

WARRANTY

POLICY AND PROCEDURE

KOHLER[®]
ENGINES

Contents

Section 1 – Introduction

A. The Warranty Decision	3
B. Pre-Sale Disclosure Requirement	3
C. Warranty Responsibility Begins Before Delivery	3

Section 2 – Limited Warranty Statements

A. Kohler Aegis Warranty Statement	4
B. Courage SV470-610, SV710-740 Warranty Statement	4
C. Courage PRO SV810-840 Warranty Statement	5
D. COMMAND PRO/Command/Magnum/OHC Warranty Statement	5
E. K-Series Warranty Statement	6
F. Service Parts Warranty	6
G. Kohler Co. Federal and California Emission Control Systems Warranty Statement	7-8

Section 3 – Warranty Procedures

A. Service Information Record (SIR)	9
B. Warranty Repair Authorization	10
C. Manufacturing Defects Covered	10
D. Major Warranty Repair	10
E. Carburetor Warranty Replacement	10
F. Retaining Failed Parts	10
G. Return of Failed Parts	10-11
H. Disputed, Questionable, Unusual Warranty, or Policy Adjustments	11
I. Engines Manufactured Over 3 Years Ago	11-12

Section 4 – Warranty Service Parts

A. Policy	12
B. Defective Service Parts (New Inventory)	12
C. Defective Service Parts (Installed)	12
D. Defective Service Parts (Installed During Engine Warranty Period)	12
E. Warranty Options and Accessories	12
1. Options (Factory Installed)	12
2. Accessories (Field Installed)	12

Section 5 – Warranty Exclusion

A. Non-Reimbursable Items	13
---------------------------------	----

Section 6 – Claims Procedure

A. Responsibility for Submitting Proper and Completed Warranty Claim Forms	13
B. Warranty Claim Report Forms	13
C. Warranty Claim Instructions	13-15

Section 7 – Reimbursement Procedures

A. Policy	15
B. Reimbursement Calculation Details	15-16
1. U.S.A. & Canada, Non-Expert	15-16
2. U.S.A. & Canada, Expert	16
3. International, Non-Expert	16
4. International, Expert	16
C. Freight Cost U.S.A. & Canada (FOB and Truck)	16

Section 8 – Engine Inspection Data Record

A. Engine Inspection Data Record Instructions	16
B. Engine Inspection Data Record	17-19

Section 9 – Flat Rate Schedules

A. Command Pro CS Series Flat Rate Schedule	20
B. Courage XT-Series, Courage Single, and Command Single Flat Rate Schedule	21
C. Command Twin and Command PRO Twin Flat Rate Schedule	22-23
D. Courage Twin, Courage PRO Twin, and Aegis Flat Rate Schedule	24-25
E. OHC Flat Rate Schedule	26
F. Magnum Flat Rate Schedule	27
G. K-Series Flat Rate Schedule	28

Policy Adjustment Explanation Form	29
--	----

Carburetor Replacement Evaluation Form	30
--	----

A. The Warranty Decision

Warranty decisions must be based on careful examination of the facts and circumstances surrounding the warranty request. The warranty covers defects in material or workmanship, so you must try to decide if the failure resulted from a manufacturing defect and is eligible for warranty consideration. If you feel that a decision will be difficult, or the customer is disputing your decision, complete an Engine Inspection Data Record (TP-2435), as shown on pages 17-19, and follow a systematic analysis procedure.

1. Complete the Owner's Information portion of the Engine Inspection Data Record when the customer brings the unit in for consideration.
2. Inspect the unit as delivered and complete the Air Filter Assembly, Crankcase Oil, Engine Cooling System, and Governor sections of the Engine Inspection Data Record.

NOTE: Experience has shown that the information gained from these sections frequently will lead to the cause of the failure, and will determine what corrective action must be performed to prevent repeat failures.

3. Carefully disassemble the engine and check components for any unusual markings or wear patterns.
4. Take the necessary measurements and enter them in the proper sections in the Engine Inspection Data Record. Compare the measurements against published specifications in Kohler service literature to identify parts that may require rework or replacement.

If your analysis points to a deficiency in engine care or maintenance, recommend to your customer the preventive measures that must be performed to prevent repeat failures.

If there is a question whether the repair is covered by the Kohler Limited Engine Warranty, contact your Kohler Distributor to assist you in the analysis and warranty decision.

If, after reviewing the matter with the Kohler Distributor representative, a warranty decision still cannot be made, have the representative follow the "chain of command" until a decision is reached. Remember, **always** keep the customer advised as to what is being done, and why. This will show the customer full consideration is being extended and will demonstrate our mutual concern.

B. Pre-Sale Disclosure Requirement

One of the provisions of the Magnusson-Moss Consumer Products Warranties Law is that a retail seller of consumer products must make the text of the warranty available for review by the prospective buyer prior to sale. To help you comply with this law, the warranty statements for each model series are printed at the back of the owner's manual for that series. All of the warranty statements are included in Section 2 of this booklet.

C. Warranty Responsibility Begins Before Delivery

Each Kohler Service Account is responsible for preventing new engines (and parts) from deteriorating in storage, and also for preparing new engines for delivery. Failure to adequately protect and store engines and parts will result in unnecessary expense to the dealer, and will inconvenience and annoy customers. Successful service accounts have proven that the minimal investment involved in preparing an engine prior to delivery eliminates unnecessary service calls and results in improved over-all profit. Before turning an engine over, review the Owner's Manual with the customer—stress the importance of good maintenance and explain the warranty.

Section 2 – Limited Warranty Statements

KOHLER Aegis® Warranty Statement **Limited 3 Year Kohler Aegis® Engine Warranty**

Kohler Co. warrants to the original retail consumer that each new KOHLER AEGIS® engine sold by Kohler Co. will be free from manufacturing defects in materials or workmanship in normal residential service for a period of three (3) years from date of purchase, provided it is operated and maintained in accordance with Kohler Co.'s instructions and manuals.

Our obligation under this warranty is expressly limited, at our option, to the replacement or repair at Kohler Co., Kohler, Wisconsin 53044, or at a service facility designated by us of such parts as inspection shall disclose to have been defective.

EXCLUSIONS:

Mufflers on engines used commercially (non-residential) are warranted for one (1) year from date of purchase, except catalytic mufflers, which are warranted for two (2) years.

This warranty does not apply to defects caused by casualty or unreasonable use, including faulty repairs by others and failure to provide reasonable and necessary maintenance.

The following items are not covered by this warranty:

Engine accessories such as fuel tanks, clutches, transmissions, power-drive assemblies, and batteries, unless supplied or installed by Kohler Co. These are subject to the warranties, if any, of their manufacturers.

KOHLER CO. AND/OR THE SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND, including but not limited to labor costs or transportation charges in connection with the repair or replacement of defective parts.

IMPLIED OR STATUTORY WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. We make no other express warranty, nor is any one authorized to make any on our behalf.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

TO OBTAIN WARRANTY SERVICE:

Purchaser must bring the engine to an authorized Kohler service facility. To locate the nearest facility, visit our website, www.kohlerengines.com, and click on SALES AND SERVICE to use the locator function, consult your Yellow Pages or telephone 1-800-544-2444.

ENGINE DIVISION, KOHLER CO., KOHLER, WISCONSIN 53044

KOHLER COURAGE® SV470-610, SV710-740 ENGINE LIMITED WARRANTY

Kohler Co. warrants to the original retail consumer that each new COURAGE® engine sold by Kohler Co. will be free from manufacturing defects in materials or workmanship in normal residential homeowner service for a period of two (2) years from date of purchase, provided it is operated and maintained in accordance with Kohler Co.'s instructions and manuals. If used commercially the COURAGE® engine is covered by a 90 day limited warranty.

The warranty period begins on the date of purchase by the original retail consumer or commercial end user. "Residential homeowner service" means residential use by a retail consumer. "Commercial use" means all other uses, including use for commercial, or rental purposes. Once in commercial use, the engine will thereafter be considered a commercial use engine for the purposes of this warranty.

Our obligation under this warranty is expressly limited, at our option, to the replacement or repair at Kohler Co., Kohler, Wisconsin 53044, or at a service facility designated by us of such parts as inspection shall disclose to have been defective.

EXCLUSIONS:

Mufflers on engines used commercially (non-residential) are warranted for 90 days from date of purchase.

This warranty does not apply to defects caused by casualty or unreasonable use, including faulty repairs by others and failure to provide reasonable and necessary maintenance.

The following items are not covered by this warranty:

Engine accessories such as fuel tanks, clutches, transmissions, power-drive assemblies, and batteries, unless supplied or installed by Kohler Co. These are subject to the warranties, if any, of their manufacturers.

KOHLER CO. AND/OR THE SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND, including but not limited to labor costs or transportation charges in connection with the repair or replacement of defective parts.

IMPLIED OR STATUTORY WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. We make no other express warranty, nor is any one authorized to make any on our behalf.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

TO OBTAIN WARRANTY SERVICE:

Purchaser must bring the engine to an authorized Kohler service facility. To locate the nearest facility, visit our website, www.kohlerengines.com, and click on SALES AND SERVICES to use the locator function, consult your Yellow Pages or telephone 1-800-544-2444.

ENGINE DIVISION, KOHLER CO., KOHLER, WISCONSIN 53044

KOHLER COURAGE PROTM SV810-840 ENGINE LIMITED WARRANTY

Kohler Co. warrants to the original retail consumer that each new COURAGE PROTM engine sold by Kohler Co. will be free from manufacturing defects in materials or workmanship in normal residential homeowner service for a period of two (2) years from date of purchase, provided it is operated and maintained in accordance with Kohler Co.'s instructions and manuals. If used commercially the COURAGE PROTM engine is covered by a one (1) year limited warranty.

The warranty period begins on the date of purchase by the original retail consumer or commercial end user. "Residential homeowner service" means residential use by a retail consumer. "Commercial use" means all other uses, including use for commercial, or rental purposes. Once in commercial use, the engine will thereafter be considered a commercial use engine for the purposes of this warranty.

Our obligation under this warranty is expressly limited, at our option, to the replacement or repair at Kohler Co., Kohler, Wisconsin 53044, or at a service facility designated by us of such parts as inspection shall disclose to have been defective.

EXCLUSIONS:

Mufflers on engines used commercially (non-residential) are warranted for 90 days from date of purchase.

This warranty does not apply to defects caused by casualty or unreasonable use, including faulty repairs by others and failure to provide reasonable and necessary maintenance.

The following items are not covered by this warranty:

Engine accessories such as fuel tanks, clutches, transmissions, power-drive assemblies, and batteries, unless supplied or installed by Kohler Co. These are subject to the warranties, if any, of their manufacturers.

KOHLER CO. AND/OR THE SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND, including but not limited to labor costs or transportation charges in connection with the repair or replacement of defective parts.

IMPLIED OR STATUTORY WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. We make no other express warranty, nor is any one authorized to make any on our behalf.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

TO OBTAIN WARRANTY SERVICE:

Purchaser must bring the engine to an authorized Kohler service facility. To locate the nearest facility, visit our website, www.kohlerengines.com, and click on SALES AND SERVICES to use the locator function, consult your Yellow Pages or telephone 1-800-544-2444.

ENGINE DIVISION, KOHLER CO., KOHLER, WISCONSIN 53044

COMMAND PRO/Command/Magnum/OHC Warranty Statement Limited 2 Year COMMAND PRO/Command/Magnum/OHC Engine Warranty

Kohler Co. warrants to the original consumer that each new COMMAND PRO/Command/Magnum/OHC engine sold by Kohler Co. will be free from manufacturing defects in materials or workmanship in normal service for a period of two (2) years from date of purchase, provided it is operated and maintained in accordance with Kohler Co.'s instructions and manuals.

Our obligation under this warranty is expressly limited, at our option, to the replacement or repair at Kohler Co., Kohler, Wisconsin 53044, or at a service facility designated by us of such parts as inspection shall disclose to have been defective.

EXCLUSIONS:

Mufflers on engines used commercially (non-residential) are warranted for one (1) year from date of purchase, except catalytic mufflers, which are warranted for two (2) years.

This warranty does not apply to defects caused by casualty or unreasonable use, including faulty repairs by others and failure to provide reasonable and necessary maintenance.

The following items are not covered by this warranty.

Engine accessories such as fuel tanks, clutches, transmissions, power drive assemblies, and batteries, unless supplied or installed by Kohler Co. These are subject to the warranties, if any, of their manufacturers.

KOHLER CO. AND/OR THE SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND, including but not limited to labor costs or transportation charges in connection with the repair or replacement of defective parts.

IMPLIED OR STATUTORY WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. We make no other express warranty, nor is anyone authorized to make any on our behalf.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

TO OBTAIN WARRANTY SERVICE:

Purchaser must bring the engine to an authorized Kohler service facility. To locate the nearest facility, visit our website, www.kohlerengines.com, and click on SALES AND SERVICE to use the locator function, consult your Yellow Pages or telephone 1-800-544-2444.

ENGINE DIVISION, KOHLER CO., KOHLER, WISCONSIN 53044

K-Series Warranty Statement

Limited 1 Year Engine Warranty

We warrant to the original consumer that each new engine sold by us will be free from manufacturing defects in materials or workmanship in normal service for a period of one (1) year from date of purchase, provided it is operated and maintained in accordance with Kohler Co.'s instructions and manuals.

Our obligation under this warranty is expressly limited, at our option, to the replacement or repair at Kohler Co., Kohler, Wisconsin 53044, or at a service facility designated by us, of such part or parts as inspection shall disclose to have been defective.

EXCLUSIONS:

Mufflers on engines used commercially (non-residential) are warranted for one (1) year from date of purchase, except catalytic mufflers, which are warranted for two (2) years.

This warranty does not apply to defects caused by casualty or unreasonable use, including faulty repairs by others and failure to provide reasonable and necessary maintenance.

The following items are not covered by this warranty:

Engine accessories, such as fuel tanks, clutches, transmissions, power drive assemblies, and batteries, unless supplied or installed by Kohler Co. These are subject to the warranties, if any, of their manufacturers.

WE SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND, including but not limited to labor costs or transportation charges in connection with the replacement or repair of defective parts.

ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. We make no other express warranty, nor is anyone authorized to make any in our behalf.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

TO OBTAIN WARRANTY SERVICE:

Purchaser must bring the engine to an authorized Kohler service facility. For the facility nearest you, consult your Yellow Pages under "Engines-Gasoline" or phone 1-800-544-2444.

ENGINE DIVISION, KOHLER CO., KOHLER, WISCONSIN 53044

Service Parts Warranty

Limited 90 Day Service Parts Warranty

We warrant to the original consumer that each new service part sold by us will be free from manufacturing defects in materials or workmanship in normal service for a period of 90 days* from date of purchase, provided it is installed properly and the engine maintained in accordance with Kohler Co.'s instructions and manuals.

Our obligation under this warranty is expressly limited, at our option, to the replacement or repair at Kohler Co., Kohler, Wisconsin 53044, or at a service facility designated by us, of such part or parts as inspection shall disclose to have been defective.

EXCLUSIONS:

This warranty does not apply to defects caused by casualty or unreasonable use, including faulty repairs by others and failure to provide reasonable and necessary maintenance.

The following items are not covered by this warranty:

Engine accessories, unless supplied or installed by Kohler Co. These are subject to the warranties, if any, of their manufacturers.

WE SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND, including but not limited to, labor costs or transportation charges in connection with the replacement or repair of defective parts.

ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. We make no other express warranty, nor is anyone authorized to make any in our behalf.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

TO OBTAIN WARRANTY SERVICE:

Purchaser must bring the service parts to an authorized Kohler service facility. For the facility nearest you, consult your Yellow Pages under "Engines-Gasoline" or phone 1-800-544-2444.

ENGINE DIVISION, KOHLER CO., KOHLER, WISCONSIN 53044

*One-year limited warranty for long blocks.

**KOHLER CO.
FEDERAL AND CALIFORNIA EMISSION CONTROL SYSTEMS
LIMITED WARRANTY
SMALL OFF-ROAD ENGINES**

The U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and Kohler Co. are pleased to explain the Federal and California Emission Control Systems Warranty on your small off-road equipment engine. In California beginning in 2006 "emissions" means both exhaust and evaporative emissions. For California, engines produced in 2006 and later must be designed, built and equipped to meet the state's stringent anti-smog standards. In other states, 1997 and later model year engines must be designed, built and equipped, to meet the U.S. EPA regulations for small non-road engines. The engine must be free from defects in materials and workmanship which cause it to fail to conform with U.S. EPA standards for the first two years of engine use from the date of sale to the ultimate purchaser. Kohler Co. must warrant the emission control system on the engine for the period of time listed above, provided there has been no abuse, neglect or improper maintenance.

The emission control system may include parts such as the carburetor or fuel injection system, the ignition system, and catalytic converter. Also included are the hoses, belts and connectors and other emission related assemblies.

Where a warrantable condition exists, Kohler Co. will repair the engine at no cost, including diagnosis (if the diagnostic work is performed at an authorized dealer), parts and labor.

MANUFACTURER'S WARRANTY COVERAGE

Engines produced in 2006 or later are warranted for two years in California. In other states, 1997 and later model year engines are warranted for two years. If any emission related part on the engine is defective, the part will be repaired or replaced by Kohler Co. free of charge.

OWNER'S WARRANTY RESPONSIBILITIES

- (a) The engine owner is responsible for the performance of the required maintenance listed in the owner's manual. Kohler Co. recommends that you retain all receipts covering maintenance on the engine, But Kohler Co. cannot deny warranty solely for the lack of receipts or for your failure to assure that all scheduled maintenance was performed.
- (b) Be aware, however, that Kohler Co. may deny warranty coverage if the engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
- (c) For warranty repairs, the engine must be presented to a Kohler Co. service center as soon as a problem exists.
Call 1-800-544-2444 or access our web site at: www.kohlerengines.com, for the names of the nearest service centers. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding warranty rights and responsibilities, you should contact Kohler Co. at 1-920-457-4441 and ask for an Engine Service representative.

COVERAGE

Kohler Co. warrants to the ultimate purchaser and each subsequent purchaser that the engine will be designed, built and equipped, at the time of sale, to meet all applicable regulations. Kohler Co. also warrants to the initial purchaser and each subsequent purchaser, that the engine is free from defects in materials and workmanship which cause the engine to fail to conform with applicable regulations for a period of two years.

Engines produced in 2006 or later are warranted for two years in California. For 1997 and later model years, EPA requires manufacturers to warrant engines for two years in all other states. These warranty periods will begin on the date the engine is purchased by the initial purchaser. If any emission related part on the engine is defective, the part will be replaced by Kohler Co. at no cost to the owner. Kohler Co. is liable for damages to other engine components caused by the failure of a warranted part still under warranty.

Kohler Co. shall remedy warranty defects at any authorized Kohler Co. engine dealer or warranty station. Warranty repair work done at an authorized dealer or warranty station shall be free of charge to the owner if such work determines that a warranted part is defective.

Continued on next page.

Listed below are the parts covered by the Federal and California Emission Control Systems Warranty. Some parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part. The warranted parts include the following if they were present in the engine purchased:

- Oxygen sensor (if equipped)
- Intake manifold (if equipped)
- Exhaust manifold (if equipped)
- Catalytic muffler (if equipped)
- Thermal reactor muffler (if equipped)
- Fuel lines, fuel line fittings and clamps (if equipped)
- Spark advance module (if equipped)
- Crankcase breather
- Air Injection System (if equipped)
 - Air pump or pulse valve assembly (if equipped)
 - Control/distribution valve (if equipped)
 - Distribution manifold (if equipped)
 - Air hoses (if equipped)
 - Vacuum lines (if equipped)
- Ignition module(s) with high tension lead
- Gaseous fuel regulator (if equipped)
- Electronic control unit (if equipped)
- Carburetor or fuel injection system
- Fuel metering valve (if equipped)
- Air filter, fuel filter, and spark plugs (only to first scheduled replacement point)
- Evaporative System (if equipped)
 - Canister (if equipped)
 - Canister filter (if equipped)
 - Vapor hose (if equipped)
 - Orifice connector (if equipped)
 - Fuel tank (if equipped)
 - Fuel cap (if equipped)
 - Primer bulb canister (if equipped)

LIMITATIONS

This Emission Control Systems Warranty shall not cover any of the following:


- (a) repair or replacement required because of misuse or neglect, improper maintenance, repairs improperly performed or replacements not conforming to Kohler Co. specifications that adversely affect performance and/or durability and alterations or modifications not recommended or approved in writing by Kohler Co.,
- (b) replacement of parts and other services and adjustments necessary for required maintenance at and after the first scheduled replacement point,
- (c) consequential damages such as loss of time, inconvenience, loss of use of the engine or equipment, etc.,
- (d) diagnosis and inspection fees that do not result in eligible warranty service being performed, and
- (e) any add-on or modified part, or malfunction of authorized parts due to the use of add-on or modified parts.

MAINTENANCE AND REPAIR REQUIREMENTS

The owner is responsible for the proper use and maintenance of the engine. Kohler Co. recommends that all receipts and records covering the performance of regular maintenance be retained in case questions arise. If the engine is resold during the warranty period, the maintenance records should be transferred to each subsequent owner. Kohler Co. reserves the right to deny warranty coverage if the engine has not been properly maintained; however, Kohler Co. may not deny warranty repairs solely because of the lack of repair maintenance or failure to keep maintenance records.

Normal maintenance, replacement or repair of emission control devices and systems may be performed by any repair establishment or individual; however, **warranty repairs must be performed by a Kohler authorized service center**. Any replacement part or service that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of the engine manufacturer.

A. Service Information Record (SIR)


Service Information Record

SIR Form #:

Central Distributor Name*

REASON FOR SUBMITTAL*

SIR Change
 Re-sign
 New
 Termination (Effective Date)

Change Type

Name
 Address
 Labor Rate
 Ownership
 Other:

COMPANY*

Authorized Dealer
 Expert Dealer
 Specialized Dealer
 Other

Current Dealer Warranty Code #

Company Name*

LLC*
 Corporation
 Partnership
 Sole Proprietor
 Other

Is your source of supply changing? Yes

BUSINESS ADDRESS

Country*

Address*

City*

State*

Zip/Postal Code

Phone*

Fax

Business Email

Year Established

WebSite Address

Type of Internet Connection

Internet High Speed
 Dial Up

Please sign me up to receive notification of new or updated service information, bulletins, alerts, new application information, and product specials by email. Kohler will not sell or distribute contact information under any circumstances.

A Service Information Record must be on file at Kohler Co. before a service account will be authorized to do warranty repairs.

Failure to supply or provide a correct Fed. I.D. or Social Security number will result in a 20% net withholding payable to the IRS.

Important: Section 6109 of the IRS Code requires recipients of payments to give their identifying number to payers.

The Service Information Record is an electronic form that is available in our electronic parts lookup system, Kohler PLUS. **You must login** to Kohler PLUS with your user name and password to see the SIR form.

B. Warranty Repair Authorization

Only registered Kohler Service Accounts are authorized to perform Kohler engine warranty repairs. A Service Information Record form must be completed and on file at Kohler Co. before a service account will be authorized to do warranty repairs. These forms are to be submitted through your Central Distributor.

To change your Retail Labor Rate or Warranty Discount information, have your Central Distributor complete a new Service Information Record and submit the updated information to Kohler Co. Change to the Retail Labor Rate or Warranty Discount must be received at Kohler Co., Kohler, Wisconsin, 30 days prior to the effective date of change.

The information on the Service Information Record will be used by Kohler Co. for warranty processing and update mailings. If **any** of the information changes (company name, address, ownership, key personnel, etc.), be certain to notify your Central Distributor, so they can update their records. They will submit the updated data to Kohler Co.

C. Manufacturing Defects Covered

The warranty applies to repair and replacement of defective parts caused by faulty material and/or workmanship in manufacture. It does not apply to defects caused by negligence in servicing or operating an engine.

The following conditions cannot be considered under warranty:

- Normal wear.
- Routine tune-up or adjustment.
- Damage due to improper handling or accident.
- Damage due to operating at speeds or load conditions contrary to published specifications.
- Damage due to improper or insufficient lubrication.
- Damage from overheating due to clogged air intake and cooling fins.
- Damage caused by improperly serviced or inadequate air cleaner.
- Damage due to improper storage.

D. Major Warranty Repair

Repairs that require a new short block, miniblock, or engine must be approved by a Central Distributor representative for non-expert dealers, or a certified Expert Dealer, and require that section one of the Engine Inspection Data Record be completed before such approval is requested or granted (see Section 8). A new short block or engine can only be used for a warranty repair if the engine has clearly failed due to an identifiable defect in materials or workmanship. In addition, the engine must either be damaged beyond repair, or the cost of the repair must have been

calculated to exceed 90% of the cost of the short block or engine to be used.

If an engine or short block is desired for reasons not explained above, this approval must be provided by a certified Central Distributor representative. Regardless of the circumstances, the failed engine or block must be retained or returned to the authorizing party. If the replacement guidelines explained above have been met and/or appropriate approval has been received, promptly repair the engine and submit a properly filled in Warranty Claim Report (see Section 6) to Kohler Co. **within 30 days** after making the repair. Warranty claims for engines and short blocks must be accompanied by a copy of the original invoice to verify the actual engine and shipping costs (this documentation can either be attached to the online warranty form or faxed to Kohler at 920-459-1743). Warranty claims authorized by Expert Dealers must be submitted online with a copy of the claim going to the appropriate Central Distributor representative. Note: An engine or short block replacement may be done in advance of the needed preapproval as long as the customer is aware that they may be responsible for the repair cost depending on the findings by Central Distributor or factory representative.

E. Carburetor Warranty Replacement

Warranty claims for carburetor replacements must include the use of the Carburetor Replacement Evaluation Form (TP-2570, shown on page 30). This form must be filled out each time a warranty claim is submitted for a replacement carburetor. Hard copies of this form can be made and submitted along with the paper claims or an electronic version of the form can be completed online and submitted as an attachment with the online warranty claim form. Any claims submitted without this form attached will be returned.

F. Retaining Failed Parts

A claim number is imprinted on each Warranty Claim Report. Tag all parts replaced under a particular warranty claim with the corresponding claim number and keep those parts until you have received your warranty reimbursement. Kohler Co. may request return of some parts for study, but if specific instructions are not given prior to receipt of your reimbursement check, the failed parts may be discarded.

NOTE: Do not return failed parts unless you have received instructions and an Engine Warranty Return (EWR) Number from the Kohler Co.

G. Return of Failed Parts

When Kohler Co. does request the return of failed parts, formal instructions, plus a label with an EWR Number, will be issued to the service account involved. This label must be used to return the part or parts requested. The instructions will include directions for the return shipment.

NOTE: Do not return failed parts unless you have received instructions and an EWR Number from the Kohler Co.

Keep a record of the EWR Number for future reference.

H. Disputed, Questionable, Unusual Warranty, or Policy Adjustments

In the event a customer requests or insists on a warranty repair that, in your opinion, is not covered by the Kohler Limited Engine Warranty, offer the customer one of the following options:

1. Repair the engine and charge the customer with the understanding that you will issue reimbursement, if the claim is approved. Complete a Warranty Claim, (see Section 6), and an Engine Inspection Data Record (TP-2435), and have the damaged parts reviewed by your Central Distributor representative. If the claim is approved, have the Central Distributor representative note authorization for the repair, reimburse the customer for the charges, and send the completed Warranty Claim and Engine Inspection Data Record to Kohler Co., Engine Warranty, Kohler, WI 53044 for payment.
2. If the customer is willing to wait for a warranty decision prior to having the services performed, complete a Warranty Claim, and an Engine Inspection Data Record. Have your Central Distributor representative review the failed parts, Warranty Claim, and Engine Inspection Data Record. If the claim is approved, have the representative note authorization for the repair, perform the repair, and send the completed Warranty Claim and Engine Inspection Data Record to Kohler Co., Engine Warranty, Kohler, WI 53044 for payment.
3. If the customer insists on a decision by Kohler Co., complete an Engine Inspection Data Record and a Warranty Claim. Check the "DISPUTED WARRANTY" box at the top of the claim. Contact the Kohler Service Department for an EWR Number. This number should be placed on the outside of the return carton. Send the completed Warranty Claim, Engine Inspection Data Record, and the relevant engine parts, freight prepaid, to Kohler Co., Engine Warranty – Disputed Claim, Bldg. 604, Kohler, WI 53044.

NOTE: If you are located outside the continental U.S., send only the completed Warranty Claim and Engine Inspection Data Record to Kohler Co., Engine Warranty, Kohler, WI 53044. If the failed parts are needed to make the warranty decision, Kohler Co. will contact you with specific instruction concerning the return of the failed parts.

4. If a customer insists on warranty coverage for a situation you feel is not covered by the standard policy, contact the Central Distributor for a "Policy Adjustment" Authorization. The Central Distributor must fill out and sign the Policy Adjustment Explanation Form (TP-2466-A shown on page 29) and attach it to the Warranty Claim.

Kohler Co. will advise you regarding its decision. If the repair in question is determined to be covered by warranty, payment will be made. If the customer has already paid for the repair, issue reimbursement for **all** charges paid relating to the Kohler engine warranty.

If, for some reason, the request for warranty consideration is denied, or a partial allowance is offered, you will be advised of our findings, along with the reasons for our decision.

I. Engines Manufactured Over 3 Years Ago

A verification of the date of purchase (Example: Bill of Sale, Receipt or Invoice) must accompany the Warranty Claim for all engines that are 3 or more years old. The chart on the next page will aid in determining the year of manufacture.

Serial Number Significance

Year of Manufacture identified by:

- | | | | |
|-------------|--|---|---|
| 1. A Letter | 2. First Two Digits/
If Seven Digit
Number | 3. First Two Digits/If Eight
or Ten Digit Number | Remaining digits are
a factory code. |
|-------------|--|---|---|

<u>E</u> -172452	<u>92</u> 76430	<u>100</u> 26692	<u>150</u> 1897591
------------------	-----------------	------------------	--------------------

A	1965	10-19	1969	10	1980	23	1993	36	2006
B	1966	20-29	1970	11	1981	24	1994	37	2007
C	1967	30-39	1971	12	1982	25	1995	38	2008
D	1968	40-49	1972	13	1983	26	1996		
E	1969	50-59	1973	14	1984	27	1997		
		60-69	1974	15	1985	28	1998		
		70-72	1975	16	1986	29	1999		
		73-79	1976	17	1987	30	2000		
		80-89	1977	18	1988	31	2001		
		90-94	1978	19	1989	32	2002		
		95-99	1979	20	1990	33	2003		
				21	1991	34	2004		
				22	1992	35	2005		

Section 4 – Warranty Service Parts

A. Policy

Service parts, short blocks, miniblocks, and accessory kits are warranted against manufacturing defects in workmanship and material for a period of 90 days from date of purchase by the original user.

B. Defective Service Parts (New Inventory)

When a part from new service part inventory is found to be defective in material or workmanship, file a Warranty Claim as described in Section 6.

Short blocks, miniblocks, and engines must have Central Distributor approval for non-expert dealers, or certified Expert Dealer approval with signatures.

Transportation costs for parts replacement will not be reimbursed. Unless required by individual state.

C. Defective Service Parts (Installed)

If a new service part was installed by an authorized Kohler service outlet, and failed within 90 days after installation, submit a Warranty Claim for parts and labor as described in Section 6.

For service parts installed by persons other than authorized Kohler service outlets, and failed within 90 days from date of purchase, submit a Warranty Claim and proof of purchase for the defective part only (no labor), as described in Section 6.

Short blocks, miniblocks, and engines must have Central Distributor approval for non-expert dealers, or certified Expert Dealer approval with signatures.

If the defective new parts are components of an assembly, repair the assembly by replacing the defective parts whenever this is economically feasible. For example, if the bearing plate on a short block assembly is cracked, due to obvious material defect, replace the bearing plate and submit a warranty claim for the repair.

D. Defective Service Parts (Installed During Engine Warranty Period)

Warranty coverage for components installed during an engine warranty period shall consist of the duration of the engine warranty coverage*** or 90 days, whichever is greater, provided the warranty installation is performed by an authorized Kohler service outlet.

E. Warranty Options and Accessories

1. Options (Factory Installed)

All factory installed options are warranted against defects in workmanship or material for the normal engine warranty period.***

2. Accessories (Field Installed)

All field installed accessories are warranted against defects in material and workmanship for the duration of the engine warranty period*** or 90 days, whichever is greater, provided the installation was performed by an authorized Kohler service outlet.

***Except consumable items such as mufflers and maintenance items.

Section 5 – Warranty Exclusion

A. Non-Reimbursable Items

1. Repairs required to correct failures caused by neglect, normal wear, improper lubrication or abuse. Kohler Co. warranty covers defective workmanship and materials only.
2. Parts and labor supplied by the user or any unauthorized repair facility.
3. Normal maintenance, adjustments, or consumable items, such as fuel, spark plugs, filters, lubricating oil, and hoses.
4. Parts and accessories not installed or supplied by Kohler Co.
5. Rental of another engine or other related equipment while engine repairs are in progress.
6. Telephone, facsimile, and/or other related communications expenses.
7. Replacement and accessory parts not supplied by Kohler Co. and damages resulting from their installation.
8. Loss of revenue resulting from the failure.
9. Loss or damage to personal property.
10. Transportation charges accrued during transportation of failed unit or equipment.*

*Expert classifications are exempt.

Section 6 – Claims Procedure

NOTE: Warranty Claims received without required information **WILL BE RETURNED!**

A. Responsibility for Submitting Proper and Completed Warranty Claim Forms

Warranty repairs and completion of properly filled out warranty claim forms are the responsibility of the authorized service outlet. It is the responsibility of the service outlet to review each claim for thoroughness, authenticity, and accuracy of information. Warranty claims will not be considered complete unless all the information requested on the claim form is filled in. Incomplete or inaccurate claims will be returned to the service outlet. Claim forms received more than 30 days after warranty repairs are completed will not be accepted. Complete engines, short blocks, and miniblocks must have Central Distributor approval for non-expert dealers, or certified Expert Dealer approval with signatures. When authorized, the signature of the person authorizing, and date, must be on the warranty claim.

B. Warranty Claim Report Forms


Three different Warranty Claim Report Forms are accepted by Kohler Co. – the OPEESA (Outdoor Power Equipment and Engine Service Association), the OPEI (Outdoor Power Equipment Institute), and Electronic.

The electronic Warranty Claim is available in Kohler PLUS. **You must login** to Kohler PLUS with your user name and password to see the electronic Warranty Claim.

The OPEESA Warranty Claim Form is illustrated, and instructions for completing it are given. Please follow the instructions when making out the report. Do not combine claims for more than one repair on a single form – each claim must be filed separately. Claims must be received at Kohler Co. **within 30 days** after warranty repairs are made. Send the white copy of the paper claim directly to Kohler Co., Engine Warranty, Kohler, WI 53044, except in cases where Central Distributor approval for non-expert dealers, or certified Expert Dealer approval is required. (See Section A.)

C. Warranty Claim Instructions

The Outdoor Power Equipment and Engine Service Association, in conjunction with the manufacturers who use it, have developed the following warranty claim form. Follow these instructions when filling out a paper claim.



PEESA
OUTDOOR POWER EQUIPMENT AND
ENGINE SERVICE ASSOCIATION

WARRANTY CLAIM

NO. A 1191554

2 WARRANTY CODE NO.

PLEASE TYPE OR PRINT CLEARLY

1 TYPE OF CLAIM (CHECK ONLY ONE) Generac PS Kohler Tecumseh US Motor Power

3 OWNER'S LAST NAME COMMERCIAL USER YES NO

FIRST MI ADDRESS CITY STATE PHONE ZIP

Customer Signature

4 WARRANTY PERFORMED BY CD SD DEALER

Firm Name Address City State Phone Zip Code Signed

Purchased Date Failure Date Repair Date

Mo. Day Yr. Mo. Day Yr. Mo. Day Yr.

6 HOURS USED 7 UNIT ORIGINALLY SOLD BY

5 Engine/Transmission Short Block/Model No. Spec No. D.O.M. or Serial No. Equipment Manufacturer Type of Equipment Engine Received Mounted Detached

8 PARTS HAVE BEEN Returned to Factory Returned to Central Retained & Tagged

9 DEFECTIVE PART NUMBER 10 FAILURE SUFFIX

11 Condition Found/Probable Cause of Failure (Word "Defective" Not Sufficient)

12 Job Number/Work Performed. If Necessary to Remove & Replace (R&R) Engine from Equipment, then Show R&R Separately.

13 Miscellaneous	Dollars	Cents
Freight/Postage Allowance Attach Freight Bill		

14 Labor	HRS.	MINS./TENTHS	JOB#
Repair 1			
Repair 2			
Repair 3			
Misc. Labor			
R & R			
TOTAL			

15 FACTORY USE ONLY

OEM Code Defect Code # End Use Code # Division

16 Part Number Qty. Description

17 Engine/Short Block/Transmission (Authorized Signature Req'd)

Authorized By: Firm Name

Box 1: Check box for type of claim and manufacturer.

Box 2: Enter Warranty Code Number.

Box 3: Enter engine owner's name, address, and have owner sign.

Box 4: Enter name of repairing dealer, check box for type of dealer, have technician sign. Enter dates as requested.

Box 5: For regular Engine Warranty Claim – fill in completely, giving all information requested.

A. **Parts new defective in stock** – Enter “parts” in engine/transmission model number section and leave the remaining sections blank.

B. **Short block or miniblock new defective in stock** – Enter “parts” in engine/transmission model number section. List the defective assembly part number in the type or spec. number section. List the serial number in the code or serial number section. Leave the remaining sections blank.

C. **Parts, short block, or miniblock found defective within 90 days after installation** – Enter parts/engine model number (Example: Parts/M8) in engine/transmission model number section. For a miniblock or short block, list the part number in the type or spec. number section. List the serial number of the defective short block or miniblock in the code or serial number section and complete the remaining sections.

NOTE: Boxes 1, 2, 4, 8, and 16 are required for defective service parts. In addition, box 17 must be signed by a Central Distributor representative for non-expert dealers, or a certified Expert Dealer for short block, miniblock, or engine replacement.

Box 6: Record hours used.

Box 7: Enter name of original seller of equipment.

Box 8: Check box describing parts disposition.

Box 9: Enter part number of defective part.

The part number should normally not be an assembly part number. The actual part number of the component within an assembly that failed should be shown. For example, a wrist pin retainer failure caused extensive damage to the cylinder bore requiring a miniblock assembly. The Kohler Engine Failure code in this case would be the part number of the retainer, 235811. You would **not** enter the miniblock assembly number in this case.

The only time an assembly number should be entered is when no parts breakdown is given for the failed assembly (Example: a magnet came loose on a flywheel. There is no service part number for the flywheel magnet, therefore, the part number for the flywheel would be listed).

Box 10: Enter failure suffix from listing on claim, also shown below.

Box 11: Conditions Found – Describe in detail the failure. If more space is required attach a note.

Probable Cause of Failure – List in detail the most probable cause.

Box 12: Enter the job numbers of work performed as stated in the Flat Rate Schedule and indicate time spent in repairing the engine. When it becomes necessary to remove an engine to make the repair, enter job number

4000 for removing and reinstalling (R & R) as a separate item. Check against the flat rate maximums.

The flat rate times have been established using facilities and equipment that all Service Accounts should have available. If your repair time exceeds the flat rate, and additional labor allowance is requested, please send a note of explanation so consideration can be given.

Important: Using the incorrect Flat Rate Schedule could result in incorrect payment and/or delay in the processing of your claim.

Box 13: Fill in freight allowance details if applicable.

Box 14: Enter labor time in hours and decimal fractions (Example: 1.5).

Box 15: Leave blank – factory use only.

Box 16: List part numbers and description of each part replaced.

Box 17: Must be filled in and signed by a Central Distributor representative for non-expert dealers, or a certified Expert Dealer when any short block, miniblock, or engine is replaced. An Engine Inspection Data Record (TP-2435) should be completed and submitted with the Warranty Claim.

Failure Type Suffix					
AW	Assembled Wrong	LK	Leaked	SG	Scored/Galled
BC	Broken/Cracked	MI	Missing	SS	Stuck/Seized
BL	Blown	ML	Magnets Loose	ST	Stripped
BT	Bent/Twisted	NS	Not Seating	TR	Trucking Damage
CD	Porous/Casting Deficiency	NY	Noisy	UO	Unknown/Other
CL	Came Loose/Off	OA	Out of Adjustment	VC	Valve/Clearance
CP	Corroded/Pitted	OB	Out of Balance	WW	Weak Weld
DE	Dented	PK	Packing Material Defective	WN	Worn
EF	Electric Failure	PM	Part Made/Machined Incorrectly	WP	Warped
FM	Foreign Material	PP	Paint Peeling	ZZ	Others
IF	Improper Fit	SD	Shipping Damage		

Section 7 – Reimbursement Procedures

A. Policy

Kohler Co. will reimburse only registered service outlets for warranty services performed provided a completed warranty claim is submitted and approved. Method of reimbursement is by direct check within the United States or Canada. International service outlets will be reimbursed through their local Central Distributor.

B. Reimbursement Calculation Details

Warranty reimbursement is calculated by using the following formulas for each worldwide service outlet classification.

1. U.S.A. & CANADA, NON-EXPERT

Standard Warranty Repair - Parts and Labor (no engines)

Total Credit = Net price of replacement part + Parts Profit (a),(b),(c),(d) + Posted Full Shop Labor Rate (U.S. dollars) + Miscellaneous Costs (e) + Freight (short blocks & miniblocks only, see section C).

- (a) Parts Profit % may vary depending on individual state regulation.
- (b) Short Blocks or Miniblocks = 10%.
- (c) Parts Profit for Authorized Service Outlet = 20%.
- (d) Parts Profit for Specialized Service Outlet = 10%.
- (e) Miscellaneous Cost = Cylinder honing and crankshaft grinding.

Standard Warranty Repair - Engine and Labor

Total Credit = List price of replacement Command, Courage, Aegis series engine less 10% (f) + Parts Profit (g) + Freight (see section C) + Posted Full Shop Labor Rate (U.S. dollars) + Miscellaneous Costs (e).

- (e) Miscellaneous Cost = Cylinder honing and crankshaft grinding.
- (f) K-Series and Magnum engines use net price.
- (g) Profit on parts for K-Series and Magnum engines + 10%.

2. U.S.A. & CANADA, EXPERT

All Standard Warranty Repairs

Total Credit = List price of replacement engine or parts + Freight + Posted Full Shop Labor Rate (U.S. dollars) + Miscellaneous Costs + Diagnostic + Incidentals (Kohler parts only).

3. INTERNATIONAL, NON-EXPERT

Standard Warranty Repair - Parts and Labor (no engines)

Total Credit = Net price of replacement part + Parts Profit (b),(c),(d) + Posted Full Shop Labor Rate (U.S. dollars) + Miscellaneous Costs (e) + Handling Allowance.

- (b) Short Blocks or Miniblocks = 10%.
- (c) Parts Profit for Authorized Service Outlet = 20%.
- (d) Parts Profit for Specialized Service Outlet = 10%.
- (e) Miscellaneous Cost = Cylinder honing and crankshaft grinding.

Standard Warranty Repair - Engine and Labor

Total Credit = List price of replacement Command, Courage, Aegis series engine less 10% (f) + Parts Profit (g) + Posted Full Shop Labor Rate (U.S. dollars) + Miscellaneous Costs (e) + Handling Allowance.

- (e) Miscellaneous Cost = Cylinder honing and crankshaft grinding.
- (f) K-Series and Magnum engines use net price.
- (g) Profit on parts for K-Series and Magnum engines + 10%.

4. INTERNATIONAL, EXPERT

All Standard Warranty Repair

Total Credit = List price of replacement engine or parts + Freight (emergency stock code 4 or 5 only) + Posted Full Shop Labor Rate (U.S. dollars) + Miscellaneous Costs + Diagnostic + Incidentals (Kohler parts only).

C. Freight Cost U.S.A & Canada (FOB and Truck)

Freight costs for warranty work will be reimbursed where a short block, miniblock, or service engine is required. Submit a warranty claim form and a **copy of the freight bill**. No transportation costs for individual parts will be reimbursed (unless required by individual USA State regulations).

When shipped by a distributor and a freight bill is not available, list in box 13 the FOB charges you received from your distributor and have the Central Distributor representative initial the charge.

Section 8 – Engine Inspection Data Record

A. Engine Inspection Data Record Instructions

Engine Inspection Data Record (TP-2435) must be completed for the following situations: policy adjustments, disputed warranty, or when a short block, miniblock, or engine is required.

Section 1 of the Engine Inspection Data Record should be filled in immediately, when you receive an engine that has had a major failure within the warranty period. If possible, review it while the customer is still present, as you will probably need their input to answer some of the questions. Section 1 should be completed and ready for your distributor representative when they arrive to make their analysis.

Section 2 should be completed, at the time the distributor representative makes their review and analysis, and in the following situations.

1. If the Service Distributor or Expert classified outlet representative cannot make a final decision, due to inconclusive evidence or information. Assistance from the Central Distributor or factory will be required.
2. If the engine is on a piece of commercial equipment more than six months old, and/or the engine has more than 500 hours of running.
3. If the engine has not yet reached the above criteria (less than six months old, less than 500 hours), you need only complete that portion of Section 2 which pertains to the actual failure. For example, if the connecting rod has seized to the crankshaft you would only fill out the "Connecting Rod", "Crankshaft Rod Journal", and "Evaluation Performed By" segments of Section 2. However, if you notice anything else that could have been a contributing factor, such as burned oil deposits on the piston (indicating possible overheating and/or oil breakdown), that should also be noted.

B. Engine Inspection Data Record



Engine Inspection Data Record

To facilitate accurate evaluation:

- enter as much information as possible
- provide as many dimensions as possible.
- mark location of break or crack on drawing
- record conditions found with check mark (X) whenever possible

SECTION 1 OWNER AND EQUIPMENT INFORMATION

Owner's Name		Street Address		
City	State	Zip Code	Phone No. () -	
Model No.	Spec. No.		Serial No.	
Type Equipment		Manufacturer of Equipment		
Date Purchased	Date Failed	Hours Used	Times Used	
Previous Repairs <input type="checkbox"/> YES <input type="checkbox"/> NO		Warranty Claim No.		

USAGE/MAINTENANCE INFORMATION

Oil type: <input type="checkbox"/> 30W <input type="checkbox"/> 10W-30 <input type="checkbox"/> 5W-20 <input type="checkbox"/> 10W-40 <input type="checkbox"/> 5W-30 <input type="checkbox"/> Other _____	Hours since last oil change? _____
How often is the oil level checked? <input type="checkbox"/> Every time <input type="checkbox"/> Never <input type="checkbox"/> Other _____	Must oil be added between changes? <input type="checkbox"/> Yes <input type="checkbox"/> No How much? _____
Was an oil additive used? <input type="checkbox"/> Yes <input type="checkbox"/> No What brand? _____	How often is the air cleaner checked? Precleaner _____ Element _____
Was it ever replaced or cleaned? Precleaner: <input type="checkbox"/> Yes <input type="checkbox"/> No Element: <input type="checkbox"/> Yes <input type="checkbox"/> No	How recently? Precleaner _____ Element _____
Were any adjustments made to the carburetor or governor? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify _____	By whom? <input type="checkbox"/> Customer <input type="checkbox"/> Dealer

PRELIMINARY EXAMINATION

Air Cleaner Assembly

Type: Dry Precleaner Remote Oil Bath Tri-Phase

1. Wing Nut: Factory Original Non-standard replacement Wing nut seal: Intact Separated Missing

2. Outer Cover: Good condition Center hole oblong Other damage (specify) _____

3. Precleaner: Clean Dirty Plugged Oiled Dry Torn Other damage _____

4. Inner Cover: Retaining seal/nut in place Center hole oblong Distorted Other damage _____

5. Element: Clean Dusty Dirty Plugged Missing Dry Non-factory replacement Other damage _____

6. Element seals: Pliable Hard Sealing Leaking Other damage _____

7. Air cleaner base: Tight Loose Screw(s) missing Distorted/Cracked Breather hose detached Other damage _____

Crankcase Oil

1. Amount on dipstick: Overfilled Full Above "add" Below "add" No reading

2. Condition of oil: New Used Dirty Black Thick/Sticky Burnt smelling Fuel diluted

3. Quantity of oil: Amount drained: _____ Amount req'd. _____

Observations: Metal chips present Sludge present Non-factory oil filter

Preliminary Examination (continued)

Cooling System

1. Flywheel Screen: <input type="checkbox"/> Clean <input type="checkbox"/> Plugged <input type="checkbox"/> Partially blocked (%) _____	2. Cooling fins: <input type="checkbox"/> Clean <input type="checkbox"/> Plugged <input type="checkbox"/> Partially blocked (%) _____
3. Engine exterior: <input type="checkbox"/> Clean <input type="checkbox"/> Dirty <input type="checkbox"/> Oily <input type="checkbox"/> Evidence of prior disassembly or repair <input type="checkbox"/> Visible oil leaks (where) _____	

Carburetor and Fuel Supply

1. Condition of carburetor: <input type="checkbox"/> Okay <input type="checkbox"/> Broken <input type="checkbox"/> Loose <input type="checkbox"/> Shafts worn <input type="checkbox"/> Dirt in throat	2. Settings: <input type="checkbox"/> Main fuel adj. _____ <input type="checkbox"/> Idle fuel adj. _____
3. Condition of fuel: <input type="checkbox"/> Clean <input type="checkbox"/> Fresh <input type="checkbox"/> Stale <input type="checkbox"/> Contaminated (water, debris, etc.)	

Governor

1. Components: <input type="checkbox"/> Intact <input type="checkbox"/> Missing <input type="checkbox"/> Modified <input type="checkbox"/> Bent/Broken	2. Function: <input type="checkbox"/> Operative <input type="checkbox"/> Inoperative <input type="checkbox"/> Modified <input type="checkbox"/> Misadjusted
---	--

Dirt Ingestion

1. Is there evidence of possible dirty entry via:

Air cleaner Carburetor Breather Gasket/Seal Oil fill opening Other _____

Spark Plug

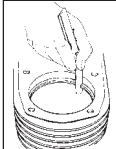
Spark Plug	Cylinder 1	Cylinder 2	Combustion Deposits	Cylinder 1	Cylinder 2
Gap	in.	in.	Light	<input type="checkbox"/>	<input type="checkbox"/>
Make			Heavy	<input type="checkbox"/>	<input type="checkbox"/>
Number			Color	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 2

EVALUATION PERFORMED BY

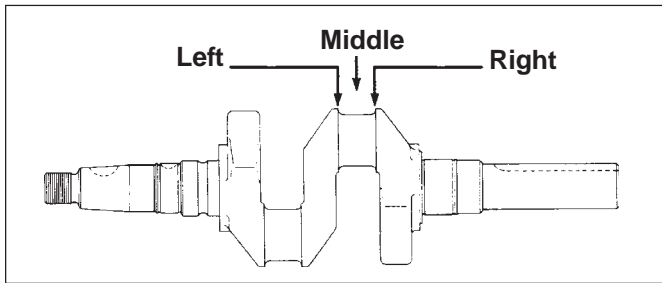
Evaluator	Date
Company Name	Type of Acct. <input type="checkbox"/> Central Distributor <input type="checkbox"/> Expert Dealer <input type="checkbox"/> Service Dealer
Address	
City	State
Zip Code	Phone No.

TEAR DOWN ANALYSIS

VALVES	CYLINDER 1		CYLINDER 2	
	Intake	Exhaust	Intake	Exhaust
Stuck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Face Burned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guide Worn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not Damaged	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CLEARANCE: (COLD)	CYLINDER 1	CYLINDER 2	PISTON RINGS	
Intake	in.	in.	Production Rings	<input type="checkbox"/>
Exhaust	in.	in.	Service Rings	<input type="checkbox"/>
CONNECTING ROD	CYLINDER 1	CYLINDER 2	Rings Free in Grooves	<input type="checkbox"/>
Discolored	<input type="checkbox"/>	<input type="checkbox"/>	Rings Stuck in Grooves	<input type="checkbox"/>
Broken	<input type="checkbox"/>	<input type="checkbox"/>	End Gap: Top _____ in. _____ in. Center _____ in. _____ in. Oil _____ in. _____ in.	
Bearing Scored	<input type="checkbox"/>	<input type="checkbox"/>		
Cap Screws Loose	<input type="checkbox"/>	<input type="checkbox"/>		
Dipper Bent	<input type="checkbox"/>	<input type="checkbox"/>		
Dipper Broken	<input type="checkbox"/>	<input type="checkbox"/>		
Rod Seized to Crankpin	<input type="checkbox"/>	<input type="checkbox"/>		
Rod OK - Not Damaged	<input type="checkbox"/>	<input type="checkbox"/>	Note: For Crankshaft, Pistons & Cylinder Bore Measurements – See Page 3.	

Tear Down Analysis (continued)

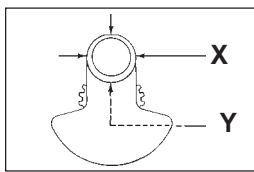
CRANKSHAFT ROD JOURNAL



	CYLINDER 1	CYLINDER 2
Scored	<input type="checkbox"/>	<input type="checkbox"/>
Worn	<input type="checkbox"/>	<input type="checkbox"/>
Unmeasureable	<input type="checkbox"/>	<input type="checkbox"/>
Broken	<input type="checkbox"/>	<input type="checkbox"/>
Not Damaged	<input type="checkbox"/>	<input type="checkbox"/>

Others _____

Maximum Wear Spec. _____



	CYLINDER 1		CYLINDER 2		MAX. OUT OF ROUND
	X	Y	X	Y	
Left					
Middle					
Right					
Max. Taper					

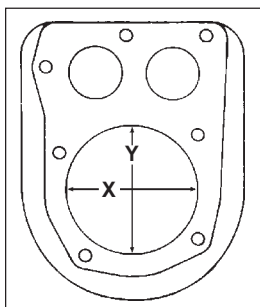
PISTON

Select the following piston type and measure diameter using appropriate method.

<p>Style A</p> <p>Measure just below oil ring groove and at right angle to piston pin.</p>	<p>Style B</p>	<p>Style C</p> <p>Measure 1/2 inch above the bottom of the skirt and at right angle to piston pin.</p>	<p>Style D</p>	<p>Style E</p> <p>Measure 6 mm (0.24 in.) above the bottom of piston skirt at right angles to piston pin.</p>
---	-----------------------	---	-----------------------	--

	CYLINDER 1	CYLINDER 2		CYLINDER 1	CYLINDER 2
Scored	<input type="checkbox"/>	<input type="checkbox"/>	Scratched Not Damaged Others _____	<input type="checkbox"/>	<input type="checkbox"/>
Worn	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Cracked	<input type="checkbox"/>	<input type="checkbox"/>			
Broken	<input type="checkbox"/>	<input type="checkbox"/>			
Ring Grooves Worn	<input type="checkbox"/>	<input type="checkbox"/>	Piston Diameter	<input type="checkbox"/>	<input type="checkbox"/>
Galled	<input type="checkbox"/>	<input type="checkbox"/>		_____	_____
Discolored	<input type="checkbox"/>	<input type="checkbox"/>		_____	_____

CYLINDER BORE



	CYLINDER 1	CYLINDER 2
Bore Scored	<input type="checkbox"/>	<input type="checkbox"/>
Worn	<input type="checkbox"/>	<input type="checkbox"/>
Not Damaged	<input type="checkbox"/>	<input type="checkbox"/>
Others _____		
MAXIMUM WEAR SPEC. _____		

	CYLINDER 1		CYLINDER 2		MAX. OUT OF ROUND
	X	Y	X	Y	
Top					
Center					
Bottom					
Max. Taper					

Section 9 – Flat Rate Schedules

Command Pro CS Series Flat Rate Schedule		Maximum Time (Hr.)
Job No.	Description	CS4-12
Major Repairs		
4000	Engine R & R	1.0
4002	Engine R & R From Generator Set	1.0
4012	Major Overhaul (Includes Valve Service)	4.0
4013	Minor Overhaul (Excludes Valve Service)	3.0
4015	Connecting Rod	2.0
4016	Piston and/or Rings	2.0
Crankshaft		
4020	Crankshaft & Main Bearing R & R	2.3
4021	Crankshaft – PTO Seal	1.2
4022	Crankshaft – Flywheel Seal	2.2
4023	Crankshaft & Connecting Rod	2.5
4024	Balance Shaft – R & R	1.5
Camshaft & Valves		
4028	Lifters	1.5
4029	Valve R & R (No Grinding)	1.1
4030	Valve Tappet Adjustment	0.2
4031	Valve Grinding	1.2
4033	Valve Spring Replacement	0.9
4034	Valve Cover Gasket and/or Breather	0.3
4035	Camshaft R & R	1.5
4039	Rocker Arm	0.2
4046	Ignition Module R & R	1.0
4047	Flywheel R & R	1.0
Charging		
4050	Regulator – Test & Replace	0.5
Major Repairs		
4051	Stator – Test & Replace (Includes Flywheel R & R)	1.5
Starter		
4060	Retractable – R & R, Replace Rope & Spring	1.0
4061	Starting Motor – Bendix Type R & R	1.2
4064	Starter Drive R & R	0.5
4065	Starter Solenoid R & R	0.5
Carburetor & Air Intake		
4070	Carburetor R & R	0.5
4071	Carburetor – Rebuild (Includes R & R)	1.0
4072	Carburetor – Adjust	0.1
4073	Air Cleaner – Damage in Shipment	0.1
4074	Fuel Tank – R & R	0.2
4076	Intake Manifold	0.5
Miscellaneous Repairs		
4080	Cylinder Head and/or Gasket – Replace/each	0.8
4082	Shrouds only – R & R	0.2
4083	Oil Pan, Closure Plate, and/or Gasket –Replace	1.3
4084	Muffler – Replace	0.2
4085	Governor – Adjustment	0.2
4086	Governor R & R	1.6
4088	Crankshaft – Grinding (ENTER NET COST)	–
4089	Crankcase – Boring (ENTER NET COST)	–
4090	Governor Seal Replacement	1.6
4091	Oil Sentry Module	0.3
4092	Oil Sentry Float	1.5
4093	Gear Reduction R & R	0.6

Courage XT-Series, Courage Single & Command Single Flat Rate Schedule		Maximum Time (Hr.)			
Job No.	Description	XT-6, XT-7	SV470-620	CH5,6	CH11-16 CV11-495
	Major Repairs				
4000	Engine R & R	0.4	1.0	1.0	1.0
4001	Generator Set R & R – Motor Home	–	–	2.0	2.0
4002	Engine R & R From Generator Set	–	–	1.0	1.0
4010	Short Block Replacement	–	2.0	1.0	1.5
4012	Major Overhaul (Includes Valve Service)	–	–	3.0	4.0
4013	Minor Overhaul (Excludes Valve Service)	1.0	–	2.5	3.0
4015	Connecting Rod	–	1.8	2.0	2.5
4016	Piston and/or Rings	–	1.8	2.0	2.5
	Crankshaft				
4020	Crankshaft & Main Bearing R & R	–	1.5	2.5	3.0
4021	Crankshaft – PTO Seal	0.3	0.3	0.5	0.5
4022	Crankshaft – Flywheel Seal	0.4	0.6	1.5	1.5
4023	Crankshaft & Connecting Rod	–	–	2.5	2.5
4024	Balance Shaft/Weights – R & R	–	1.5	–	1.5
	Camshaft & Valves				
4028	Lifters	–	–	–	1.0
4029	Valve R & R (No Grinding)	1.0	1.2	1.0	1.0
4030	Valve Adjustment	0.5	0.5	0.5	–
4031	Valve Grinding	1.2	–	1.2	1.2
4033	Valve Spring Replacement	0.3	–	0.5	1.0
4034	Valve Cover Gasket and/or Breather	0.3	0.3	0.3	0.5
4035	Camshaft R & R	–	1.3	1.5	2.0
4037	Camshaft PTO Seal	–	–	0.5	–
4039	Rocker Arm	0.5	0.6	0.7	0.7
	Ignition				
4046	Ignition Module R & R	0.3	0.3	1.0	1.0
4047	Flywheel R & R	0.4	0.5	1.2	1.2
4048	Spark Advance Module	–	–	–	0.5
	Charging				
4050	Regulator – Test & Replace	–	0.5	–	0.5
4051	Stator – Test & Replace (Includes Flywheel R & R)	–	0.8	1.0	1.5
	Starter				
4060	Retractable – R & R, Replace Rope & Spring	0.5	–	1.0	1.0
4061	Starting Motor – Bendix Type R & R	–	0.3	0.5	0.5
4063	Starter – Bendix Rebuild (Includes R & R)	–	1.0	1.0	1.0
4064	Starter Drive R & R	–	0.7	1.0	1.0
4065	Starter Solenoid R & R	–	–	0.5	0.5
4066	Recoil Cup R & R	0.3	–	–	–
	Fuel System & Air Intake				
4067	Carburetor Solenoid (Includes Test)	–	0.3	–	0.3
4070	Carburetor R & R	0.3	0.5	1.0	0.5
4071	Carburetor – Rebuild (Includes R & R)	0.7	1.0	1.5	1.0
4072	Carburetor – Adjust	0.2	0.2	0.3	0.3
4073	Air Cleaner – Damage in Shipment	0.3	–	0.5	0.3
4074	Fuel Tank – R & R	0.5	–	1.0	0.5
4075	Fuel Pump – R & R	–	0.3	0.3	0.3
4078	Primer Assembly R & R	0.2	–	–	–
	Miscellaneous Repairs				
4080	Cylinder Head and/or Gasket	0.7	1.0	1.0	1.0
4082	Blower Housing/Shrouds only – R & R	0.2	0.2	0.5	0.5
4083	Oil Pan, Closure Plate, and/or Gasket – Replace	1.0	0.8	–	1.5
4084	Muffler – Replace	0.2	0.3	0.3	0.3
4085	Governor – Adjustment	0.2	0.3	0.5	0.5
4086	Governor R & R	–	1.1	1.5	2.0
4087	Oil Pump R & R	–	1.4	–	0.5
4088	Crankshaft – Grinding (ENTER NET COST)	–	–	–	–
4089	Crankcase – Boring (ENTER NET COST)	–	–	–	–
4090	Governor Seal Replacement	0.3	–	–	0.8
4091	Oil Sentry/Oil Temp./Oxygen Sensor	–	0.3	0.3	0.2
4096	Cam Followers (Includes Valve Adjustment)	–	1.3	–	–
4106	Control Bracket R & R	0.3	–	–	–
4108	Control Linkage	0.3	–	–	–
4109	Dipstick & Tube	0.1	–	–	–
4110	Fuel Line and/or Filter	0.3	–	–	–
4111	Cooling Fan (Flywheel)	0.3	–	–	–
4112	Breather Assembly Repair	0.5	–	–	–
4113	Breather Hose R & R	0.1	–	–	–
4114	Flywheel Brake Assembly R & R	0.4	–	–	–

Command Twin & Command PRO Twin Flat Rate Schedule		Maximum Time (Hr.)			
		Command Twin		Command PRO Twin	
		CH18-23 CV17-23 CH/CV730-740 CH/CV750	CH/CV25,26 CH/CV745	CH940-980	CV940-980
Job No.	Description				
	Major Repairs				
4000	Engine R & R	2.5	2.5	2.5	2.5
4002	Engine R & R From Generator Set/Welder	4.0	4.0	4.0	4.0
4010	Short Block Replacement	3.0	3.0	3.0	3.0
4011	Miniblock	4.0	4.0	–	–
4012	Major Overhaul (Includes Valve Service)	5.0	5.0	5.0	5.0
4013	Minor Overhaul (Excludes Valve Service)	4.0	4.0	4.0	4.0
4015	Connecting Rod	3.0	3.0	3.0	3.0
4016	Piston and/or Rings	3.0	3.0	3.5	3.5
	Crankshaft				
4020	Crankshaft & Main Bearing R & R	3.0	3.0	3.5	3.5
4021	Crankshaft – PTO Seal	0.5	0.5	0.8	0.8
4022	Crankshaft – Flywheel Seal	1.5	1.5	1.5	1.5
4023	Crankshaft & Connecting Rod	3.0	3.0	3.0	3.0
	Camshaft & Valves				
4028	Lifters	0.5 [♦]	0.5 [♦]	2.0	2.0
4029	Valve R & R (No Grinding)	1.0 [♦]	1.0 [♦]	2.5	2.5
4030	Valve Adjustment	–	–	–	0.3
4031	Valve Grinding	1.2 [♦]	1.2 [♦]	1.2 [♦]	1.2 [♦]
4033	Valve Spring Replacement	1.0 [♦]	1.0 [♦]	1.0 [♦]	1.0 [♦]
4034	Valve Cover Gasket and/or Breather	0.5 [♦]	0.5 [♦]	0.3 [♦]	0.3 [♦]
4035	Camshaft R & R	2.0	2.0	2.7	2.7
4037	Camshaft PTO Seal	–	–	–	–
4039	Rocker Arm	0.5 [♦]	0.5 [♦]	0.5 [♦]	0.5 [♦]
	Ignition				
4046	Ignition Module R & R (Includes Both Modules)	1.5	1.5	0.5 [♦]	0.5 [♦]
4047	Flywheel R & R	1.2	1.2	0.7	0.7
4048	Spark Advance Module/ECU/TPS ¹	1.0	1.0	–	–
4049	Speed Sensor	–	1.0	–	–
	Charging				
4050	Regulator – Test & Replace	0.5	0.5	0.5	0.5
4051	Stator – Test & Replace (Includes Flywheel R & R)	1.5	1.5	1.0	1.0
4052	Wiring Harness R & R ^{♦♦♦}	1.0	1.0	1.0	1.0
	Starter				
4060	Retractable – R & R, Replace Rope & Spring	0.5	0.5	–	–
4061	Starting Motor – Bendix Type R & R	1.0	1.0	0.5	0.5
4063	Starter – Bendix Rebuild (Includes R & R)	1.0	1.0	1.0	1.0
4064	Starter Drive R & R	1.0	1.0	1.0	1.0
4065	Starter Solenoid R & R	0.5	0.5	0.5	0.5
	Fuel System & Air Intake				
4070	Carburetor R & R	0.5 [†]	0.5	0.5	0.5
4071	Carburetor – Rebuild (Includes R & R)	1.0	1.0	0.8	0.8
4072	Carburetor – Adjust	0.3	0.3	1.0	1.0
4073	Air Cleaner – Damage in Shipment	0.3	0.3	0.3	0.3
4075	Fuel Pump – R & R	0.3	0.5	0.3	0.3
4076	Intake Manifold	1.0	1.0	1.5	1.5
4077	Injectors/Fuel Rail	–	1.5	–	–

[♦]Time allowed is for each cylinder.

^{♦♦}Additional 0.5 for 2nd cylinder.

^{♦♦♦}Additional 0.5 for EFI engines.

¹ECU-Engine Control Unit; TPS-Throttle Position Sensor.

[^]Plated cylinders cannot be rebored.

[†]CH/CV750 is 1.0 hr.

Command Twin & Command PRO Twin Flat Rate Schedule		Maximum Time (Hr.)			
		Command Twin		Command PRO Twin	
Job No.	Description	CH18-23 CV17-23	CH/CV25,26	CH940-980	CV940-980
		CH/CV730-740 CH/CV750	CH/CV745		
	Miscellaneous Repairs				
4080	Cylinder Head and/or Gasket – Replace/each	1.0	1.0	1.2	1.2
4082	Shrouds only – R & R	0.5	0.5	0.3	0.3
4083	Oil Pan, Closure Plate, and/or Gasket – Replace	1.0	1.0	1.0	1.0
4084	Muffler – Replace	0.3	0.3	0.3	0.3
4085	Governor – Adjustment	0.5	0.5	0.5	0.5
4086	Governor R & R	1.5	1.5	1.5	1.5
4087	Oil Pump R & R	1.5	1.5	1.5	1.5
4088	Crankshaft – Grinding (ENTER NET COST)	–	–	–	–
4089	Crankcase – Boring (ENTER NET COST)	–	A	–	–
4090	Governor Seal Replacement	0.8	0.8	1.5	1.5
4091	Oil Sentry/Oil Temp./Oxygen Sensor	0.3	0.3	0.3	0.3
4094	Adjust Belt Tension	–	–	–	–
4095	Flywheel Cover	–	–	–	–
4097	Breather Cover R & R	2.0	2.0	0.5	0.3
4100	Lifter Feed Chamber Cover R & R	–	–	2.5	2.5
4101	Oil Cooler R & R	–	–	0.5	0.5
4102	Oil Filter Housing R & R	–	–	0.5	0.5
4103	Oil Filter Adapter R & R	–	–	0.5	–
4104	Backing Plate Shroud Assembly	–	–	2.5	2.5
4105	Valley Baffle R & R	–	–	0.3	0.3
4106	Control Bracket R & R	–	–	0.5	0.5
4107	Oil Reservoir/Gasket R & R	–	–	0.5	–

♦Time allowed is for each cylinder.

♦♦Additional 0.5 for 2nd cylinder.

♦♦♦Additional 0.5 for EFI engines.

¹ECU-Engine Control Unit; TPS-Throttle Position Sensor.

^APlated cylinders cannot be rebored.

Courage Twin, Courage PRO Twin, & Aegis Flat Rate Schedule		Maximum Time (Hr.)			
		Courage Twin	Courage PRO Twin	Aegis	
		SV710-740	SV810-840	LV560-680	LH630-775
Job No.	Description				
	Major Repairs				
4000	Engine R & R	2.5	2.5	2.5	2.5
4002	Engine R & R From Generator Set/Welder	–	–	–	–
4010	Short Block Replacement	3.0	3.0	5.0	5.0
4011	Miniblock	4.0	4.0	6.0	6.0
4012	Major Overhaul (Includes Valve Service)	5.0	5.0	7.0	7.0
4013	Minor Overhaul (Excludes Valve Service)	4.0	4.0	6.0	6.0
4015	Connecting Rod	3.0	3.0	5.0	4.0
4016	Piston and/or Rings	3.0	3.0	5.0	4.0
	Crankshaft				
4020	Crankshaft & Main Bearing R & R	3.0	3.0	2.5	3.8
4021	Crankshaft – PTO Seal	0.5	0.5	0.5	1.5
4022	Crankshaft – Flywheel Seal	1.5	1.5	1.0	1.6
4023	Crankshaft & Connecting Rod	3.0	3.0	1.5	1.5
	Camshaft & Valves				
4028	Lifters	–	–	1.0*	0.5*
4029	Valve R & R (No Grinding)	1.0*	1.0*	3.5*	2.7*
4030	Valve Adjustment	0.5*	0.5*	0.5*	–
4031	Valve Grinding	1.2*	1.2*	3.8**	3.0**
4033	Valve Spring Replacement	1.0*	1.0*	3.3**	2.5**
4034	Valve Cover Gasket and/or Breather	0.5*	0.5*	0.5*	0.5*
4035	Camshaft R & R	2.0	2.0	2.5	2.8
4037	Camshaft PTO Seal	–	–	1.8	2.1
4039	Rocker Arm	0.7*	0.7*	0.5*	0.5*
	Ignition				
4046	Ignition Module R & R (Includes Both Modules)	0.7	0.7	1.5	0.7
4047	Flywheel R & R	1.2	1.2	0.8	1.3
4048	Spark Advance Module/ECU/TPS ¹	1.0	1.0	–	1.0
4049	Speed Sensor	–	–	–	1.0
	Charging				
4050	Regulator – Test & Replace	0.8	0.8	0.5	0.3
4051	Stator – Test & Replace (Includes Flywheel R & R)	1.5	1.5	1.0	1.5
4052	Wiring Harness R & R***	1.0	1.0	1.0	1.0
	Cooling System				
4055	Coolant R & R (Includes Coolant Temp. Switch)	–	–	1.0	0.7
4056	Radiator R & R	–	–	1.5	1.0
4057	Thermostat R & R	–	–	0.5	0.7
4058	Water Pump	–	–	1.7	2.0
4059	Pump Drive Belt	–	–	1.5	1.8
	Starter				
4060	Retractable – R & R, Replace Rope & Spring	–	–	–	–
4061	Starting Motor – Bendix Type R & R	1.0	1.0	0.5	0.5
4063	Starter – Bendix Rebuild (Includes R & R)	1.0	1.0	1.0	1.0
4064	Starter Drive R & R	1.0	1.0	1.0	1.0
4065	Starter Solenoid R & R	0.5	0.5	0.5	0.5
	Fuel System & Air Intake				
4070	Carburetor R & R	0.8	0.8	0.5	0.7
4071	Carburetor – Rebuild (Includes R & R)	1.2	1.2	1.0	1.0
4072	Carburetor – Adjust	0.5	0.5	0.3	0.3
4073	Air Cleaner – Damage in Shipment	0.3	0.3	0.3	0.3
4075	Fuel Pump – R & R	0.3	0.3	0.3	0.3
4076	Intake Manifold	1.0	1.0	2.0	2.0
4077	Injectors/Fuel Rail	–	–	–	1.5

*Time allowed is for each cylinder.

**Additional 0.5 for 2nd cylinder.

***Additional 0.5 for EFI engines.

¹ECU-Engine Control Unit; TPS-Throttle Position Sensor.

^APlated cylinders cannot be rebored.

Courage Twin, Courage PRO Twin, & Aegis Flat Rate Schedule		Maximum Time (Hr.)			
		Courage Twin	Courage PRO Twin	Aegis	
Job No.	Description	SV710-740	SV810-840	LV560-680	LH630-775
	Miscellaneous Repairs				
4080	Cylinder Head and/or Gasket – Replace/each	1.0	1.0	3.3 ^{♦♦}	2.5 ^{♦♦}
4082	Shrouds only – R & R	0.5	0.5	–	0.3
4083	Oil Pan, Closure Plate, and/or Gasket – Replace	1.0	1.0	1.0	1.0
4084	Muffler – Replace	0.3	0.3	0.3	0.3
4085	Governor – Adjustment	0.5	0.5	0.5	0.5
4086	Governor R & R	1.5	1.5	1.5	1.5
4087	Oil Pump R & R	1.5	1.5	1.5	1.5
4088	Crankshaft – Grinding (ENTER NET COST)	–	–	–	–
4089	Crankcase – Boring (ENTER NET COST)	–	–	–	–
4090	Governor Seal Replacement	0.8	0.8	0.8	0.8
4091	Oil Sentry/Oil Temp./Oxygen Sensor	0.2	0.2	0.3	0.3
4094	Adjust Belt Tension	–	–	–	0.7
4095	Flywheel Cover	–	–	2.3	–
4097	Breather Cover R & R	–	–	–	–

♦Time allowed is for each cylinder.

♦♦Additional 0.5 for 2nd cylinder.

♦♦♦Additional 0.5 for EFI engines.

¹ECU-Engine Control Unit; TPS-Throttle Position Sensor.

[^]Plated cylinders cannot be rebored.

OHC Flat Rate Schedule		Maximum Time (Hr.)	
		Twin	
Job No.	Description	TH16	TH18
	Major Repairs		
4000	Engine R & R	2.5	2.5
4010	Short Block Replacement	3.0	3.0
4011	Miniblock/Crankcase	4.0	4.0
4012	Major Overhaul (Includes Valve Service)	5.0	5.0
4013	Minor Overhaul (Excludes Valve Service)	4.0	4.0
4015	Connecting Rod	3.0	3.0
4016	Piston and/or Rings	3.5	3.5
	Crankshaft		
4020	Crankshaft & Main Bearing R & R	3.0	3.0
4021	Crankshaft – PTO Seal	0.5	0.5
4022	Crankshaft – Flywheel Seal	2.0	2.0
4023	Crankshaft & Connecting Rod	3.0	3.0
	Camshaft & Valves		
4029	Valve R & R (No Grinding)	4.0	4.0
4030	Valve Tappet Adjustment	0.5	0.5
4031	Valve Grinding	4.0	4.0
4033	Valve Spring Replacement	2.5	2.5
4034	Valve Cover Gasket and/or Breather	0.5	0.5
4035	Camshaft R & R	2.5	2.5
4037	Camshaft PTO Seal	2.0	2.0
4038	Timing Belt R & R	1.5	1.5
4039	Rocker Arm	2.5	2.5
	Ignition		
4046	Ignition Module R & R (Includes Both Modules)	1.5	1.5
4047	Flywheel R & R	0.7	0.7
	Charging		
4050	Regulator – Test & Replace	0.5	0.5
4051	Stator – Test & Replace (Includes Flywheel R & R)	1.0	1.0
	Starter		
4060	Retractable – R & R, Replace Rope & Spring	0.5	0.5
4061	Starting Motor – Bendix Type R & R	0.5	0.5
4063	Starter – Bendix Rebuild (Includes R & R)	1.0	1.0
4064	Starter Drive R & R	1.0	1.0
4065	Starter Solenoid R & R	0.3	0.3
	Carburetor & Air Intake		
4070	Carburetor R & R	1.0	1.0
4071	Carburetor – Rebuild (Includes R & R)	1.0	1.0
4072	Carburetor – Adjust	0.3	0.3
4073	Air Cleaner – Damage in Shipment	0.1	0.1
4074	Fuel Tank – R & R	0.5	0.5
4075	Fuel Pump – R & R	0.5	0.5
	Miscellaneous Repairs		
4082	Shrouds only – R & R	0.7	0.7
4083	Oil Pan, Closure Plate, and/or Gasket – Replace	3.0	3.0
4084	Muffler – Replace	0.3	0.3
4085	Governor – Adjustment	0.5	0.5
4086	Governor R & R	2.5	2.5
4087	Oil Pump R & R	2.0	2.0
4088	Crankshaft – Grinding (ENTER NET COST)	–	–
4089	Crankcase – Boring (ENTER NET COST)	A	A
4090	Governor Seal Replacement	0.8	0.8

^ACrankcase cannot be rebored

Magnum Flat Rate Schedule		Maximum Time (Hr.)		
		Single	Twin	
Job No.	Description	M8,M10, M12,M14,M16	MV16,MV18,MV20	M18 & M20
	Major Repairs			
4000	Engine R & R	1.0	2.5	2.5
4001	Generator Set R & R – Motor Home	2.0	–	2.0
4002	Engine R & R From Generator Set	1.0	–	3.0
4010	Short Block Replacement	3.0	3.0	3.0
4011	Miniblock Replacement	3.5	–	–
4012	Major Overhaul (Includes Valve Service)	5.0	6.0	6.0
4013	Minor Overhaul (Excludes Valve Service)	4.0	5.0	5.0
4015	Connecting Rod	2.0	5.0	5.0
4016	Piston and/or Rings	2.0	3.0	3.0
	Crankshaft			
4020	Crankshaft & Main Bearing R & R	3.0	5.0	5.0
4021	Crankshaft – PTO Seal	0.5	1.5	0.8
4022	Crankshaft – Flywheel Seal	1.5	1.5	1.5
4023	Crankshaft & Connecting Rod	3.0	5.0	5.0
4024	Balance Gears – R & R	3.0	–	–
	Camshaft & Valves			
4029	Valve R & R (No Grinding) (Each Cylinder)	1.0	1.0	1.0
4030	Valve Tappet Adjustment	1.0	1.0	1.0
4031	Valve Grinding (Each Cylinder)	1.2	1.2	1.2
4032	Valve Guide Replacement	1.5	1.5	1.5
4033	Valve Spring Replacement	1.0	1.0	1.0
4034	Valve Cover Gasket and/or Breather	0.5	0.6	0.6
4035	Camshaft R & R	3.2	4.5	4.5
	Ignition			
4046	Ignition Module R & R	1.0	1.0	1.0
4047	Flywheel R & R	1.2	1.2	1.2
	Charging			
4050	Regulator – Test & Replace	0.5	0.5	1.0
4051	Stator – Test & Replace (Includes Flywheel R & R)	1.5	1.5	1.5
	Starter			
4060	Retractable – R & R, Replace Rope & Spring	1.0	1.0	–
4061	Starting Motor – Bendix Type R & R	1.0	0.5	1.0
4063	Starter – Bendix Rebuild (Includes R & R)	1.5	1.0	1.5
4064	Starter Drive R & R	1.2	1.2	1.2
4065	Starter Solenoid R & R	0.5	0.5	0.5
	Carburetor & Air Intake			
4070	Carburetor R & R	1.0	0.5	0.5
4071	Carburetor – Rebuild (Includes R & R)	1.5	1.0	1.0
4072	Carburetor – Adjust	0.2	0.3	0.3
4073	Air Cleaner – Damage in Shipment	0.3	0.3	0.3
4074	Fuel Tank – R & R	0.5	–	–
4075	Fuel Pump – R & R	0.5	0.3	0.3
4076	Fuel Pump – Rebuild (Includes R & R)	1.0	0.8	0.8
	Miscellaneous Repairs			
4080	Cylinder Head and/or Gasket – Replace/each	1.0	0.6	0.6
4081	Cylinder Head Retorque	0.8	0.4	0.4
4082	Shrouds only – R & R	0.6	0.6	0.6
4083	Oil Pan and/or Gasket – Replace	0.5	1.0	–
4084	Muffler – Replace	0.3	0.3	0.3
4085	Governor – Adjustment	0.5	0.3	0.3
4086	Governor R & R	3.0	4.3	4.3
4087	Oil Pump R & R	–	2.0	2.0
4088	Crankshaft – Grinding (ENTER NET COST)	–	–	–
4089	Crankcase – Boring (ENTER NET COST)	–	–	–

K-Series Flat Rate Schedule		Maximum Time (Hr.)				
		Single			Twin	
		K91, K161,K181	K241,K301,K321,K341		KT17,KT19	K582
Job No.	Description	Std.	Std.	Q*	Std. & Q*	Std. & Q*
	Major Repairs					
4000	Engine R & R	1.0	1.0	1.5	2.5	3.5
4001	Generator Set R & R – Motor Home	2.0	2.0	2.0	2.0	2.0
4002	Engine R & R from Generator Set	1.0	1.0	1.0	2.0	2.5
4010	Short Block Replacement	3.0 [†]	3.0	3.2	3.0	5.0
4011	Miniblock Replacement	3.5 [†]	3.5	3.7	–	–
4012	Major Overhaul (Includes Valve Service)	5.0	5.0	5.5	6.0	8.0
4013	Minor Overhaul (Excludes Valve Service)	4.0	4.0	4.2	5.0	6.5
4014	Bare Block	4.0 [†]	–	–	–	7.0
4015	Connecting Rod	2.0	2.0	2.2	5.0	3.5
4016	Piston and/or Rings	2.0	2.0	2.2	3.0	3.5
	Crankshaft					
4020	Crankshaft & Main Bearing R & R	3.0	3.0	3.2	5.0	3.0
4021	Crankshaft – PTO Seal	0.5	0.5	0.5	0.8	0.8
4022	Crankshaft – Flywheel Seal	1.5	1.5	1.7	1.5	2.0
4023	Crankshaft & Connecting Rod	3.0	3.0	3.2	5.0	3.5
4024	Balance Gears – R & R	–	3.0	3.2	–	–
	Camshaft & Valves					
4029	Valve R & R (No Grinding) (Each Cylinder)	1.0	1.0	1.2	1.0	1.5
4030	Valve Tappet Adjustment	1.0	0.5	0.6	1.0	1.0
4031	Valve Grinding (Each Cylinder)	1.2	1.2	1.4	1.2	1.7
4032	Valve Guide Replacement	0.5 [†]	0.5	0.7	0.8	0.8
4033	Valve Spring Replacement	1.0	1.0	1.2	1.0	1.5
4034	Valve Cover Gasket and/or Breather	0.5	0.5	0.5	0.6	0.5
4035	Camshaft R & R	3.0	3.2	3.4	4.5	3.0
	Ignition					
4040	Ignition Timing	0.3	0.3	0.3	0.5	0.5
4041	Points and/or Condenser – Replace & Adjust	0.5	0.5	0.5	0.5	0.5
4042	Shipping Damaged Spark Plug – Replace & Adjust	0.2	0.2	0.2	0.2	0.2
4043	Spark Plug Wire – Replace (Battery Ignition)	0.2	0.2	0.2	0.2	0.2
4044	Spark Plug Wire – Replace (Magneto Ignition)	1.0	1.0	1.0	–	–
4045	Ignition Coil – Replace	0.3	0.3	0.3	0.3	0.4
4046	Magneto Coil – Test & Replace (Includes Flywheel R & R)	1.0	1.0	1.0	–	–
4047	Flywheel R & R	1.0	1.0	1.0	1.0	1.0
	Charging					
4050	Regulator – Test & Replace	0.5	0.5	0.5	1.0	0.5
4051	Stator – Test & Replace (Includes Flywheel R & R)	1.0	1.0	1.0	1.5	1.5
	Starter					
4060	Retractable – R & R, Replace Rope & Spring	1.0	1.0	1.0	–	–
4061	Starting Motor – Bendix Type R & R	0.5	0.5	0.5	0.5	1.0
4063	Starter – Rebuild (Includes R & R)	1.0	1.0	1.0	1.0	1.0
4064	Starter Drive R & R	0.5	0.5	0.5	0.5	0.5
4065	Starter Solenoid R & R	0.5	0.5	0.5	0.5	0.5
	Carburetor & Air Intake					
4070	Carburetor R & R	0.5	0.5	0.5	0.5	0.5
4071	Carburetor – Rebuild (Includes R & R)	1.0	1.0	1.0	1.0	1.0
4072	Carburetor – Adjust	0.3	0.3	0.3	0.3	0.3
4073	Air Cleaner – Damage in Shipment	0.3	0.3	0.3	0.3	0.3
4074	Fuel Tank – R & R	0.3	0.3	0.3	–	–
4075	Fuel Pump – R & R	0.3	0.3	0.3	0.3	0.3
	Miscellaneous Repairs					
4080	Cylinder Head and/or Gasket – Replace/each	0.5	0.5	0.5	0.6	0.6
4081	Cylinder Head Retorque	0.3	0.3	0.3	0.7	0.7
4082	Shrouds only – R & R	0.2	0.2	0.4	0.5	0.5
4083	Oil Pan and/or Gasket – Replace	0.5	0.5	0.5	–	0.5
4084	Muffler – Replacement	0.3	0.3	0.3	0.3	0.3
4085	Governor – Adjustment	0.5	0.5	0.5	0.3	0.7
4086	Governor Replacement	3.0	3.0	3.7	4.3	1.5
4087	Oil Pump Replacement	–	–	–	2.0	3.0
4088	Crankshaft – Grinding (ENTER NET COST)	–	–	–	–	–
4089	Crankcase – Boring (ENTER NET COST)	–	–	–	–	–

[†]K141,K161,K181 only



Policy Adjustment Explanation Form
(Attach to Warranty Claim)

Name (Please Print) _____ Inspection Date _____

Central Distributor _____ Phone No. _____

Claim No. _____

Purpose: The Engine Service Department is responsible for providing an explanation for each warranty claim processed. This form will fulfill the requirement for a uniform "letter of explanation." It is to be completed and attached to any warranty claim that is classified a policy adjustment, or to be used with any claim that requires further explanation. Failure to attach this form on all Policy Adjustment Claims will result in the warranty claim being returned to the Central Distributor, which will delay processing.

Please Check One:

- Known defect that failed outside the standard warranty period.
Non-warranty situation - irate customer.
Benefit of doubt.

Written Explanation (Required):

Lined area for writing the explanation.

Signature _____ Date _____



Carburetor Replacement Evaluation Form

(Attach to Warranty Claim)

Dealer: _____

Inspector: _____

Inspection Date: _____

Model: _____

Serial: _____

Spec: _____

Warranty Claim: _____

Carburetor No.: _____

EWR: _____

Purpose: Please read the Symptoms Observed below and complete only the section that applies to the carburetor failure. This form must be filled out each time a warranty claim is submitted for a replacement carburetor. Any claims submitted without this form attached will be returned.

Symptoms Observed

Cranks But Does Not Start

- Check carburetor solenoid operation.
- Check fuel supply.

Dies After Starting

- Check fuel quality.²
- Check fuel supply to carburetor.
- Check fuel tank venting.
- Check carburetor solenoid operation.

Idles Rough/Misfires

- Check fuel quality.²
- Check for intake leaks.
- Check for dirt/debris in carburetor jets.
- Check carburetor O-Rings.
- Verify fuel shut-off solenoid is operational.

Hunts/Surges

- Check fuel quality.²
- Check governor and speed settings.
- Check for linkage interferences.
- Check for dirt/debris in carburetor (lean condition).
- Check accelerator pump diaphragm.
- Check fuel pump delivery pressure (1.5 to 2.0 psi).

Poor Load Pickup

- Check fuel quality.²
- Check governor and speed settings.
- Check for defective accelerator pump.
- Check for parasitic loads.

Black Exhaust Smoke (rich condition)

- Check choke setting.
- Check air filter.³
- Check accelerator pump for leakage (clamp hose to test).
- Check for carburetor needle and seat leakage.^{1,3}
- Check HDAC hose position (L.H. side).

Flooding Carburetor

- Check fuel quality.²
- Check carburetor needle and seat for leakage.¹
- Check fuel pump pressure (1.5 to 2.0 psi).

After Bang on Shutdown

- Ensure engine is shutdown according to proper procedure.
- Verify fuel shut-off solenoid is operational.
- Check for accelerator pump leakage.

Other describe _____

Cause of Failure/Reason Replaced _____

¹If needle/seat is leaking, the recommended cleaning method is to use a cotton swab and mild abrasive to clean the seat. Rinse the abrasive out of the seat with a suitable cleaner and blow dry with compressed air.

²Poor fuel quality (dirt, debris, water, etc.) or the lack of maintenance is **not** covered by warranty.

³Issues which are caused by dirt are **not** covered by warranty.

NOTE: Removal of anti-tamper caps will void warranty.

Kohler recommends the use of fuel stabilizers if engines are to be stored for over 30 days.

KOHLER® ENGINES

FOR SALES AND SERVICE INFORMATION
IN U.S. AND CANADA, CALL **1-800-544-2444**

KohlerEngines.com

ENGINE DIVISION, KOHLER CO., KOHLER, WISCONSIN 53044

FORM NO.:	TP-2303-J
ISSUED:	12/86
REVISED:	4/08

LITHO IN U.S.A.



1PTP-2303-J



6 50531 70055 1