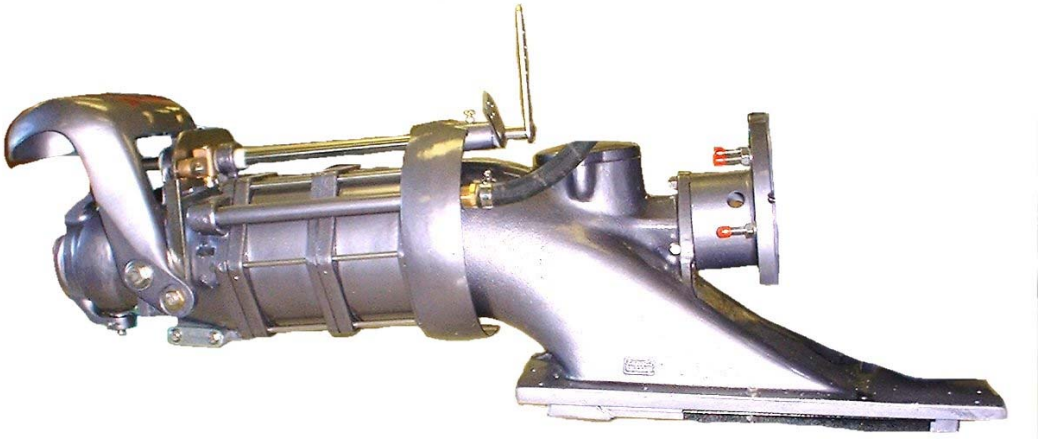
KODIAK MARINE

200 SERIES JET OPERATOR'S MANUAL



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KODIAK MARINE
by KEM Equipment, Inc.
10800 S.W. Herman Road
Tualatin, OR 97062
Phone: 503-692-5012 Fax: 503-692-1098
kempower@hotmail.com
www.kemequipment.com

TABLE OF CONTENTS

KODIAK JET OPERATOR'S MANUAL

INTRODUCTION

We are pleased that you have selected a KODIAK jet to serve your needs. KODIAK takes pride in the long tradition of quality products and great values that the name represents in the marine industry. Every effort is made to maintain our reputation as the builder of the finest marine equipment of its kind.

The primary purpose of this document is to provide operating, periodic maintenance, and parts information for your new KODIAK jet.

KODIAK jets are tested and inspected before leaving the factory. However, certain checks should be made before putting your jet into regular operation. Read and perform the Post-Delivery Inspection prior to proceeding to **any** actual operation. Please, take a minute to fill out your warranty registration card.

SAFETY SUMMARY

Anyone involved in the operation of equipment shall be familiar with the material contained in the warnings, cautions, and notes. These safety precautions are mandatory, and are used to augment formal safety (Coast Guard) regulations. Anyone operating this equipment should become thoroughly familiar with details of operations of the equipment. Such knowledge, constantly and properly practiced, is the only method for ensuring safety, and reliable and economical equipment operation.

Our approach to safety includes the use of warnings, cautions, and notes throughout the book.

WARNINGS

Warnings are statements that call attention to a step which, if not strictly followed could result in serious injury or death of personnel.

CAUTIONS

Cautions are statements that call attention to a step which, if not strictly followed could result in destruction of equipment.

NOTES

Notes are essential statements which must be highlighted.

Please read and follow any and all specific warnings, cautions, and notes contained here and else where in the text.

Overall safety and equipment reliability depend on continuous observation of sound operating practices. Always observe required scheduled maintenance activities as outlined. Never attempt to correct problems or repairs for which you are not qualified.

1. Always STOP the engine before refueling.
2. Always STOP the engine prior to any inspection/check or repair work.
3. Ensure that proper ventilation is maintained at all times.
4. Prior to starting, ensure no one is standing near the equipment.
5. Ensure all safety guards are in place prior to starting the engine.
6. Ensure all tools have been removed after repairs, prior to starting engine.

HOW TO USE THIS MANUAL

We wrote this manual especially for you. We hope you use it to get to know your equipment and how to get the most out of it. That is why we urge you to read this manual from cover to cover. First, you will become familiar with the various controls and instruments. As you read further, we will tell you how to take care of your equipment and what services need to be performed to keep it in excellent running condition. The table of contents will assist you to quickly locate any subject in the manual.

The description and specification contained in this manual were in effect at the time it was approved for printing. KODIAK reserves the right to discontinue models at anytime, or to change specifications or design without notice and without incurring obligation.

PARTS AND SERVICE

Replacement parts can be obtained through your local KODIAK dealers.

KODIAK dealers are equipped to perform major and minor repairs. They are anxious to see that all of your maintenance and service needs are quickly and courteously completed.

A service manual can be purchased from your distributor or dealer. This publication will provide the necessary servicing and overhaul information for your KODIAK

POST-DELIVERY INSPECTION

Your KODIAK jet was inspected before leaving the factory. However, the pre-operational inspection must be made before putting the jet into operation.

1. Remove engine hatch cover and let compartment air out for ten minutes.

WARNING

Ensure key is not in the ignition and no electrical equipment is energized prior to any engine check or operation. Do not energize engine prior to performing the following steps.

2. Ensure that no electrical equipment is energized.
3. Check engine oil level, remove dipstick, wipe clean and recheck. Inspect oil filter (check for tightness (snug).
4. Check coolant level (ensure fluids are at the proper levels).
5. Check for oil, coolant, and fuel leaks. (Correct any leaks prior to proceeding any further).
6. Check charge and fluid level of battery. (Inspect connections for corrosion, and clean as necessary).
7. Check air cleaner (ensure that it is clean or replace as necessary).
8. Inspect the exterior of the heat exchanger (clean if necessary).
9. Check alternator belt (adjust if necessary).
10. Check engine for loose bolts, nuts, or any loose pieces.
11. Inspect the exterior of the jet (clean if necessary).
12. Check for any water leakage.
13. Ensure thrust bearing is greased (refer to page 11, greasing the thrust bearing).
14. Check jet for loose bolts, nuts, or any loose pieces.
15. Start bilge fan (let fan run for ten minutes).
16. Replace engine cover.
17. Check bucket area, ensure that there is nothing to impede movement.
18. Turn steering wheel, ensure that there is nothing to impede movement.
19. Cycle bucket at least once up and down, ensure that there is no binding (bucket should cycle up and down using several fingers on the shifter).

OPERATIONAL INSTRUCTION

1. Remove engine cover and air out compartment for ten minutes.

WARNING

Ensure key is not in the ignition and no electrical equipment is energized prior to any engine check or operation. Do not energize engine prior to performing the following steps.

2. Ensure that no electrical equipment is energized.
3. Check engine oil level, remove dipstick, wipe clean and recheck. Inspect oil filter (check for tightness (snug).
4. Check coolant level (ensure fluids are at the proper levels).
5. Check fluid level.
6. Check for oil, coolant, and fuel leaks. (Correct any leaks prior to proceeding further).
7. Check charge and fluid level of battery. (Inspect connections for corrosion, and clean as necessary).
8. Check air cleaner (ensure that it is clean or replace as necessary).
9. Inspect the exterior of the heat exchanger (clean if necessary).
10. Check alternator belt (adjust if necessary).
11. Check engine for loose bolts, nuts, or any loose pieces.
12. Inspect the exterior of the jet (clean if necessary).
13. Check for any water leakage.

CAUTION

Ensure that jet drive is in NEUTRAL position.

14. Check jet for loose bolts, nuts, or any loose pieces.
15. Start bilge fan (let run for ten minutes).
16. Replace engine cover.
17. Check bucket area, ensure that there is nothing to impede movement.
18. Turn steering wheel, ensure that there is nothing to impede movement.
19. Cycle bucket at least once up and down, ensure that there is no binding.

NORMAL START (for cold starting see page 6).

CAUTION

Ensure that jet drive is in NEUTRAL position.

1. Advance throttle lever slightly.
2. Turn ignition key switch to START position (release when engine starts).
3. After engine starts return throttle lever to idle position.

CAUTION

If the engine stalls or falters in starting, wait three or four seconds before re-engaging starter. This prevents possible damage to the starter or engine.

NOTE

The starter shall not be operated for periods longer than 30 seconds. Wait at least two minutes between cranking periods to protect the starter from overheating.

Cold Engine Starting

CAUTION

Ensure that jet drive is NEUTRAL position.

1. Pump throttle lever one or two times (one or two cycles in forward position).
2. Advance throttle lever slightly (as in normal start).
3. Turn ignition key switch to START position (release when engine starts).
4. After engine starts, adjust throttle lever so that tachometer reads 900-1,000 RPM for engine warm-up.
5. When engine warms up return throttle lever to idle position.

NOTE

The starter shall not be operated for periods longer than 30 seconds. Wait at least two minutes between cranking periods to protect the starter from overheating.

Stopping The Engine - Normal Conditions

CAUTION

Ensure that jet drive is in NEUTRAL position.

1. Place gear shift or bucket control lever in NEUTRAL position.
2. If the engine has been running at high RPM let it fun at fast idle (900-1,000 RPM for three to four minutes).
3. When engine has cooled down (or returned to a normal operating temperature) place throttle lever in idle position.
4. Turn ignition switch to OFF position.
5. Remove ignition key from engine.
6. Close fuel supply valve.

KODIAK JET OPERATOR'S MANUAL

Stopping The Engine - Abnormal Conditions

CAUTION

Ensure that jet drive is in NEUTRAL position.

1. Place bucket control lever in NEURAL position.
2. Turn ignition switch to OFF position.

WARNING

Engine may continue to run after ignition switch is turned off. If this happens, turn the ignition switch immediately ON and allow the engine to idle until it has cooled enough to stop.

3. If the engine is overheated due to a loss of coolant, it is best to stop the engine immediately. If necessary by applying the load (i.e. put the boat in gear).

WARNING

Do not run engine out of water. Damage to engine and jet will occur.

WARNING

Avoid injury when checking a hot engine. Cover heat exchanger with a thick cloth and turn it slowly counterclockwise to the first stop. When pressure has been completely released, push down on cap and remove.

4. Allow the engine to cool down.
5. When engine has cooled down, check the oil level (add oil if necessary).
6. Check coolant level.

CAUTION

Do not add coolant until engine has returned to a normal temperature.

7. Add coolant slowly, until heat exchanger is full.
8. Ensure ignition switch is in OFF position.
9. Remove ignition key from ignition.
10. Close fuel supply valve.

DIAGNOSIS

Detailed Jet Troubleshooting

FAULT	CAUSE
1. Water leakage around thrust bearing.	1. Damaged seal on thrust face.
2. High pitched whine, rattle, or vibration.	2. Damaged thrust bearing.
3. Excessive vibration.	3. Damaged bearings, or universal joints.
4. Poor acceleration performance, running at progressively higher RPM's to maintain the same performance.	4. Damaged impellers (worn or damaged leading edges), or too much clearance between impeller tips and stator housing.
5. Instantaneous increase in RPM's, no change in tachometer, check performance.	5. Damaged sender, wiring, etc.
6. High RPM's, noisy operation, highly aerated water from jet.	6. Intake (screen) clogged, check and clear if necessary. Foreign material wrapped around shaft, clear shaft obstruction. Impeller(s) installed incorrectly (reversed).
may be caused by	*Faults 2,3,4 cause 6 also*

PERIODIC MAINTENANCE

This section is divided into two parts. Section one is a series of operations on how to perform individual checks on specific components. Section two is a series of procedures to be performed on the intervals outlined at the top of each procedure.

Routine Service

To ensure that your equipment is always ready to use, perform the following tasks.

1. Make frequent checks of the inlets and lines.
2. Keep equipment clean.
3. Ensure that there is nothing binding on the steering mechanism.
4. Ensure that there is no binding on the shift mechanism.

The habit of performing the Operational Procedures is your best method of ensuring that these items are checked on a periodic basis.

Lubricant

Checking Lubrication

1. Check lubrication frequently (at least daily).
2. Ensure lubrication schedule is maintained.
3. Add grease as required.
4. Do not overfill.

Adding Grease

It is normal to add some grease approximately every 10 hours of operation. The amount will vary with the severity of operations. When adding or replacing grease be sure it meets the specification requirements listed.

Operating Parameters

For most operations, the equipment must be greased every 25 hours. No break-in period is specified. We recommend checking the thrust bearing and shaft spline during every operational check. This should ensure that your will not miss any abnormal situation.

Grease Quality

To help achieve proper equipment performance and durability, it is important that you use only grease of proper quality in your equipment. Proper quality greases also provide maximum efficiency. Use Shell Alvania EP2 (or grease that meets KODIAK Jet specifications and NLGI grade 2). It is best not to mix different brands of lubricants, because sometimes they are not compatible and deteriorate when mixed together. Stay with one brand and weight to ensure compatibility.

Greasing the "Spicer Shaft" (drive line) - Annually (minimum)

1. Remove engine cover.
2. Inspect the driveline.
3. Ensure that there is grease smeared on the drive-line
4. Coat the driveline with grease on a periodic basis, annually as a minimum (apply only a minimal amount, DO NOT BE EXCESSIVE).

Greasing the Universal Joint (Spicer) - Every 50 hours (minimum)

WARNING

Never grease a bearing with the equipment operating.

1. Remove engine cover.
2. Clean the grease fitting (on U-joint).
3. Ensure that grease gun fitting is clean and free of contaminants.

CAUTION

Do not overfill. Using too much grease may cause grease spattering on enclosure.

4. Place the grease gun fitting and add grease (apply only minimal pressure, DO NOT OVERFILL).
5. Remove the grease gun, and clean grease fitting and associated surfaces.

Greasing the Thrust Bearing - Every 25 hours (minimum)

WARNING

Never grease a bearing with the equipment operating.

1. Remove engine cover.
2. Clean the grease fitting (on thrust bearing).
3. Ensure that the grease gun fitting is clean and free of contaminants.

CAUTION

Do not overfill. Using too much grease (overfilling) may cause premature seal failure on the bearing.

4. Place the grease gun fitting and add grease fitting and add grease (apply only minimal pressure, DO NOT OVERFILL).
5. Remove the grease gun, and clean grease fitting and associated surfaces.

Inspecting the Sacrificial Anodes (zinc) - Every 25 hours (minimum)

This check should be accomplished upon receipt and every 25 hours thereafter. This shall be not less than once at the beginning of each season, after 25 hours of continuous operation, and prior to any lay-up (storage). The zinc anode is specifically designed to protect your jet unit from spurious and induced cathodic degradation (corrosion). In order to perform its task efficiently you must keep the anode clean and bright, an anode that has a powdery residue cannot perform efficiently.

WARNING

Never perform this inspection with the equipment running.

This inspection would be most easily accomplished with the boat on the trailer or out of the water, since it is a little difficult to view the underside of the tailpipe with the unit in the water.

CAUTION

Do not lubricate or coat with any material. Coating will interfere with catholic protection.

1. Inspect the zinc anode on the underside of the tailpipe.
2. Ensure that the anode is cleaned to a bright condition.
3. Replace the anode when it is approximately 50% of its original size.

Ensure that area is clean, dry and free of contaminants.

<u>Inspecting the Mechanical Shaft Seal</u> - Every 50 hours (semi-annually minimum)

This check should be run on the first run-up after installation and then on a periodic basis. This shall be not less than once at the beginning of each season, after 50 hours of continuous operation, and prior to any lay-up (storage).

WARNING

Ensure key is not in ignition and no electrical equipment is energized prior to any jet check or operation. Do not energize engine prior to performing the following steps.

WARNING

Never perform this inspection with the boat in the water.

1. Remove engine cover.
2. Remove inspection cover from jet unit.
3. Visually inspect seal area for fishing line or other debris.
4. Close inspection cover, return boat to water, and with engine cover open observe area below main jet drive bearing for leaks.

If a leak is present contact your nearest KODIAK dealer.

INSPECTIONS

25 Hour Inspection

Perform the following inspection on your Jet Pump at 25 hour intervals.

CAUTION

Service equipment more frequently under severe dust/environmental or operating conditions.

WARNING

Ensure key is not in ignition and no electrical equipment is energized prior to any jet check or operation. Do not energize engine prior to performing the following steps.

1. Ensure that no electrical equipment is energized.
2. Check for leakage around seals. (Correct any leaks prior to proceeding further).
3. Check lubrication points. (Inspect connections for corrosion, and clean as necessary).
4. Grease thrust bearing.
5. Clean surface of pump.
6. Check hose (ensure that it is clean or replace as necessary).
7. Lubricate all linkage points, and thrust bearing.
8. Check for loose bolts, nuts, or any loose pieces.
9. Check sacrificial anodes (located on tail-pipe).
10. Start bilge fan (let fan run for ten minutes).

Replace engine cover.

50 HOUR INSPECTION

Perform the following inspection on our Jet Pump at 50 hour intervals.

CAUTION

Service equipment more frequently under severe dust/environmental or operating conditions.

WARNING

Ensure key is not in ignition and no electrical equipment is energized prior to any engine check or operation. Do not energize engine prior to performing the following steps.

1. Ensure that no electrical equipment is energized.
2. Check for leakage around seals. (Correct any leaks prior to proceeding further).
3. Check lubrication points. (Inspect connections for corrosion, and clean as necessary).
4. Grease u-joints.
5. Grease thrust bearing.
6. Clean surface of pump.
7. Check hose (ensure that it is clean or replace as necessary).
8. Lubricate all linkage points, and thrust bearing.
9. Check for loose bolts, nuts or any loose pieces.
10. Inspect the mechanical shaft seal.
11. Check sacrificial anodes (located on tail-pipe).
12. Start bilge fan (let fan run for ten minutes).

Replace engine cover.

ADJUSTMENT/REPAIR

There are only two repair or adjustment procedures for the operator to perform. One is the adjustment of the bucket if/when necessary, and the other is clearing a blocked intake. While there are not common mechanical problems they can be when the equipment is operated in an environment that may cause materials to block the intake or cause the bucket to go out of adjustment.

Clearing The Intake Grate

During operation in rivers or other shallow water environments it is possible to clog or cover the intake grate with leaves, sticks, weeds, or other waterborne materials. To clear the screen in this situation perform the following task.

1. Back down the throttle immediately and shut-off the engine, this should allow the materials to fall away (because of a lack of suction).
2. If this does not cure the problem ensure the engine is shut-down.
3. Remove the blockage manually (preferably using a screen rake (available option).

CAUTION

Ensure pump inspection cover is above the waterline prior to opening the inspection cover.

4. Open inspection cover and clear the intake grate.

PARTS LIST INTRODUCTION

General Information

This KODIAK Jet parts list has been prepared to assist the operator in identifying the jet parts for care, maintenance, and repair. This section includes the illustrated parts breakdown with the part numbers showing.

Illustrations

The illustrations show typical assemblies, but do not attempt to show all styles of the parts in each case.

Some special optional parts will not be seen. If you do not see a part on your KODIAK Jet, contact your KODIAK dealer with the model and serial number of your unit and a complete description of the part.

Parts Information

Each listing contains illustrations, reference and part numbers of the individual parts used in each model 100 series jet to identify the correct part. Starting on page 26 is a list of the reference numbers with part number, description and quantity used per jet model.

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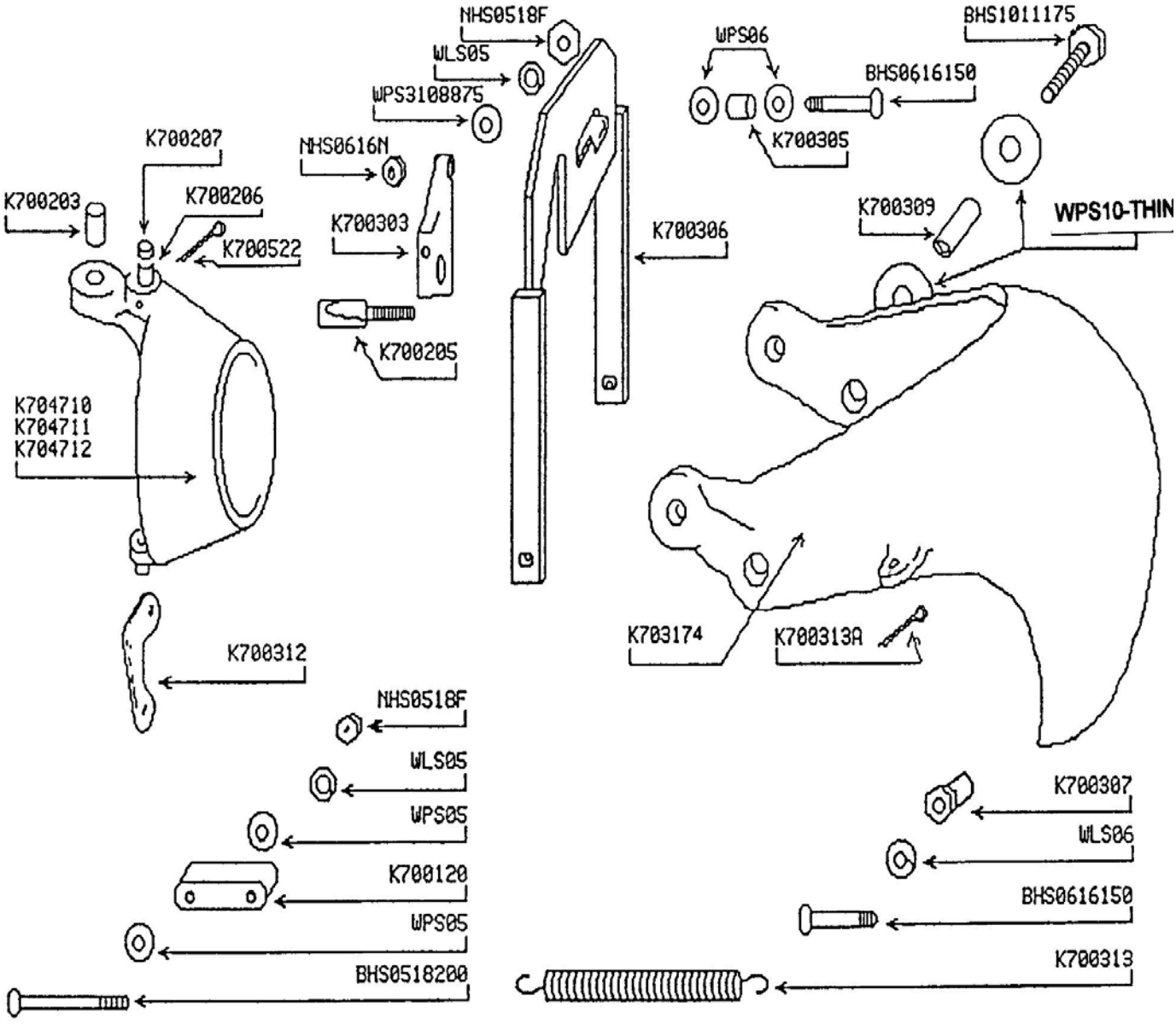
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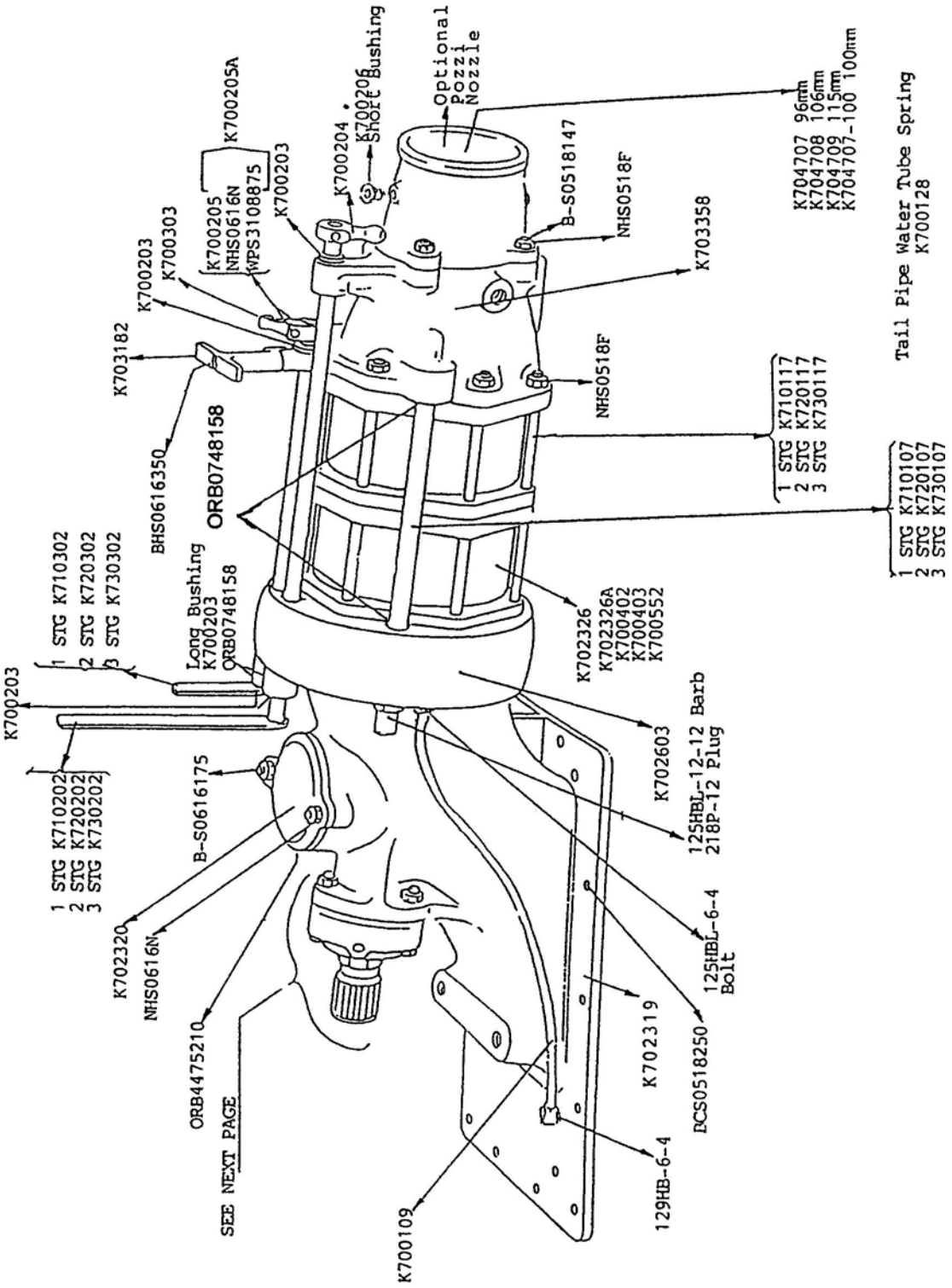
Optional Pozzi Nozzle
K700206 Short Bushing
K700205A
K700205
NHS0616N
WPS3108875
K700204
K700203
K700303
K700203
K703182
BHS0616350
ORB0748158
K700203
1 STG K710302
2 STG K720302
3 STG K730302
Long Bushing
K700203
ORB0748158
K700203
1 STG K710202
2 STG K720202
3 STG K730202
B-S0616175
K702320
NHS0616N
ORB4475210
SEE NEXT PAGE
K700109
129HB-6-4
K702319
DCS0518250
125HBL-6-4
Bolt
125HBL-12-12 Barb
218P-12 Plug
K702603
K702326
K700402
K700403
K700552
B-S0518147
NHS0518F
K703358
NHS0518F
1 STG K710117
2 STG K720117
3 STG K730117
1 STG K710107
2 STG K720107
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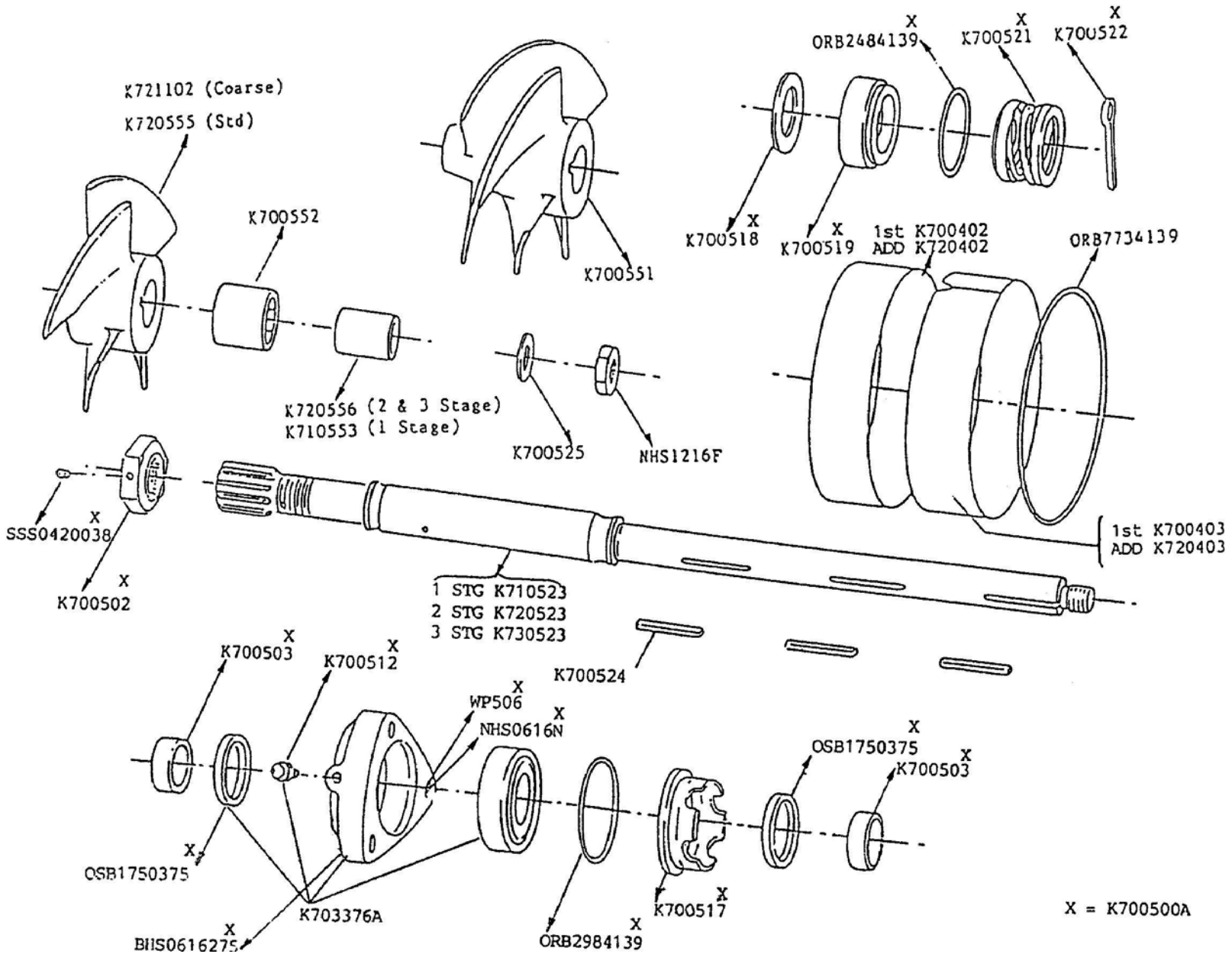
K704707 96mm
K704708 106mm
K704709 115mm
K704707-100 100mm
Tail Pipe Water Tube Spring
K700128


K721102 (Coarse)
K720555 (Std)
K700552
K700551
X
ORB2484139
X
K700521
X
K700522
X
K700518
X
K700519
1st K700402
ADD K720402
ORB7734139
K720556 (2 & 3 Stage)
K710553 (1 Stage)
K700525
NHS1216F
X
SSS0420038
X
K700502
1st K700403
ADD K720403
1 STG K710523
2 STG K720523
3 STG K730523
K700524
X
K700503
X
K700512
X
WP506
X
NHS0616N
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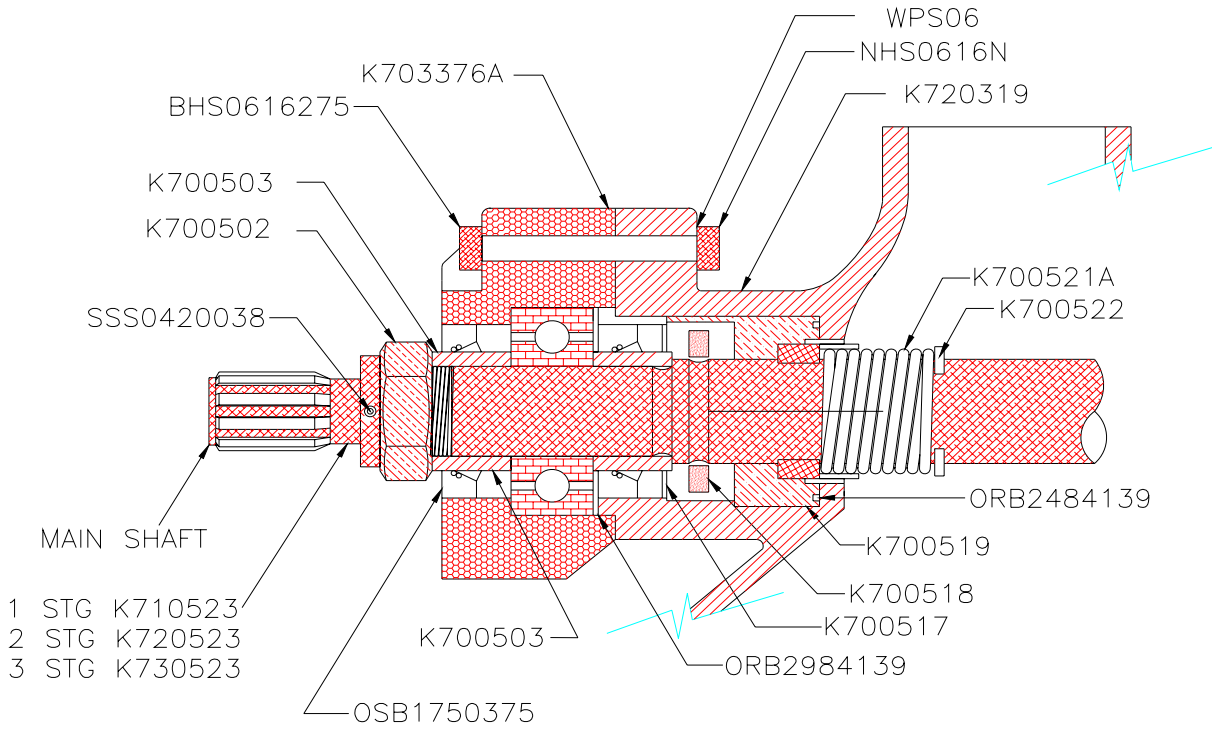
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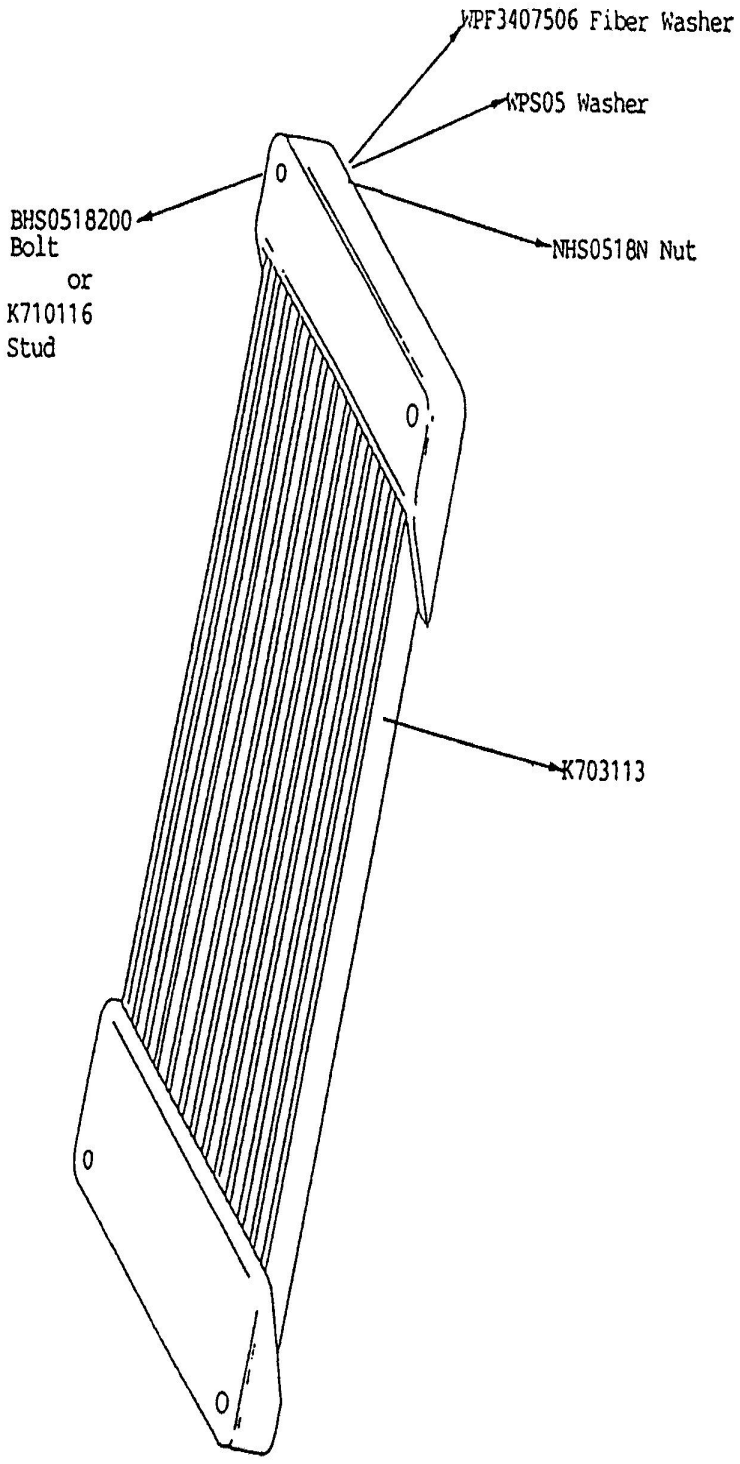
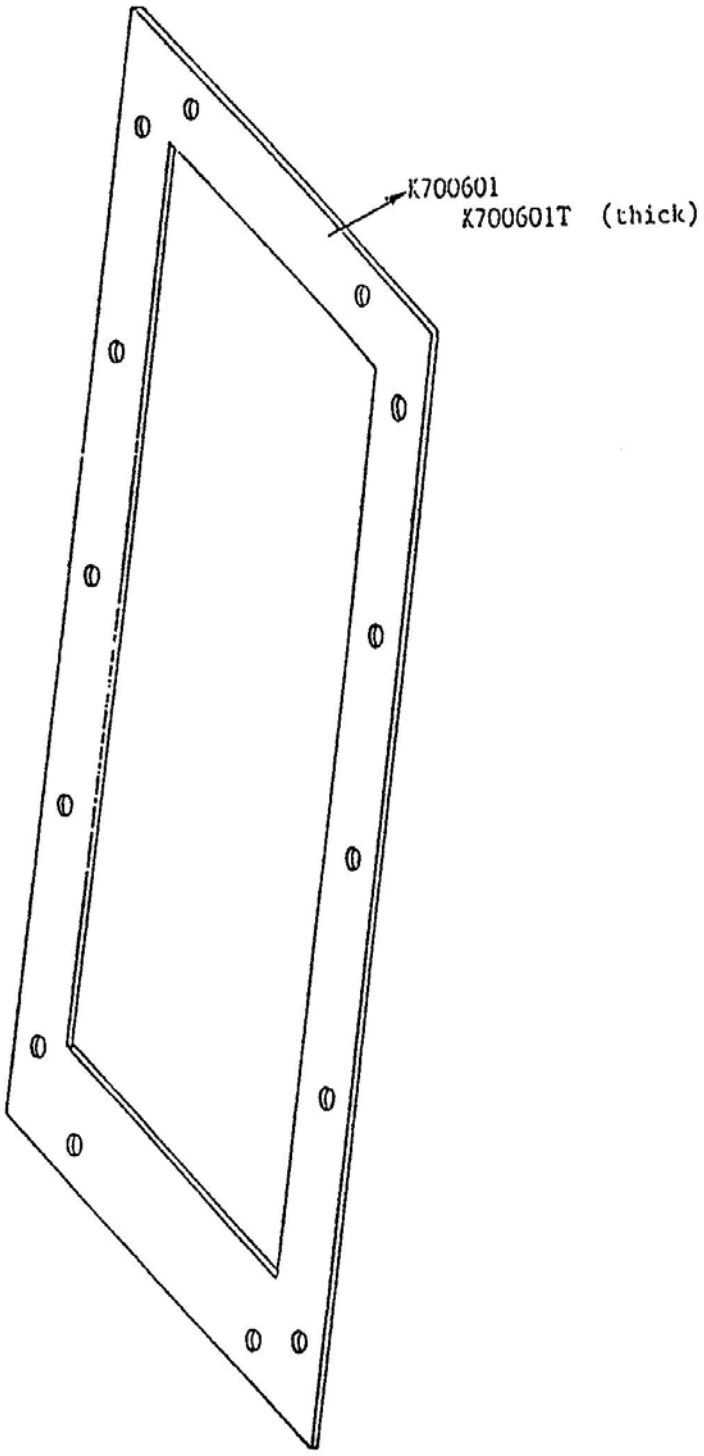
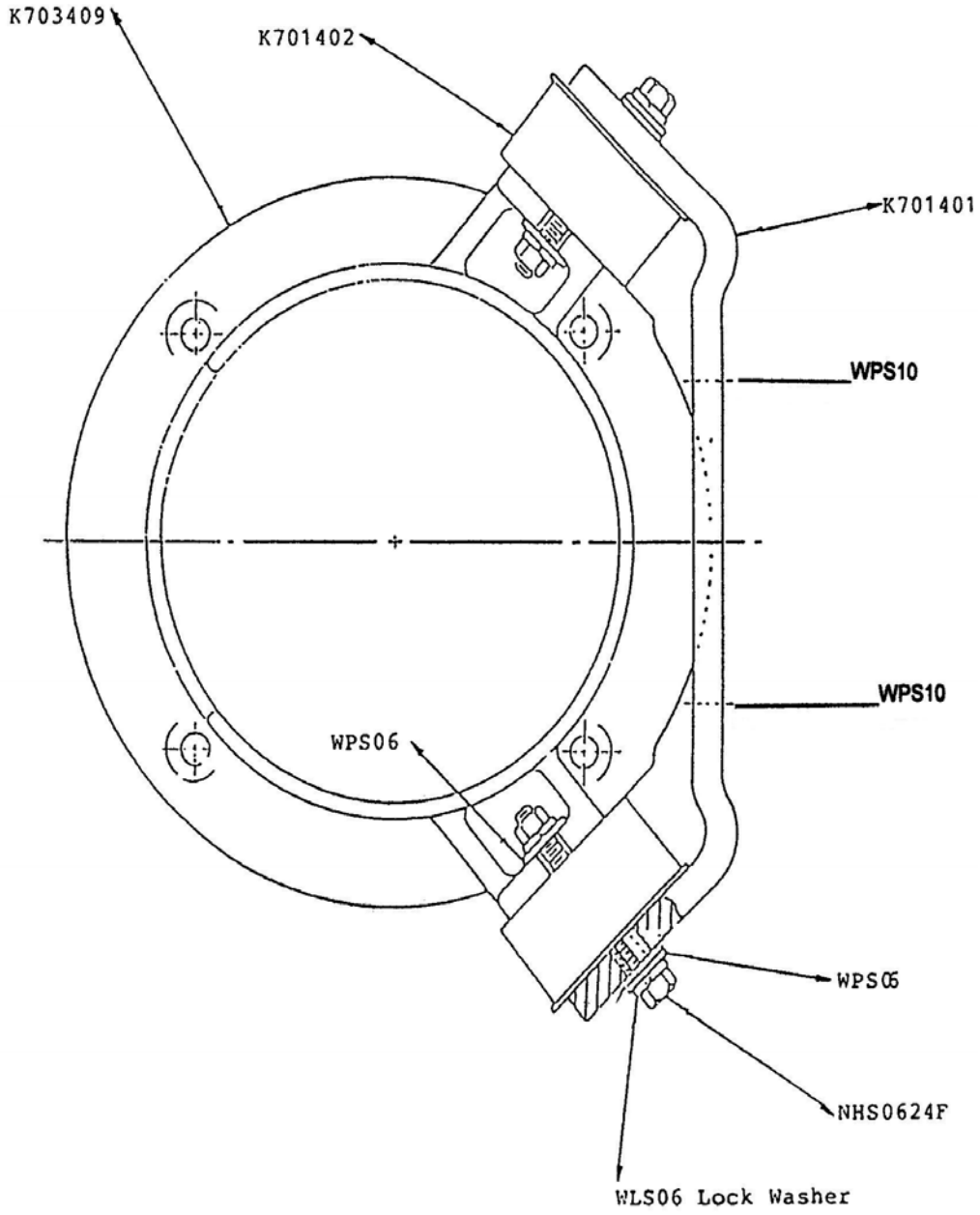
K703376A
K720319
BHS0616275
K700503
K700502
K700521A
K700522
SSS0420038
ORB2484139
MAIN SHAFT
K700519
K700518
1 STG K710523
2 STG K720523
3 STG K730523
K700503
K700517
ORB2984139
OSB1750375

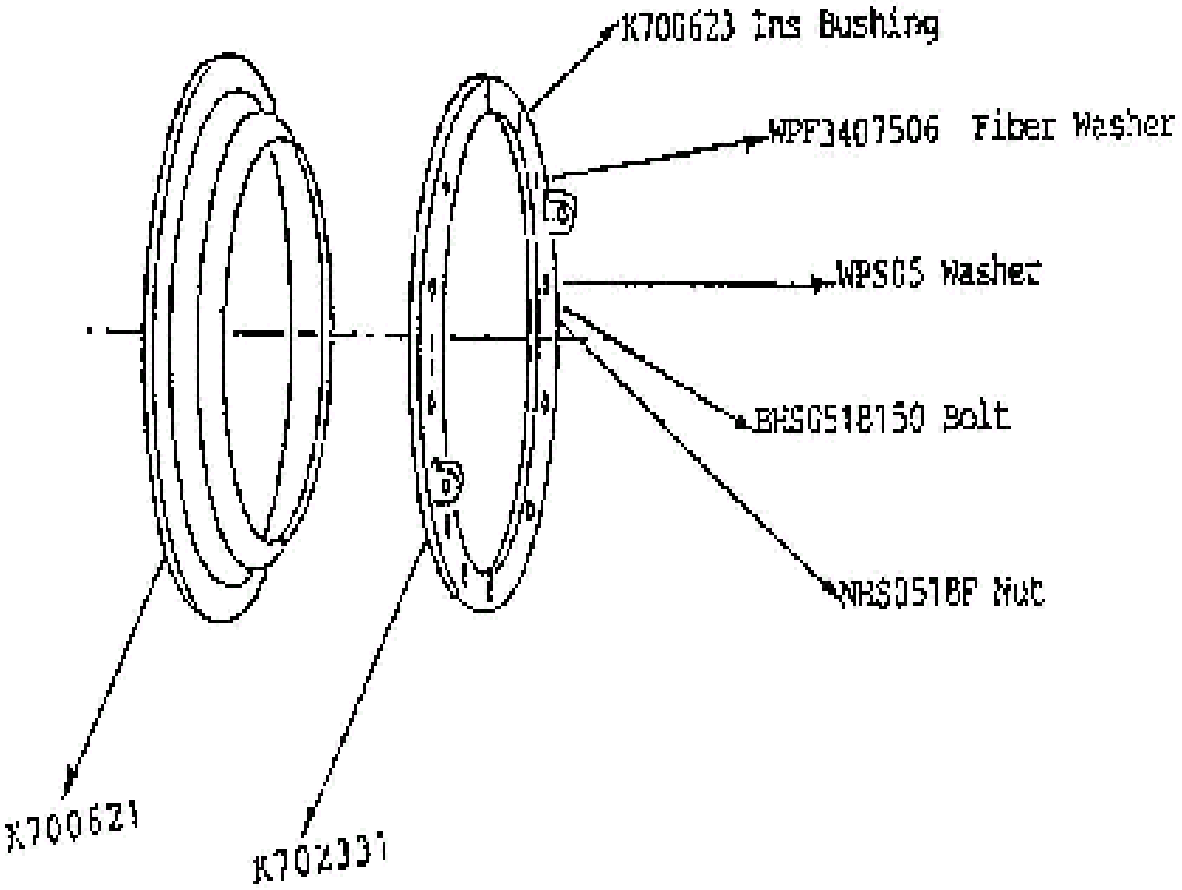

WPF3407506 Fiber Washer
WPS05 Washer
BHS0518200
Bolt
or
K710116
Stud
NHS0518N Nut
K703113


K700601
K700601T (thick)

Engine Mount Kit



K700624 Transom Spring



PART NUMBER	DESCRIPTION	110	120	130
125HBL-12-12	HOSE BARB, ¾ x ¾	1	1	1
125HBL-6-4	HOSE BARB, 3/8 x ¼	1	1	1
129HB-6-4	HOSE BARB, 3/8 x ¼	1	1	1
218P-12	PLUG HEX HEAD ¾	1	1	1
B-S0518147	SS STUD 5/16 x 1-1/2 LNG, TAILPIPE, NOZZ	4	4	4
B-S0616175	SS STUD 3/8NC x 1-3/4LNG,INSP COVER	2	2	2
BCS0518250	C/SUNK SS BOLT, 5/16NC x 2-1/2LNG	16	16	16
BHS0518100	SS HEX BOLT 5/16NC x 1 LNG	OPT	OPT	OPT
BHS0518150	SS HEX BOLT 5/16NC x 1-1/2LNG	14	14	14
BHS0518200	SS HEX BOLT 5/16NC x 2LNG	2	2	2
BHS0616150	SS HEX BOLT 3/8NC x 1-1/2LNG	3	3	3
BHS0616275	SS HEX BOLT 3/8NC x 2-3/4LNG	3	3	3
BHS0616350	SS HEX BOLT 3/8NC x 3-1/2LNG	OPT	OPT	OPT
BHS1011175	SS HEX BOLT 5/8NC x 1-3/4LNG	2	2	2
BSM07C125	SKT HD CAP SCREW 7/16 x 1-1/4	4	4	4
K700109	FEET PLASTIC TUBING	2	2	2
K700120	ZINC ANODE	1	1	1
K700128	WATER TUBE SPRING	2	2	2
K700203	NYLON BUSHING	4	4	4
K700204	STEERING CRANK	1	1	1
K700205	TAPER PIN	2	2	2
K700205A	TAPER PIN ASSEMBLY	OPT	OPT	OPT
K700206	SHORT BUSHING	2	2	2
K700207	PIVOT PIN	2	2	2
K700303	REVERSE CRANK	1	1	1
K700305	REVERSE CRANK ROLLER	1	1	1
K700306	REVERSE YOKE	1	1	1
K700307	BUSHING, BUCKET ECCENTRIC	2	2	2
K700309	REVERSE BUCKET PIVOT SLEEVE	2	2	2
K700312	SPRING BRACKET	1	1	1
K700313	BUCKET SPRING	1	1	1
K700313A	COTTER PIN	1	1	1
K700402	INSULATOR, 1ST STAGE	1	1	1
K700403	WEAR RING, 1ST STAGE	1	1	1
K700502	MAIN SHAFT NUT	1	1	1
K700503	OIL SEAL SPACER	2	2	2
K700512	GREASE FITTING	1	1	1
K700515	BEARING (NOT SOLD SEP)			
K700517	LOCATING RING	1	1	1
K700518	SLINGER	1	1	1
K700519	SEAL FACE HOUSING	1	1	1
K700521	MECHANICAL SEAL	1	1	1
K700522	COTTER PIN	3	3	3
K700524	IMPELLER KEY		1	2
3				
K700525	SS END NUT WASHER	1	1	1
K700551	STD OVERLAP IMPELLER	OPT	OPT	OPT
K700552	CUTLESS BEARING	1	2	2
K700553	BEARING SLEEVE	1	0	0
K700554	IMPELLER FAIRING	A/R	A/R	A/R
K700601	INTAKE GASKET STD	1	1	1
K700601T	THICK INTAKE GASKET	OPT	OPT	OPT

K700621	TRANSOM SEAL	1	1	1
K700623	INS BUSHING	12	12	12
K700624	TRANSOM SPRING	1	1	1

KODIAK JET OPERATOR'S MANUAL

K700631	SPLASH GUARD		OPT	OPT
OPT				
K700752A (SIZE)	SMALL TILT TRIM POZZI NOZZLE		OPT	OPT
OPT				
K700753A (SIZE)	LARGE TILT TRIM POZZI NOZZLE		OPT	OPT
OPT				
K700755A (SIZE)	SMALL POZZI NOZZLE		OPT	OPT
OPT				
K700756A (SIZE)	LARGE POZZI NOZZLE		OPT	OPT
OPT				
K701300	DRIVELINE		1	1
1				
K701401	BAR MOUNT		1	1
1				
K701402	FLEX MOUNT		2	2
2				
K702319	MAIN INTAKE HOUSING		1	1
1				
K702320	INSPECTION COVER		1	1
1				
K702326	STATOR HOUSING		0	1
2				
K702326A	STATOR HOUSING ASSEMBLY		0	OPT
OPT				
K702331	TRANSOM PLATE		1	1
1				
K702603	SEAL PLATE		1	1
1				
K703113	INTAKE GRATE		1	1
1				
K703174	BUCKET		1	1
1				
K703182	SUPPORT		OPT	OPT
OPT				
K703358	TAIL PIPE HOUSING		1	1
1				
K703376	HOUSING (NOT SOLD SEP)			
K703376A	BEARING HOUSING ASSEMBLY		1	1
1				
K703409	HOUSING		1	1
1				
K704707	96MM STD NOZZLE		A/R	A/R
A/R				
K704708	108MM NOZZLE		A/R	A/R
A/R				
K704709	115MM NOZZLE		A/R	A/R
A/R				
K704710	DEFLECTOR		A/R	A/R
A/R				
K704711	DEFLECTOR		A/R	A/R
A/R				

K704712	DEFLECTOR	A/R	A/R
A/R			
K710107	WATER TUBE	2	0
0			
K710116	SS STUD 5/16NC x 1-3/4LNG	4	4
4			
K710117	STUD	4	0
0			
K710117A	STUD	2	0
0			
K710202	STEERING SHAFT	1	0
0			
K710302	BUCKET SHAFT	1	0
0			
K710523	MAIN SHAFT	1	0
0			
K710553	SINGLE STAGE BEARING SLEEVE	1	0
0			
K720107	WATER TUBE	0	2
0			
K720117	STUD	0	4
0			
K720117A	STUD	0	2
0			
K720202	STEERING SHAFT	0	1
0			
K720302	BUCKET SHAFT	0	1
0			
K720402	STATOR HOUSING INSULATOR	0	1
2			
K720403	STATOR HOUSING WEAR RING	0	1
2			
K720523	MAIN SHAFT	0	1
0			
K720555	10 DEGREE PITCH IMPELLER	A/R	A/R
A/R			
K720556	BEARING SLEEVE	0	2
2			
K721102	22 DEGREE PITCH IMPELLER	A/R	A/R
A/R			
K721103	23 DEGREE PITCH IMPELLER	OPT	OPT
OPT			
K730107	WATER TUBE	0	0
2			
K730117	STUD	0	0
4			
K730117A	STUD	0	0
2			
K730202	STEERING SHAFT	0	0
1			
K730302	BUCKET SHAFT	0	0
1			
K730523	MAIN SHAFT	0	0
1			
KM2054	KODIAK STICKER	1	1
1			

NHS0518F	SS HEX NUT 5/16 NC	44	44	44
NHS0518N	SS NYLOC NUT 5/16 NC	8	8	8
NHS0616N	SS HEX NUT 3/8 NC	2	2	2

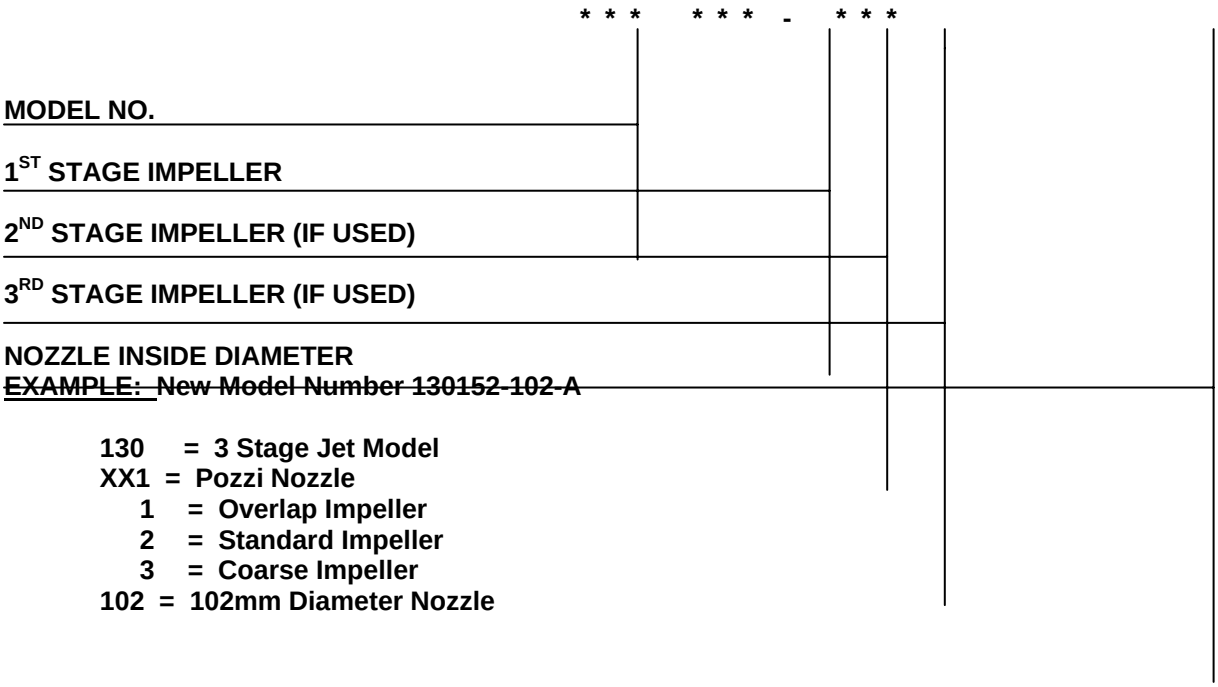
NHS0624F	SS HEX NUT 3/8NC	4	4	4
NSH1216F	SS HEX NUT 3/4NF	1	1	1
ORB0734139	O RING WATER TUBE 211	4	4	4
ORB0748158	O RING SHAFT 210	2	2	2
ORB2484139	O RING SEAL FACE HOUSING 230	1	1	1
ORB2984139	O RING LOC RING/BEARING 234	1	1	1
ORB4475210	O RING INSPECTION COVER 349	1	1	1
ORB7734139	O RING STATOR HOUSING 265	1	2	3
OSB1750375	OIL SEAL 1-3/4	2	2	2
SSS0420038	SS SET SCREW	1	1	1
WLS05	LOCKWASHER SS 5/16	4	4	4
WLS06	LOCKWASHER SS 3/8	4	4	4
WLS07	LOCKWASHER SS 7/16	4	4	4
WPF3407506	FIBRE WASHER	32	32	32
WPS05	WASHER SS PLAIN 5/16	36	36	36
WPS06	WASHER SS PLAIN 3/8	10	10	10
WPS10	WASHER SS PLAIN 5/8	2	2	2
WPS10-THIN	WASHER 5/8	4	4	4
WPS12	WASHER SS PLAIN ¾	2	2	2
WPS3108875	BRASS FLAT WASHER	2	2	2
WPS3906907	WASHER	OPT	OPT	OPT

MODEL NUMBERS

FOR

100 SERIES KODIAK JETS

Due to rearrangement of jet model numbers we are now using the following to improve the identity of each jet.



~~EXAMPLE: New Model Number 130152-102-A~~

130 = 3 Stage Jet Model
XX1 = Pozzi Nozzle
1 = Overlap Impeller
2 = Standard Impeller
3 = Coarse Impeller
102 = 102mm Diameter Nozzle

KODIAK MARINE ENGINE AND JETDRIVE
LIMITED WARRANTY
EFFECTIVE FEBRUARY 1, 2002

1. KEM Equipment, Inc. "the Company" warranties each new KODIAK MARINE engine, Jetdrive and factory installed accessories properly registered with KEM , to be free from defects in material and workmanship.
2. The warranty shall commence after receipt of a properly completed Warranty Registration at the factory, on the date of the first retail purchase and extends to original and subsequent purchasers. However, in no event shall the duration of this Warranty exceed two (2) years measured from the original retail sale date. All subsequent purchasers must inform KEM in writing and with a payment of $50.00 transfer fee, of the sale of the engine or jet to continue the warranty. If notification is not received by KEM within 15 days of the resale, the warranty will be null and void.
3. In the case of commercial use, this warranty shall be in effect for one year (360 days) from the date of start up, but no longer than 450 days from the first date of retail purchase. Replacement engines are warranted for 90 days from date of sale.
4. The company obligation is limited to repairing or replacing those parts, defective in material and workmanship only. At its option it may replace such part with a part of equal quality as shall be necessary to remedy any malfunction resulting from a defect in material or workmanship as covered in this warranty. KEM will make all necessary repairs under this warranty free of charge at the KEM factory. Optionally, KEM may provide for the repair or replacement of any defective part at the selling dealership or a service center of KEM's choice. KEM will make payment reimbursements for labor to replace such part as previously provided in the then current flat rate manual. A no exception $100 deductible will apply to each warranty claim during the second year of the warranty period.
5. KEM distributors or service center must be advised of any warranty related problem prior to the expiration of the warranty.
6. This warranty will not apply to**:**
   - **Use of an accessories or parts not manufactured or sold by KEM Equipment, Inc.**
   - **Neglect, failure to follow maintenance schedules, accident, abnormal operations, misuse, negligence improperly maintained, improperly operated or installed, racing or engine modification. Problems airing from installation , applications, exhaust to engine, fuel lines to the engine, propping , cooling to the engine or engine damage due to defective electrical hookups.**
   - **Rust, corrosion, invasion effects of weather, or electrolysis.**
   - **Water invasion through exhaust.**
   - **Detonation or operation with fuels, oils or lubricants which are not suitable for use with this product. Detonation causes: poor fuel quality, overloading of engine, improper gear or propeller selection, engine overheating, excessive back pressure, incorrect ignition timing, excessive total timing.**
   - **Reimbursement for : haulout, launch towing, storage charges, rental charges of any type, inconvenience of any type, loss of time or income, expense of returning a KEM product to a service facility, towing , lodging, loss or damage to personal property.**
   - **Carburetor after the first five (5) hours of operation. Fuel, air and float adjustments are part of the installation**.
7. Reasonable access must be provided to the product for warranty service. Removal and/or replacement of boat partitions or material because of boat design for necessary access to the product is not covered.
8. Warranty service must be requested by delivering the product for inspection to the retailer from whom the product was purchased or any convenient marine service center.
9. Proof of warranty must be provided at time of request for warranty service. A properly completed warranty registration must be on file with KEM.
10. Distributors, dealers and service providers are not agents for KEM. The company's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and does not authorize any person to create for it any obligation of liability in connection with this product nor does the company assume any obligation due to incorrect or defective installation by the dealer.

11. All incidental and/or consequential damages are excluded from this warranty. Implied warranties are limited to the life of this warranty. All implied warranties including merchantability fitness for a particular purpose or otherwise are disclaimed in their entirety after expirations of the appropriate two (2) year warranty period. This warranty gives you specific rights, and you may also have other rights, which may vary from state to state.
12. KEM reserves the right to change or improve design of any product previously assembled without notice and without obligation.
13. In the event that a warranty claim is required outside of the continental United States, with the exception of Alaska and Hawaii, there may be additional charges to the engine owner. KEM will not warranty any engine or jet sold outside the continental United States, with the exception of Alaska and Hawaii, unless competent and trained personal are available to provide service to the engine or jet.

ENGINE AND JET IDENTIFICATION

Engines and Jets are assigned a serial number. A history file is created for the engine or jet and all information regarding the engine or jet is put into the file. The engine serial number is located on a metal plate affixed to the engine. The jet serial number is located on the base of the jet. The serial number of the engine or jet must be given in all communications concerning the engine or jet.

WARRANTY CLAIM POLICY

Applicable engine warranty is to be followed in all warranty situations. Under normal circumstances, customers should bring any request for warranty to their selling dealer. If the customer is in transit all efforts should be made by the dealer to remedy engine warranty problems the customer may have.

The dealer should always investigate the customers complaint and determine if a warranty situation does exist. It is the dealer's responsibility to inform the user that minor adjustments, tune-ups, detonation, water ingestion from an outside source are not warrantable situations. If it is determined that the situation is not warrantable, the dealer should then resolve the problem in a professional and courteous manner.

TIME LIMIT FOR FILING CLAIMS

Warranty claims must be filled out in their entirety and submitted within 30 days of the labor being performed.

PROCEDURE FOR DEFECTIVE PARTS RETURN

Defective parts replaced under warranty are to be returned to KEM within 10 days of the labor being performed , unless the dealer is notified otherwise. Dealers failing to follow the parts return procedures will only slow down the processing of the claim.

Warranty parts requiring return to KEM will be shipped to the dealer with a returned authorization form. The papers are to be filled out completely and returned attached to the defective part. Parts damaged due to improper packing will be returned to the sending dealer and the warranty claim rejected.

If a part is received from KEM, an RGA number is included with the shipment. This number must be affixed to the outside of the shipping container when the part is returned to KEM. Return defective part with a copy of the claim inside the box so proper credit can be made.

ENGINE AND JETDRIVE RETURNS

All engines and jetdrives being returned to KEM use the following procedure:

1. Drain all lubricants and fluids.
2. If engine is in a running condition, it should be fogged with rust preventative oil to prevent further damage.
3. Fasten the engine properly to the shipping skid.
4. Failure to follow these procedures could result in the rejection of a warranty claim.

CLAIM REJECTION

Any warranty claim rejected will be returned to the dealer with the reason for rejection noted on the claim. Claims may be rejected for the following reason:

1. Invalid engine serial number.
2. Claim form not completed in its entirety.
3. No supporting invoices of documentation.
4. Work not covered by warranty.
5. Out of warranty period.
6. Returned part meets specifications.
7. Additional work done over that required to satisfy the warranty.
8. Job time over that of the flat rate.
9. Failure customer induced by bad fuel, overrev, insufficient water, poor maintenance.
10. Haul out and /or lift out or removal of boat from water.

WARRANTY EXCLUSIONS

The following services and expenses will not be reimbursed under the terms of the warranty:

1. Use of replacement parts not manufactured or sold by KEM. You must use KODIAK parts only.
2. Replacement of complete assemblies when the defective part could have been replaced to correct the problem.
3. Starter motors and/or armatures of field coil assemblies which are returned or damaged because of excessive cranking or water.
4. Parts testing within specifications. Parts will be returned and labor claim refused.
5. All sublet or outside repairs, which are deemed reasonable, claimed by the dealer will be reimbursed at dealer's actual cost. Copies of the original invoice must accompany the claim.
6. Engine damage caused by Non-KODIAK parts will not be allowed.
7. All incidental and/or commercial damages not allowed by the warranty will be disallowed.
8. Expenses related to replacement of lubricant, anti-freeze or special additives will not be considered under the warranty.
9. Repairs due to neglect, misuse, accident, improper application/installation or operation beyond the limits of the product.
10. All preparation cost for the removal of the engine. Boat builders must give reasonable access to the engine for repair.
11. Tune-ups, adjustments, cleaning of boat or fuel system components.
12. Failure due to poor fuel or lubricant quality of failure to perform the recommended maintenance.
13. All transportation or toll charges.
14. Damage or loss due to shipping and handling. All engines are shipped FOB. Any claims for damage are to be made directly to the freight company by the distributor, dealer or customer.
15. Electrical components due to the reversing of polarity.
16. Carburetors are warranted for the first five hours of engine operation only.
17. Damage due to water invasion or detonation.
18. Registering a product for pleasure use when being used for commercial.