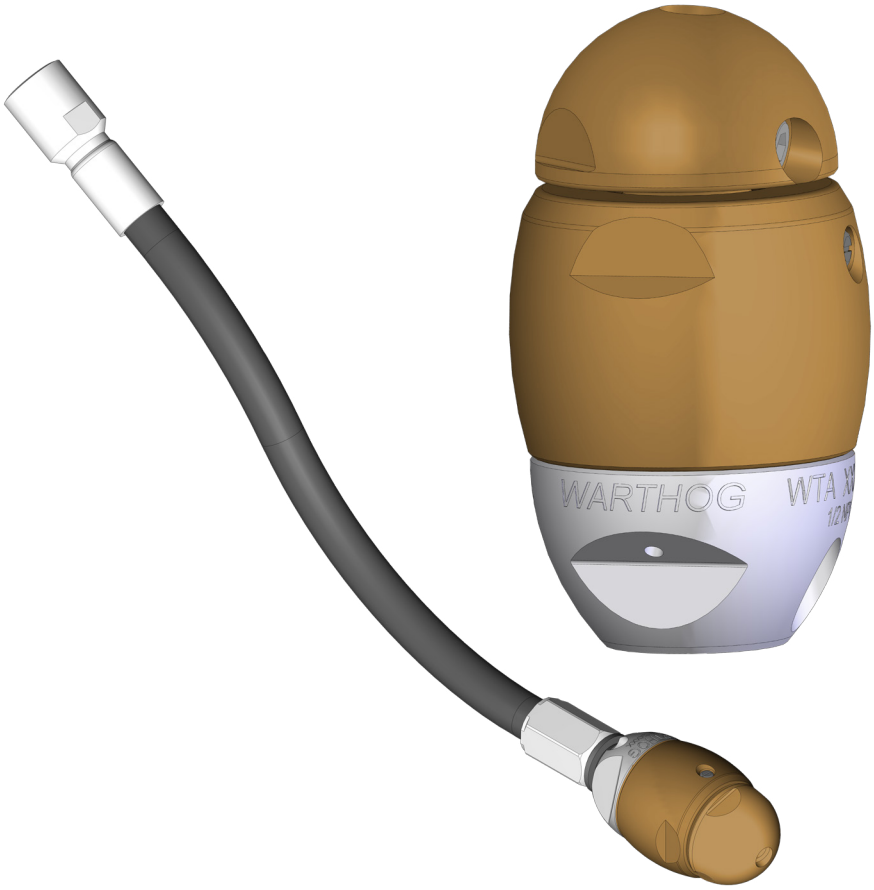
WARTHOG
SEWER NOZZLES BY STONEAGE®

WARTHOG® WX (WTA)
ROTARY SWIVEL NOZZLES
USER MANUAL



PL 723 REV H
(06/2026)

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This manual must be used in accordance with all applicable national laws. The manual shall be regarded as a part of the machine and shall be kept for reference until the final dismantling of the machine, as defined by applicable national law(s). Updated manuals can be downloaded at: Warthog Nozzles Resource Center

Warthog® WX (WTA) SPECIFICATIONS	
Tool Models:	WTA-1/2 & WTA-3/8
Pipe Size:	3-8 in. (75-200 mm)
Pressure Range:	1200-5000 psi (83-350 bar)
Flow Range:	9-24 gpm (34-91Lpm)
Flow Coefficient:	1.7 Cv
Rotation Speed:	300-500 rpm
Visc Service Life:	250 Hours
Inlet Connection:	1/2" NPT or BSPP & 3/8" NPT or BSPP (Available with Whip Hose)
Jet Port Size:	5 x Oversized 1/16" NPT
Jet Type:	AP1
Port Plug Type:	AP1 002
Outside Diameter:	1.9 in. (48 mm)
Overall Length:	3.4 in. (86 mm)
Weight:	1.7 lbs (.77 kg)
Max Water Temperature:	160 °F (70 °C)

DESCRIPTION AND INTENDED USE

The Warthog® WX (WTA) Series models can negotiate elbows and clean-outs commonly found in laterals at homes, buildings, restaurants and other light commercial facilities. This tool is most commonly used on small capacity pumps and cart jetters. Also an excellent choice for cutting roots, clearing ice and removing blockages.

The Warthog® WX (WTA-3/8, WTA-BSPP6, WTA-1/2, & WTA-BSPP8) are rotary sewer nozzles designed to clean 3 to 8 inch pipes and sewers with elbows. The tools can be used at operating pressures up to 5000 psi (350 bar). See WTA HEAD OFFSET CHART for Inlet and Head options.

KEY FEATURES:

- Excellent for navigating elbows
- Cuts roots, clears ice and blockages
- Replaceable AP1 jets.

EC DECLARATION OF CONFORMITY

Manufacturer:	**StoneAge Incorporated** **466 South Skylane Drive Durango, CO 81303 USA**
Authorized Representative	**StoneAge Netherlands BV** **Reedijk 7Q** **3274 KE Heinenoord Netherlands** **Rogier van Riet, European Branch Manager**
Declare that:	**Warthog® WX (WTA)** **are rotary swivel tools designed for cleaning pipes with bends.**

Are compliant with the following Directives and Standards:
Directive 2006/42/EC (Machinery Directive)

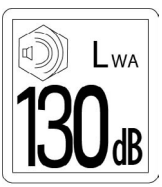
EN ISO 12100:2010 (E) Safety of machinery – General principles for design – Risk assessment and risk reduction

The Technical Files for the Warthog® WX (WTA) are maintained at:

StoneAge Incorporated, 466 South Skylane Drive, Durango, CO 81303, USA and were compiled by Rogier van Riet. The Technical File is available through the Authorized Representative. This Declaration of Conformity is issued under the exclusive responsibility of StoneAge Incorporated.

StoneAge Incorporated, Durango, CO, USA
Kelley Crush, VP of Strategy and Product

02/15/23
Date



UK DECLARATION OF CONFORMITY

Manufacturer:	StoneAge Incorporated 466 South Skylane Drive Durango, CO 81303 USA
Authorized Representative:	StoneAge UK Unit 3 Crucible Business Park Woodbury Lane Norton Worcester Worcestershire, WR5 2DQ United Kingdom Steve Ellis, Managing Director StoneAge UK
Declare that:	Warthog® WX (WTA) are rotary swivel tools designed for cleaning pipes with bends.

Are compliant with the following Statutory Requirements and Designated Standards:

S.I. 2008 No. 1597 (E) Safety of machinery – General principles for design – Risk assessment and risk reduction
EN ISO 12100:2010 (E) Safety of machinery – General principles for design – Risk assessment and risk reduction

The Technical Files for the Warthog® WX (WTA) are maintained at:

StoneAge Incorporated, 466 South Skylane Drive, Durango, CO 81303, USA and were compiled by Steve Ellis The Technical File is available through the Authorized Representative. This Declaration of Conformity is issued under the exclusive responsibility of StoneAge Incorporated.

StoneAge Incorporated, Durango, CO, USA
Kelley Crush, VP of Strategy and Product

02/15/23
Date

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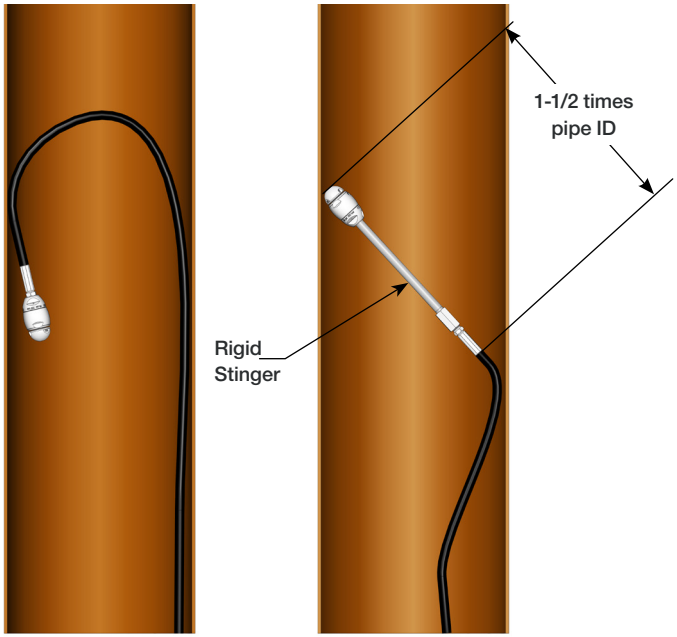
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⚠ WARNING

Because of the short length of the Warthog® WX (WTA), the tool can turn around in pipes and come back at the operator at a high rate of speed. There must be an anti-reversal device of sufficient length to ensure that the rigid length measurement from the tip of the nozzle to the back end of the hose crimp is 1-1/2 times the internal diameter of any pipe that can be accessed in the cleaning operation. A rigid "stinger" should be used between the hose and the tool. (see below)
Operators MUST read, understand, and follow the Operational Procedures (Section 9.0) of WJTA-IMCA's, Industry Best Practices For The Use Of High-pressure Waterjetting Equipment, or equivalent. Make sure there is an operator controlled dump in the system, operated by the person closest to the cleaning job. It is recommended that the hose be marked a few feet from the end with a piece of tape so the operator knows when to stop when retracting the tool.

⚠ DANGER

Operations with this equipment can be potentially hazardous. Caution must be exercised prior to and during machine and water jet tool use. Please read and follow all of these instructions, in addition to the guidelines in the WJTA Recommended Practices handbook, available online at www.wjta.org. Deviating from safety instructions and recommended practices can lead to severe injury and/or death.



IMPROPER USE:
Tool will turn around in large diameter pipe
VERY DANGEROUS!

PROPER USE:
Tool with rigid "stinger" to prevent turnaround, still able to pass through elbows.

OPERATOR TRAINING

Managers, Supervisors, and Operators MUST be trained in Health and Safety Awareness of High-pressure Water Jetting and hold a copy the Water Jetting Association (WJA) Code of Practice, or equivalent (see www.waterjetting.org.uk).

Operators MUST be trained to identify and understand all applicable standards for the equipment supplied. Operators should be trained in manual handling techniques to prevent bodily injury.

Operators MUST read, understand, and follow the Operational and Training Requirements (Section 6.0) of WJTA-IMCA's, Industry Best Practices For The Use Of High-pressure Waterjetting Equipment, or equivalent.

Operators MUST read, understand and follow the Warnings, Safety Information, Assembly, Installation, Connection, Operation, Transport, Handling, Storage, and Maintenance Instructions detailed in this manual.

StoneAge has designed and manufactured this equipment considering all hazards associated with its operation. StoneAge assessed these risks and incorporated safety features in the design. StoneAge **WILL NOT** accept responsibility for the results of misuse.

IT IS THE RESPONSIBILITY OF THE INSTALLER/ OPERATOR to conduct a job specific risk assessment prior to use. Job specific risk assessment MUST be repeated for each different set up, material, and location.

The risk assessment MUST conform to the Health and Safety at Work Act 1974 and other relevant Health and Safety legislation.

The risk assessment MUST consider potential material or substance hazards including:

- Aerosols
- Biological and microbiological (viral or bacterial) agents
- Combustible materials
- Dusts
- Explosion
- Fibers
- Flammable substances
- Fluids
- Fumes
- Gases
- Mists
- Oxidizing Agents

PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

Use of Personal Protective Equipment (PPE) is dependent on the working pressure of water and the cleaning application. Managers, Supervisors, and Operators MUST carry out a job specific risk assessment to define the exact requirements for PPE. See Personal Protective Equipment (Section 5) of WJTA-IMCA's, Industry Best Practices For The Use Of High-pressure Waterjetting Equipment for additional information.

Hygiene - Operators are advised to wash thoroughly after all waterjetting operations to remove any waterblast residue which may contain traces of harmful substances.

First aid provision - users MUST be provided with suitable first aid facilities at the operation site.

PPE may include:

- **Eye protection:** Full face visor
- **Foot protection:** Kevlar® brand or steel toe capped, waterproof, non-slip safety boots
- **Hand protection:** Waterproof gloves
- **Ear protection:** Ear protection for a minimum of 85 dBA
- **Head protection:** Hard hat that accepts a full face visor and ear protection
- **Body protection:** Multi-layer waterproof clothing approved for waterjetting
- **Hose protection:** Hose shroud
- **Respiratory protection:** May be required; refer to job specific risk assessment



⚠ WARNING

Operations with this equipment can be potentially hazardous. Caution MUST be exercised prior to and during equipment and water jet tool use. Please read and follow all of these instructions, in addition to the guidelines in the WJTA-IMCA's Industry Best Practices handbook, available online at www.wjta.org. Deviating from safety instructions and recommended practices can lead to severe injury and/or death.

- Do not exceed the maximum operating pressure specified for any component in a system.
- The immediate work area MUST be marked off to keep out untrained persons.
- Inspect the equipment for visible signs of deterioration, damage, and improper assembly. Do not operate if damaged, until repaired.
- Make sure all threaded connections are tight and free of leaks.
- Users of the Warthog® Classic Surge WX MUST be trained and/or experienced in the use and application of high-pressure technology and cleaning, as well as all associated safety measures, according to the WJTA Recommended Practices for the use of High-pressure Waterjetting Equipment.
- Install mechanical stops, stingers and back out preventers as appropriate when doing any tube, pipe or vessel cleaning.
- Always de-energize the system before servicing or replacing any parts. Failure to do so can result in severe injury and/or death.

PRE-RUN SAFETY CHECK

Refer to WJTA-IMCA's Industry Best Practices For The Use Of High-pressure Waterjetting Equipment and/or The Water Jetting Association's, WJA Code of Practice for additional safety information.

- Complete a job specific risk assessment and act on the resulting actions.
- Adhere to all site specific safety procedures.
- Ensure the waterblasting zone is properly barricaded and that warning signs are posted.
- Ensure the workplace is free of unnecessary objects (e.g. loose parts, hoses, tools).
- Ensure all Operators are using the correct Personal Protective Equipment (PPE).
- Check that the air hoses are properly connected and tight.
- Check all hoses and accessories for damage prior to use. Do not use damaged items. Only high quality hoses intended for waterblast applications should be used as high-pressure hoses.
- Check all high-pressure threaded connections for tightness.
- Operate the high-pressure water at full pressure and use the Pneumatic Foot Pedal Dump Control to verify that the dump valve is working properly.
- Ensure that Operators never connect, disconnect, or tighten hoses, adapters, or accessories with the high-pressure water pump unit running.
- Ensure no personnel are in the hydroblasting zone.

WARTHOG® WX (WTA)

PIPE SIZE: 3-8” Pipes | 75 -200 mm

INLET: 3/8” & 1/2” NPT or BSPP

FLOW RATE: 9-24 gpm | 34-91 lpm

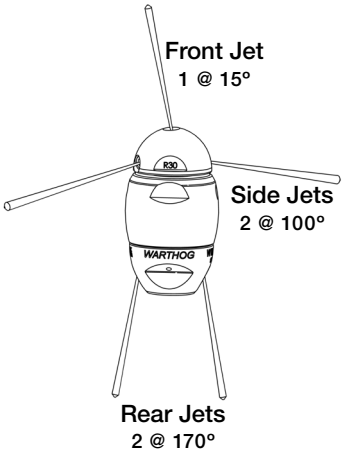
SERVICE INTERVAL: 250 hours

The industry’s most powerful puller/descaler or pusher nozzle for 3-8” (76-203 mm) pipes. Designed with extended life durability, the Warthog® WX (WTA) is compact in size and features a combination of fixed and low-angle rear rotary jets to optimize the pulling and cutting/descaling power.

DESCALER HEAD

- 2 rear fixed jets delivers a powerful pull despite it’s compact size
- Unique shape and design allows the Warthog® WX (WTA) to easily maneuver long radius elbows
- Designed to run along the bottom of the pipe, protecting the integrity of smaller pipes
- Access ports enable viscous fluid change without disassembly for easy field maintenance

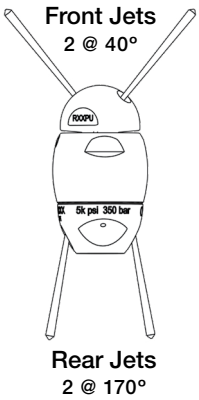




PUSHER HEAD

- Jetting is configured to unplug blockages, break them apart, and push debris into the main line with a single tool.
- Two rear fixed jets deliver a powerful pull despite the tool’s compact size.
- Two front jets clear and flush debris path.





RECOMMENDED HOSES

WTA-1/2: StoneAge recommends a 1/2" ID hose be used, especially when using longer hose lengths.

WTA-3/8: StoneAge recommends a 3/8" ID hose be used; if 1/4" ID inch hose is used, too much pressure is lost (at 5 gpm, each 100 ft of 1/4" hose will take away 700 psi due to friction).

JETTING

Pumps are commonly sold based on their *theoretical* maximum flow output; in reality, none are 100% efficient. We try to take this into account when supplying you the jets. If you are not getting to the operating pressure desired, the sizes of the jets may need to be changed.

This following charts are provided as an overview. For more precise jetting information, please use the StoneAge Jetting App to determine jet sizes: Warthog Nozzles Jetting Calculator

For more information regarding the Warthog® WX or other Warthog® Sewer Tools, contact your factory authorized Warthog® Distributor or go to; Warthog Sewer Nozzles

DESCALER (WTA) HEAD OFFSET CHART

WTA WITH 300' OF Ø3/8" HOSE			PRESSURE				
			2500 PSI	3000 PSI	3500 PSI	4000 PSI	4500 PSI
FLOW	GPM	LPM	170 BAR	210 BAR	240 BAR	280 BAR	310 BAR
	9	34	R45	R45	R45	R45	R45
	12	45	R45	R45	R45	R30	R30
	15	57				R30	R30

WTA WITH 500' OF Ø1/2" HOSE			PRESSURE				
			2500 PSI	3000 PSI	3500 PSI	4000 PSI	4500 PSI
FLOW	GPM	LPM	170 BAR	210 BAR	240 BAR	280 BAR	310 BAR
	12	45	R45	R45	R30	R30	R30
	15	57	R45	R30	R30	R30	R30
	18	68	R30	R30	R30	R22	R22
	21	79			R30	R22	R22

WTA WITH 200' OF Ø1/2" HOSE			PRESSURE				
			2500 PSI	3000 PSI	3500 PSI	4000 PSI	4500 PSI
FLOW	GPM	LPM	170 BAR	210 BAR	240 BAR	280 BAR	310 BAR
	9	34	R45	R45	R45	R45	R45
	12	45	R45	R30	R30	R30	R30
	15	57	R30	R30	R30	R30	R30
	18	68	R30	R30	R22	R22	R22
	21	79	R22	R22	R22	R22	R17
	24	91	R22	R22	R17	R17	R17

WTA WITH 500' OF Ø5/8" HOSE			PRESSURE				
			2500 PSI	3000 PSI	3500 PSI	4000 PSI	4500 PSI
FLOW	GPM	LPM	170 BAR	210 BAR	240 BAR	280 BAR	310 BAR
	15	57	R30	R30	R30	R30	R30
	18	68	R30	R30	R22	R22	R22
	21	79	R22	R22	R22	R22	R17
	24	91	R22	R22	R22	R22	R17
	27	102	R22	R17	R17	R17	R17

PUSHER (WTA-PU) HEAD OFFSET CHART

WTA PUSHER WITH 300' OF Ø3/8" HOSE			PRESSURE				
			2500 PSI	3000 PSI	3500 PSI	4000 PSI	4500 PSI
	GPM	LPM	170 BAR	210 BAR	240 BAR	280 BAR	310 BAR
FLOW	5	19					
	9	34					
	12	45		R32	R32	R32	R32

WTA PUSHER WITH 500' OF Ø1/2" HOSE			PRESSURE				
			2500 PSI	3000 PSI	3500 PSI	4000 PSI	4500 PSI
	GPM	LPM	170 BAR	210 BAR	240 BAR	280 BAR	310 BAR
FLOW	9	34		R32	R32	R32	R32
	12	45		R32	R32	R32	R32
	15	57	R32	R32	R32	R32	R24
	18	68	R32	R32	R24	R24	R24
	21	79	R32	R32	R24	R24	R24

WTA PUSHER WITH 200' OF Ø1/2" HOSE			PRESSURE				
			2500 PSI	3000 PSI	3500 PSI	4000 PSI	4500 PSI
	GPM	LPM	170 BAR	210 BAR	240 BAR	280 BAR	310 BAR
FLOW	9	34		R32	R32	R32	R32
	12	45	R32	R32	R32	R32	R32
	15	57	R32	R32	R32	R24	R24
	18	68	R32	R24	R24	R24	R24
	21	79	R24	R24	R24		

NOTICE

The two most important items in maintaining the WTA tools;

- Keep debris from entering the tool and preventing it from rotating by flushing hoses before use.

- Keep the WTA full of viscous fluid to maintain control and rotation speed. When the viscous fluid is lost or contaminated, the rotation speed of the tool will increase, which reduce the life of the high pressure seal and bearing. We recommend that this is done after every 40 to 50 hours of operation. If the tool is spinning much faster than when new, this is an indication that it needs fluid.

OPERATION:

- Make sure the operator has a controlled dump in the system and it is operated by the person closest to the job. Test the dump prior to beginning the job.
- Flush out the high pressure hoses before connecting the WTA to eliminate debris.



TECH TIP: NPT threads -StoneAge recommends the use of Teflon™tape and yellow Threadmate™ on NPT thread connections.
Fine and high pressure threads- StoneAge recommends the use of Blue Goop® Anti-seize on Fine and high pressure thread connections.

- It is recommended that the hose be marked a few feet from the end with a piece of tape so the operator knows when to stop on the way back out.
- Position the tool within the pipe to be cleaned; bring the pump up to pressure, making certain that the WTA begins to pull it's way in the proper direction into the pipe. If roots are present, feeding at a slower rate will improve the cleaning results. Depending on the amount of debris in the pipe, it may be necessary to occasionally pull the WTA back toward the pipe entrance to prevent large buildups behind the tool.
- Close the dump and slowly bring the pump up to pressure the first time to make sure jets are not plugged and the jet thrust is correct. The WTA should begin to slowly rotate.
- Once the pump is up to pressure, feed the WTA at a reasonable rate to allow the jets time to clean the pipe. Once operating pressure is reached, feed the tool into the pipe to begin the cleaning job.
- Depending on the amount of debris in the pipe, it may be necessary to occasionally pull the WTA back toward the pipe entrance to prevent large buildups behind the tool. Allow the jets time to do their work by feeding the hose out at a controlled rate.
- When finished cleaning, shut down and secure pump before removing WTA from line. If the WTA will be removed from the line and stored for more than several days, blow out water with compressed air to prolong the life of the internal components.

Loctite® Threadlocker is a registered trademark of the Henkel® Corporation.
Blue Goop® is a registered trademark of the Swagelock® Corporation.
Parker Threadmate™ is a registered trademark of the Parker Hannifin Corporation.

SEAL LEAK:

- The seal may leak initially at low pressure, but should pop closed as pressure is increased. If operating pressure is reached and the seal is leaking continuously, the high pressure seal may need to be replaced. See the “Disassembly and Assembly” sections of this manual for instructions. Maintenance Kits can be found in the “Service Kit” section of this manual.

HEAD WILL NOT ROTATE:

- First try rotating head by hand and see if it feels rough or gritty to turn. If it does, the tool must be disassembled and repaired; it likely has bad bearings, seals and fluid. If the tool feels okay, check to see if any jets are plugged; even if a jet is only partially blocked it can keep the head from rotating. Jets must be removed from the head to properly clean them; it does not do any good to poke the material plugging the jet back into the head, as it will just replug a jet.

HEAD SPINS TOO FAST OR TOO SLOW:

- If the head spins too fast or if the tool starts to sound different (like a jet engine) the tool may be low on viscous fluid, or the viscous fluid may be contaminated. In this case, See the next page for Viscous Fluid Filling Instructions and push viscous fluid through the tool until clean visc bubbles out one of the visc ports. Continued operation in this state can mechanically damage the tool and a rebuild may be required to replace the faulty shaft seals.
- Check that the tool is jetted correctly for the length and diameter of the hose. If the hose is too long for the jetted configuration, it will cause a reduction in pressure and torque at the tool. The opposite would be true if the hose is too short for the jetted configuration.

NOT GETTING THE DESIRED OPERATING PRESSURE:

- The sizes of the jets may need to be changed. Verify jetting at Warthog Jetting App
- For more information contact your factory authorized StoneAge® Inc. distributor or go to Warthog Sewer Nozzles for help.

TOOL SERVICE

The Warthog® WX (WTA) also has a high pressure seal that will last between 150 and 300 hours. The seal may leak at low pressure, but will seal at high pressures unless it has worn out. Refer to this manual for assembly instructions.

Product training and proper tools are required to service this tool. If you are uncomfortable performing the service, bring the WTA to your authorized dealer.

The use of a bench vice and an arbor press is recommended. Take care throughout the entire procedure to keep the internals clean and free from grit, lint, and contamination. Failure to do so could result in premature failure after service.

NOTICE

DO NOT USE A PIPE WRENCH OR PLIERS WITH TEETH

This can crush and crack the hardened steel body, leading to tool breakage during operation.

LIST OF TOOLS:

- Bench Vise (recommended)
- Arbor Press (recommended)
- 5mm T-Handle Hex Wrench
- 4mm Hex Wrench
- Adjustable End Wrench
- Pick
- VS 606-F Visc\Syringe Kit
  6oz Slow Visc
  BC 410 Syringe

LIST OF MATERIALS:

- Clean lint free rags or blue shop towels
- Multifak EP1 Grease – StoneAge PN (GP 049 Grease)
- PSF-2,000 cst silicone fluid (fast visc).
- Blue Goop® (Swagelok® brand anti-seize or equiv.)
- Loctite® Threadlocker Blue 242
- Isopropyl Alcohol or Denatured Alcohol

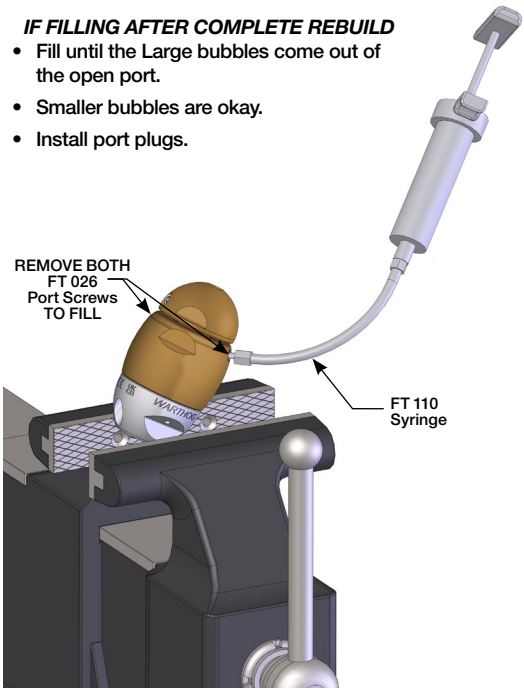
VISCOUS FLUID FILL INSTRUCTIONS

TO FILL WITH VISCOUS FLUID

1. Fill the syringe with viscous fluid. This is best done by unscrewing the handle from the tube and pulling out the plunger. Pour fluid into the tube; reassemble the syringe.
2. Remove both Port Screws (FT 026) from the Body with a small flathead screwdriver.
3. Clamp the tool by the flats on the Inlet Nut of the tool, or on either side of the body, at the approximate angle shown in the diagram to the right. *If clamping on the body, it is recommend to place a rag in the jaws of the vise in order to protect the body.*
4. Thread the syringe fitting into the side port, and slowly squeeze fluid into swivel until excess fluid comes out of the other Port. If the fluid coming out appears dirty or watery, keep squeezing in new fluid until it comes out clean.
5. Remove syringe from the WTA Body and install both Port Plugs.

IF FILLING AFTER COMPLETE REBUILD

- Fill until the Large bubbles come out of the open port.
- Smaller bubbles are okay.
- Install port plugs.



DISASSEMBLY

1. Remove one Port Screw before disassembling the WTA to relieve the vacuum on the internal parts.
2. Clamp the flats on the Body of the tool in a vise with the Inlet Nut facing up.
3. Using an adjustable wrench, unscrew the Inlet Nut from tool Body.

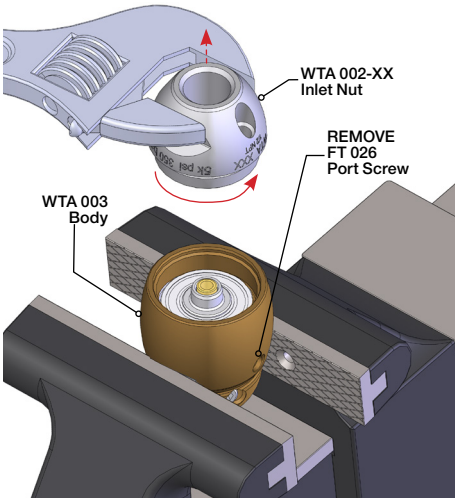


Figure 1: For Steps 1-2

4. Use a pick to gently remove the Brass Seat and the High Pressure Seal from the Body.

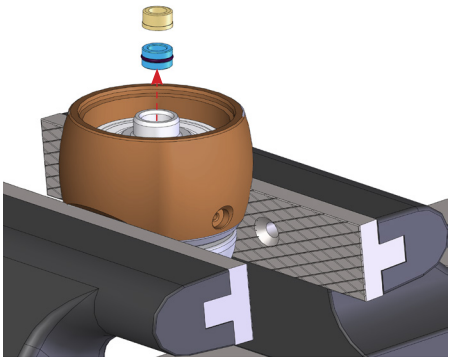


Figure 2: For Step 4

5. Clamp the tool in the vise by the flats on the head.
6. Insert a 5mm T-Handle Allen Key approximately 1/2" into the Shaft and rotate counterclockwise to release the Shaft Assembly.

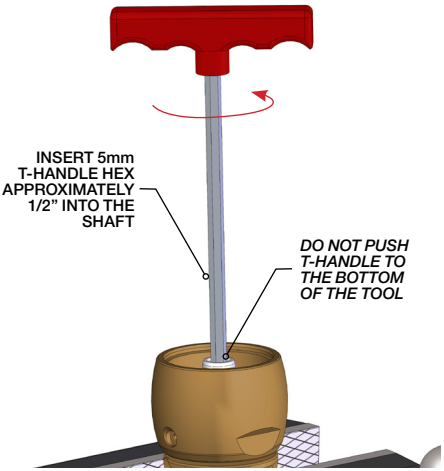


Figure 3: For Step 5

7. Pull the Shaft/Bearing/Rotor/O-Ring Assembly out of the Body and lift the Body off the Head.

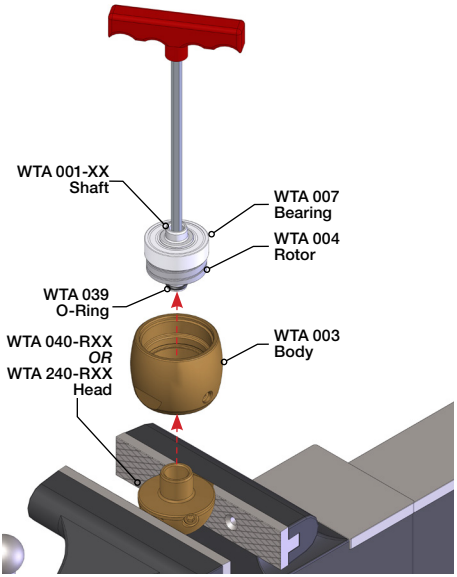


Figure 4: For Step 6

8. Remove the Bearing and Rotor. If they don't slide off the Shaft, use an arbor press to remove.
9. Use a pick to gently remove the O-Ring at the end of the Shaft.

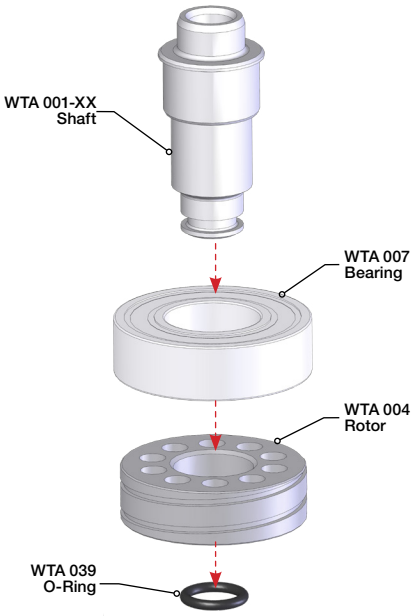


Figure 5: For Steps 7-8

10. Remove the Seal from the Body.

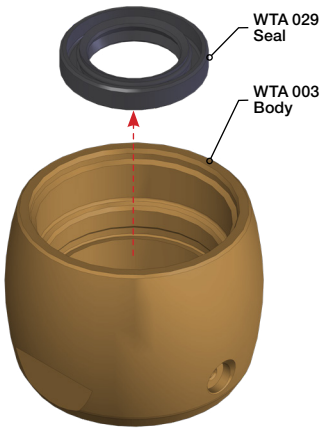


Figure 6: For Step 9

11. Use a pick to gently remove the O-Ring from around the outside of the Inlet Nut and the seal from inside the Inlet Nut.

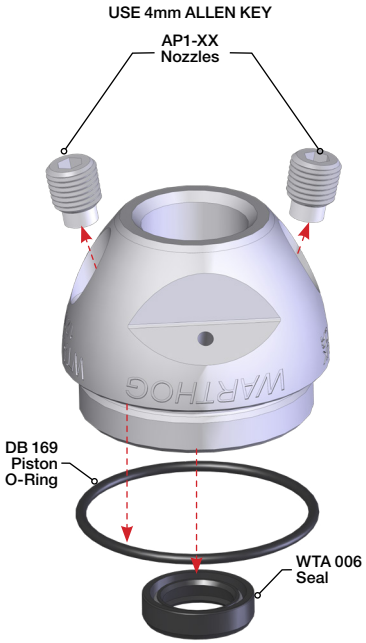


Figure 7: For Steps 10-11

12. Use a 4mm Allen Key to remove the Nozzles from the Inlet Nut and the Head.

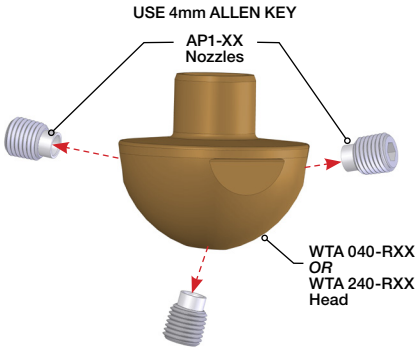


Figure 8: For Step 11

NOTICE

- Before reassembly of the tool, wash all parts in solvent and blow dry.
- Inspect wear items, (High Pressure Seal Assembly, Shaft Seals, O-Rings, and Port Screws.)
- Make sure nozzles are clear using a pin gauge or a welder's nozzle cleaning tool.
- See the *"Maintenance Kits"* section of this manual for a complete list of Service, Overhaul, and, Tool kits.

ASSEMBLY

1. Apply Stoneage PN: GP 047 (Parker Threadmate™ II or equiv.) and 2.5 wraps of Teflon™ tape to all nozzle threads.
2. Use a 4mm Allen Key to install the Nozzles into the Inlet Nut and Head. Torque nozzles to 36-48 in-lb.

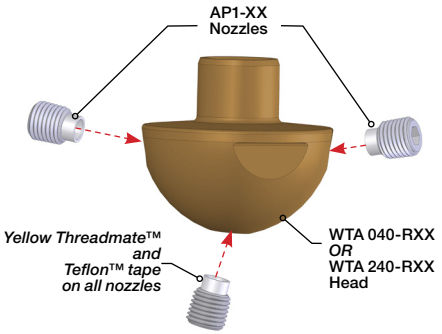


Figure 1: For Steps 1-2

3. Install O-Ring on the outside of the Inlet Nut.
4. Fill the spring side of the Seal with grease, coat the outside, and press into the Inlet Nut with the spring side facing down or towards the Inlet Nut.

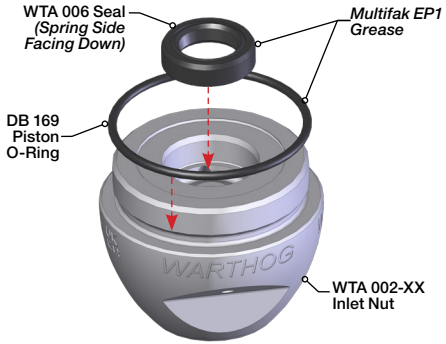


Figure 2: For Steps 3-4

5. Apply Stoneage PN: GP 047 (Parker Threadmate™ II or equiv.) and 2½ wraps of Teflon™ tape to all nozzle threads.
6. Use a 4mm Allen Key to install the Nozzles into the Inlet Nut and Head. Torque nozzles to 36-48 in-lb.

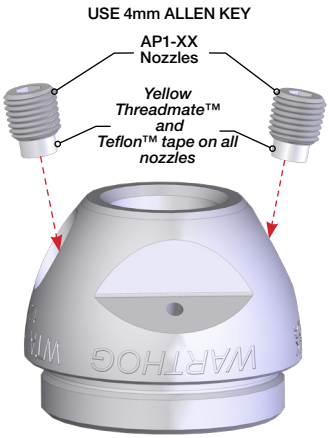


Figure 3 For Steps 5-6

7. Fill the spring side of the Seal with grease and press into the Body with the spring side facing up or away from the flats on the Body.

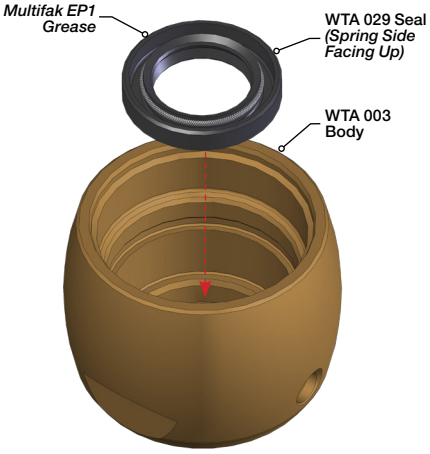


Figure 6: For Step 7

8. Press the Bearing and Rotor onto the Shaft.
9. Grease the O-Ring with Multifak EP1 Grease and Gently install it into the groove on the end of the Shaft.
10. Coat the threads on the Shaft with Blue Loctite®

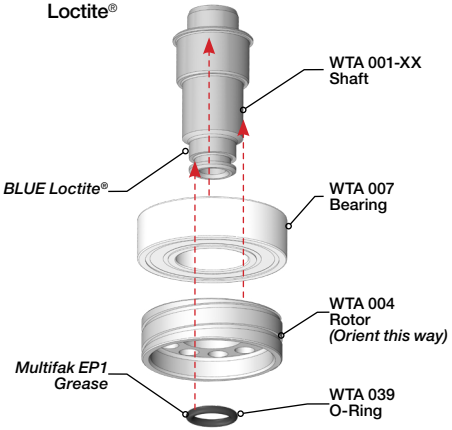


Figure 7: For Steps 8-10

11. Clamp the Head in the vise by the flats as shown.
12. Place the Body with Seal onto the Head.
13. Drop the Shaft/Bearing/Rotor/O-Ring Assembly onto the Body.

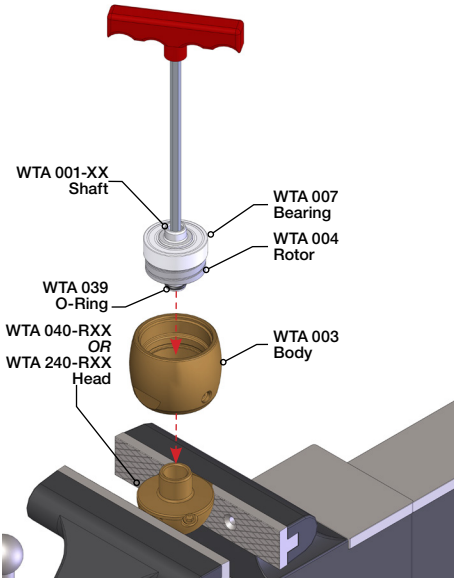


Figure 8: For Steps 11-13

14. Insert a 5mm T-Handle Allen Key approximately 1/2" into the Shaft and rotate clockwise to secure the Shaft Assembly to the Head. Torque to 108-132 IN-LBS.

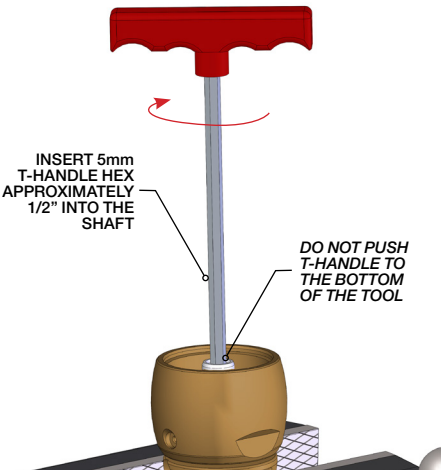


Figure 9: For Step 14

15. Install the High Pressure Seal and the Brass Seat into the center of the Shaft

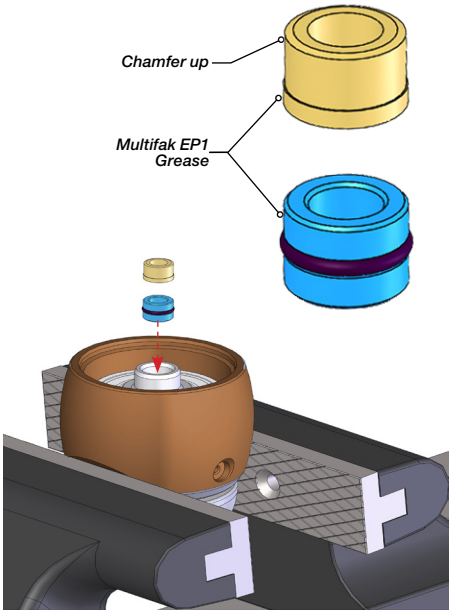


Figure 10: For Step 15

16. Using and adjustable wrench, screw the Inlet Nut onto the Body.
17. Fill with the lubricant per the instructions on page 14 and follow the steps for “Filling After Complete Rebuild”.

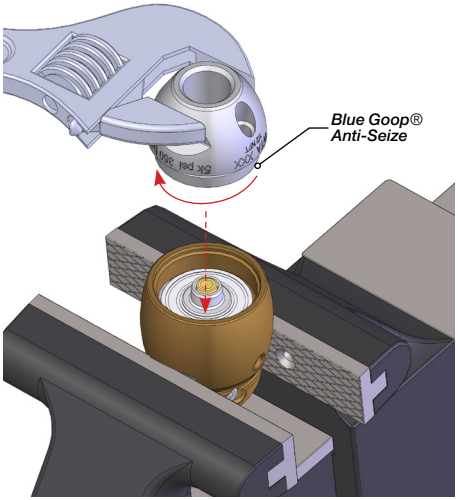
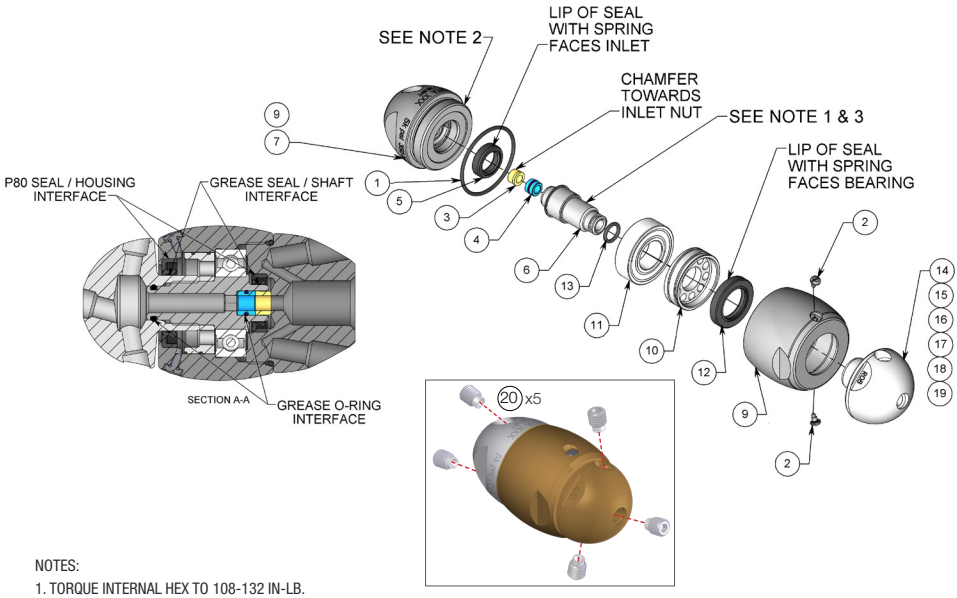


Figure 11: For Steps 16-17

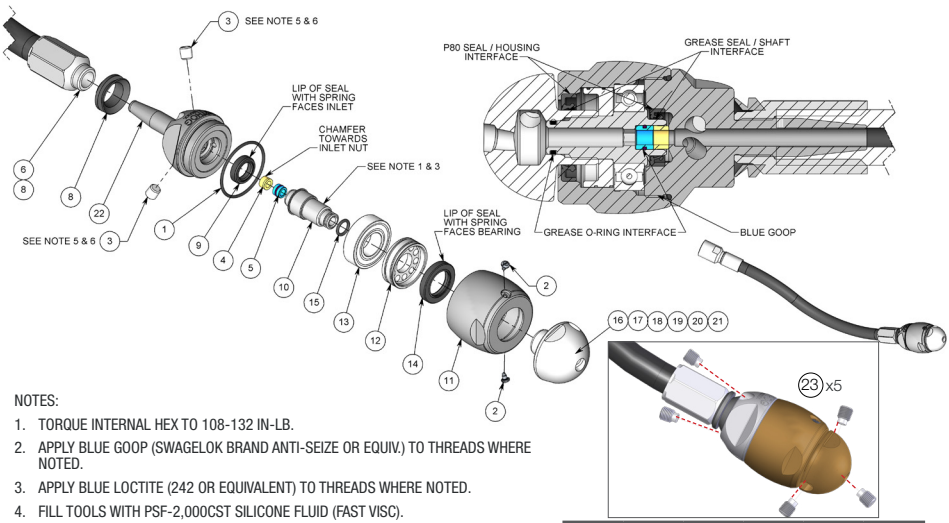


NOTES:

1. TORQUE INTERNAL HEX TO 108-132 IN-LB.
2. APPLY BLUE GOOP (SWAGELOK BRAND ANTI-SEIZE OR EQUIV.) TO THREADS WHERE NOTED.
3. FILL TOOLS WITH PSF-2,000CST SILICONE FLUID (FAST VISC).

#	PART NUMBER AND DESCRIPTION	MODEL INLET AND HEAD OFFSETS 1/2 INCH & 3/8 INCH					
		R08	R12	R17	R22	R30	R45
1	DB 169 O-RING, PISTON	1	1	1	1	1	1
2	FT 026 PORT SCREW WITH O-RING	2	2	2	2	2	2
3	RJ 011-K BRASS SEAT	1	1	1	1	1	1
4	RJ 012-KTO SEAL WITH O-RING	1	1	1	1	1	1
5	WT 006 SEAL	1	1	1	1	1	1
6	WTA 001 SHAFT	1	1	1	1	1	1
7	*WTA 002-P6 INLET NUT, 3/8 NPT (MODEL DEPENDENT)*	1	1	1	1	1	1
8	*WTA 002-P8 INLET NUT, 1/2 NPT (MODEL DEPENDENT)*	1	1	1	1	1	1
9	WTA 003 BODY	1	1	1	1	1	1
10	WTA 004 ROTOR	1	1	1	1	1	1
11	WTA 007 BALL BEARING WITH SEALS	1	1	1	1	1	1
12	WTA 029 SEAL	1	1	1	1	1	1
13	WTA 039 O-RING *(WAS BC 040 O-RING)*	1	1	1	1	1	1
14	WTA 040-R08 HEAD, R08	1	-	-	-	-	-
15	WTA 040-R12 HEAD, R12	-	1	-	-	-	-
16	WTA 040-R17 HEAD, R17	-	-	1	-	-	-
17	WTA 040-R22 HEAD, R22	-	-	-	1	-	-
18	WTA 040-R30 HEAD, R30	-	-	-	-	1	-
19	WTA 040-R45 HEAD, R45	-	-	-	-	-	1
20	AP1-XXX	5	5	5	5	5	5

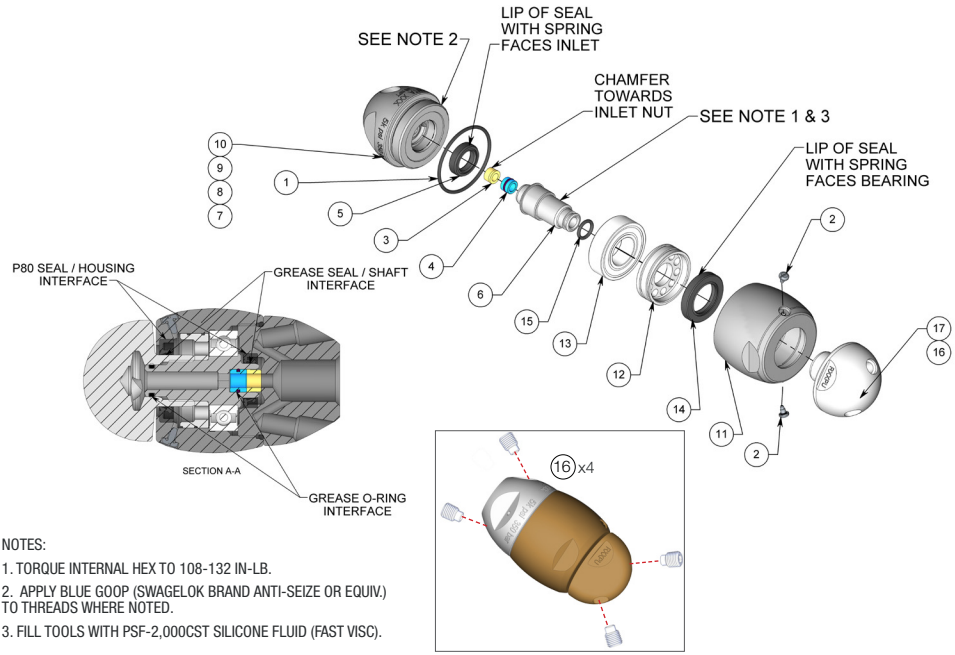
Warthog® WX (WTA-XXXH-RXX) *DESCALER* PART DIAGRAM



NOTES:

1. TORQUE INTERNAL HEX TO 108-132 IN-LB.
2. APPLY BLUE GOOP (SWAGELOK BRAND ANTI-SEIZE OR EQUIV.) TO THREADS WHERE NOTED.
3. APPLY BLUE LOCTITE (242 OR EQUIVALENT) TO THREADS WHERE NOTED.
4. FILL TOOLS WITH PSF-2,000CST SILICONE FLUID (FAST VISC).
5. TORQUE PLUGS TO 36-48 IN-LB.
6. APPLY STONEAGE PN: GP 047 (PARKER THREADMATE II OR EQUIV.) AND THEN 2.5 WRAPS OF TEFLON TAPE TO PLUG THREADS.

		MODEL INLET AND HEAD OFFSETS					
		1/2 INCH & BSPP8					
#	PART NUMBER AND DESCRIPTION	R08	R12	R17	R22	R30	R45
1	DB 169 O-RING, PISTON	1	1	1	1	1	1
2	FT 026 PORT SCREW WITH O-RING	2	2	2	2	2	2
3	GP 025-P1SS HEX SOCKET PLUG, 1/16 NPT, SS-15K	2	2	2	2	2	2
4	RJ 011-K BRASS SEAT	1	1	1	1	1	1
5	RJ 012-KTO SEAL WITH O-RING	1	1	1	1	1	1
6	WS 020-2 P8 2FT HOSE ASSEMBLY *(MODEL DEPENDENT)*	1	1	1	1	1	1
7	WTA 020-BSPP8 2FT HOSE ASSEMBLY *(MODEL DEPENDENT)*	1	1	1	1	1	1
8	WS 022-S V RING SEAL	1	1	1	1	1	1
9	WT 006 SEAL	1	1	1	1	1	1
10	WTA 001 SHAFT	1	1	1	1	1	1
11	WTA 003 BODY	1	1	1	1	1	1
12	WTA 004 ROTOR	1	1	1	1	1	1
13	WTA 007 BALL BEARING WITH SEALS	1	1	1	1	1	1
14	WTA 029 SEAL	1	1	1	1	1	1
15	WTA 039 O-RING *(WAS BC 040 O-RING)*	1	1	1	1	1	1
16	WTA 040-R08 HEAD, R08	1	-	-	-	-	-
17	WTA 040-R12 HEAD, R12	-	1	-	-	-	-
18	WTA 040-R17 HEAD, R17	-	-	1	-	-	-
19	WTA 040-R22 HEAD, R22	-	-	-	1	-	-
20	WTA 040-R30 HEAD, R30	-	-	-	-	1	-
21	WTA 040-R45 HEAD, R45	-	-	-	-	-	1
22	WTA 102 INLET HOSE BARB	1	1	1	1	1	1
23	AP1-XXX	5	5	5	5	5	5

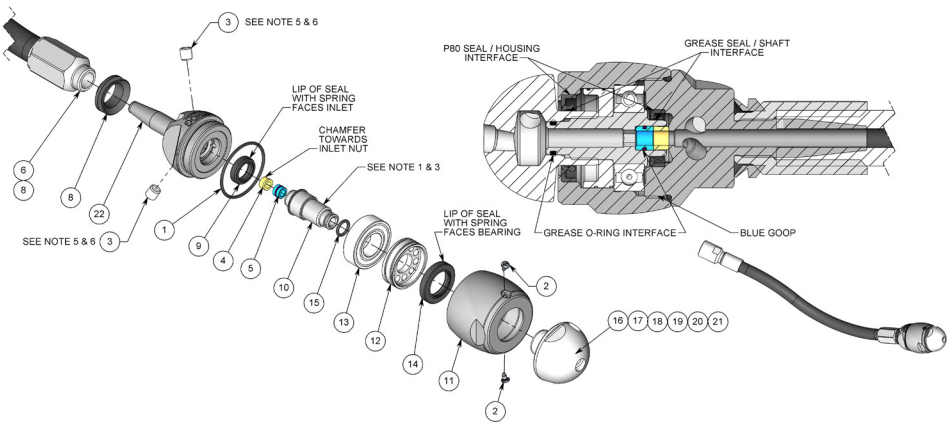


NOTES:

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2. APPLY BLUE GOOP (SWAGELOK BRAND ANTI-SEIZE OR EQUIV.) TO THREADS WHERE NOTED.
3. FILL TOOLS WITH PSF-2,000CST SILICONE FLUID (FAST VISC).

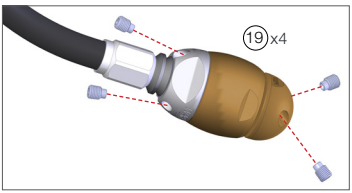
		MODEL INLET AND HEAD OFFSETS	
		1/2 INCH & BSPP8 | 3/8 INCH & BSPP6	
#	PART NUMBER AND DESCRIPTION	R24	R32
1	DB 169 O-RING, PISTON	1	1
2	FT 026 PORT SCREW WITH O-RING	2	2
3	RJ 011-K BRASS SEAT	1	1
4	RJ 012-KTO SEAL WITH O-RING	1	1
5	WT 006 SEAL	1	1
6	WTA 001 SHAFT	1	1
7	*WTA 002-BSPPP6 INLET NUT, 3/8 BSPP (MODEL DEPENDENT)*	1	1
8	*WTA 002-BSPPP8 INLET NUT, 1/2 BSPP (MODEL DEPENDENT)*	1	1
9	*WTA 002-P6 INLET NUT, 3/8 NPT (MODEL DEPENDENT)*	1	1
10	*WTA 002-P8 INLET NUT, 1/2 NPT (MODEL DEPENDENT)*	1	1
11	WTA 003 BODY	1	1
12	WTA 004 ROTOR	1	1
13	WTA 007 BALL BEARING WITH SEALS	1	1
14	WTA 029 SEAL	1	1
15	WTA 039 O-RING *(WAS BC 040 O-RING)*	1	1
14	WTA 240-R24 HEAD, R24	1	-
15	WTA 240-R32 HEAD, R32	-	1
16	AP1-XXX	4	4

Warthog® WX (WTA-XXXH-RXX-PU) PUSHER PART DIAGRAM



NOTES:

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4. FILL TOOLS WITH PSF-2,000CST SILICONE FLUID (FAST VISC).
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		MODEL INLET AND HEAD OFFSETS	
		1/2 INCH & BSPP8 | 3/8 INCH & BSPP6	
#	PART NUMBER AND DESCRIPTION	R24	R32
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3	GP 025-P1SS HEX SOCKET PLUG, 1/16 NPT, SS-15K	2	2
4	RJ 011-K BRASS SEAT	1	1
5	RJ 012-KTO SEAL WITH O-RING	1	1
6	WS 020-2 P8 2FT HOSE ASSEMBLY *(MODEL DEPENDENT)*	1	1
7	WTA 020-BSPP8 2FT HOSE ASSEMBLY *(MODEL DEPENDENT)*	1	1
8	WS 022-S V RING SEAL	1	1
9	WT 006 SEAL	1	1
10	WTA 001 SHAFT	1	1
11	WTA 003 BODY	1	1
12	WTA 004 ROTOR	1	1
13	WTA 007 BALL BEARING WITH SEALS	1	1
14	WTA 029 SEAL	1	1
15	WTA 039 O-RING *(WAS BC 040 O-RING)*	1	1
16	WTA 102 INLET HOSE BARB	1	1
17	WTA 240-R24 HEAD, R24	1	-
18	WTA 240-R32 HEAD, R32	-	1
19	AP1-XXX	4	4

KITS AND KIT CONTENTS	
WTA 600-ST1 SERVICE KIT	WTA 610-RT1 OVERHAUL KIT
1 RJ 011-K Brass Seat 1 RJ 012-KTO H.P. Seal & O-Ring	1 WTA 039 O-Ring 7/16 OD 1 DB 169 O-Ring 1-1/2 OD, 70A Hard 1 FT 026 Port Screw with O-Ring 1 RJ 011-KBrass Seat 1 RJ 012-KTO H.P. Seal & O-Ring 1 WS 022-S Weep Seal 1 WT 006 Double Lip Seal, 19mm OD with 5mm wide Spring 1 WTA 007 Ball Bearing with Seals 1 WTA 029 Double Lip Seal, 29mm OD with 5mm wide Spring
WTA 600-VS SERVICE KIT WITH VISC	WTA 610-VS OVERHAUL KIT WITH VISC
1 BJ 048-F 6oz Fast Visc 1 FT 110 Syringe 1 RJ 011-K Brass Seat 1 RJ 012-KTO H.P. Seal & O-Ring	1 BJ 048-F 6oz Fast Visc 1 FT 110 Syringe 1 WTA 039 O-Ring 7/16 OD 1 DB 169 O-Ring 1-1/2 OD, 70A Hard 1 FT 026 Port Screw with O-Ring 1 RJ 011-KBrass Seat 1 RJ 012-KTO H.P. Seal & O-Ring 1 WS 022-S Weep Seal 1 WT 006 Double Lip Seal, 19mm OD with 5mm wide Spring 1 WTA 007 Ball Bearing with Seals 1 WTA 029 Double Lip Seal, 29mm OD with 5mm wide Spring
VS 606-F VISC/SYRINGE KIT	WTA 612 TOOL KIT
1 BJ 048-F 6oz Fast Visc 1 FT 110 Syringe	1 WTA 105 Installation Tool for WTA seal install

TERMS AND CONDITIONS AND WARRANTY INFORMATION

1. **Acceptance of Terms and Conditions.** Receipt of these Terms and Conditions of Sale ("Terms and Conditions") shall operate as the acceptance by StoneAge, Inc. ("Seller") of the order submitted by the purchaser ("Buyer"). Such acceptance is made expressly conditional on assent by Buyer to these Terms and Conditions. Such assent shall be deemed to have been given unless written notice of objection to any of these Terms and Conditions (including inconsistencies between Buyer's purchase order and this acceptance) is given by Buyer to Seller promptly on receipt hereof.

Seller desires to provide Buyer with prompt and efficient service. However, to individually negotiate the terms of each sales contract would substantially impair Seller's ability to provide such service. Accordingly, the product(s) furnished by Seller are sold only according to the terms and conditions stated herein and with the terms and conditions stated in any effective StoneAge Dealer Agreement or StoneAge Reseller Agreement, if applicable. Notwithstanding any terms and conditions on Buyer's order, Seller's performance of any contract is expressly made conditional on Buyer's agreement to these Terms and Conditions unless otherwise specifically agreed to in writing by Seller. In the absence of such agreement, commencement of performance, shipment and/or delivery shall be for Buyer's convenience only and shall not be deemed or construed to be an acceptance of Buyer's terms and conditions.

2. **Payment/Prices.** Unless other arrangements have been made in writing between Seller and Buyer, payment for the product(s) shall be made upon receipt of invoice. The prices shown on the face hereof are those currently in effect. Prices invoiced shall be per pricelist in effect at the time of shipment. Prices are subject to increase for inclusion of any and all taxes which are applicable and which arise from the sale, delivery or use of the product(s), and the collection of which Seller is or may be responsible to provide to any governmental authority, unless acceptable exemption certificates are provided by Buyer in accordance with applicable law. Buyer shall pay all charges for transportation and delivery and all excise, order, occupation, use or similar taxes, duties, levies, charges or surcharges applicable to the product(s) being purchased, whether now in effect or hereafter imposed by any governmental authority, foreign or domestic.

3. **Warranty.** SELLER MAKES NO WARRANTIES OR REPRESENTATIONS AS TO THE PERFORMANCE OF ANY PRODUCT EXCEPT AS SET FORTH IN THE STONEAGE LIMITED WARRANTY PROVIDED WITH THE PRODUCT.

4. **Delivery.** Seller is not obligated to make delivery by a specified date, but will always use its best efforts to make delivery within the time requested. The proposed shipment date is an estimate. Seller will notify Buyer promptly of any material delay and will specify the revised delivery date as soon as practicable. UNDER NO CIRCUMSTANCES SHALL SELLER HAVE ANY LIABILITY WHATSOEVER FOR LOSS OF USE OR FOR ANY DIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM DELAY REGARDLESS OF THE REASON(S).

All product(s) will be shipped F.O.B. point of origin, unless specifically agreed otherwise, and Buyer shall pay all shipping costs and insurance costs from that point. Seller, in its sole discretion, will determine and arrange the means and manner of transportation of the product(s). Buyer shall bear all risk of loss commencing with the shipment or distribution of the product(s) from Seller's warehouse. Order shortages or errors must be reported within fifteen (15) business days from receipt of shipment to secure adjustment. No product(s) may be returned without securing written approval from Seller.

5. **Modification.** These Terms and Conditions are intended by Seller and Buyer to constitute a final, complete and exclusive expression of agreement relating to the subject matter hereof and cannot be supplemented or amended without Seller's prior written approval.

6. **Omission.** Seller's waiver of any breach or Seller's failure to enforce any of these Terms and Conditions at any time, shall not in any way affect, limit or waive Seller's right thereafter to enforce and compel strict compliance with every term and condition hereof.

7. **Severability.** If any provision of these Terms and Conditions is held to be invalid or unenforceable, such invalidity or unenforceability shall not affect the validity or enforceability of the other portions hereof.

8. Disputes. Seller and Buyer shall attempt in good faith to promptly resolve any dispute arising under these Terms and Conditions by negotiations between representatives who have authority to settle the controversy. If unsuccessful, Seller and Buyer shall further attempt in good faith to settle the dispute by nonbinding third-party mediation, with fees and expenses of such mediation apportioned equally to each side. Any dispute not so resolved by negotiation or mediation may then be submitted to a court of competent jurisdiction in accordance with the terms hereof. These procedures are the exclusive procedures for the resolution of all such disputes between the Seller and Buyer.

9. **Governing Law.** All sales, agreements for sale, offers to sell, proposals, acknowledgments and contracts of sale, including, but not limited to, purchase orders accepted by Seller, shall be considered a contract under the laws of the State of Colorado and the rights and duties of all persons, and the construction and effect of all provisions hereof shall be governed by and construed according to the laws of such state.

10. **Jurisdiction and Venue.** Seller and Buyer agree that the state or federal courts located within the City and County of Denver, Colorado shall have sole and exclusive jurisdiction over any litigation concerning any dispute arising under these Terms and Conditions not otherwise resolved pursuant to Section 9 as well as any alleged defects of any Products or damages sustained as a result of such alleged defects. Seller and Buyer further agree that should any litigation be commenced in connection with such a dispute, it shall only be commenced in such courts. Seller and Buyer agree to the exclusive jurisdiction of such courts and neither will raise any objection to the jurisdiction and venue of such courts, including as a result of inconvenience.

11. **Attorney's Fees.** If any litigation is commenced between Seller and Buyer, or their personal representatives, concerning any provision hereof, the party prevailing in the litigation shall be entitled, in addition to such other relief that is granted, to a reasonable sum as and for their attorneys' fees and costs in such litigation or mediation.

STONEAGE TRADEMARK LIST

View the list of StoneAge's trademarks and service marks and learn how the trademarks should be used. Use of StoneAge trademarks may be prohibited, unless expressly authorized.

http://www.StoneAgetools.com/trademark-list/

STONEAGE PATENT DATA

View the list of StoneAge's current U.S. patent numbers and descriptions.

http://www.sapatents.com

STONEAGE TERMS AND WARRANTY

View StoneAge's Terms and Warranty Conditions online.

http://www.stoneagetools.com/terms

http://www.stoneagetools.com/warranty

WARRANTY:

Warranties set forth herein extend only to End-Users, meaning customers acquiring, or that have previously acquired, a product manufactured by StoneAge ("Product") for their own use and not for resale, either directly from StoneAge Inc. ("StoneAge") or from a StoneAge Authorized Dealer or Reseller ("Dealer"). No warranty of any kind or nature is made by StoneAge beyond those expressly stated herein.

1. **LIMITED WARRANTY PERIOD.** Subject to the limitations and conditions hereinafter set forth, StoneAge warrants its Product to be free from defects in workmanship and material for a period of one (1) year from the date of purchase by the End-User, provided that the end of the limited warranty period shall not be later than eighteen (18) months from the date of shipment of the Product to the Dealer or the End-User by StoneAge ("Limited Warranty Period"). All replacement parts which are furnished under this Limited Warranty and properly installed shall be warranted to the same extent as the original Product under this Limited Warranty if, and only if, the original parts were found to be defective within the original Limited Warranty Period covering the original Product. Replacement parts are warranted for the remainder of the original Limited Warranty Period. This Limited Warranty does not cover any component part of any Product not manufactured by StoneAge. Any such component part is subject exclusively to the component manufacturer's warranty terms and conditions.

2. **LIMITED WARRANTY COVERAGE.** StoneAge's sole obligation under this Limited Warranty shall be, at StoneAge's option and upon StoneAge's inspection, to repair, replace or issue a credit for any Product which is determined by StoneAge to be defective in material or workmanship. StoneAge reserves the right to examine the alleged defective Product to determine whether this Limited Warranty is applicable, and final determination of limited warranty coverage lies solely with StoneAge. No statement or recommendation made by a StoneAge representative, Dealer or agent to End-User shall constitute a warranty by StoneAge or a waiver or modification to any of the provisions hereof or create any liability for StoneAge.

3. **WARRANTY SERVICE PROVIDERS.** Service and repair of the Product is to be performed only by StoneAge authorized service representatives, including Dealers who are authorized repair centers, with StoneAge approved parts. Information about StoneAge authorized service representatives can be obtained through the StoneAge website at www.stoneagetools.com/service. Unauthorized service, repair or modification of the Product or use of parts not approved by StoneAge will void this Limited Warranty. StoneAge reserves the right to change or improve the material and design of the Product at any time without notice to End-User, and StoneAge is not obligated to make the same improvements during warranty service to any Product previously manufactured.

4. **WARRANTY EXCLUSIONS.** This Limited Warranty does not cover, and StoneAge shall not be responsible for the following, or damage caused by the following: (1) any Product that has been altered or modified in any way not approved by StoneAge in advance in writing; (2) any Product that has been operated under more severe conditions or beyond the rated capacity specified for that Product; (3) depreciation or damage caused by normal wear and tear, failure to follow operation or installation instructions, misuse, negligence or lack of proper protection during storage; (4) exposure to fire, moisture, water intrusion, electrical stress, insects, explosions, extraordinary weather and/or environmental conditions including, but not limited to lightning, natural disasters, storms, windstorms, hail, earthquakes, acts of God or any other force majeure event; (5) damage to any Product caused by any attempt to repair, replace, or service the Product by persons other than StoneAge authorized service representatives; (6) costs of normal maintenance parts and services; (7) damage sustained during unloading, shipment or transit of the Product; or (8) failure to perform the recommended periodic maintenance procedures listed in the Operator's Manual accompanying the Product.

5. **REQUIRED WARRANTY PROCEDURES.** To be eligible for warranty service, the End-User must: (1) report the Product defect to the entity where the Product was purchased (i.e. StoneAge or the Dealer) within the Limited Warranty Period specified in this Limited Warranty; (2) submit the original invoice to establish ownership and date of purchase; and (3) make the Product available to a StoneAge authorized service representative for inspection to determine eligibility for coverage under this Limited Warranty. This Limited Warranty shall not extend to any person or entity who fails to provide proof of original purchase from StoneAge or a Dealer. No Product may be returned for credit or adjustment without prior written permission from StoneAge.

6. DISCLAIMER OF IMPLIED WARRANTIES AND OTHER REMEDIES. EXCEPT AS EXPRESSLY STATED HEREIN (AND TO THE FULLEST EXTENT ALLOWED UNDER APPLICABLE LAW), STONEAGE HEREBY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ANY AND ALL WARRANTIES, REPRESENTATIONS OR PROMISES AS TO THE QUALITY, PERFORMANCE OR FREEDOM FROM DEFECT OF THE PRODUCT COVERED BY THIS LIMITED WARRANTY. STONEAGE FURTHER DISCLAIMS ALL IMPLIED INDEMNITIES.

7. **LIMITATION OF LIABILITY.** End-User specifically acknowledges that the Product may be operated at high speeds and/or pressures, and that as such it may be inherently dangerous if not used correctly. End-User shall familiarize itself with all operation materials provided by StoneAge and shall at all times use and require its agents, employees and contractors to use all necessary and appropriate safety devices, guards and proper safe operating procedures. In no event shall StoneAge be responsible for any injuries to persons or property caused directly or indirectly by the operation of the Product if End-User or any agent, employee, or contractor of End-User: (1) fails to use all necessary and appropriate safety devices, guards and proper safe operating procedures; (2) fails to maintain in good working order such safety devices and guards; (3) alters or modifies the Product in any way not approved by StoneAge in advance in writing; (4) allows the Product to be operated under more severe conditions or beyond the rated capacity specified for the Product; or (5) otherwise negligently operates the Product. End-User shall indemnify and hold StoneAge harmless from any and all liability or obligation incurred by or against StoneAge, including costs and attorneys' fees, to or by any person so injured.

TO THE FULL EXTENT ALLOWED BY APPLICABLE LAW, STONEAGE SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES (INCLUDING WITHOUT LIMITATION, LOSS OF PROFITS, LOSS OF GOODWILL, DIMINUTION OF VALUE, WORK STOPPAGE, INTERRUPTION OF BUSINESS, RENTAL OF SUBSTITUTE PRODUCT, OR OTHER COMMERCIAL LOSS EVEN TO THE EXTENT SUCH DAMAGES WOULD CONSTITUTE DIRECT DAMAGES), WITH RESPECT TO THE COVERED STONEAGE PRODUCT, OR OTHERWISE IN CONNECTION WITH THIS LIMITED WARRANTY, REGARDLESS OF WHETHER STONEAGE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

IT IS UNDERSTOOD THAT STONEAGE'S LIABILITY, WHETHER IN CONTRACT, IN TORT, UNDER ANY WARRANTY, IN NEGLIGENCE, OR OTHERWISE SHALL NOT EXCEED THE AMOUNT OF THE PURCHASE PRICE PAID BY THE END-USER FOR THE PRODUCT. STONEAGE'S MAXIMUM LIABILITY SHALL NOT EXCEED, AND END-USER'S REMEDY IS LIMITED TO EITHER (1) REPAIR OR REPLACEMENT OF THE DEFECTIVE WORKMANSHIP OR MATERIAL OR, AT STONEAGE'S OPTION, (2) REFUND OF THE PURCHASE PRICE, OR (3) ISSUANCE OF A CREDIT FOR THE PURCHASE PRICE, AND SUCH REMEDIES SHALL BE END-USER'S ENTIRE AND EXCLUSIVE REMEDY.

YOU, THE END-USER, UNDERSTAND AND EXPRESSLY AGREE THAT THE FOREGOING LIMITATIONS ON LIABILITY ARE PART OF THE CONSIDERATION IN THE PRICE OF THE STONEAGE PRODUCT YOU PURCHASED.

Some jurisdictions do not allow the limitation or exclusion of liability for certain damages, so the above limitations and exclusions may not apply to you. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction. If any provisions of this Limited Warranty is held to be invalid or unenforceable, such invalidity or unenforceability shall not affect the validity or enforceability of the other portions hereof.



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