

# ABRASIVE APPLICATION UNIT (AAU)



## OPERATION AND MAINTENANCE MANUAL

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# NEW PRODUCT LIMITED WARRANTY

Hydroblaster Pressure Washers & Hydrokleen Waste Water Recycling and Filtration Equipment

NEW PRODUCT LIMITED WARRANTY Applies to all Hydro Engineering Inc. Equipment

## LIMITED WARRANTY COVERAGE:

Products manufactured by Hydro Engineering, Inc., are warranted to the original purchaser to be free from defects in materials and workmanship under normal use for specific periods. This Limited Warranty is subject to exclusions, is calculated from the date of the original purchase, and applies to the original components only as shown below. Any parts repaired or replaced under this warranty will fall under that parts limited warranty.

## NINETY DAY LABOR:

This limited warranty includes labor for a period of ninety (90) days from the original purchase date. Labor is provided on the replacement and/or repair of parts covered by this limited warranty only. Labor is not covered for replacement of parts considered as wear items or items rejected under the terms of this limited warranty.

## LIFETIME PARTS:

Some parts supplied on our equipment carry a lifetime limited warranty such as; forged brass pump manifolds, supplied by General Pump Company, they are warranted unconditionally, including freeze damage. These pass through warranties are subject to change by their manufacturer. Please consult our service department for the most recent warranty terms on these items.

## FIVE YEAR PARTS:

This applies to all proprietary parts manufactured by Hydro Engineering, Inc., such as equipment frames, Hydropads, stainless steel equipment covers, panels, guards, coil wraps, and fuel tanks.

## FIVE YEAR PRORATED:

Hydroblaster heating coils are covered for full repair or replacement during the first two years; customer pays 40% of replacement cost during third year, 60% during fourth year and 80% during the fifth year.

## ONE YEAR MINIMUM ON PARTS:

All other components will be warranted based on the original component manufacturer's limited warranty. All carry a one year minimum term. Normal wear items as described below are excluded.

## PASS THROUGH REPLACEMENT PARTS WARRANTY:

Many components such as pumps, motors, engines, etc., may be warranted by their respective manufacturers and are serviced through the manufacturer's local authorized service centers. Hydro Engineering, Inc. is not authorized to provide warranty on many of these items, but will help you contact and expedite the warranty process with the authorized service centers.

## EXCLUSIONS:

1. Normal service and wear items, such as oil filters, fuel filters, nozzles, guns, wands, quick disconnects, o-rings, seals, packing, valve or valve assemblies, water filter cartridges, belts, brushes, discharge hoses, oil skimming belts, filter media, ozone bulbs, etc.
2. Damage or malfunctions resulting from accidents, abuse, modification, alterations, incorrect installation, improper servicing, and failure to follow manufacturer's maintenance instructions, or use of the equipment beyond its stated usage specifications as contained in the operator's manual.
3. Freeze damage, chemical damage, scale/hard water build up, rust, corrosion, or excessive heat.
4. Damage resulting from inadequate- electric, water and venting or fuel supplies.
5. Normal maintenance service, including tune-ups, fuel system cleaning, and clearing of obstructions in fuel or water lines.
6. Freight damage resulting from shipment.
7. Field labor and transportation (mileage) charges for onsite service calls.

## ACQUIRING WARRANTY SERVICE:

To acquire warranty service, you must return the product to your Authorized Hydro Engineering, Inc. Dealer, (or directly to Hydro Engineering Inc. factory), and freight prepaid, with proof of purchase date within the applicable warranty period. If the product is permanently installed, you must notify your Authorized Hydro Engineering, Inc. Dealer (or Hydro Engineering Inc. factory) of the defect. Your Dealer is authorized to file a claim with Hydro Engineering, Inc. Ground freight charges on warranted replacement parts will be paid by Hydro Engineering Inc. For warranty service on components warranted by other manufacturers, your Authorized Hydro Engineering, Inc. Dealer (or Hydro Engineering Inc. factory) can help you obtain warranty service through the manufacturer's local authorized service centers.

## LIMITATION OF LIABILITY:

Hydro Engineering, Inc. shall not be liable for special, incidental, or consequential damages and therefore these damages are expressly disclaimed. Hydro Engineering, Inc.'s liability limit under this limited warranty shall not exceed the purchase price of the product in question. Hydro Engineering, Inc. makes every effort to ensure that all illustrations and specifications are correct, however, these do not imply a warranty that the product is merchantable or fit for a particular purpose, or that the product will actually conform to the illustrations and specifications. THE WARRANTY CONTAINED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, INCLUDING WASTE-WATER TREATMENT. Hydro Engineering, Inc. does not authorize any other party including authorized Hydro Engineering, Inc. Dealers, to make any representation or promise on behalf of Hydro Engineering, Inc., or to modify these terms, conditions, or limitations in any way. It is the buyer's responsibility to ensure that the installation and use of Hydro Engineering, Inc. products conforms to local codes.



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HYDROBLASTERS - HYDROKLEEN - HYDROPAD

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## RETURN GOODS AUTHORIZATION

Please follow this process when an item is returned for credit, warranty consideration, service repairs, or refurbishing.

### ITEM RETURN PROCEDURE

1. Contact the Hydro Engineering, Inc. (HEI) Parts or Service Department to obtain an RGA authorization number. Please be prepared to provide an invoice number or the serial number of the equipment.
2. A Return Authorization Document outlining our understanding of your instructions to us will be sent to you promptly by mail, fax, or email.
3. Please package the items to be returned carefully.
4. The RGA number should be written legibly on the exterior of the return packaging to expedite handling your return.
5. Ship the product freight prepaid to HEI.
6. Item(s) received for warranty consideration will be evaluated and will either be repaired, replaced, or a credit issued. Upon receipt of items this process may take up to one week. If warranty is denied, you will be given a written explanation of the decision, along with a repair estimate. Your authorization will be required before any repairs are made.
7. All parts received by HEI and not covered by warranty may be returned, repaired, or discarded, at your option. Any item(s) held longer than 30 days after HEI's request for customer's disposition directions will be discarded as scrap.
8. **NOTE:** Warranted items are returned to you freight prepaid via ground service. You will be responsible for all return shipping & handling costs for item(s) denied warranty repair that you want returned.

**NOTE:** RGAs are valid for 45 days, if your parts are not returned to HEI within the 45 day period the RGA will be closed.

### REPLACEMENT PARTS ORDERS

If replacement items are needed immediately for parts submitted for warranty consideration, an invoice will be generated for those item(s). This invoice is due and payable per the established customer terms.

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# SAFETY AND OPERATION

## INTRODUCTION


Your "Abrasive Application Unit" is an advanced design dry media blasting unit engineered to provide years of reliable service. Many safety features have been integrated into its design to help protect the operator from hazards. However, there are potential safety risks involved with its use. Please read these safety instructions carefully.


This document uses the  mark to draw attention to the probable results of an act or to concerns regarding personal safety:

 **WARNING** indicates an operational procedure, technique, or practice that if not correctly followed, could result in injury or death.

 **CAUTION** indicates an operating procedure, technique, or practice that if not correctly followed, could result in damage to or destruction of equipment.

Examples:

 **WARNING:** Hold wand firmly before actuating trigger.

 **CAUTION:** Check oil level before operating engine.

This easy to use, easy to maintain accessory will assist you in a variety of tough cleaning applications. This system is designed to produce a wet dust free abrasive stream. It is used in conjunction with a Hydroblaster high pressure washer.

## GENERAL SAFETY

- Adequate safety equipment and clothing must be worn during operation of the system.
- Never operate the abrasive unit without adequate eye protection.
- Never point the nozzle in the direction of a person.
- Test a sample area to be certain the surface will not be damaged by abrasive action
- Be cautious of deflected abrasive materials from surface and/or ground.

## PRE-OPERATION

The Abrasive Application Unit includes a trigger actuated on/off gun that controls fluid flow into the fluid/media mixing head. Test the operation of the attached Hydroblaster by triggering the gun. Fluid flow should start and stop with the operation of the gun trigger.

Orient the fluid/media mixing head so that the media line is at the top and always point the sand nozzle downward when not in use. This will prevent water from entering the abrasive suction hose which can cause the media to clump and block the hose or the mixing head.

Keep the abrasive media dry. Moisture can cause clumping of the media, variations in the media flow, or even block the media lines. All of these problems decrease the performance of the system.

When filling the abrasive hopper with media do not allow any paper or foreign debris to enter the hopper. This could cause the flow of media to stop during use.

The Abrasive Application Unit can handle temperatures up to 160 degrees F but abrasive blasting is normally done with cold water.

## OPERATING PROCEDURES

- Verify that the media control valve on the bottom of the AAU media hopper is closed.

- Fill the abrasive hopper with abrasive media.
- Connect the gun/wand assembly to the high pressure hose.
- Connect the media delivery hose between the discharge port under the media hopper to the media mixing housing at the end of the gun/wand assembly.
- Open the media/air mixing valve fully.
- With the discharge wand pointed in a safe direction trigger the on/off gun to start fluid flow and then fully open the media valve.
- With the trigger still pulled, slowly close the media/air mixing valve. If the media surges through the hose, the media/air mixing valve has been closed too much and will need to be fully opened and this procedure repeated. The unit is operating efficiently when a smooth and continuous flow of abrasive media flow to the mixing head and out the nozzle.
- When the trigger is released water and media will cease to flow. When the trigger is depressed the water and media will begin to flow again.

## SHUT DOWN PROCEDURES

1. Release the trigger on the on/off fluid gun and close the media control valve under the abrasive tank completely. Trigger the gun briefly to clear the media from the media supply hose.
2. Turn the Hydroblaster pressure washer off.
3. Depress the trigger on the high pressure gun to release any residual pressure that may be present in the high pressure lines.
4. Disconnect the high pressure hose.
5. Clean all wet media from the interior of the media mixing head.
6. You may leave the media hose connected permanently to the media mixing head.

## MAINTENANCE & SERVICE

▲ **WARNING:** Depress trigger to relieve pressure and disconnect from pressure washer before servicing.

### CLEANING

The abrasive hopper, plumbing, sand blast head, and hoses may be cleaned quickly by removing the loose abrasive media, filling the abrasive hopper full of water, and operating the system for several minutes to flush the lines. Add more water, if necessary.

To more thoroughly clean the components, disassemble and scrub internal passages with a wet brush. Pay particular attention to the inside of the sand blast head assembly.

Once completed, let the system run for a few minutes to guarantee that all components are completely dry before returning to service.

Drain and clean the system thoroughly before storing.

### HOSES

Check for cracks, blisters, cuts, leaks, and chafing. Replace as necessary.

### MAINTENANCE CHECK LIST

#### DAILY

- Inspect the connection points (quick couplers) for proper operation, replace o-ring as needed.
- Inspect the trigger assembly for proper operation.
- Inspect the abrasive media in the abrasive hopper for clumping and replace with fresh media before operating.



AAU Components

## TROUBLESHOOTING

Disconnect the Abrasive Application Unit from the pressure washer before attempting to service or repair this equipment.

For info on parts identification see AAU Components Figure in the MAINTENANCE & SERVICE section.

PROBLEM	PROBABLE CAUSE	SOLUTION
<b>NO ABRASIVE MEDIA DISCHARGING</b>	Plugged abrasive hopper	Clear obstruction In abrasive hopper.
	Plugged nozzle	Remove sandblasting head and check for plugged nozzle.
	Wet or clumpy sand	Remove and replace sand with fresh dry sand.
	Low media flow	Check suction hose for cracks and air leaks, loose fittings. Check if air mixing valve is open.
	Sand blasting head too far above abrasive hopper.	Lower the sand blasting head so it is no more than 10 ft. above the abrasive hopper.
<b>NOT ENOUGH ABRASIVE MEDIA</b>	Low water pressure	Check pump and sand blasting nozzle for proper operation.
	Incorrect nozzle in sand blasting head	Change the size of the nozzle in the blasting head to meet the requirements of the pressure washer.
	Collapsed media hose	Replace hose.
	Hot water being used	Optimum performance reached using cold water only.
	Obstruction in abrasive Hopper	Clear debris (clumps, rocks, paper) from sand pot.

## AVAILABLE MEDIA

The following list represents the abrasive media available from Hydro Engineering Inc.

### SAND MEDIA

Unit	Part No.	Description
50 lb. bag	0AA004	Media, Copper Slag
50 lb. bag	0IT272	Armex, water soluble abrasive
50 lb. bag	1QO060	Armex, water soluble abrasive, Hydroflex
50 lb. bag	0ZR674	Armex, XL with Suprakleen

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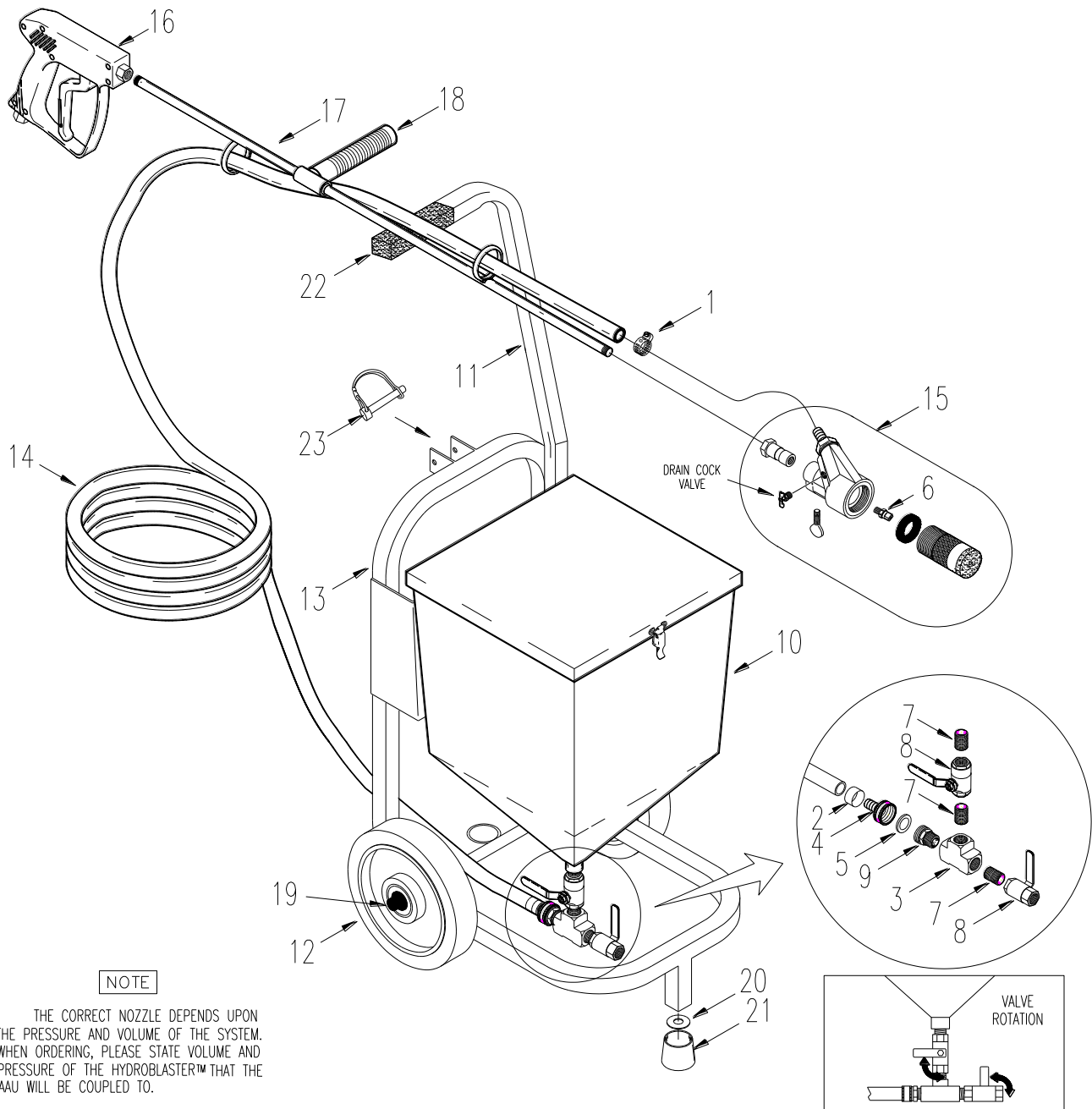
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# DIAGRAMS



**PLUMBING DIAGRAM**



**NOTE**

THE CORRECT NOZZLE DEPENDS UPON THE PRESSURE AND VOLUME OF THE SYSTEM. WHEN ORDERING, PLEASE STATE VOLUME AND PRESSURE OF THE HYDROBLASTER™ THAT THE AAU WILL BE COUPLED TO.

**\* PARTS LIST \***

#	PART #	DESCRIPTION	#	PART #	DESCRIPTION
1	1DZ790	CLAMP, HOSE, 9/16" - 1 & 1/4"	2	2PG489	DOUBLE EAR CLAMP, 15/16"
3	0EE087	TEE, 1/2" FPT	4	00Y887	3/4 FGH X 3/4 HOSE BARB
5	1HR755	WASHER, GARDEN HOSE	6	SEE NOTE	NOZZLE, WATER, SPRAY
7	OKN733	NIPPLE, CLOSE, BRASS, 1/2MPT	8	1EC829	VALVE, BALL, 1/2NPT, 2 WAY
9	OPK006	HOSE BARB, BRASS, 3/4" MGH X 1/2" HB	10	2PS600	SAND POT, SANDHOPPER
11	2PS605	HANDLE, BOLT ON, 21361, AAU	12	OID118	WHEEL, 10", PNEUMATIC, 5/8BORE, 3.5WIDE
13	HYD0010	HANDLE, SANDHOPPER	14	1KZ613	HOSE, SUCTION, PVC, 3/4", CLEAR
15	2EX794	ALUMINIUM NOZZLE BODY W/CARBIDE O'NOZZLE	16	OKI680	GUN, TRIGGER, 10GPM@5000PSI, NON-WEEP
17	HYD0036-1	WAND, 36" SANDBLAST, T-HANDLE	18	1GV538	GRIP, RUBBER
19	2PS601	CAP, WHEEL, 1/2"	20	1BW244	WASHER, FLAT, 9/16" ID, 1-3/8" OD, ZINC
21	OYP398	LEG TIPS, 1 1/4 O.D., BLACK	22	1GV539	GRIP, VINYL, 1" X 5 1/16
23	OND414	SNAPPER PIN, 1/4" OD X 1.75" L	24		

