



# INSTRUCTION MANUAL FOR UNDERWATER OPERATION

## *FOR HYDRAULIC HAMMER*

**MODELS:**    *PH06 PH07 PH1 PH2*  
                  *PH3 PH4 GH06 GH07*  
                  *GH1 GH2 GH3 GH4*  
                  *GH6 E202 E203 E204*  
                  *E205 E207*

*“Use Genuine NPK Parts”*

**NPK** *...attachments;  
designed, built  
and backed by NPK.*

7550 Independence Drive  
Walton Hills, OH 44146-5541  
Phone (440) 232-7900  
Toll-free (800) 225-4379  
Fax (440) 232-6294

# SAFETY



Safety notices in NPK Instruction Manuals follow ISO and ANSI standards for safety warnings:



DANGER (red) notices indicate an imminently hazardous situation which, if not avoided, **will result in death or serious injury**.



WARNING (orange) notices indicate a potentially hazardous situation which, if not avoided, **could result in death or serious injury**.



CAUTION (yellow) notices indicate a potentially hazardous situation, which, if not avoided, **may result in minor or moderate injury**.



ATTENTION (blue) notices in NPK Instruction Manuals are an NPK standard to alert the reader to situations which, if not avoided, **could result in equipment damage**.

WARNING and BASIC OPERATING INSTRUCTIONS decals are included with each NPK hammer and installation kit. Decals must be installed in the cab, visible to the operator while operating the hammer.

STAY CLEAR, PRESSURE VESSEL, GAS PRESSURE and TOOL SHARPENING decals are installed on all NPK hammer models. Keep them clean and visible. NPK will provide decals free of charge as needed.



1. Operator and Service personnel must read and understand the **NPK INSTRUCTION MANUAL** to prevent serious or fatal injury.
2. **FLYING DEBRIS CAN CAUSE SERIOUS OR FATAL INJURY.**
  - Keep personnel and bystanders clear of the hammer while in operation.
  - Do not operate HAMMER without an impact-resistant guard between the HAMMER and operator. NPK recommends LEXAN® or equivalent material, or steel mesh. Some carrier manufacturers offer demolition guards for their machine. Check with the carrier manufacturer for availability. If not available, please call NPK.
3. Do not hardface or sharpen the tool point with a cutting torch. Excessive heat from torching or welding can cause embrittlement, breakage, and flying pieces. Resharpener by milling or grinding only, using sufficient coolant.



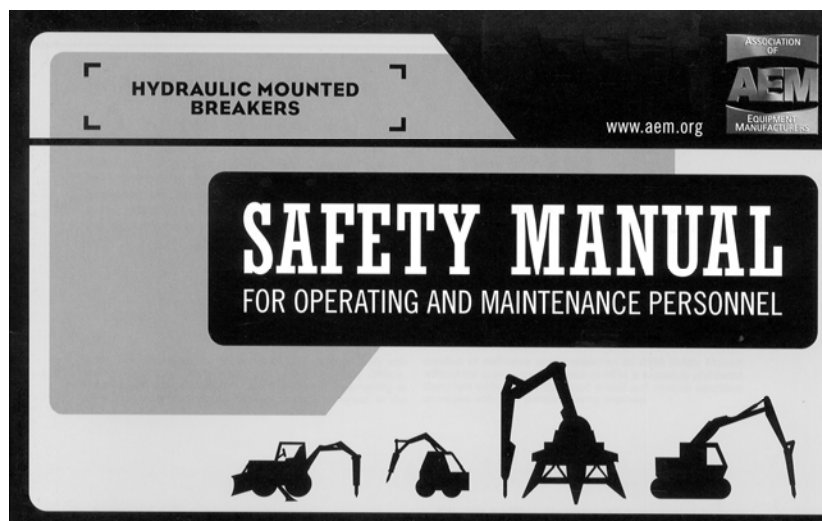
## SAFETY

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### CAUTION

4. Fully extend the tool while charging the HAMMER with nitrogen gas. Be sure that the retaining pin is installed. **STAY CLEAR OF TOOL POINT WHILE CHARGING.**
5. Do not disassemble a HAMMER before discharging the hammer gas pre-charge.
6. **USE NITROGEN GAS ONLY!** Store and handle nitrogen tanks per OSHA regulations.
7. **Avoid high pressure fluids. Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines.**
8. Operate HAMMER from operator's seat only.
9. Match HAMMER size to carrier according to NPK recommendations. The carrier must be stable during hammer operation and during transport.
10. Do not make any alterations to the TOOL without authorization from NPK Engineering.
11. Use proper lifting equipment and tools when handling or servicing the HAMMER.
12. Wear ear protection if conditions warrant. Consult OSHA regulations.
13. Wear safety glasses at all times. Beware of flying debris.
14. If modifications are to be made, **do not alter the HAMMER without authorization from NPK Engineering!**
15. Use only genuine NPK replacement parts. NPK specifically disclaims any responsibility for any damage or injury that results from the use of any tool or parts not sold or approved by NPK.

For further safety information, consult the AEM Hydraulic Mounted Breakers Safety Manual, AEM form MB-140 (NPK P/N H050-9600), which is furnished with every NPK hammer. To request an additional copy, please contact NPK at 800-225-4379 or Internet at [www.npkce.com](http://www.npkce.com).



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## **FORWARD**

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The NPK HYDRAULIC HAMMER is a rugged boom mounted demolition tool that can be operated underwater by making certain modifications and following the procedures in this manual.

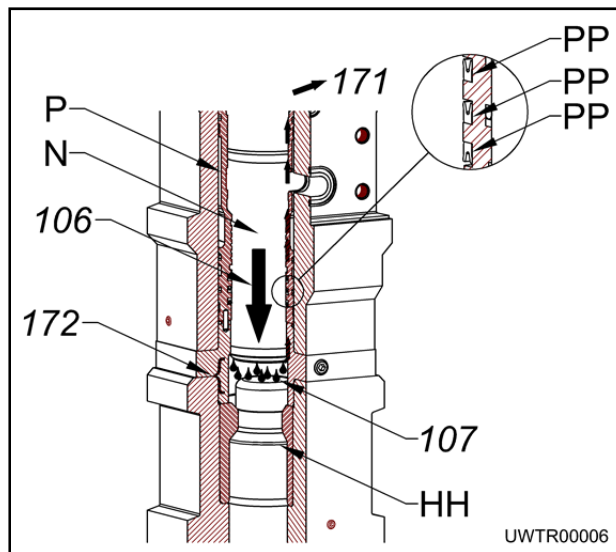
Read and understand the SAFETY INFORMATION and operating instructions in the NPK OPERATORS MANUAL before operating the hammer. If there are any questions, call the NPK Service Department at 1-800-225-4379.

## OPERATING PRINCIPLE

Although the hydraulic oil section of the hydraulic hammer is sealed completely, water can enter into the area where the piston (N) impacts the tool (HH) when the hammer is used underwater.

The hammer must be modified for underwater operation. If not, water (107) trapped in the striking chamber (172) will be forced against the piston seals (PP) as the piston strokes (106) down to impact the tool. The water pressure is extremely high and greater than the seals can withstand. The seals are distorted out of their grooves. This causes the piston to be forced against the sleeve (P). This, in turn, can damage the piston and both sleeves. The water forced past the seals enters the carrier hydraulic system (171) and can damage pumps and other components.

To keep water from entering the striking chamber of the hammer when submersed, the hammer must be supplied with compressed air, see the following pages for air compressor size and connections required).



# AIR SUPPLY

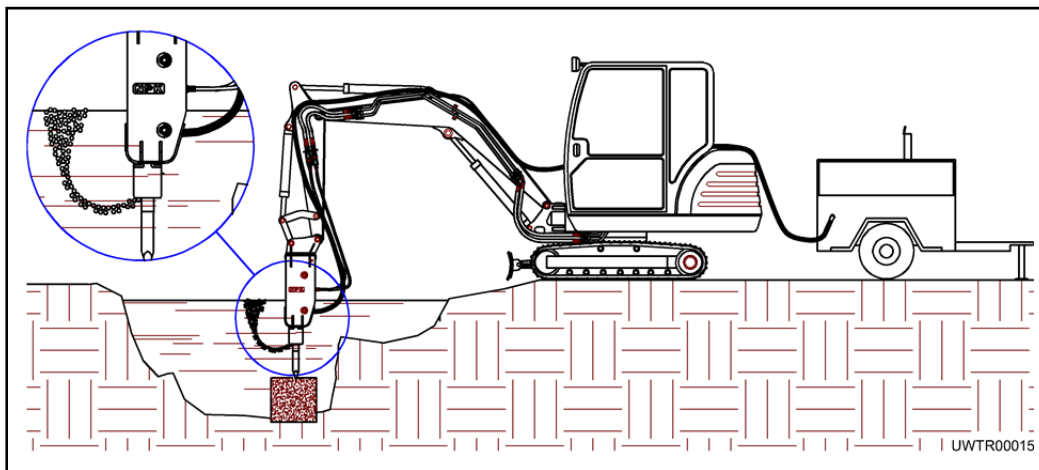
## Air compressor

The air compressor capacity varies with the hammer size:

HAMMER MODEL	COMPRESSOR CAPACITY
PH06 PH07 GH06 GH07	5 CFM ( <i>minimum</i> )
PH1 GH1 E202	10 CFM ( <i>minimum</i> )
PH2 GH2 E203	15 CFM ( <i>minimum</i> )
PH3 GH3 E204	20 CFM ( <i>minimum</i> )
PH4 GH4 GH6 E205 E207	30 CFM ( <i>minimum</i> )

## Air pressure

The air pressure setting is dependent on the working depth of the hammer. The air line will require a pressure regulator to reduce the pressure. See the operating section of this manual for pressure setting procedure.



## **NPK UNDERWATER KIT LISTING**

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<b>HAMMER MODEL</b>	<b>NPK KIT PART NUMBER</b>
<b>PH3</b>	PH3-9500
<b>PH4</b>	PH4-9500
<b>GH3</b>	GH3-9500
<b>GH4</b>	GH4-8050
<b>GH6</b>	GH6-8050
<b>E202</b>	E2020-8050
<b>E203</b>	E2030-8050
<b>E204</b>	E2040-8050
<b>E205</b>	E2050-8050
<b>E207</b>	E2070-8055

If kit is not listed above, please contact NPK at 1-800-225-4379.

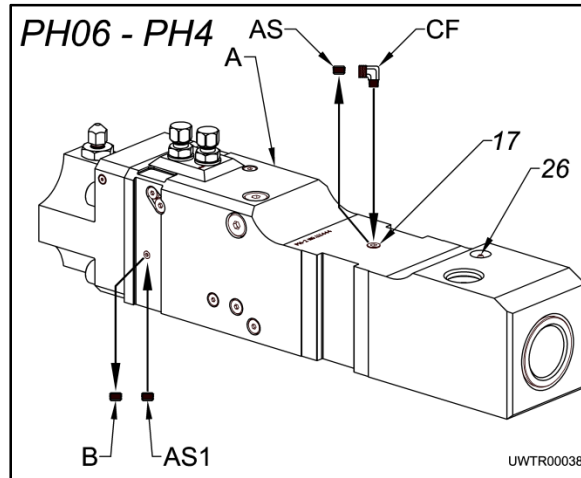


# HAMMER CONNECTION PORT

PH06, PH07, PH1, PH2, PH3, PH4

The underwater connection port (17) is located on the top side of the main body (A).

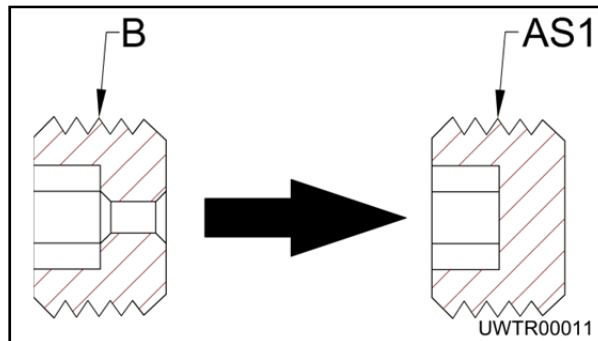
1. Remove the pipe plug (AS) from the underwater port and install a heavy duty adapter elbow (CF) to connect to the air hose fitting.



## PH SERIES

**DO NOT** install the air connection into the port (26) on the top side of the main body. This port is used for autolube. Using the autolube port for underwater operation can result in damage to the hammer.

2. Remove the drain plug (B) from the hammer body (located on the left side of the hammer body (see above) and replace with solid 1/8" NPT plug, 22001010 (AS1).

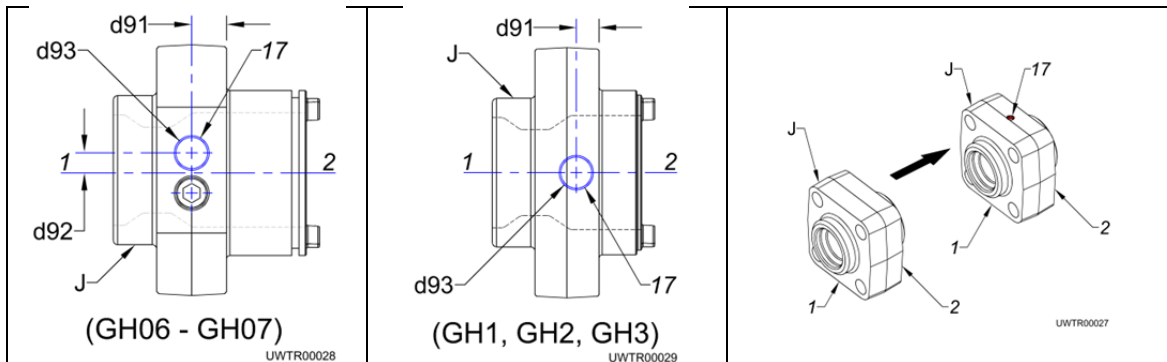


3. Attach air line from air compressor to the adapter fitting on the hammer. Hoses must be secured and protected from damage during operation.

# HAMMER CONNECTION PORT

## GH06, GH07, GH1, GH2, GH3

For the GH06, GH07, GH1, GH2 and GH3 hammers, the underwater port (17) must be machined into the impact ring (J). A 37/64 tap drill and a 3/8-19 npt tap must be used at underwater connection port (17). See illustrations and chart (below) for port locations and size.

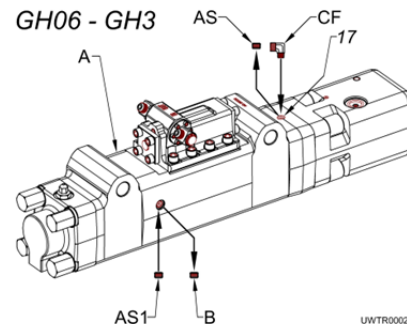


1 = TOOL END OF HAMMER  
2 = GAS END OF HAMMER

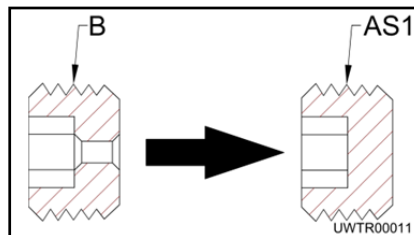
HAMMER MODEL	d91	d92	d93
GH06	16.5 mm	15 mm	DRILL 15 mm dia. (19/32") to center TAP (3/8" – 19 NPT) CHAMFER 1.5 mm x 45°
GH07	16.5 mm	15 mm	
GH1	25 mm	-	
GH2	20 mm	-	
GH3	16 mm	-	

### WARNING

1. Install a heavy duty adapter elbow (CF) into the previously machined underwater connection port (17) to connect to the air hose fitting.



2. Remove the drain plug (B) from the hammer body (A) (located on the left side of the hammer body (see above) and replace with solid 1/4" NPT plug, K023-6660 (AS1).



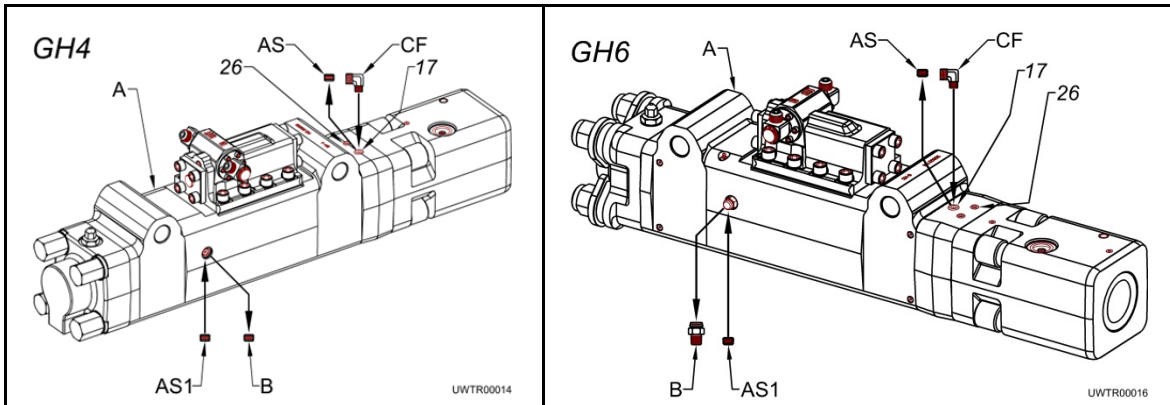
3. Attach air line from air compressor to the adapter fitting on the hammer. Hoses must be secured and protected from damage during operation.

# HAMMER CONNECTION PORT

## GH4 and GH6

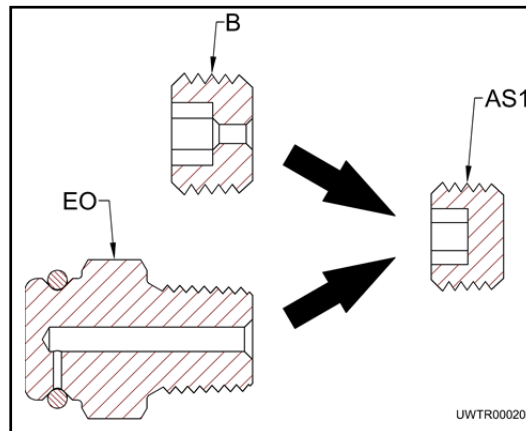
The underwater connection port (17) is located on the left side of the impact spacer.

1. Remove the pipe plug (AS) from the port and install a heavy duty adapter elbow (CF) to connect to the air hose fitting.



**DO NOT** install the air connection into the port (26) on the right side of the impact spacer. This port is a grease connection port used for autolube (26). Using the autolube port for underwater operation can result in damage to the hammer.

2. Remove the drain plug (B) from the hammer body (A) (located on the left side of the hammer body (see above) and replace with solid 1/4" NPT plug, K023-6660 (AS1).



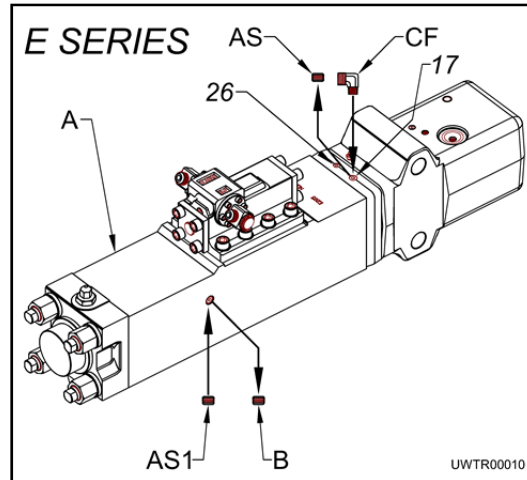
3. Attach air line from air compressor to the adapter fitting on the hammer. Hoses must be secured and protected from damage during operation.

# HAMMER CONNECTION PORT

E202 – E207

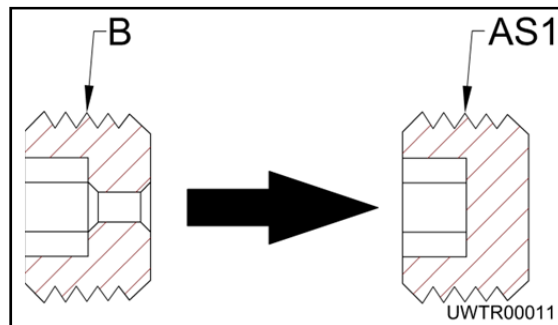
The underwater connection port (17) is located on the left side of the impact spacer.

1. Remove the pipe plug (AS) from the port and install a heavy duty adapter elbow (CF) to connect to the air hose fitting.



**DO NOT** install the air connection into the port (26) on the right side of the impact spacer. This port is a grease connection port used for autolube. Using the autolube port for underwater operation can result in damage to the hammer.

2. Remove the drain plug (B) from the hammer body (A) (located on the left side of the hammer body (see above) and replace with solid 1/4" NPT plug, K023-6660 (AS1).



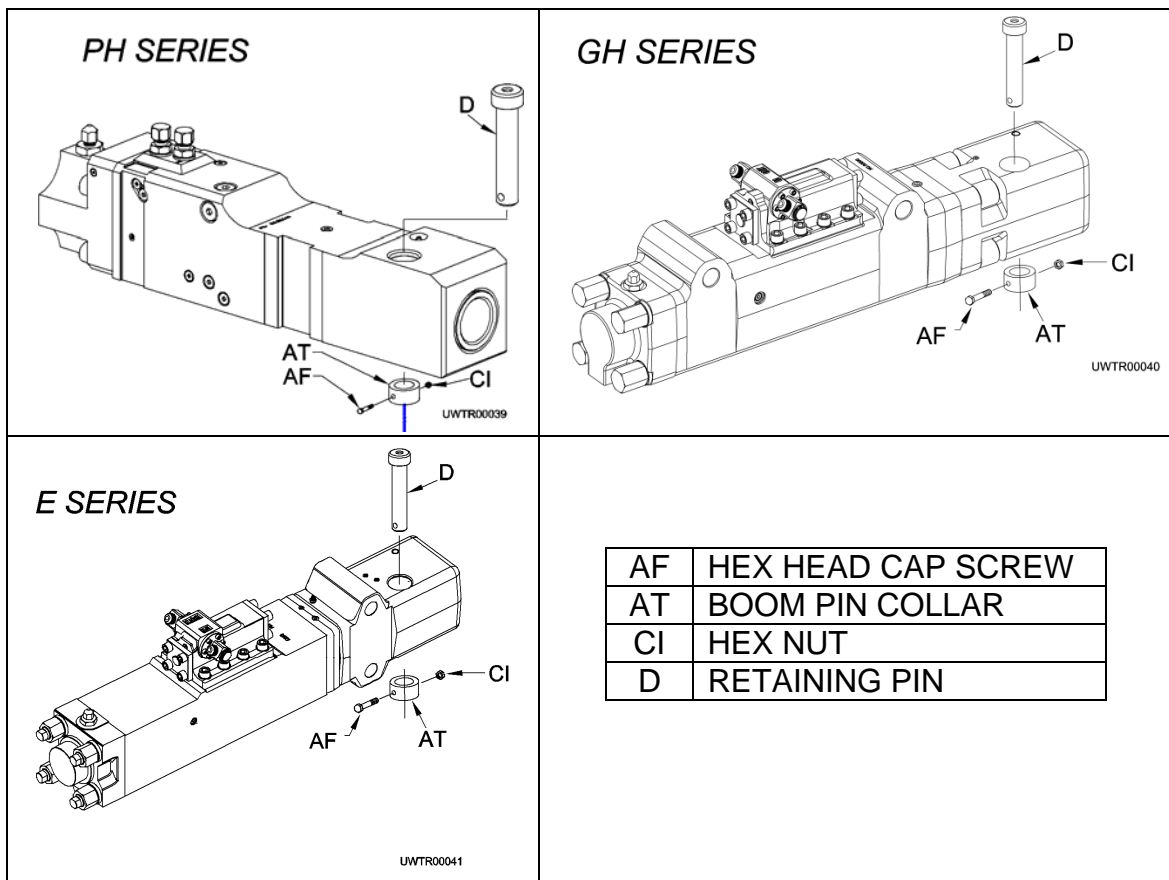
3. Attach air line from air compressor to the adapter fitting on the hammer. Hoses must be secured and protected from damage during operation.

# UNDERWATER RETAINING PIN REPLACEMENT

For the underwater application, the retaining pin and ring must be replaced. Failure to do this will possibly cause the retaining pin to fall out along with the tool.

1. Remove the existing retaining pin and ring.
2. Install the new retaining pin (D), boom pin collar (AT), hex head cap screw (AF), and nut (CI).

**NOTE:** Please contact NPK for updated underwater retaining pin kit part number.



# HAMMER OPERATION

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## Precautions

When used in water, any hammer is subjected to much more severe conditions than when used on land. Therefore, the hammer must be handled more carefully.

- 1) **Never operate the hammer without air supply.**
- 2) Never start to operate the hammer before the compressor tank pressure reaches 85 PSI.
- 3) **If the air supply is stopped during operation, stop operation immediately** and determine the cause.
- 4) If the carrier is on board a barge, the tool is more liable to break because the force of the carrier and the sway of the barge from wave action will act together on the tool.
- 5) Grease is blown off by supplied air. Grease the hammer generously and more often than when used on land. If the unit is equipped with an autolube, it is still recommended that the hammer is greased manually every hour.

## Before start up

Grease the hammer per the instructions in NPK Hydraulic Hammer SERVICE MANUAL.

## Setting the air pressure

- 1) Start the compressor to supply air to the hammer before it is submerged in the water.
- 2) Extend the carrier boom down to the maximum working depth used on the job site and keep the hammer submerged in the water. Bubbles will be generated from the tool area due to air supply.
- 3) While maintaining the above condition, reduce the air pressure gradually with the pressure regulator, and set the supplied air pressure at the minimum level required to produce bubbles.



- 1) Reduce the pressure of the compressed air with the regulator as instructed above.  
Do not supply unregulated high pressure compressed air (85 PSI) from the compressor directly to the hammer. Excessive air pressure may be forced into the hammer through the sealed area.
- 2) A compressor with higher capacity than shown in the table can be used, but be sure to control the pressure as described above because the volume of compressed air supplied is greater.

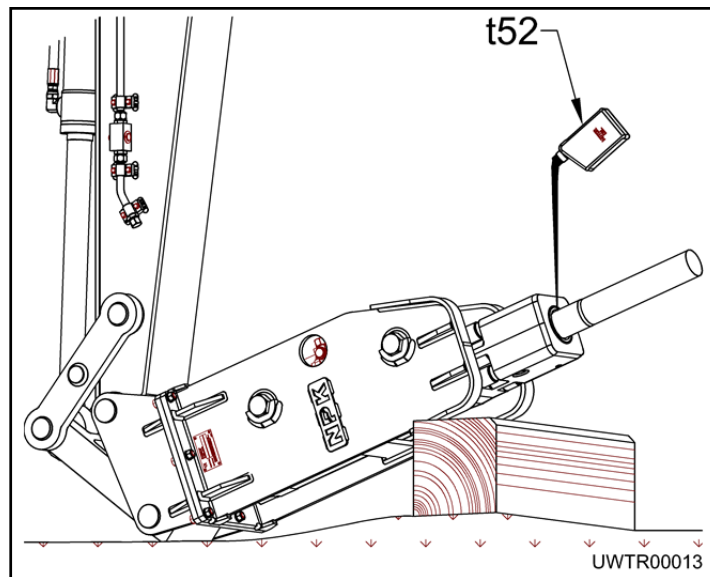
## CARE AFTER USE

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Because the hammer is used in water, it is susceptible to rust and corrosion. Use due care when draining water.

### When the hammer is used every day:

- Operate the hammer out of the water for several minutes, while supplying air, to drain water completely.
- If it is difficult to operate the hammer out of water, run the engine at low RPM and idle the hammer 5 to 6 times while maintaining air supply.



### When the hammer is not used for a long period of time (longer than 30 days):

- After completing the procedures described above, position the hammer as illustrated and discharge the nitrogen gas inside the head cap completely, using the NPK Charge Adapter.
- While keeping the charge valve in an OPEN state, run the engine at a low speed and actuate the hammer foot switch for 2 to 3 seconds.
- Remove the Charge Adapter.
- Pour approximately one quart of oil (t52) into the lower end of the Tool Holder.
- Cover the tool end of the hammer to prevent water or moisture entering the Tool Holder.

# WARRANTY STATEMENTS

"Use Genuine NPK Parts" 12/16



## 3 YEAR LIMITED WARRANTY

### PH06, PH07, PH1, PH2, PH3, PH4 HYDRAULIC HAMMER

*NPK genuine parts (including tool bits) must be used in the hammer for the complete term of the warranty. The use of non-NPK parts will void the entire term of this warranty.*

*This warranty is Non-Transferable.*

#### WARRANTY (12 months) COVERAGE:

NPK CONSTRUCTION EQUIPMENT, INC. ("NPK") warrants that new PH06, PH07, PH1, PH2, PH3, PH4 Hydraulic Hammers sold by NPK will be free from defects in material or workmanship for a period of 12 (twelve) months, starting from the date of delivery to the first user. This warranty excludes all wear items. Wear items are the retaining pin, tool bushing, fasteners, and seals.

#### WARRANTY (24 months) COVERAGE:

Beginning after the expiration of the 12 month coverage: The main body, gas head, valve, piston, and sleeves will be warrantable. No other parts or labor will be warrantable.

#### WARRANTY (36 months) COVERAGE:

Beginning after the expiration of the 24 month coverage: The main body, gas head and valve will be warrantable. No other parts or labor will be warrantable.

#### THIS WARRANTY DOES NOT APPLY TO:

DEMOLITION TOOLS and ACCESSORY TOOLS, HYDRAULIC and MOUNTING INSTALLATION KIT PARTS, HOSES, or REPLACEMENT PARTS, which are warrantable by other warranties.

#### NPK RESPONSIBILITY

NPK will, at its option, repair or replace with a new or reconditioned part, any warranted part that fails by reason of defective material or workmanship, free of charge delivered at a place of business of an NPK Dealer. Note: Parts replaced under warranty become the property of NPK. During the twelve (12) month WARRANTY period, NPK will pay the cost of labor at 75% of the posted shop rate that is necessary to install any repaired or replacement part during normal working hours. Overtime rates and travel expenses will not be reimbursed.

**NOTE: No labor warrantable for any repair past the 12 month coverage period.**

#### USER RESPONSIBILITY

- Photos must accompany all warranties submitted to NPK. These photos can be prints or digital (preferred).
- The installer, user, operator, repairer, assumes responsibility to read, understand and comply with NPK's written INSTALLATION, OPERATOR and SERVICE INSTRUCTIONS.
- Registering warranty with NPK at the time of installation.
- All costs associated with transporting the NPK product, or equipment to which the NPK product is installed, to an authorized NPK Dealer or other authorized location. NPK is not responsible for any expense incurred in field repair.
- Supplying a hydraulic oil sample from the carrier machine upon request by NPK.

#### THESE WARRANTIES DO NOT COVER FAILURES RESULTING FROM:

- Misuse, abuse, alteration or improper installation.
- Maintenance, repair or storage which NPK judges improper.
- Not performing daily visual inspections as specified in the NPK manuals.
- Exceeding the tool and/or tool bushing wear limit.
- Underwater operation without the NPK Underwater Kit installed on the hammer and supplying air to the hammer per the NPK Underwater Instruction Manual.
- Operation after discovery of defective or worn parts.
- Unreasonable delay in making a repair after being notified of a potential product problem.
- Two work shift / per day hammer operation.
- Steel mill operation.

#### THESE WARRANTIES SPECIFICALLY EXCLUDE:

- Failures determined by NPK due to lack of lubrication, improper installation, poor maintenance or improper operation.
- Replacement due to normal wear.
- Repairs by other than an authorized NPK Dealer.
- Use of parts not sold by NPK. **THE USE OF "WILL FIT" PARTS WILL VOID ALL NPK WARRANTIES.**
- Labor charges that are deemed excessive by NPK.
- Parts shipping charges in excess of those which are usual and customary. (Air freight, unless pre-approved, will not be warrantable.)
- Duties, brokerage fees, and local taxes.

**\*WARRANTY REPAIRS DO NOT EXTEND THE STANDARD WARRANTY PERIOD.**

#### LIMITATIONS AND EXCLUSIONS

Violation of any federal, provincial, state or local laws, ordinances, rules or regulations, or removal or alteration of product serial numbers void NPK's written product warranties. **Application for warranty must be made within 30 days of failure / repair.**

**THIS PRODUCT MUST BE USED IN A SAFE AND LAWFUL MANNER IN COMPLIANCE WITH APPLICABLE OSHA REGULATIONS.**

The written product warranties made by NPK set forth NPK's only obligations with respect to any claims of failure, defects or deficiencies in products sold by NPK. **NPK MAKES NO OTHER WARRANTIES OR REPRESENTATIONS WHATSOEVER, EXPRESS OR IMPLIED, OF THE QUALITY, PERFORMANCE, DURABILITY, MATERIALS, WORKMANSHIP, SUITABILITY, CONDITION, DESIGN OR UTILITY OF PRODUCTS SOLD BY NPK, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, ALL SUCH OTHER WARRANTIES AND REPRESENTATIONS BEING HEREBY EXPRESSLY EXCLUDED. NPK SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, COSTS, LOSSES OR LIABILITIES ON ACCOUNT OF DELAY OR DOWNTIME.**

#### DISCLAIMER REGARDING OTHER REPRESENTATIONS OR WARRANTIES

No person is authorized to grant any other warranties or to assume any other liability on NPK's behalf unless made or assumed in writing by an officer of NPK. No person is authorized to grant any warranties or to assume any liabilities on the seller's behalf unless made or assumed in writing by the seller.

Internet: [www.npkce.com](http://www.npkce.com)

As used in this warranty the term NPK means NPK CONSTRUCTION EQUIPMENT, INC., WALTON HILLS, OHIO, U.S.A.



# WARRANTY STATEMENTS



"Use Genuine NPK Parts" 7/18

## 3 YEAR LIMITED WARRANTY BOOM MOUNTED HYDRAULIC HAMMER

**NPK genuine parts (including tool bits) must be used in the hammer for the complete term of the warranty. The use of non-NPK parts will void the entire term of this warranty.**

**This warranty is Non-Transferable.**

### BASE WARRANTY COVERAGE:

NPK CONSTRUCTION EQUIPMENT, INC. ("NPK") warrants that new Boom Mounted Hydraulic Hammers sold by NPK will be free from defects in material or workmanship for a period of 12 (twelve) months, starting from the date of delivery to the first user. This warranty will cover service items for a period of 6 (six) months; service items are all seals, o-rings, rubber mounts, and tie rods. This warranty excludes all wear items. Wear items are the retaining pin, both upper and lower tool bushings and impact ring.

### EXTENDED WARRANTY (24 months) COVERAGE:

Beginning after the expiration of the base warranty, and the NPK authorized dealer inspection has been performed (see details below \*): The main body, tool holder, gas head, valve case, piston, and sleeves will be warrantable. No other parts or labor will be warrantable.

**\*In order to receive the Extended Coverage, the hammer must be taken to an authorized NPK Dealer between the 11 and 13 month period after the date of installation for a routine inspection of all components and reseal. If the routine inspection and reseal is not performed, the Extended and Super Extended Coverage is null and void.**

### SUPER EXTENDED WARRANTY (36 months) COVERAGE:

Beginning after the expiration of the extended warranty, and the NPK authorized dealer inspection has been performed (see details below\*\*): The main body, tool holder, gas head and valve case will be warrantable. No other parts or labor will be warrantable.

**\*\*In order to receive the Super Extended Coverage, the hammer must be taken to an authorized NPK Dealer between the 23 and 25 month period after the date of installation for a routine inspection of all components and reseal. If the routine inspection and reseal is not performed, the Super Extended Coverage is null and void.**

### THIS WARRANTY DOES NOT APPLY TO:

DEMOLITION TOOLS and ACCESSORY TOOLS, HYDRAULIC and MOUNTING INSTALLATION KIT PARTS, HOSES, or REPLACEMENT PARTS, which are warrantable by other warranties.

### NPK RESPONSIBILITY

NPK will, at its option, repair or replace with a new or reconditioned part, any warranted part that fails by reason of defective material or workmanship, free of charge delivered at a place of business of an NPK Dealer. Note: Parts replaced under warranty become the property of NPK.

During the twelve (12) month BASE WARRANTY period, NPK will pay the cost of labor at 75% of the posted shop rate that is necessary to install any repaired or replacement part during normal working hours. Overtime rates and travel expenses will not be reimbursed.

**NOTE: No labor warrantable for Extended Warranties.**

### USER RESPONSIBILITY

- Parts / labor costs for the extended warranty inspections.
- Photos must accompany all warranties submitted to NPK. These photos can be prints or digital (preferred).
- The installer, user, operator, repairer, assumes responsibility to read, understand and comply with NPK's written INSTALLATION, OPERATOR and SERVICE INSTRUCTIONS.
- Registering warranty with NPK at the time of installation.
- All costs associated with transporting the NPK product, or equipment to which the NPK product is installed, to an authorized NPK Dealer or other authorized location. NPK is not responsible for any expense incurred in field repair.
- Supplying a hydraulic oil sample from the carrier machine upon request by NPK.

### THESE WARRANTIES DO NOT COVER FAILURES RESULTING FROM:

- Misuse, abuse, alteration or improper installation.
- Maintenance, repair or storage which NPK judges improper.
- Not performing daily visual inspections as specified in the NPK manuals.
- Exceeding the tool and/or tool bushing wear limit.
- Underwater operation without the NPK Underwater Kit installed on the hammer and supplying air to the hammer per the NPK Underwater Instruction Manual.
- Operation after discovery of defective or worn parts.
- Unreasonable delay in making a repair after being notified of a potential product problem.
  - Two work shift / per day hammer operation.
  - Steel mill operation.

### THESE WARRANTIES SPECIFICALLY EXCLUDE:

- Failures determined by NPK due to lack of lubrication, improper installation, poor maintenance or improper operation.
  - Replacement due to normal wear.
  - Repairs by other than an authorized NPK Dealer.
  - Use of parts not sold by NPK. **THE USE OF "WILL FIT" PARTS WILL VOID ALL NPK WARRANTIES.**
  - Labor charges that are deemed excessive by NPK.
  - Parts shipping charges in excess of those which are usual and customary. (Air freight, unless pre-approved, will not be warrantable.)
  - Duties, brokerage fees, and local taxes.
- \*WARRANTY REPAIRS DO NOT EXTEND THE STANDARD WARRANTY PERIOD.**

### LIMITATIONS AND EXCLUSIONS

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### DISCLAIMER REGARDING OTHER REPRESENTATIONS OR WARRANTIES

No person is authorized to grant any other warranties or to assume any other liability on NPK's behalf unless made or assumed in writing by an officer of NPK. No person is authorized to grant any warranties or to assume any liabilities on the seller's behalf unless made or assumed in writing by the seller.

Internet: [www.npkce.com](http://www.npkce.com)

As used in this warranty the term NPK means NPK CONSTRUCTION EQUIPMENT, INC., WALTON HILLS, OHIO, U.S.A.

# WARRANTY STATEMENTS

APPLICATION FOR WARRANTY MUST BE  
MADE WITHIN 30 WORKING DAYS OF  
FAILURE / REPAIR.

**NPK** WARRANTY

"Use Genuine NPK Parts" 6/08

## STANDARD DEMOLITION AND ACCESSORY TOOLS

### STANDARD DEMOLITION and ACCESSORY TOOLS WARRANTY (30 days)

NPK CONSTRUCTION EQUIPMENT, INC. ("NPK") warrants that new Standard Demolition Tools, and other Standard Accessory Tools sold by NPK will be free from defects in material or workmanship for a period of thirty (30) days, starting from the date of installation. NPK reserves the full right to determine if, and to what extent, warranty adjustments may be made for breakage of the demolition or other accessory tools. **NPK Tool Warranty does not cover labor or travel expenses.**

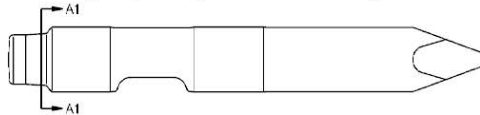
#### THIS WARRANTY DOES NOT APPLY TO:

- Custom or special application tools which are excluded from warranty.

#### NPK RESPONSIBILITY

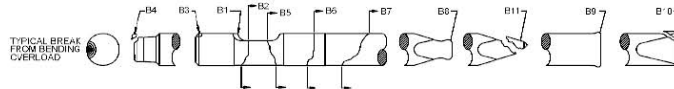
NPK will, at its option, replace with a new or reconditioned tool, any warranted tool that fails by reason of defective material or workmanship, free of charge delivered at a place of business of an NPK Dealer. Tool breakage is specifically covered ONLY for straight across breakage as shown at locations A1.

For warranted tool failures, a prorated credit, up to 80% maximum, will be issued for tools with tip wear greater than 50 mm on chisel and moil points, or 30 mm on blunt end tools. Note: Parts replaced under warranty become the property of NPK.



#### USER RESPONSIBILITY

- Photos and all numbers from retaining pin slot must accompany all warranties submitted to NPK. These photos can be 35 mm, polaroid, or digital.
- The installer, user, operator, repairer, assumes responsibility to read, understand and comply with NPK's written INSTALLATION, OPERATOR and SERVICE INSTRUCTIONS.
- All labor costs.
- Any expense incurred by field repair.
- Tool failures as shown at locations B (see NPK Operators Manual for correct operating procedures):



#### CAUSE OF FAILURE

B1 and B2 - repeated blank hammering.  
B2 - bending overload due to excessive wear of the tool bushings.  
B3 and B4 - corner loading due to excessive wear of the tool bushings.

B5, B6 and B7 - bending overload from excessive prying or slant hammering.  
B8 and B9 - deformation from overheating by hammering in the same position for more than 30 seconds.  
B10 and B11 - chipped, due to wrong application, or overheating by hammering in same position for over 30 seconds.

#### THESE WARRANTIES DO NOT COVER FAILURES RESULTING FROM:

- Installation, alteration, operation, maintenance, repair or storage which NPK judges improper.
- Inadequate lubrication.
- Exceeding the tool and/or tool bushing wear limit.
- Unreasonable delay in making a repair after being notified of a potential product problem.

#### THESE WARRANTIES SPECIFICALLY EXCLUDE:

- Any tool which is altered, welded, hardfaced or resharp ened.
- Replacement due to tip or shank wear.
- Installations not approved by NPK.
- Use of parts not sold by NPK. **THE USE OF "WILL FIT" PARTS WILL VOID ALL NPK WARRANTIES.**
- Parts shipping charges in excess of those which are usual and customary. (Air freight, unless pre-approved, will not be covered.)
- Duties, brokerage fees, and local taxes.

#### WARRANTY REPAIRS DO NOT EXTEND THE STANDARD WARRANTY PERIOD.

Internet: [www.npkce.com](http://www.npkce.com)

As used in this warranty the term NPK means NPK CONSTRUCTION EQUIPMENT, INC., WALTON HILLS, OHIO, U.S.A.

#### LIMITATIONS AND EXCLUSIONS

Violation of any federal, provincial, state or local laws, ordinances, rules or regulations, or removal or alteration of product serial numbers void NPK's written product warranties.

**Application for warranty must be made within 30 days of failure / repair.**

**THIS PRODUCT MUST BE USED IN A SAFE AND LAWFUL MANNER IN COMPLIANCE WITH APPLICABLE OSHA REGULATIONS.**

The written product warranties made by NPK set forth NPK's only obligations with respect to any claims of failure, defects or deficiencies in products sold by NPK. **NPK MAKES NO OTHER WARRANTIES OR REPRESENTATIONS WHATSOEVER, EXPRESS OR IMPLIED, OF THE QUALITY, PERFORMANCE, DURABILITY, MATERIALS, WORKMANSHIP, SUITABILITY, CONDITION, DESIGN OR UTILITY OF PRODUCTS SOLD BY NPK, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, ALL SUCH OTHER WARRANTIES AND REPRESENTATIONS BEING HEREBY EXPRESSLY EXCLUDED. NPK SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, COSTS, LOSSES OR LIABILITIES ON ACCOUNT OF DELAY OR DOWNTIME.**

#### DISCLAIMER REGARDING OTHER REPRESENTATIONS OR WARRANTIES

No person is authorized to grant any other warranties or to assume any other liability on NPK's behalf unless made or assumed in writing by an officer of NPK. No person is authorized to grant any warranties or to assume any liabilities on the seller's behalf unless made or assumed in writing by the seller.

# WARRANTY STATEMENTS

"Use Genuine NPK Parts" 6/08

## **NPK** WARRANTY REPLACEMENT PARTS

APPLICATION FOR WARRANTY MUST BE MADE WITHIN 30 WORKING DAYS OF FAILURE / REPAIR.

### REPLACEMENT PARTS WARRANTY (90 days)

NPK CONSTRUCTION EQUIPMENT, INC. ("NPK") warrants that new Replacement Parts sold by NPK will be free from defects in material or workmanship for a period of ninety (90) days, starting from the date of installation. NPK Replacement Parts Warranty **does not** cover labor or travel expenses. Note: Unexpired New Product Warranty has priority over Replacement Parts Warranty.

### THIS WARRANTY DOES NOT APPLY TO:

- Wear items such as upper and lower tool bushings, impact ring, retaining bars and pins.
- Tools (covered under separate Tool Warranty).

### NPK RESPONSIBILITY

NPK will, at its option, repair or replace with a new or reconditioned part, any warranted part that fails by reason of defective material or workmanship, free of charge delivered at a place of business of an NPK Dealer. Note: Parts replaced under warranty become the property of NPK.

### USER RESPONSIBILITY

- **Photos must accompany all warranties submitted to NPK. These photos can be 35mm, polaroid, or digital.**
- The installer, user, operator, repairer, assumes responsibility to read, understand and comply with NPK's written INSTALLATION, OPERATOR and SERVICE INSTRUCTIONS.
- All labor costs.
- Any expense incurred by field repair.
- Supplying a hydraulic oil sample from the carrier machine upon request by NPK.

### THESE WARRANTIES DO NOT COVER FAILURES RESULTING FROM:

- Installation, alteration, operation, maintenance, repair or storage which NPK judges improper.
- Not performing DAILY VISUAL INSPECTIONS and/or RETIGHTENING of fasteners after initial 20 operating hours after repair.
- Exceeding the tool and/or tool bushing wear limit.
- Underwater operation.
- Operation after discovery of defective or worn parts.
- Unreasonable delay in making a repair after being notified of a potential product problem.

### THESE WARRANTIES SPECIFICALLY EXCLUDE:

- Installations not approved by NPK.
- Replacement due to normal wear.
- Use of parts not sold by NPK. **THE USE OF "WILL FIT" PARTS WILL VOID ALL NPK WARRANTIES.**
- Parts shipping charges in excess of those which are usual and customary. (Air freight, unless pre-approved, will not be covered.)
- Duties, brokerage fees, and local taxes.

**WARRANTY REPAIRS DO NOT EXTEND THE STANDARD WARRANTY PERIOD.**

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Violation of any federal, provincial, state or local laws, ordinances, rules or regulations, or removal or alteration of product serial numbers void NPK's written product warranties. **Application for warranty must be made within 30 days of failure / repair.**

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The written product warranties made by NPK set forth NPK's only obligations with respect to any claims of failure, defects or deficiencies in products sold by NPK. **NPK MAKES NO OTHER WARRANTIES OR REPRESENTATIONS WHATSOEVER, EXPRESS OR IMPLIED, OF THE QUALITY, PERFORMANCE, DURABILITY, MATERIALS, WORKMANSHIP, SUITABILITY, CONDITION, DESIGN OR UTILITY OF PRODUCTS SOLD BY NPK, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, ALL SUCH OTHER WARRANTIES AND REPRESENTATIONS BEING HEREBY EXPRESSLY EXCLUDED. NPK SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, COSTS, LOSSES OR LIABILITIES ON ACCOUNT OF DELAY OR DOWNTIME.**

### DISCLAIMER REGARDING OTHER REPRESENTATIONS OR WARRANTIES

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# WARRANTY STATEMENTS

"Use Genuine NPK Parts"

6/08

## **NPK** WARRANTY AUTOLUBE SYSTEM

APPLICATION FOR WARRANTY MUST BE MADE WITHIN 30 WORKING DAYS OF FAILURE / REPAIR.

### BASE WARRANTY (6 months)

NPK CONSTRUCTION EQUIPMENT, INC. ("NPK") warrants that new AUTOLUBE assemblies sold by NPK will be free from defects in material or workmanship for a period of six (6) months, starting from the date of delivery to the first user.

### MAIN COMPONENT EXTENDED WARRANTY (12 months)

The MAIN COMPONENT EXTENDED WARRANTY covers failure of the MOTOR and DRIVE ASSEMBLY, resulting from defects in material or workmanship in those parts under normal use and service for the period starting with the expiration of the BASE WARRANTY and ends twelve (12) months from the date of delivery to the first user. NPK MAIN COMPONENT EXTENDED WARRANTY **does not** cover labor, travel expenses or the replacement or repair of any other part damaged due to MOTOR or DRIVE ASSEMBLY failure or repair thereof.

### THIS WARRANTY DOES NOT APPLY TO:

- REPLACEMENT PARTS, which are covered by other NPK warranties, or hose assemblies and fittings which are not supplied by NPK.

### NPK RESPONSIBILITY

NPK will, at its option, repair or replace with a new or reconditioned part, any warranted part that fails by reason of defective material or workmanship, free of charge delivered at a place of business of an NPK Dealer. Note: Parts replaced under warranty become the property of NPK.

During the six (6) month BASE WARRANTY period, NPK will pay the cost of labor at 75% of the posted shop rate that is necessary to install any repaired or replacement warranted part during normal working hours. Overtime rates and travel expenses will not be reimbursed.

### USER RESPONSIBILITY

- **Photos must accompany all warranties submitted to NPK. These photos can be 35mm, polaroid, or digital.**
- The installer, user, operator, repairer, assumes responsibility to read, understand and comply with NPK's written INSTRUCTION MANUAL.
- Returning Warranty Registration to NPK at the time of installation.
- All costs associated with shipping the AUTOLUBE unit to an authorized NPK Dealer or other authorized location. NPK is not responsible for any expense incurred in field repair.

### THESE WARRANTIES DO NOT COVER FAILURES RESULTING FROM:

- Installation, alteration, operation, maintenance, repair or storage which NPK judges improper.
- Operation after discovery of defective or worn parts.
- Unreasonable delay in making a repair after being notified of a potential product problem.
- Use of grease containing abrasive compounds.
- Contamination.

### THESE WARRANTIES SPECIFICALLY EXCLUDE:

- Installations not approved by NPK.
- Replacement due to normal wear.
- Repairs by other than an authorized NPK Dealer.
- Use of parts not sold by NPK. **THE USE OF "WILL FIT" PARTS WILL VOID ALL NPK WARRANTIES.**
- Labor charges that are deemed excessive by NPK.
- Parts shipping charges in excess of those which are usual and customary. (Air freight, unless pre-approved, will not be covered.)
- Duties, brokerage fees, and local taxes.

**WARRANTY REPAIRS DO NOT EXTEND THE STANDARD WARRANTY PERIOD.**

### LIMITATIONS AND EXCLUSIONS

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