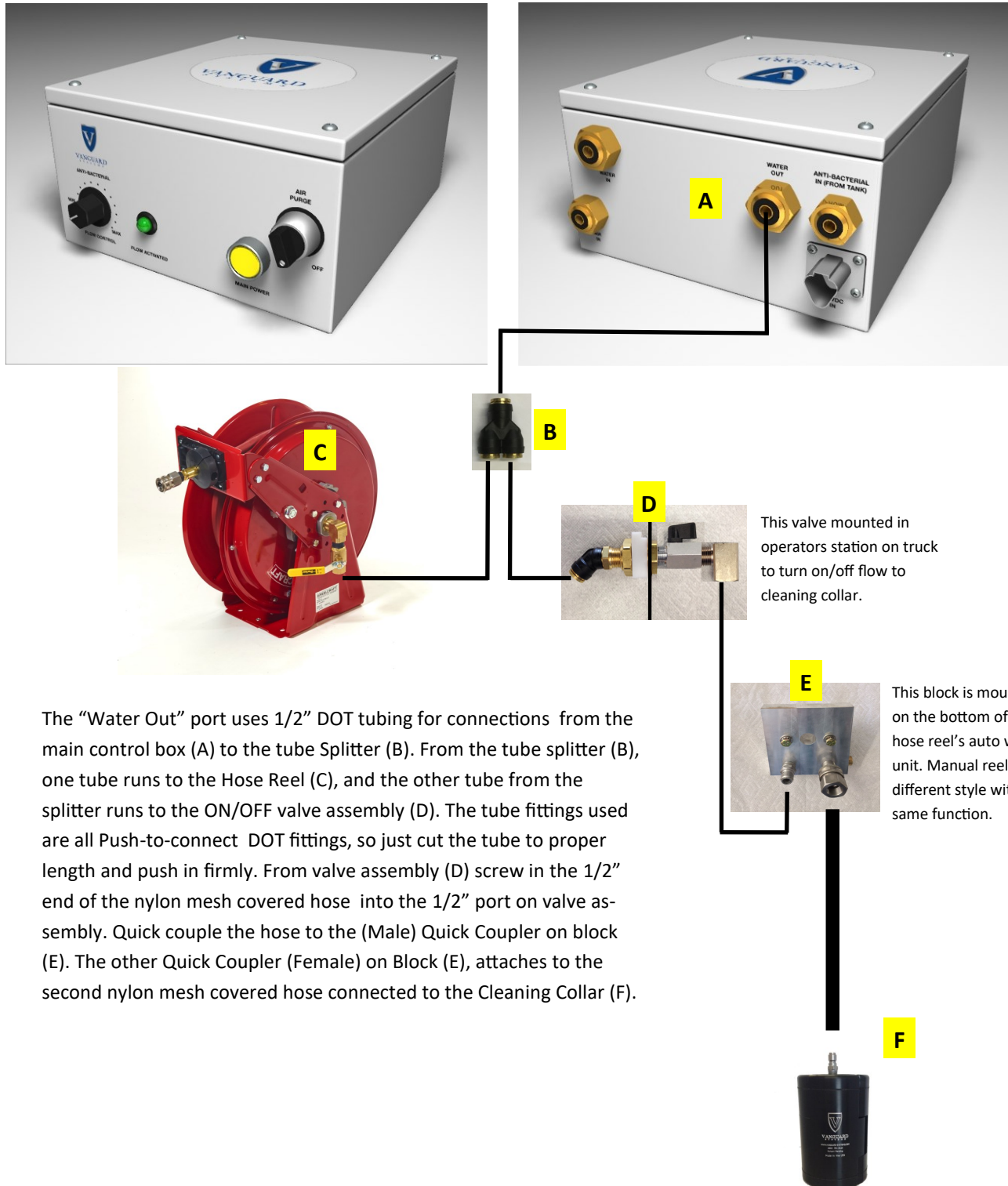


# Vanguard Pathogen Defense System

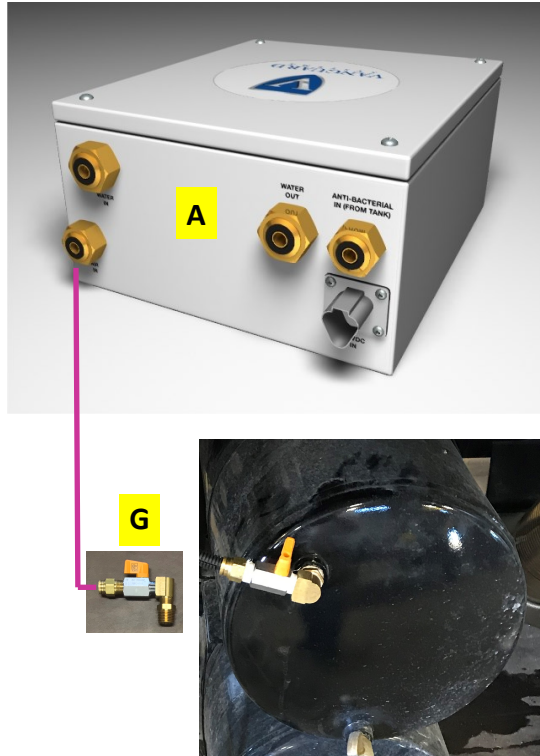
## Installation Guide

### WATER OUT CONNECTION



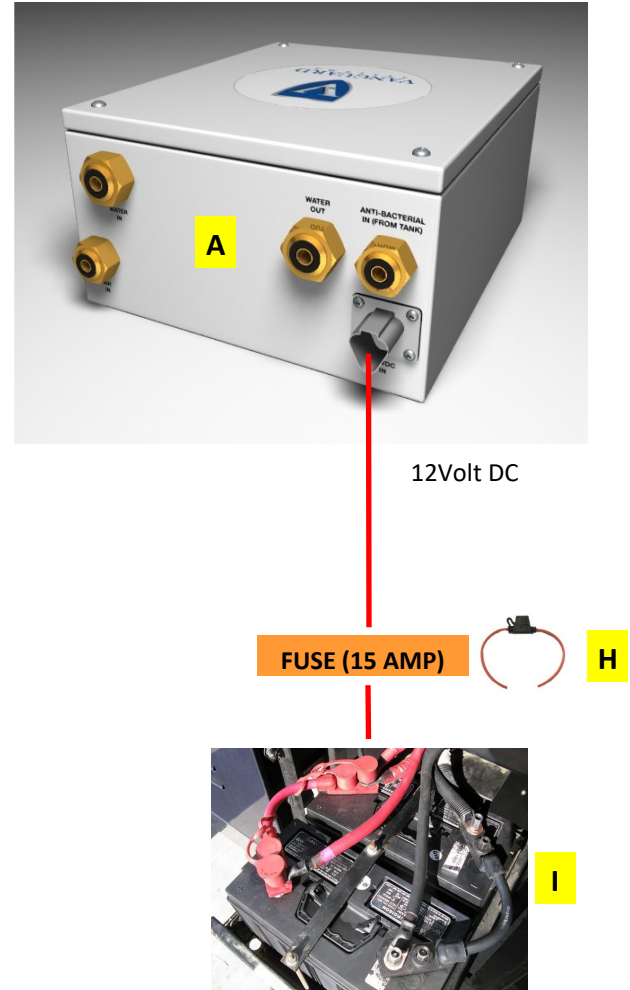
The "Water Out" port uses 1/2" DOT tubing for connections from the main control box (A) to the tube Splitter (B). From the tube splitter (B), one tube runs to the Hose Reel (C), and the other tube from the splitter runs to the ON/OFF valve assembly (D). The tube fittings used are all Push-to-connect DOT fittings, so just cut the tube to proper length and push in firmly. From valve assembly (D) screw in the 1/2" end of the nylon mesh covered hose into the 1/2" port on valve assembly. Quick couple the hose to the (Male) Quick Coupler on block (E). The other Quick Coupler (Female) on Block (E), attaches to the second nylon mesh covered hose connected to the Cleaning Collar (F).

## AIR CONNECTION



For the "AIR" connection, run 3/8" DOT tubing from the Main Box (A) to a DOT fitting installed into the secondary air tank on the vehicle. An air loss limit valve (not included) may be used to limit air loss in the unexpected the tube gets torn off. The air valve on the main Control Box (A) should stay in the OFF position. The air valve is used only for winterization purposes to blow out the supply lines.

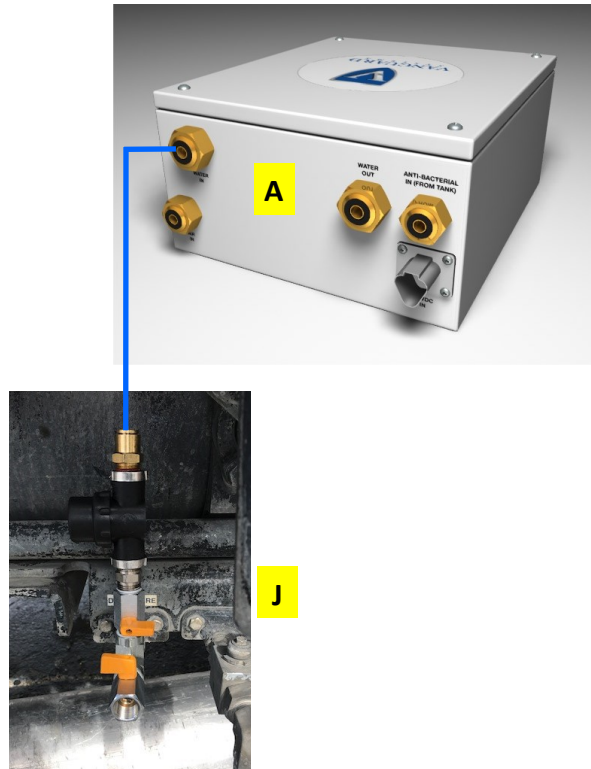
## ELECTRICAL CONNECTION



The Electrical input is for 12V DC only. Some models have a automatic heat element which automatically turns on in freezing conditions to protect the main water pump. The system must be wired in such a way (battery direct) for the heat to be activated automatically.

Run the supplied Wiring harness from Main Control Box (A) to 10 amp fuse holder (H). Run wire to desired power supply (Battery compartment (I) shown for illustration purposes).

## WATER SUPPLY CONNETCTION



The Vanguard System consumes a small amount of water (around 1 gpm) from the trucks main water storage tank. Use **CLEAN WATER ONLY** (i.e. No Recycled Water) to feed the Vanguard system. Pictured is the fitting assembly typically used. Attach water supply line to any available water port from the trucks water tank where you can install the 1/2" ball valve supplied. The water needs to have the ability to flow freely from the water source and through the supplied 80 mesh filter to the Vanguard System without restraint. Run tubing 1/2" from Main Control Box (A) to (J) Water supply assembly.

## CLEANING SOLUTION TANK CONNECTION



Run 3/8" tube from Main Control Box (A) to (K) the 5 gallon Cleaning Solution Tank (1.5 gallon wall mounted tank for CCTV trucks).

The tank can be positioned anywhere available on the vehicle as the pump suction is sufficient to pull solution from any location.

Fill the tank with Vanguard Sani-Solution™ ONLY.

**QUESTIONS?** Please call TJ at (303) 884-7552 for assistance.



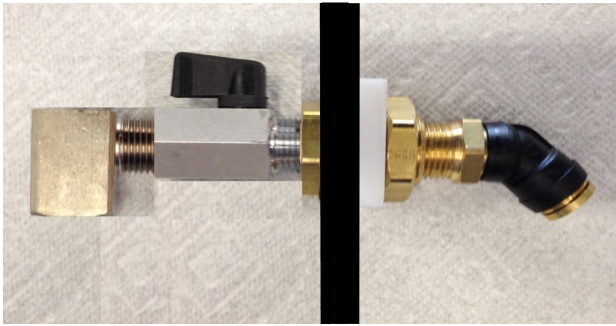
## DETERMINE COMPONENTS POSITIONS



Once you have determined the position of the individual components of the Vanguard System, the included templates are used to mark hole positions for mounting the components. We supply the necessary 1/4-20 & 3/8" bolts to secure the components. The system is designed to be modular so individual pieces can be located anywhere on the vehicles convenient for operation. Here are some examples.



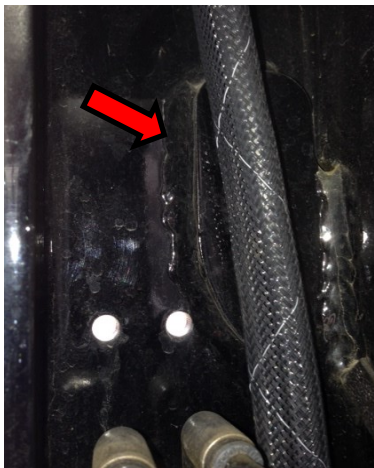




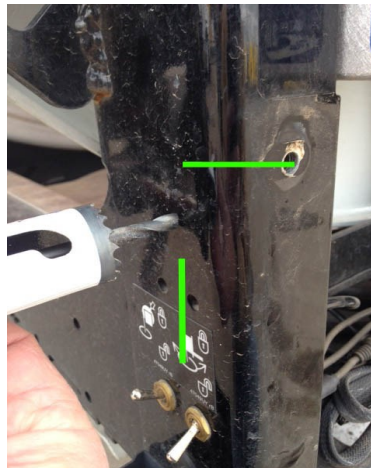
Instruction for installation for bulkhead Valve assembly fitting. Installation on a Vactor® 2100 for demonstration, but the same basic principal for any brand or model.



Start by removing the 5 bolts which hold the front aluminum cover in place.



**IMPORTANT NOTE:** After removing the front cover find the **THICK** support plate and internal fittings. You don't want to drill your hole into either of them.



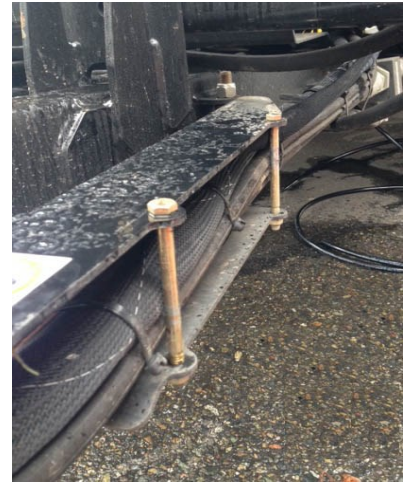
Carefully drill the hole using a 1 1/8" hole saw. Notice above- the hole is closer to the front edge than the center to avoid the additional support plate inside. Also, it is low enough to avoid interfering with the bolt hole which holds the cover plate in place.



This aluminum spacer is designed to level the bulkhead fitting to the same level as the additional support plate found behind the 1 1/8" hole you drilled. On some installations, it may not be needed.



Upon completion of installation, it should look something like this.



Install the 1/2" tube (with the covering already installed) following the main hose bundle along the same path under the truck chassis. This allows for free movement of the newly installed components. Secure it along this path with the included zip ties. Attach this end to the NEW Valve assembly fitting installed.



Remove the existing two bolts holding in the Grease port to the bottom of the Auto-wind block. Insert the new aluminum block included with the Vanguard System with the Grease port back in place. Secure the new block with the two new bolts included. The new bolts are 1" longer than the ones removed to accommodate block thickness.



**QUESTIONS?** Please call TJ at (303) 884-7552