correct claim form.
- Transportation is not itemized separately in the miscellaneous charges box. See Reimbursements and How To File Warranty Claims for instructions on how to enter travel.
- The model and serial number do not match the product being repaired. If you are repairing a generator, provide the generator model and serial numbers; do not use the transfer switch model and serial number. Or if you are repairing a transfer switch, provide the transfer switch model and serial number; do not use the generator model and serial number.
- Condition location code (formerly failure location code).
- Condition cause code (formerly defect code).
- Equipment model or serial number missing/incorrect.
- Warranty period expired. Each model has its own warranty. Use the technical publication search tool on the Power Portal to find the manual for the model you are repairing.

- Not a warrantable repair. Warranty coverage is model specific and has exclusions listed in the warranty statement. See the warranty terms as stated in the operator's manual.
- Purchase date missing/incorrect.
- Failure date missing/incorrect.
- Control Number is missing or incorrect.
- Dealer not authorized for warranty repairs.
- Owner name and/or complete address missing.
- Parts used unusual for type of failure.
- Replacement part not used on model.

Consumer Surveys

Briggs & Stratton is committed to customer satisfaction. We frequently survey our customers through a variety of methods designed to identify their expectations and our performance. This feedback steers our short- and long-term improvement plans for our products and services. Consumers are selected at random from claims submitted by dealers in the U.S. and Canada. Whenever a problem with a product or dealer service is identified, we follow up to resolve the issue. From time to time, dealers may be contacted by factory or distributor representatives for additional information or help in bringing such issues to a satisfactory conclusion.

FILING GUIDELINES

Controlling Repair Costs

Choose the repair procedure that will result in the lowest total cost. Be sure to include labor and any anticipated miscellaneous expenses in your evaluation. Permanent installations requiring removal and reinstallation of product by qualified professionals require a Control Number. Similarly, product requiring a major repair may qualify for an alternative method of repair or replacement. Call 1-800-759-2744 for information and to request a control number as required.

Claim Filing Formats

All claims must meet the criteria set forth in this guide and in the applicable Briggs & Stratton warranty statements. Submission of a claim is your certification that the information provided is true and accurate.

Whenever possible warranty claims should be filed using our on-line, electronic warranty claim filing system. *e-Claim* is available at www.thepowerportal.com. See How To File Warranty Claims for further information. If you are unable to file electronically, contact your factory sales representative at 1-877-359-6687 for assistance.

Filing Period

Claims must be submitted within 30 days after making a warranty repair. Claims filed past this time frame may be rejected.

Accuracy of Information

When filling out the claim form, the information must be accurate and complete. If there is an issue with your claim, you will be contacted by email requesting correct information. Once you reply to the email, we will correct the claim for you. DO NOT file another claim to make corrections. Reimbursement will be delayed until the claim is complete. We allow up to 90 days from date of repair to follow up on a claim inquiry.

Proof of Purchase

A dated proof of purchase is required for all warranty claims. Record the purchase date (mm/dd/yyyy) on the claim form and keep a copy of the proof of purchase in your records. We reserve the right to request a copy of the original proof of purchase. Proof of purchase is defined as the sales slip generated by the retailer at the time of purchase.

Evaluation/Control Number

Factory authorization is required for:

- Removal and reinstallation of permanent installations
- Engine replacement
- Repairs exceeding \$1,000
- IMPCO/GM Engine repairs
- Policy adjustments

Contact your factory technical representative at 1-800-759-2744 for authorization before beginning repair. When calling have the equipment model number and serial number, and the engine model, type, trim, and date code available. The numbers are located on the product and engine identification labels. In addition, have an estimate for all transportation expenses being requested.

After the work is completed, contact your factory technical representative at 1-800-759-2744 to obtain an Evaluation/Control Number. This number must be added to the claim before it is submitted.

Parts Retention

All components replaced under warranty MUST be tagged with the customer's name and claim number. The components must be retained for at least ten (10) days after receipt of the reimbursement check. We reserve the right to call back these components any time during that period.

Parts Returns

If you wish to return any parts to the factory, you must first call 1-800-759-2744 for authorization. Non-authorized returns will be sent back to you with no action taken. If the factory requests a parts return directly with you, no further authorization is necessary. You will be provided with instructions at the time of our request. Make a copy for your records.

Shipping Damage

Briggs & Stratton warranties do not cover shipping damage. If a finished good or service part is damaged in shipment, contact the shipper or your source of supply for assistance. If further assistance is needed, contact your factory technical representative at 1-800-759-2744.

REIMBURSEMENTS

Labor Reimbursements

Labor times may be adjusted if submitted labor exceeds the standards published in this policy. If excess labor time is submitted, an explanation and/or the Evaluation/Control Number is required on the claim stating why the extra labor time was necessary. In all cases of excess labor time, Briggs & Stratton reserves the right to review/adjust labor times to a reasonable amount or as otherwise prescribed by law which varies from state to state.

Labor Rate Change Requests

Briggs & Stratton will review one labor rate change request per dealership per year. If you wish to change the labor rate on file at Briggs & Stratton, you must send a written request to the following address:

Briggs & Stratton Corporation
Attn: Dealer Records
PO Box 702
Milwaukee, WI 53201-0702

Or you can contact your factory sales representative at 1-877-359-6687 for assistance. Upon receipt of your request, additional labor rate documentation may be sent to you. The labor rate on file will only be updated after Briggs & Stratton completes the review/approval process.

Parts Reimbursements

Parts reimbursement falls into these categories.

- **Parts:**
Reimbursed at dealer cost plus 20% mark-up, or as otherwise prescribed by law, which varies from state to state.
- **Briggs & Stratton® Engines:**
Reimbursed at dealer cost plus 10% mark-up, or as otherwise prescribed by law which varies from state to state. Call 1-800-759-2744 to obtain authorization prior to replacing engine.
- **IMPCO/GM Engines:**
Reimbursed at dealer cost plus 10% mark-up, or as otherwise prescribed by law, which varies from state to state. Call 1-800-759-2744 to obtain authorization prior to replacing engine.
- **Other Engines:**
Contact the engine manufacturer as described in the product operator's manual for warranty information.

Batteries: Do not file a claim for batteries with Briggs & Stratton. The warranty is the responsibility of the battery manufacturer.

Transportation Reimbursement

Briggs & Stratton warranties do not cover pick-up and delivery charges for parts and accessories. For permanent installations, warranty will allow a \$125 (USD) trip charge. Only one trip charge per warranty claim will be accepted, regardless of the number of trips taken. A trip charge is defined as the amount to dispatch a technician who would give a retail customer a price to diagnose a problem needing service, conclude what repairs are necessary, and determine how much the repairs will cost.

No additional transportation expenses are allowed for travel time, fuel, maintenance, permits, tolls, taxes, licenses, fees, etc. When filing a claim, enter the trip charge under Miscellaneous Charges.

Any exceptions require factory authorization. Contact your factory technical representative at 1-800-759-2744 for authorization before beginning repair.

Miscellaneous Charges

Several miscellaneous charges may be reimbursed, such as:

- Trip charge
- Freight charges pre-approved by the factory
- Other charges pre-approved by the factory

Shop towels, grease, lubricants, solvents, etc. are NOT covered under Briggs & Stratton warranty. For any miscellaneous charges filed, the dealer must provide cost documentation to Briggs & Stratton upon request.

Reimbursement Charges

Inquiries or disputes regarding payment of claim(s) must be made in writing within 90 days from receipt of payment. In all cases, any claimed parts must be retained until the dispute is resolved. We reserve the right to call back these components any time during that period. Email inquiries to Briggs & Stratton warranty department at warrantyclaims@basco.com:

Or you can send a written request to the following address:

Briggs & Stratton Corporation
Attn: Warranty Administration
PO Box 702
Milwaukee, WI 53201-0702

SERVICE REPLACEMENT PARTS WARRANTY

Warranty claims for all inoperative service parts are to be filed directly with the factory by the dealer. This pertains to replacement parts that are new but with errors in packaging or manufacture, received inoperative, missing components, and/or installed parts later confirmed to be inoperative by the retail dealer.

- The sole remedy is reimbursement of dealer cost plus 10% for the part(s).

Do not file a claim for an entire assembly if, instead, it can be economically repaired by replacing parts of the assembly. For example, if a new latch assembly has a broken key, replace the key set to repair the latch assembly. Tag and retain new inoperative parts (see Parts Retention under Filing Guidelines).

Service Parts Purchased by the Consumer	Service Parts Installed Under Warranty
One (1) Year Limited Warranty	Remainder of original Briggs & Stratton Product Warranty

If the replacement part is purchased outright by a customer, it is assumed that no engine/equipment warranty applies and the part will carry a one-year warranty against defects in material and/or workmanship. Labor and transportation reimbursement terms apply only if the customer paid an authorized dealer to install the part. If a service replacement part is installed by an authorized dealer under the original warranty period of the engine/ equipment, the remainder of that warranty applies to the part.

PRODUCT WARRANTY POLICIES

Current model-specific warranty policies are published in the product Operator's Manuals. These manuals can be found at www.thepowerportal.com. On the Generator Systems page, move the cursor over Technical Information, and then click Technical Publications Search. Enter the complete model number of the product and click Search.

FOR ALL AUTHORIZED INTERNATIONAL SERVICE ACCOUNTS

Claim Processing Priority

To eliminate delays in the warranty claim process, make sure your claim is complete and accurate before submitting. Complete claims can be processed in a timely and efficient manner whereas an incomplete claim will cause delays in processing. To help you properly fill out and file the claim form, detailed instructions can be found at www.thepowerportal.com under HGS>Technical Information>Warranty>Warranty Documents and are also provided in this booklet. If the electronic claim is free of errors and meets the guidelines, the reimbursement check is typically issued within five business days from the claim submission date. Checks are mailed once a week.

Avoiding Claim Errors

Once the electronic claim has been submitted, you will be unable to access the claim to make corrections. To request changes, send an email to warrantyclaims@basco.com. Initial rejection of a warranty claim can be caused by numerous factors. The most common reasons for payment delays or claim returns are listed below:

- Claim is not filed on correct form. See How to File Warranty Claims for instructions on how to select the correct claim form.
- Transportation is not itemized separately in the miscellaneous charges box. See Reimbursements and How To File Warranty Claims for instructions on how to enter travel.
- The model and serial number do not match the product being repaired. If you are repairing a generator, provide the generator model and serial numbers; do not use the transfer switch model and serial number. Or if you are repairing a transfer switch, provide the transfer switch model and serial number; do not use the generator model and serial number.
- Condition location code (formerly failure location code).
- Condition cause code (formerly defect code).
- Equipment model or serial number missing/incorrect.
- Warranty period expired. Each model has its own warranty. Use the technical publication search tool on the Power Portal to find the manual for the mode you are repairing.

- Not a warrantable repair. Warranty coverage is model specific and has exclusions listed in the warranty statement. See the warranty terms as stated in the operator's manual.
- Purchase date missing/incorrect.
- Failure date missing/incorrect.
- Dealer address on warranty claim does not match dealer address on file.
- Control Number is missing or incorrect.
- Dealer not authorized for warranty repairs.
- Owner name and/or complete address missing.
- Parts used unusual for type of failure.
- Replacement part not used on model.

Consumer Surveys

Briggs & Stratton is committed to customer satisfaction. We frequently survey our customers through a variety of methods designed to identify their expectations and our performance. This feedback steers our short- and long-term improvement plans for our products and services. Consumers are selected at random from claims submitted by dealers in the U.S. and Canada. Whenever a problem with a product or dealer service is identified, we follow up to resolve the issue. From time to time, dealers may be contacted by factory or distributor representatives for additional information or help in bringing such issues to a satisfactory conclusion.

FILING GUIDELINES

Controlling Repair Costs

Choose the repair procedure that will result in the lowest total cost. Be sure to include labor and any anticipated miscellaneous expenses in your evaluation. Permanent installations requiring removal and reinstallation of product by qualified professionals require a Control Number. Similarly, product requiring a major repair may qualify for an alternative method of repair or replacement. Contact your Briggs & Stratton Regional Office for information and to request approval as required.

Claim Filing Formats

All claims must meet the criteria set forth in this guide and in the applicable Briggs & Stratton Power Products warranty statements. Submission of a claim is your certification that the information provided is true and accurate.

Whenever possible warranty claims should be filed using our on-line, electronic warranty claim filing system. *e-Claim* is available at www.thepowerportal.com. If you are unable to file electronically, use the warranty claim form approved by Briggs & Stratton Corporation. Contact your source of supply for assistance.

Filing Period

Claims must be submitted within 30 days after making a warranty repair. Claims filed past this time frame may be rejected.

Accuracy of Information

The name and address of the service center that performs the warranty repair must be the same as on record with the Briggs & Stratton Distributor. When filling out the claim form, it is imperative that you are accurate and that your form is complete. Reimbursement will be delayed until the claim is complete. We allow up to 90 days from date of repair to follow up on a claim payment.

e-Claim

- If there is an issue with your *e-Claim*, you will be contacted by email requesting correct information. Once you reply to the email, we will correct the claim for you. DO NOT file another claim to make corrections.

Paper Claim

- The original copy of the claim must be submitted to the Briggs & Stratton Regional Office serving that territory for processing and validation, and then forwarded to the Briggs & Stratton corporate office. The service centers retain a copy for their files.
- Paper claims which are not complete will be returned for completion.

- Briggs & Stratton Corporation will pay the Briggs & Stratton Regional Office who in turn is obligated to compensate the service center.

Proof of Purchase

A dated proof of purchase is required for all warranty claims. Record the purchase date (mm/dd/yyyy) on the claim form and keep a copy of the proof of purchase in your records. We reserve the right to request a copy of the original proof of purchase. Proof of purchase is defined as the sales slip generated by the retailer at the time of purchase.

Parts Retention

All components replaced under warranty MUST be retained and tagged with the customer's name and claim number. The component must be retained for at least ten (10) days after receipt of the reimbursement check. We reserve the right to call back these components any time during that period. Failure to produce the requested material can result in rejecting payment of claim.

Parts Returns

If you wish to return any parts, you must first call your source of supply for authorization. Non-authorized returns will be sent back to you with no action taken.

Shipping Damage

Briggs & Stratton Power Products Group LLC warranty does not cover shipping damage. If a finished good or service part is damaged in shipment, contact the shipper or your source of supply for assistance.

REIMBURSEMENTS

Labor Reimbursements

Labor times may be adjusted if submitted labor exceeds the standards published in this policy. If excess labor time is submitted, an explanation and/or the Evaluation/Control Number are required on the claim stating why the extra labor time was necessary. In all cases of excess labor time, Briggs & Stratton reserves the right to review/adjust labor times to a reasonable amount or as otherwise prescribed by law which varies from state to state or country to country.

Parts Reimbursements

Parts reimbursement falls into these categories.

- **Parts:**
Reimbursed at dealer cost plus 20% mark-up, or as otherwise prescribed by law, which varies from state to state or country to country.
- **Briggs & Stratton® Engines:**
Reimbursed at dealer cost plus 10% mark-up, or as otherwise prescribed by law which varies from state to state or country to country.
- **IMPCO/GM Engines:**
Reimbursed at dealer cost plus 10% mark-up, or as otherwise prescribed by law, which varies from state to state or country to country. Contact Briggs & Stratton Regional Office to obtain an approval.
- **Other Engines:**
Contact the engine manufacturer as described in the product operator's manual for warranty information.

Transportation Reimbursement

Briggs & Stratton warranties do not cover pick-up and delivery charges for parts and accessories. For permanent installations, warranty will allow a trip charge amount approved by the Briggs & Stratton Regional Office. Only one trip charge per warranty claim will be accepted, regardless of the number of trips taken. A trip charge is defined as the amount to dispatch a technician who would give a retail customer a price to diagnose a problem needing service, conclude what repairs are necessary, and determine how much the repairs will cost.

No additional transportation expenses are allowed for travel time, fuel, maintenance, permits, tolls, taxes, licenses, fees, etc.

When filing a claim, enter the trip charge under Miscellaneous Charges.

Any exceptions require authorization. Contact your Briggs & Stratton Regional Office for authorization before beginning repair.

Miscellaneous Charges

Several miscellaneous charges may be reimbursed, such as:

- Trip charge
- Freight charges pre-approved by the Briggs & Stratton Regional Office
- Other charges pre-approved by the Briggs & Stratton Regional Office

Shop towels, grease, lubricants, solvents, etc. are NOT covered under Briggs & Stratton warranty. For any miscellaneous charges filed, the dealer must provide cost documentation to the Briggs & Stratton Regional Office upon request.

Reimbursement Charges

Inquiries or disputes regarding payment of claim(s) must be made in writing within 90 days from receipt of payment. In all cases, any claimed parts must be retained until the dispute is resolved. We reserve the right to call back these components any time during that period. Send a written request to the Briggs & Stratton Regional Office.

SERVICE REPLACEMENT PARTS WARRANTY

Warranty claims for all inoperative service parts are to be filed directly with the factory by the dealer. This pertains to replacement parts that are new but with errors in packaging or manufacture, received inoperative, missing components, and/or installed parts later confirmed to be inoperative by the retail dealer.

- The sole remedy is reimbursement of dealer cost plus 10% for the part(s).

Do not file a claim for an entire assembly if, instead, it can be economically repaired by replacing parts of the assembly. For example, if a new latch assembly has a broken key, replace the key set to repair the latch assembly. Tag and retain new inoperative parts (see Parts Retention under Filing Guidelines).

Service Parts Purchased by the Consumer	Service Parts Installed Under Warranty
One (1) Year Limited Warranty	Remainder of original Briggs & Stratton Product Warranty

If the replacement part is purchased outright by a customer, it is assumed that no engine/equipment warranty applies and the part will carry a one-year warranty against defects in material and/or workmanship. Labor and transportation reimbursement terms apply only if the customer paid an authorized dealer to install the part. If a service replacement part is installed by an authorized dealer under the original warranty period of the engine/ equipment, the remainder of that warranty applies to the part.

PRODUCT WARRANTY POLICIES

If the replacement part is purchased outright by a customer, it is assumed that no engine/equipment warranty applies and the part will carry a one-year warranty against defects in material and/or workmanship. Labor and transportation reimbursement terms apply only if the customer paid an authorized dealer to install the part. If a service replacement part is installed by an authorized dealer under the original warranty period of the engine/equipment, the remainder of that warranty applies to the part.

HOW TO FILE WARRANTY CLAIMS

e-Claim, our on-line warranty claim system, allows you to complete and file warranty claims entirely through web pages. A completed claim can be submitted immediately without need for phone calls or conventional mail. You can also partially prepare a claim, save it, and return later to complete and submit it. *e-Claim* is located at www.thepowerportal.com. This is a secure website and requires a unique username and password. If you do not have access, contact your factory sales representative or the Briggs & Stratton Regional Office as appropriate.

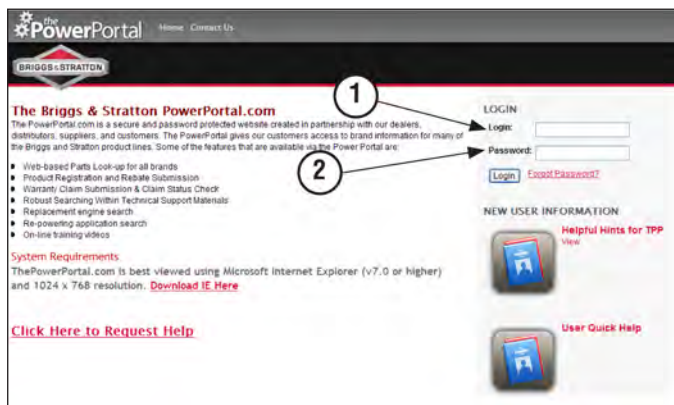
e-Claim User Guide

To view or print the on-line User Guide, which provides complete information about using the system and submitting claims, follow these steps:

1. On the *e-Claim* page, place your cursor over Technical Information.
2. Move the cursor over Warranty Documents and click. This will open the Warranty Document page.
3. Click on Electronic Warranty Instruction Guide. This will open a PDF.

Electronic Warranty Filing Instructions

1. In the Login field (1), enter your 6-digit Briggs & Stratton Warranty Dealer ID Number. (Do not include the "B" prefix).
2. In the Password field (2), enter your password. Once in the system, you can modify your password as needed.



3. Click the Login button. (Using Enter on the keyboard may not log in properly). By default this takes you to the Briggs & Stratton engine page of the website.
4. Hover over the eCLAIM icon (3), to find your brand selections and choose as follows:

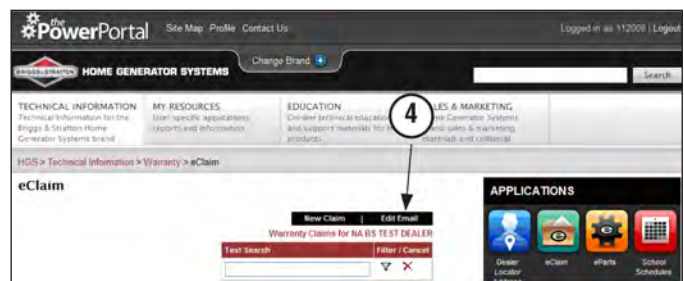


Generator Systems – For *e-Claim* filing on equipment, select *Generator Systems*. Use this to file on generator equipment, such as the enclosure, alternator, control boards, transfer switches. Select this also for *e-Claim* filing on IMPCO/GM engines. "A Control/Authorization Number is required". Do NOT use this selection *Generator Systems e-Claim* to file a warranty claim for a battery or Briggs & Stratton® engine.

Briggs & Stratton® Engines – For *e-Claim* filing on Briggs & Stratton® Engines, select *Briggs Engines*. Use this to file warranty on Briggs & Stratton® engines only. Do NOT use this selection to file a warranty claim for a battery, IMPCO/GM engine, or product repair.

All Other Engines – Contact the appropriate engine manufacturer for engine claim filing and Emission Control Systems Warranty information.

5. Before filing the first claim, click on the *Edit Email* button (4).



6. **Verify that your email address is correct.** This is the address that notices will be sent to. Email verification is only required before the first *e-Claim* is submitted or if your email address changes.
7. Click on *Submit* to activate the email account through *e-Claim*. (Using the Enter button on the keyboard will not activate the email account). A copy of each warranty claim you submit will automatically be sent to you. If your email address has changed, be sure to correct it in the Email Address field located in the *Start Your Claim* section of the claim form and inform your source of supply.
8. Start a new claim by clicking on the *New Claim* button. A red asterisk indicates a required field on

the claim form. If the required fields are not filled in, the claim is not complete and you will not be able to submit it.

NOTE: If the unit is registered in the Product Registration on www.thepowerportal.com, the customer information fields will automatically populate the claim form once the serial number is entered.

9. Add repair parts to your claim in the Repair Section of the claim form. Update the quantity if needed (the default quantity is 1), then enter the part number. You can only enter original manufacturer service part numbers. Click inside the description field to enter a part description.

Repair Parts

Use only original manufacturer service parts. Please do not add engine/short block part numbers in this section. Engine claims must be filed with the appropriate manufacturer.

Quantity	Part Number:	Description:	Action:
1	196655GS	Enter a part number and click here.	



For quicker parts entry, you can update the part quantity, click the *Tab* key, enter the part number, and click the *Tab* key again. This will retrieve the part description and the repair part entry will appear above the part quantity and part number fields. You can add up to 10 repair parts to the claim.

10. Add miscellaneous charges to the Repair Section of the claim form. Verify that the currency field displays the currency in which you will be entering miscellaneous charge amounts. For each charge, enter a brief description in the Description field and the charge in the Amount field. Do not include the currency sign with the charge amount.

Miscellaneous Charges:

Itemize miscellaneous charges per manufacturer policies and procedures: Briggs Engines - MS2000; Briggs and Stratton Power Products - MS2010S. Make sure the Currency in which you are adding miscellaneous charges is selected. Please do not include the currency sign with the charge amount.

* Your Currency: USD - U.S. Dollars

Description:	Amount:	Action:
Service Trip Charge	85.00	
		

Total: 85.00

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To delete a charge, click on the Action icon "x". To add a charge, click on the Action icon "+"

LABOR TIME ANALYSIS GUIDE

To aid in the completion of warranty claims, common labor times have been provided in the following charts. The labor times can be used for estimates, shop tickets, work orders, and various repairs. Labor times are based on repairs performed by reasonably experienced technicians and include all typical repair-related activities, such as diagnosis, testing, cleaning, parts look-up, ordering, and paperwork. They do not, however, take into account unforeseen difficulties that may occur from time to time.

The charts are not intended to cover all possible repairs. Tune-up, overhaul, and maintenance times have been omitted due to the varying degree of detail each dealer may invest in these tasks. Similarly, engine removal and reinstallation (R&R) times are omitted due to installation variances among different types and brands of equipment.

When preparing a warranty claim, always refer to the labor times given in the appropriate repair category. If actual labor time exceeds that shown in the chart, you must include an explanation for the difference in the Work Performed section of the claim form in order for us to consider the additional time. Excessive labor resulting from inexperience in diagnostic, repair and/or administrative procedures will be subject to labor reduction.

The labor time studies were based on the use of standard hand tools and special service tools. No power-operated tools were used. The labor times were developed by general technicians following procedures described in service manuals, service publications and good shop practices.

Labor operations that require more than one technician are adjusted to represent the total time for all technicians.

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Air-Cooled Standby Generators Vertical Shaft



Repair Operation	
Automatic Voltage Regulator (AVR)	45 Min
Base, Metal	2 Hrs 30 Min
Base, Polymer	2 Hrs 30 Min
Baffle, Alternator Air	30 Min
Battery Charge Rectifier	30 Min
Battery Charge Assembly	30 Min
Battery Warmer	15 Min
Brushes	1 Hr 30 Min
Box, Control Panel	1 Hr
Capacitor	1 Hr
Circuit Breaker	30 Min
Control Module Assembly (CMA Board)	45 Min
Control Panel	45 Min
Corner	30 Min
Cover, Access	10 Min
Cradle	1 Hr 30 Min
Door	10 Min
Engine Adapter Casting	2 Hrs 30 Min
Exhaust Manifold / Exhaust Gasket	30 Min
Fuel Hose	30 Min
Fuel Regulator / Fuel Solenoid	1 Hr
Fuse	NO Warranty
Fuse Holder	N/A
Ground Wire Assembly	15 Min
Light Emitting Diode (LED)	30 Min
Miscellaneous Brackets / Hardware	30 Min
Muffler	30 Min
Muffler Duct	45 Min
P1 Connector	1 Hr
Panel, Front or Back	15 Min
Panel, Left Side	10 Min
Panel, Right Side	10 Min

*** Requires Control Number. Call 800-759-2744 or the Briggs & Stratton Regional Office as appropriate for authorization

Air-Cooled Standby Generators Vertical Shaft



Repair Operation	
Rear Bearing Carrier	1 Hr 45 Min
Roof	10 Min
Rotor Assembly	2 Hrs 30 Min**
Starter Contactor / Starter Solenoid (Relay)	45 Min
Stator Assembly	2 Hrs 30 Min**
Switches On / Off	N/A
Temperature Sensor	30 Min
Valve, Oil Drain	30 Min
Vibration Mount	1 Hr 30 Min
Warmer, Oil	30 Min
Wiring Harness	1 Hr
Remove and Install Generator from Customer Site	3 Hrs***

** Warranty will allow double labor when part is replaced in the field.

*** Requires Control Number. Call 800-759-2744 or the Briggs & Stratton Regional Office as appropriate for authorization

Air-Cooled Standby Generators Horizontal Shaft



Repair Operation	
Automatic Voltage Regulator (AVR)	1 Hr
Base, Metal	2 Hrs 30 Min
Base, Polymer	1 Hr
Baffle, Alternator Air	15 Min
Battery Cable Each	30 Min
Battery Charge Rectifier	N/A
Battery Charge Assembly	N/A
Battery Hardware	N/A
Battery Warmer	30 Min
Brushes	1 Hr 30 Min
Bulkhead, Alternator	1 Hr 30 Min
Bulkhead, Engine	1 Hr 15 Min
Capacitor(s)	1 Hr 30 Min
Circuit Breaker	15 Min
Control Module Assembly (CMA Board)	45 Min
Control Panel	45 Min
Corner, Assembly, Each	N/A
Door	15 Min
Engine Adapter Casting	2 Hrs 30 Min
Exhaust Manifold / Exhaust Gasket	1 Hr
Fuel Hose	15 Min
Fuel Regulator / Fuel Solenoid	1 Hr
Fuse	NO Warranty
Fuse Holder	N/A
Ground Wire Assembly	45 Min
Hinge	45 Min
Light Emitting Diode (LED)	30 Min
Miscellaneous Brackets / Hardware	30 Min
Muffler	1 Hr
Muffler Box	1 Hr 30 Min
Paint, Touch-Up	30 Min
Rear Bearing Carrier	1 Hr 45 Min

*** Requires Control Number. Call 800-759-2744 or the Briggs & Stratton Regional Office as appropriate for authorization

Air-Cooled Standby Generators Horizontal Shaft



Repair Operation	
Resistor	N/A
Roof	15 Min
Rotor Assembly	2 Hrs 30 Min**
Stator Assembly	2 Hrs 30 Min**
Starter Contactor / Starter Solenoid (Relay)	45 Min (12 kW only)
Support, Engine or Alternator, Each	1 Hr 30 Min
Temperature Sensor	30 Min
Valve, Oil Drain	30 Min
Vibration Isolator	1 Hr 30 Min
Warmer, Oil	30 Min
Wiring Harness	1 Hr
Remove and Install Generator from Customer Site	3 Hrs***

** Warranty will allow double labor when part is replaced in the field.

*** Requires Control Number. Call 800-759-2744 or the Briggs & Stratton Regional Office as appropriate for authorization

Liquid-Cooled Standby Generators



Repair Operation	
Alternator	See Alternators Chart***
Automatic Voltage Regulator	See Alternators Chart***
Base	8 Hrs
Baffle, Exhaust	1 Hr
Battery Cable, each	15 Min
Bulkhead Alternator	1 Hr 30 Min
Bulkhead, Engine	2 Hrs 15 Min
Circuit Breaker	30 Min
Control Module Assembly (CMA Board)	45 Min
Control Panel / Front	45 Min
Corner Assembly	1 Hr 30 Min
Door	30 Min
IMPCO Engine	See IMPCO engine chart
PSI Engine	****
Exhaust Pipe / Exhaust Gasket	1 Hr 30 Min
Fuel Hose	30 Min
Fuel Regulator / Fuel Solenoid	1 Hr
Fuse	NO Warranty
Ground Wire Assembly	30 Min
Light Emitting Diode (LED)	30 Min
Miscellaneous Brackets / Hardware	30 Min
Muffler	1 Hr 30 Min
Rail, Support	1 Hr 15 Min
Roof	1 Hr
Rotor Assembly	See Alternators Chart***
Stator Assembly	See Alternators Chart***
Support, Engine or Alternator, Each	1 Hr 30 Min
Temperature Sensor	1 Hr
Valve, Oil Drain	1 Hr
Vibration Isolator	1.5 Hr
Warmer, Jacket / Hose(s)	1 Hr
Wiring Harness	1 Hr 30 Min
Remove and Install Generator from Customer Site	3 Hrs***

*** Requires Control Number. Call 800-759-2744 or the Briggs & Stratton Regional Office as appropriate for authorization

**** Contact Power Solutions Inc. at 1-630-350-9400 or www.PSIengines.com

Alternators 30kW and Above



Repair Operation	
Exciter Stator	1 Hr 45 Min
Exciter Rotor	2 Hrs
Rectifier Assembly	2 Hrs
Bearing	2 Hrs
AVR (VR3.1)	45 Min
Bearing Cover	1 Hr 40 Min
Rotor Assembly	See complete alternator replacement
Stator Assembly	See complete alternator replacement
Complete Alternator Replacement	4 Hrs***

*** Requires Control Number. Call 800-759-2744 or the Briggs & Stratton Regional Office as appropriate for authorization

Transfer Switches and Load Management Systems



Repair Operation	
Circuit Board	45 Min
Circuit Breaker	30 Min
Contactor (Relay)	1 Hr
Control Panel / Front	30 Min
Current Transformer	30 Min
Fuse	NO Warranty
Fuse Holder	30 Min
Ground Wire Assembly	30 Min
Miscellaneous Wiring	45 Min
Module	45 Min
Relay Board	30 Min
Switch Main Line Disconnect	30 Min
Switch, Transfer	1 Hr

Single Cylinder OHV Vertical Shaft



Repair Operation	
Air Cleaner Base / Gasket	30 Min
Bearing Mag-Side	2 Hrs
Blower Housing	30 Min
Breather Assembly or Gasket	45 Min
Cam Gear / Tappets	1 Hr 15 Min
Connecting Rod	1 Hr 45 Min
Crankshaft	2 Hrs
Cylinder Head or Gasket	1 Hr
Dipstick Tube Assembly	30 Min
Engine, Assembly - Replacement <i>Includes: R&R alternator, all components, fluids and accessories</i>	3 Hrs
Flywheel	45 Min
Flywheel Ring Gear	1 Hr
Governor Gear / Oil Slinger	45 Min
Governor Lever (Arm)	30 Min
Governor Linkage	30 Min
Governor Shaft	1 Hr
Governor Spring	30 Min
Ignition Armature	45 Min

Repair Operation	
Mixer-Repair or Replace	45 Min
Oil Filter Adapter or Gasket	45 Min
Oil Pump Assembly	1 Hr
Oil Seal-Cover or Sump	45 Min
Oil Seal-Mag Side	1 Hr
Piston, Rings, Piston Pin	1 Hr 45 Min
Push Rods	45 Min
Rocker Arm or Stud	45 Min
Short Block	1 Hr 30 Min
Starter Drive Assembly Electric	45 Min
Stater Motor Electric	45 Min
Starter Pinion Gear Electric	45 Min
Sump / Cover or Gasket	45 Min
Synchro Balance Assembly / AVS®	1 Hr 45 Min
Timing Gear	45 Min
Valve-Exhaust or Intake / Intake Seal	1 Hr
Valve Cover or Gasket (OHV)	30 Min
Valve Guide-Exhaust or Intake	1 Hr 15 Min
Valve Spring or Retainer	30 Min

Professional Series™ Vertical Shaft



Repair Operation	
Air Cleaner Base / Gasket	30 Min
Bearing Mag-Side	2 Hrs
Blower Housing	45 Min
Breather Assembly or Gasket	1 Hr
Cam Gear / Tappets	2 Hrs
Carburetor Intake Manifold	1 Hr
Carburetor Primer Bulb	N/A
Carburetor / Mixer-Repair or Replace	1 Hr
Connecting Rod (Both)	2 Hrs
Crankshaft	2 Hrs
Cylinder Head or Gasket (Both)	1 Hr 30 Min
Dipstick Tube Assembly	45 Min
Engine, Assembly - Replacement <i>Includes: R&R alternator, all components, fluids and accessories</i>	3 Hrs
Flywheel	1 Hr
Flywheel Ring Gear	1 Hr
Governor Gear / Oil Slinger	45 Min
Governor Lever (Arm)	30 Min
Governor Linkage	30 Min
Governor Shaft	1 Hr

Repair Operation	
Governor Spring	30 Min
Ignition Armature	1 Hr
Ignition Ground Wire	45 Min
Oil Cooler	45 Min
Oil Pump Assembly	1 Hr
Oil Seal-Cover or Sump	45 Min
Oil Seal-Mag Side	1 Hr 15 Min
Piston, Rings, Piston Pin (Both)	2 Hrs
Push Rods (Both Cylinders)	1 Hr
Rocker Arm or Stud (Per Cylinder)	45 Min
Short Block	2 Hrs 30 Min
Starter Drive Assembly Electric	1 Hr
Starter Motor Electric	1 Hr
Starter Pinion Gear Electric	1 Hr
Sump / Cover or Gasket	45 Min
Timing Gear	45 Min
Valve-Exhaust or Intake / Intake Seal	1 Hr
Valve Cover or Gasket (OHV)	30 Min
Valve Guide-Exhaust or Intake	1 Hr 30 Min
Valve Spring or Retainer	1 Hr

Vanguard™ V-Twin Horizontal & Vertical Shaft



Repair Operation	
Air Cleaner Base / Gasket	30 Min
Bearing Mag-Side	2 Hrs
Blower Housing	45 Min
Breather Assembly or Gasket	1 Hr
Cam Gear / Tappets	2 Hrs
Carburetor Intake Manifold	1 Hr
Carburetor Primer Bulb	N/A
Carburetor / Mixer-Repair or Replace	1 Hr
Connecting Rod (Both)	2 Hrs
Crankshaft	2 Hrs
Cylinder Head or Gasket (Both)	1 Hr 30 Min
Dipstick Tube Assembly	30 Min
Engine, Assembly - Replacement Includes: <i>R&R alternator, all components, fluids and accessories</i>	3 Hrs
Flywheel	1 Hr
Flywheel Ring Gear	1 Hr
Governor Lever (Arm)	30 Min
Governor Linkage	30 Min
Governor Shaft	1 Hr 15 Min

Repair Operation	
Governor Spring	30 Min
Ignition Armature	1 Hr
Ignition Ground Wire	45 Min
Oil filter Adapter or Gasket	45 Min
Oil Pump Assembly	1 Hr
Oil Seal-Cover or Sump	45 Min
Oil Seal-Mag Side	1 Hr 15 Min
Piston, Rings, Piston Pin (Both)	2 Hrs
Push Rods (Both Cylinders)	1 Hr
Short Block	2 Hrs 30 Min
Starter Drive Assembly Electric	1 Hr
Stater Motor Electric	1 Hr
Starter Pinion Gear Electric	1 Hr
Sump / Cover or Gasket	45 Min
Timing Gear	45 Min
Valve-Exhaust or Intake / Intake Seal	1 Hr
Valve Cover or Gasket (OHV)	30 Min
Valve Guide-Exhaust or Intake	1 Hr 30 Min
Valve Spring or Retainer	1 Hr

IMPCO/GM 3.0L Engine



Engine Electrical	
Engine Control Module (ECM) - Replacement	50 Min
Engine Control Module (ECM) - Reflash	20 Min
Engine Wire Harness - Repair	55 Min
Engine Wire Harness - Replacement	1 Hr 30 Min
Plugs, Spark - Replace One	25 Min
Plugs, Spark - Replace All	45 Min
Coil, Ignition - Replacement	20 Min
NG Fuel Control System Check <i>Includes: Connect scan tool or test equipment. Check for trouble codes (DTCs), check HEGO operation, disconnect scan tool or test equipment.</i>	20 Min
Electronic Throttle Body - Replacement	50 Min
Throttle Body / Gasket - Replacement	50 Min
Cap, Distributor - Replace	10 Min
Rotor, Distributor - Replace	10 Min
Distributor Assembly - Assembly	50 Min

Engine Sensors	
Engine Oil Pressure Sensor - Replacement	30 Min
Engine Coolant Temp Sensor and / or Adapter - Replace	35 Min
Camshaft Sensor - Replacement	35 Min
Crank Position Sensor - Replacement	45 Min
Temp Manifold Pressure Sensor (TMAP) - Replacement	45 Min

Fuel Temperature / Pressure Sensor - Replacement	30 Min
Heated Exhaust Gas Oxygen Sensor (HEGO) - Replacement	50 Min

Fuel Delivery	
Pressure Regulator - Replacement <i>Includes: Transfer of all fittings</i>	50 Min
Pressure Regulator Repair (See M1001 for replacement) <i>Add: Allowance for the replacement of regulator port o-rings</i>	55 Min 20 Min
Bracket, Regulator Mounting - Replacement	30 Min
Leak Check NG System	10 Min
NG Fuel System Pressure Check <i>Includes: Connect fuel pressure gauges. Check regulator primary and secondary pressure. Disconnect gauges.</i>	20 Min
Shut - Off Valve - Replacement (Each)	50 Min

Exhaust	
Restricted Exhaust System Diagnosis	20 Min

Engine Hoses	
Coolant Hoses - Replace all <i>Includes: Drain & Fill radiator</i>	45 Min
Coolant Hose Port Fitting - Replace	20 Min
Fuel Vapor Hose - Replace all <i>includes: Replacement of vapor hose port fittings</i>	25 Min

IMPCO/GM 3.0L Engine



Fuel Vapor Hose Port - Fitting - Replace	25 Min
Vacuum Line - Replace one Additional line replace allowances	25 Min 10 Min
PCV - Inspect or Replace	20 Min

Engine Exterior Components	
Water Pump and/or Gasket - Replace	45 Min
Starter - Replacement	40 Min
Alternator - Replacement	30 Min
Drive Belt - Replacement	30 Min
Thermostat, and/or Gasket - Replacement	25 Min
Flywheel / Harmonic Balancer - Replacement	30 Min

Engine Internal Components	
Timing Cover Oil Seal - Replacement Includes: R&R balancer	45 Min
Timing Cover and / or Gasket - Replacement Includes: R&R balancer	2 Hrs
Timing Chain - Replacement Add: Replace crankshaft gear	1 Hr 40 Min 10 Min
Camshaft Timing Gear - Replacement Add: Replace crankshaft gear	3 Hrs 55 Min 10 Min
Camshaft - Replacement	6 Hrs
Oil Pan and/or Gasket - Replacement Includes: Fluid replacement	2 Hrs 10 Min
Pump, Engine Oil - Replacement Includes: R&R engine oil pan & fluid replacement	2 Hrs 30 Min

Seal, Rear Main Bearing - Replacement Includes: R&R engine oil pan and fluid, replace lower seal and repack upper seal	2 Hrs 50 Min
Bearing, Crankshaft Main - Replace one Includes: R&R engine oil pan and fluid, and use of plastic type gauge Add: Replace main bearings each additional (not to equal or exceed all) All Main bearings Add: Replace connecting rod bearings. Each additional (Not to equal or exceed all) All rod bearings	4 Hrs 5 Min 30 Min 1 Hr 10 Min 20 Min 1 Hr 10 Min
Bearing, Connecting Rod - Replace One Includes: R&R engine oil pan and fluid, and use of plastic type gauge Add: replace connecting rod bearings each additional (not to equal or exceed all) All rod bearings	9 Hrs 55 Min 25 Min 2 Hrs
Piston, Rod and / or Rings - Replacement Includes: R&R all necessary components and use of plastic type gauge Add: Replace rings only Each piston (Not to exceed all) All pistons Add: To replace connecting rods only each rod (not to exceed all) All Rods Add: To replace pistons only each piston (not to exceed all) All pistons	3 Hrs 20 Min 25 Min 2 Hrs 10 Min 20 Min 1 Hr 20 Min 25 Min 2 Hrs 25 Min
Plug, expansion - Replacement Note: Use appropriate labor operation(s) for removal of necessary component(s) to gain access to plug	20 Min

IMPCO/GM 3.0L Engine



Plug, Oil Gallery - Replacement Note: Use appropriate labor operation(s) for removal of necessary component(s)	20 Min
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Engine Manifolds & Cylinder Head Components	
Intake Manifold and / or Gasket - Replacement	1 Hr
Exhaust Manifold and / or Gasket - Replacement	1 Hr
Valve Cover and / or Gasket - Replacement Includes: R&R intake manifold	20 Min
Rocker Arm - Replacement Includes: R&R intake manifold and rocker cover(s) Add: Replace all rocker arms	25 Min 20 Min
Stud, Valve Rocker Arm Ball - Replacement Add: To replace an additional stud	30 Min 20 Min
Cylinder Head Gasket - Replacement Includes: R&R intake manifold, rocker cover(s) and compression test	2 Hrs 20 Min
Cylinder Head - Replacement Includes: R&R intake manifold, rocker cover(s) and compression test	3 Hrs
Valve - Recondition or replacement Add: Each additional cylinder Add: To recondition all valves Add: To ream and fit guides for oversize stems	2 Hrs 55 Min 25 Min 55 Min 10 Min
Valve Spring, Cap and / or Seals - Replacement Includes: R&R rocker cover(s). Add: Each additional cylinder Add: All springs, caps and/or seals	2 Hrs 30 Min 20 Min 55 Min

Push Rod - Replacement, One Cylinder Includes: R&R rocker cover(s) Add: to replace all push rods	50 Min 10 Min
Lifter, Valve - Replacement, One Cylinder Includes: R&R rocker cover(s) Add: To replace all lifters	55 Min 20 Min

Engine Replacement	
Block, Engine Fitted - Replacement Includes: R&R all components, fluids and accessories Add: To recondition all valves and guides	9 Hrs 2 Hrs 35 Min
Engine, Partial - Replacement Includes: R&R all components, fluids and accessories Add: To recondition all valves and guides	7 Hrs 10 Min 2 Hrs 35 Min
Engine, Assembly - Replacement Includes: R&R all components, fluids and accessories	3 Hrs 30 Min
Engine, Mounts, Front - Replacement	20 Min

IMPCO/GM 5.0 and 5.7L Engine



Engine - Electrical	
Engine Control Module (ECM) - Replacement	50 Min
Engine Control Module (ECM) - Reflash	20 Min
Fuse Box Bracket - Replace	10 Min
Engine Wire Harness - Repair	55 Min
Engine Wire Harness - Replacement	1 Hr 30 Min
Plugs, Spark - Replace One	25 Min
Plugs, Spark - Replace All	40 Min
Wires, Spark Plug - Replace All	20 Min
Coil, Ignition - Replacement	35 Min
Fuel Control System Check <i>Includes: Connect scan tool or test equipment. Check for trouble codes (DTCs), check HEGO operation, disconnect scan tool or test equipment</i>	20 Min
Electronic Throttle Body - Replacement	50 Min
Throttle Body / Gasket - Replacement	50 Min
Cap, Distributor - Replace	10 Min
Rotor, Distributor - Replace	10 Min
Distributor Assembly - Replace	50 Min

Engine - Sensors	
Engine Oil Pressure Sensor - Replacement	30 Min
Engine Coolant Temp Sensor and / or Adapter - Replace	35 Min
Camshaft Sensor - Replacement	35 Min
Crank Position Sensor - Replacement	40 Min

Temp Manifold Pressure Sensor (TMAP) - Replacement	40 Min
Heated Exhaust Gas Oxygen Sensor (HEGO) - Replacement	50 Min

Fuel Delivery	
Pressure Regulator - Replacement <i>Includes: Transfer of all fittings</i>	50 Min
Regulator Fittings (All)	20 Min
Bracket, Regulator Mounting - Replacement	30 Min
Leak Check The Fuel System	10 Min
Fuel System Pressure Check <i>Includes: Connect fuel pressure gauges. Check regulator pressure. Disconnect gauges.</i>	20 Min
Shut-Off Valve - Replacement (Each)	50 Min
Venturi Adapter and / or Gasket - Replace	40 Min
Throttle Body and / or Gasket	50 Min
Throttle Body / Intake Manifold Adapter and / or Gasket Replacement	1 Hr
Fuel Pipe / Fuel Selector - Replacement (Each)	10 Min
Fuel Control Valve	25 Min
Fuel Control Valve Brackets - Replace	10 Min

Exhaust	
Restricted Exhaust System Diagnosis	20 Min

IMPCO/GM 5.0 and 5.7L Engine



Hoses	
Coolant Hoses - Replace All Includes: Drain & Fill Radiator	40 Min
Fuel Vapor Hose - Replace All Includes: Replacement of Vapor Hose Port Fittings	25 Min
Vacuum Line - Replace One Add: Additional Line Replace Allowances. Diagnosis Time: 0.1	25 Min 5 Min
PCV - Inspect or Replace	20 Min

Engine - Exterior Components	
Water Pump and / or Gasket - Replace	40 Min
Starter - Replacement	35 Min
Alternator - Replacement	30 Min
Drive Belt - Replacement	30 Min
Thermostat, and / or Gasket - Replacement	25 Min
Flywheel / Harmonic Balancer - Replacement	30 Min
Drive Belt Idler Pulley - Replacement Includes: R&R drive belt	35 Min
Oil Fill Adapter	20 Min
Water Port	20 Min
Fuel Control Valve	30 Min
Oil Drain Valve and / or Tube	20 Min

Engine - Internal Components	
Bearing, Connecting Rod - Replace One Includes: R&R engine oil pan and fluid, and use of plastic type gauge Add: Replace connecting rod bearings Each additional (NOT to equal or exceed ALL) All rod bearings	2 Hrs 55 Min 25 Min 2 Hrs
Piston, Rod and / or Rings - Replacement Includes: R&R all necessary components and use of plastic type gauge Add: Replace rings only Each piston (NOT to exceed ALL) All pistons Add: To replace connecting rods only Each rod (NOT to exceed ALL) All rods Add: To replace pistons only Each piston (NOT to exceed ALL) All pistons	3 Hrs 20 Min 25 Min 2 Hrs 10 Min 20 Min 1 Hr 10 Min 25 Min 2 Hrs 25 Min
Plug, Expansion - Replacement Note: Use appropriate labor operation(s) for removal of necessary component(s) to gain access to plug	20 Min
Plug, Oil Gallery - Replacement Note: Use appropriate labor operation(s) for removal of necessary component(s)	20 Min
Timing Cover Oil Seal - Replacement Includes: R&R balancer	40 Min
Timing Cover and / or Gasket - Replacement Includes: R&R balancer	2 Hrs

IMPCO/GM 5.0 and 5.7L Engine



Timing Chain - Replacement Add: Replace crankshaft gear	1 Hr 35 Min 10 Min
Camshaft Timing Gear - Replacement Add: Replace crankshaft gear	3 Hrs 55 Min 10 Min
Camshaft - Replacement	6 Hrs
Oil Pan and / or Gasket - Replacement Includes: <i>Fluid replacement</i>	2 Hrs 10 Min
Pump, Engine Oil - Replacement Includes: <i>R&R engine oil pan and fluid replacement</i>	2 Hrs 30 Min
Seal, Rear Main Bearing - Replacement Includes: <i>R&R engine oil pan and fluid, replace lower seal and repack upper seal</i>	2 Hrs 50 Min
Bearing, Crankshaft Main - Replace One Includes: <i>R&R engine oil pan and fluid, and use of plastic type gauge</i> Add: Replace main bearings Each additional (NOT to equal or exceed ALL) All main bearings Add: Replace connecting rod bearings Each additional (NOT to equal or exceed ALL) All rod bearings	3 Hrs 30 Min 1 Hr 10 Min 20 Min 1 Hr 10 Min
Valve Spring, Cap and / or Seals - Replacement Includes: <i>R&R rocker cover(s)</i> Right Side Left Side Both Sides	 40 Min 40 Min 1 Hr 10 Min

Push Rod - Replacement Includes: <i>R&R rocker cover(s)</i> One cylinder, right side One cylinder, left side Both sides Add: To replace all push rods each side	 25 Min 25 Min 50 Min 10 Min
Lifter, Valve - Replacement Includes: <i>R&R rocker cover(s)</i> One cylinder, right side One cylinder, left side Both sides Add: To replace all lifters each side	 1 Hr 40 Min 1 Hr 40 Min 2 Hrs 25 Min

Engine - Manifolds & Cylinder Head Components	
Intake Manifold and / or Gasket - Replacement	1 Hr
Exhaust Manifold Replacement (Each Side)	1 Hr
Valve Cover and / or Gasket - Replacement Includes: <i>R&R intake manifold</i> Right Side Left Side Both Sides	 20 Min 20 Min 30 Min
Rocker Arm - Replacement Includes: <i>R&R intake manifold and rocker cover(s)</i> One Cylinder, Right Side Add: Replace all rocker arms on both sides	 25 Min 1 Hr 10 Min
Stud, Valve Rocker Arm Ball - Replacement Right Side Left Side Add: to replace additional studs	 30 Min 30 Min 20 Min

IMPCO/GM 5.0 and 5.7L Engine



Cylinder Head Gasket - Replacement Includes: R&R intake manifold, rocker covers(s) and compression test Right Side Left Side Both Sides	4 Hrs 4 Hrs 6 Hrs
Cylinder Head - Replacement Includes: R&R intake manifold, rocker cover(s) and compression test Right side Left side Both sides	5 Hrs 5 Hrs 7 Hrs 30 Min
Valve - Recondition or Replacement One cylinder, right side One cylinder, left side Both sides Add: To recondition all valves Either side Both sides Add: To ream and fit guides for oversize stems One cylinder Each additional cylinder	4 Hrs 30 Min 4 Hrs 30 Min 7 Hrs 1 Hr 50 Min 3 Hrs 10 Min 5 Min
Valve Spring, Cap and / or Seals - Replacement Includes: R&R rocker cover(s) Right Side Left Side Both Sides	40 Min 40 Min 1 Hr 10 Min
Push Rod - Replacement Includes: R&R rocker cover(s) One cylinder, right side One cylinder, left side Both sides Add: To replace all push rods each side	25 Min 25 Min 50 Min 10 Min

Lifter, Valve - Replacement Includes: R&R rocker cover(s) One cylinder, right side One cylinder, left side Both sides Add: To replace all lifters each side	1 Hr 40 Min 1 Hr 40 Min 2 Hrs 25 Min
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Engine Replacement	
Block, Engine Fitted - Replacement Includes: R&R all components, fluids and accessories Add: to recondition all valves and guides	9 Hrs 2 Hrs 35 Min
Engine, Partial - Replacement Includes: R&R all components, fluids and accessories Add: to recondition all valves and guides	7 Hrs 10 Min 2 Hrs 35 Min
Engine, Assembly - Replacement Includes: R&R all components, fluids and accessories	3 Hrs 30 Min
Engine, Mounts, Front - Replacement	20 Min

Engine Miscellaneous	
Additional Diagnostic Time Policy "B" Subject to review by IMPCO/GM Technical Support	30 Min
Fastener Or Fitting Tightening	5 Min
Operation Tests	10 Min
Sublet Time Policy "S"* *Requires PRIOR APPROVAL by IMPCO/GM Technical Support;	0 Min

