

The Social Network & Community JUST for Firefighters



## Stealing Shipboard Firefighting Tactics (Eductors) for an Alternative Water Supply \*UPDATED\*

- Posted by [Mike Schlags \(Captain Busy\) Retd](#) on September 2, 2008 at 4:09pm in [General Firefighting & Rescue Discussion](#)
- [View Discussions](#)

Stealing tactics and equipment used in shipboard firefighting, we can use the same eductor that is used to de-water shipboard firefighting water (prevents the boat from capsizing) to draft water out of a backyard swimming pool. I've done it and it works really well. Of course this eductor is considerably larger and heavier than the one shown in the video. But the output makes it a great tool to put in the box. All water tenders should have one of these.

When you use the eductor to get water out of a swimming pool, you have to keep in mind that you are limited to about 200-foot maximum hose lay from the engine based on that being the standard lateral load that is used in the evolution.

Click this link to get a more descriptive step by step explanation of this new concept, (or at least I think it's new because I've never heard anyone else talk about it)... [Swimming Pools and Water Eductors](#)

### Manufacturer Suggested Uses – Fire Departments

1. Wild land Structure Protection
2. Drafting water from remote water supply
3. Dewatering basements, boats, tanks, etc.
4. Refilling Strike team

### Manufacturer Suggested Uses – Marine Departments

1. Keeping bottoms dry during tank or hold washing operations.
2. Pumping water out of holds during firefighting operations.
3. Regular or emergency pumping of liquids or liquids with suspended particles from ballast, bilge, cargo spaces, pits, etc.

## L.A. County Fire Department Model furnished with:

- » Discharge Coupling as shown 2½" NST Male
- » Inlet Coupling 1½" NST "F" swivel
- » Non Return Flapper Type Check Valve
- » Suction Strainer – Barrel type



### S-Type Eductor V.F. # 1544-2½ PORTABLE EDUCTOR

About the 1 1/2-Inch (S-Type) Eductor NSN 4320-00-217-0938

(Eductor, 1 1/2 In, 1 1/2 In Inlet X 2 1/2 In outlet)

### Description

The 1½-inch eductor is fabricated from a highly durable bronze metal and is made in the shape of an off-set half "U." It is designed with a 1 1/2-inch NPSH swivel water inlet, a 2 1/2-inch male NH water discharge connection with a foot valve, a 2 1/2-inch suction opening at the bottom and an attached strainer.

This eductor is used to pump out areas with small volumes of water. With a 100-psi, 125-gpm water supply, the eductor will pick up 100 gpm, for a net discharge of 225 gpm. It can be activated by water from the firemain, submersible pump or P-100 pump. If more than two 1 1/2-inch by 50-foot hoses are used on the actuation line, the eductor will be ineffective due to friction loss.

The eductor is shown with the nylon handling line. This line is used when lowering or lifting the eductor during dewatering operations. A 2 1/2-inch cap with a handle aids in carrying the eductor and protecting the male hose threads. The eductor is 26 5/8 inches long and weighs 20 pounds. It is contained in the dewatering equipment kit.

"It's all about being able to go home in the morning..."

**FIRE DEPARTMENT TRAINING IN THE USE OF THE VF PORTABLE EDUCTOR –  
VF # 1544-2½" FOR ACCESSING WATER FROM ALTERNATE SOURCES SUCH AS TANKS,  
PONDS, SWIMMING POOLS, AND RIVERS**



Views: 3017•

Permalink Reply by Oldman on October 7, 2008 at 9:21am

I can see how that would work well in the wildland situation. Never physically saw one. We have a Turbodraft which we have used many times on many types of fires. If I can get within 300 feet of a static source, water can be supplied at over 700 gpm. It takes practice to achieve the draft without running out of tank water, but we have been pretty successful.

We have ordered a 4000 gal vacuum tanker which can pump 1000 gpm and vacuum water at the same time, so I suppose the Turbodraft will be relegated to a reserve apparatus just in case.

I was taught by an oldtimer (back when I was younger), to apply the same principle using 1 1/2" hose inside a 3"to with a fire helmet beneath it to help keep trash out of the hose.

Permalink Reply by Oldman on October 7, 2008 at 12:20pm

It is basically like a jet siphon when operating two dump tanks, in that the smaller hose is placed inside the larger hose. Tank water is pumped through the 1 1/2" causing the same siphon (or venturi) effect pulling in water around the smaller hose into the larger hose. The helmet was strapped on upside down to the assembly at the fittings, in an attempt to keep the hose out of the muck. We only practiced this a couple of times but it was effective in getting water. Back then, we never worried about flow rate so I cannot tell you how much it flowed. Maybe one of these days I'll round a crew up, deploy it and figure it out.

Permalink Reply by BillySFCVFD on October 7, 2008 at 1:06pm

Ok I get it. The smaller hose is only inserted part way towards the discharge end of the larger hose so the siphon is created inside the larger hose, right?

Permalink Reply by Joel C Kelley on October 7, 2008 at 1:15pm

My first department was an unhydranted district, and we relied on water supply operations much like are described above. The device we used was called a transfer device, but was only good for moving water from one dump tank to another. As long as we kept the tankers moving, we could flow at 750 GPM indefinitely.

Notice in the photo below that the tanker is set up with two dump tanks and the transfer device is set up to move water into the tank that is drafted from. At the same time the engineer is drafting, he is running a discharge solely for the transfer device which is using Venturi to move water from tank 2 to tank 1. He has also cracked open his tank refill and recirculate to allow the tank to refill so he can leave the scene fully in service.

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**VITAFLOW**