

Turbodraft Makes It Easier To Tap Difficult Water Sources

By Scott Cook

How many fires have you been to and not been able to get to the static water sources that can provide the supply needed?

A house on the canal property where the road is too narrow for more than one truck, but only 50-feet from the water, burns to the ground because you can't draft that length.

Other obvious unusable water sources include a pond or pool to the rear of a structure, any static water supply beyond the amount of hard suction carried on a pumper (normally 20 to 30 feet), a nearby river with steep banks or a bridge crossing a river with a vertical lift beyond 15 feet.

I've been to a couple of fires like these.

The TurboDraft, a new product on the market, promises to relieve some of these problems. Essentially a jet siphon, it promises usable flows of up to 670 gpm, 250 feet from static water supplies and the ability to lift 250 gpm 48 feet vertically when combined with a dry hydrant.

You can use it for water supply at a fire, transfer between portable tanks and fill site applications.

The TurboDraft can be supplied several different ways that include but are not limited to:

- An engine can use it to supply itself. The drawback to this is that the engine will also be supplying the TurboDraft, which will need around 200 gpm from the return-thus the 800 gpm usable flow.
- Brush trucks. These are often lighter and can get closer to the water's edge, resulting in usable flows from the turbo draft of up to 800 gpm.
- Portable/floating pumps again providing for flows up to 800 gpm.



Excessively high lifts and long stretches that rule out drafting do not rule out the use of a TurboDraft

- Tankers with small capacity transfer pumps can supply themselves by doubling or tripling their pump capacity. Setup and use of the TurboDraft is simple and straightforward. Follow these ten steps:
 - Attach a 2.5-inch or 3-inch line from the discharge side of the pump and a 5-inch line from the suction side to the TurboDraft.
 - Attach a float (a pair of foam buckets work well) and submerge the TurboDraft in at least 2-feet of water.
 - Open the bleed valve on your suction intake valve.
 - Throttle up to 175 psi on the discharge line.
 - Get all the kinks out.
 - Close the suction bleed valve when all the air is out.
 - Slowly open the suction intake valve.
 - Fill your tank first.
 - Slowly charge your attack lines.

Watch your 5-inch, when it gets soft (visually collapsing at the intake), throttle up or reduce the flow to your attack lines.

The key is that the flow to the TurboDraft must be constant. All other lines must be gated down if you are trying to flow more water than can be supplied.

It can't be overemphasized for proper use-be sure not to kink either of the hoses or bury the strainer in the bottom muck. You need to keep it under about two feet of water. Use a float in deeper water. And you must have tank water to initially supply the turbo in order to draft water.

You'll need about two gallons per foot of supply hose used. A 200-foot lay requires 400 gallons of water. Get it in service early, before your attack crew uses the tank water on the fire.

TurboDraft™

FIRE EDUCTOR

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Larger flows are no problem with the TurboDraft. You can increase your drafting flows by over 800 gpm when it is used in combination with your normal drafting practices. Set up your draft pumper as normal and set up the TurboDraft. Run the supply for the TurboDraft off the drafting engine and the discharge to the receiving apparatus. In this manner, a 1,500 gpm pumper can produce flows of 2,000 gpm or more.

A fill site apparatus can also keep fill site drop tanks full several hundred feet from the water supply. Set your apparatus to draft from a drop tank and set the TurboDraft to discharge into the drop tank. Once supply from the water source has been established, you can switch from truck tank water to drop tank water to supply the TurboDraft.

Fill shuttling rigs as you normally would from the drop tanks, but keep the flow to the TurboDraft constant to avoid losing its prime. Gate the fill lines down if necessary.

Many rural departments lay a supply line down narrow private driveways. The attack engine then goes to work off tank water. Eventually tankers arrive, place drop tanks and a pumper supplies the supply line to the attack piece from the main road. The TurboDraft can be used in a forward lay where the attack engine lays a 3-inch and a 5-inch line from the main road.

The TurboDraft can be put dropped in the folding tank and the attack engine can effectively supply itself without the pumper normally needed at draft.

A similar lay can involve making forward lays from static sources. Say a pond is on the way into a house fire. The TurboDraft is stored preconnected to the 3-inch and 5-inch supply beds. It is thrown in the water and the pumper lays a feed line. Attack lines are pulled while the pump operator achieves a water supply through the TurboDraft.



This 50-foot preconnected TurboDraft allows for drafting water 50 feet from the vehicle with a lift to 48 feet in less than two minutes with one firefighter.

A single engine can also supply more than one TurboDraft for larger flows. Using 2-1/2 inch or 3-inch, two turbo drafts would need roughly 400 gpm from the apparatus and deliver over 1,300 gpm of usable flow.

Minimum available flow from a water source recognized by ISO for grading purposes is 250 gpm. ISO does not recognize drafting sources requiring a lift in excess of 18-feet. (The TurboDraft is not a drafting device as it operates under pressure).

In a recent demonstration for ISO, a department deployed 350 feet of 5-inch hose and a 2-1/2-inch supply line to a pond and attained a sustained flow of water in less than four minutes. If vertical lift is an issue, the TurboDraft will bring 800 gpm up a 30-foot lift, 35-feet brings 600 gpm, 40-feet 590 gpm and 48-feet 250 gpm.

Jet siphons are nothing new and we've been using them for years. It's the design of the TurboDraft that makes it unique and opens up more possibilities. The box and screen design reduces the possibility of rock, vegetation and the occasional fish from being drawn into your pump as can

happen with the other open designs.

The case can certainly be made that the cost of a TurboDraft is certainly better than putting in dry hydrants in many applications.

In fact, you might consider it a portable dry hydrant that does not need yearly maintenance, back flushing and written user agreements. And while it's not the end to all your rural water supply problems, it is a valuable tool that has a place in your toolbox. The TurboDraft makes once unthinkable water sources useable.



TurboDraft™ Fire Eductor uses soft hose to lift water from static sources.