



STORMWATER'S ARCH ENEMY

VAC HEAD

INSTRUCTION MANUAL



Disclaimer: PaveDrain, LLC. can not be held responsible for any damage done to equipment, vehicles, structures (commercial or residential) or property if the user(s) of the Vac Head operate the piece of equipment outside of its intended use: for the cleaning of the PaveDrain system. The instructions within this manual will provide the safest form of operation. Please be aware that the PaveDrain Vac Head can possibly damage any and all other permeable pavements, hardscape units or hardscape structures. The Vac Head is designed and intended use is on the PaveDrain system.

Required Tools: (NOT provided with the PaveDrain Vac Head)

- 1. Appropriately sized Socket Wrench Set & Standard Wrench Set:



- 2. 6" diameter flexible corrugated hose (20' length or longer):

****Non-Perforated.**



- 3. Water Line Stainless Steel Reducer(s) and/or 90° adaptors:



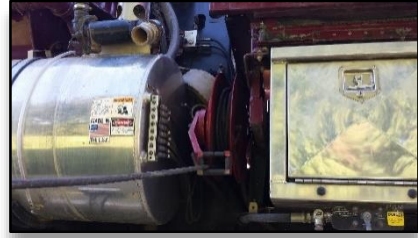
- 4. Male & Female Stainless Steel Quick Connector(s):

***Sizes required may vary depending on the size of the hose on your truck.**



Required Tools (continued):

5. Combination Sewer Cleaner Truck or any other Combination Jet Rodder Vacuum Truck **(please make sure that the truck you are using has the side mounted Hydro-excavation water pressure unit):**



6. 8" to 6" diameter reducer parts (Attaches to Boom and hose):

**Adapter Flange
Camlock**



**CL-6CAL
Cam & Groove Part
C 6"**

The parts above can be purchased at the following links below:

<http://www.epasales.com/products/Fittings-CG-AL/Fittings-CG-AL-PC>

<http://www.epasales.com/products/Fittings-FF/1253986865>

Before Operating the PaveDrain Vac Head:

1. **Conduct a thorough cleaning of all screens and dump any accumulated debris within the bottom of the water tank on your Combination Sewer/Jet Rodder Vacuum Truck.** Debris within your truck's water tank can clog the water jet wands located underneath the PaveDrain Vac Head.
2. **Check all hose connections.** Water line (located on the side of the truck – Hydro-excavation Unit) will be connected directly to the Vac Head. Make sure that the appropriate sized connections to attach to the Head are available.

Before Operating the Vac Head (continued):

- 3. Check all boom connections.** Suction hose of boom will be attached directly to the 6" diameter corrugated flexible hose that is attached to the Vac Head. Appropriate sized reducer coupling to attach the 8" diameter boom hose to the 6" diameter corrugated flexible hose is necessary.
- 4. Check all gauges, switches and operating panels located at the front of the Combination Sewer/Jet Rodder Vacuum Truck or any other Combination Sewer Truck.** These gauges, switches and operating panels will allow you to safely operated the Vac Head and avoid damage to the unit.

Connecting the Vac Head:



- 1. Attach the water line to the swivel in the middle of the Vac Head.**
- 2. Attach 6" dia. flexible hose to the suction port.**

Connecting the 6" Flexible Hose to the Truck:



1. Attach the flexible hose to the end of truck's boom. An 8" to 6" reducer coupler is required. (**See #6 in Required Tools**)

Before Turning on the Water and Suction:

1. Always turn the water on first before you power on the suction. Sucking dry debris into your truck can cause premature damage.
2. **Never run more than 2,000 psi of water pressure** through the Vac Head during operation. **10-12 gallons per minute is optimal flow rate.**

Before Turning on the Water and Suction (continued):

- 3. Increase the intensity of the suction one stage at a time. Never turn directly to “Full” at the start.**
- 4. Two person crew should always operate the Vac Head and Combination Truck; One person operates the Vac Head and one person operates the control panels on the front or side of the truck.**
- 5. If Vac Head sucks itself to the adjacent asphalt or concrete, immediately turn off the suction on the truck. The Vac Head could be damaged if it stays suctioned to the ground too long.**

PaveDrain Vac Head Specification Chart

Name	Description(s)	Rated Capacity	Recommended Operating Capacity
Swivel manifold (rotary union):	Rotary Union, High RPM Triple Bearing System, Reinforced, Carbide Seal, Size 3/8 In.F Inlet, Stainless Steel, Max. Speed 2,000 RPM, Max. Pressure 5,000 PSI, Max. Temp. 250 Degrees F, Standards ISO 9001	5,000 psi	1,500 psi or less
Water jet wands w/ caps:	1/4" dia. Schedule 40 Seamless Austenitic Stainless Steel Pipe intended for high-temperature, high pressure and general corrosive service.	3,500 psi	1,500 psi or less
Vac Head Exterior Body:	A36 Steel plate is the most common grade of structural steel used. It has a minimum yield strength of 36,000 psi and is available in plate, bars and rolled structural shapes. It is used for riveted, bolted or welded structures. In many cases A36 plates are dual specified with ABS grade A steel.	36,000 psi 10,000 cfm	1,500 psi or less 3,000 cfm or less
Suction from Boom (CFM):		see truck manual	between 0 - 3,000 cfm
Water Pressure (PSI):		see rating on hose	between 0 - 1,500 psi
Gallons per Minute (GPM):		see truck manual	between 10 - 12

cfm = cubic feet per minute

psi = pounds per square inch

Operational Photos



The swivel handle allows you to push or pull the Vac Head.

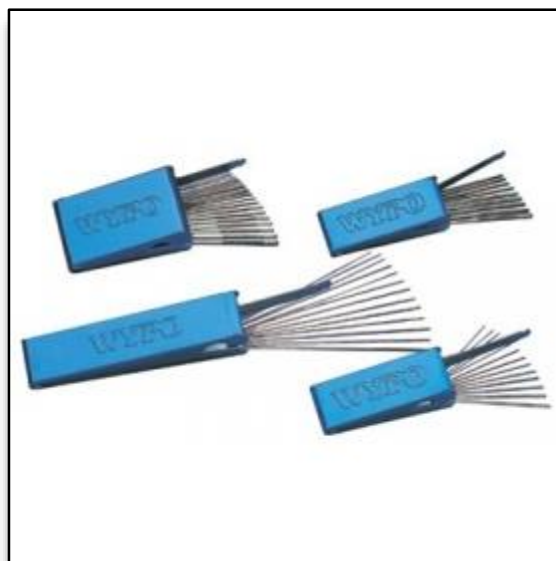


The flexible hose & boom gives a large range of motion.



General Maintenance and Care of the Vac Head:

- 1. Always clean the unit after each use.** Removing wet loose debris from the unit will minimize rust developing on the entire surface of the Vac Head.
- 2. Clean out the spray wands & six to twelve (6-12) nozzles/holes located under the Vac Head on each wand.** Water pressure from the truck will need to be turned off. The caps located at the end of each spray wand will need to be removed. There will be some water pressure moving through the wands. However, the Tip Cleaner tool can be used to push any lodged debris out of the nozzles/holes. Remaining debris will be flushed out of the uncapped ends of the wand.



The part above can be purchased at the following link below:

<http://www.globalindustrial.com/p/tools/welding/connectors-lugs-holders/wy-king-tip-cleaner-4>

- 3. Maintain 30 psi of air pressure in all four tires on units with inflatable wheels (some Vac Heads have solid tires).** Keep air valve caps placed on each valve to prevent damage.

How do I know if the PaveDrain System is CLEAN?

- 1. Visual inspection with a flashlight between the joints.** The joints between the PaveDrain Blocks are 5.65" deep. Shining a light between the joints assists in checking the effectiveness of the Vac Head.
- 2. Using a ruler between the open joints (see below) of the PaveDrain System is the most reliable method for verifying the actual cleanliness.** Checking various spots within the area of coverage is also recommended.
- 3. Working "slow and steady" will ensure that the Vac Head is effectively cleaning the PaveDrain System.** An independent study conducted by the University of Louisville shows that the PaveDrain System can get back 90-100% of its original permeability when the Vac Head is operated appropriately. Please visit <https://www.youtube.com/watch?v=Y8RP3Axs378> to view video footage of the Vac Head at work on the Grissum Building project.

