

Carter® Ground Fueling

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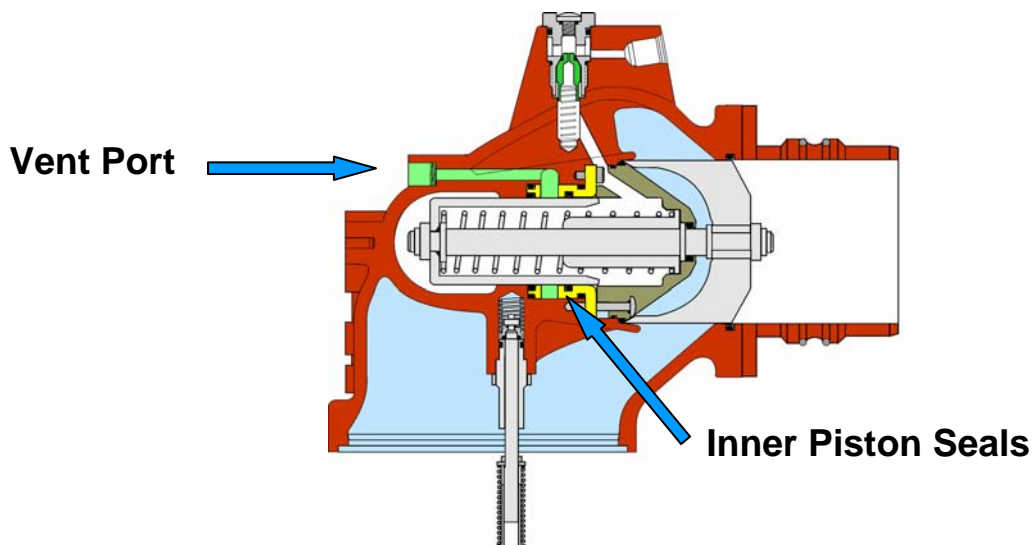
Applicable to: Hydrant couplers that utilize fuel reference pressure in lieu of air reference pressure, including 64803 and 64903

Product News Bulletin

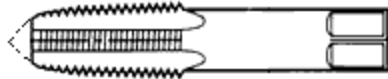
Field Modification of the Vent Port

All Carter Ground Fueling hydrant couplers, except for the 60600 series of couplers, include a vent port (please review the image below). This vent port is intended to allow any fuel that leaks by the inner piston seal to be exhausted. This is done to prevent cross-contamination of the air reference pressure with fuel in air operated couplers, including the 64800, 64801, 64900 and 60700-1. This vent is also present in fuel reference pressure operated couplers, including the 64803, 64903 and 64702. The purpose of this vent on these couplers is to act as a tell-tale if the inner piston seals were to become damaged or excessively worn and begin to leak. We would also note that, even with the seals in good condition, there may be some small amount of leakage. This small amount of leakage will manifest itself as a stain around the vent port or minor weeping. The seals around the inner piston will not remove all of the fuel from the surface of the piston. When the unit is in operation the inner piston will oscillate, opening and closing to maintain the downstream pressure. As this occurs small

amounts of fuel will be wiped off the piston and remain in the void area between the inner piston seals. Given enough time, this fuel will accumulate and the slight weeping or staining of the area around the vent port can occur. This phenomenon is more common on fuel reference operated couplers as the amount of fuel that can be deposited in the void area between the inner piston seals is effectively doubled. However, as cross-contamination in a fuel-over-fuel system is not a concern, tapping and plugging the vent port may prevent a coupler from being unnecessarily removed from service due to a perceived leak. We have recently completed testing and determined that this vent may be plugged on fuel reference operated couplers, including the 64803 and 64903. **The vent port on the 64702 can not be plugged due to the shape of the vent port. This field modification should not be accomplished on air reference operated couplers as this would circumvent the primary purpose of the vent to prevent cross contamination of the air reference pressure system.**



The first step will be to inspect the raised area around the vent port opening. You may find that the original vent port is not centered in this raised area. Measure the area with the thinnest wall thickness. If the thinnest portion is less than .100", that housing can not be modified. For those couplers with a wall thickness greater than .100", remove the pressure control elbow from the coupler lower half and remove all internal components of the control elbow, leaving the vent port filter and retainer in place. The current hole is the appropriate size to accept a 1/4" NPT tap. Obtain a good quality 1/4"-18 NPT tap. You will note that the depth of the hole up to the filter disc will be deep enough for 1/4" NPT threads. Some brands of tap will have a tapered point on the leading end. Depending on the brand of tap that you have it may be necessary to grind this tapered point flat.



Measure the depth of the hole and mark the tap, measuring from the leading end. Insert the tap in the hole and, while pressing inward, begin to screw the tap in. Use liberal amounts of thread cutting oil intended for use with aluminum - Soluble, Light Base, or Lard Oil, or Mineral Oil w/Lard, or Light Oil. Remove the tap frequently and remove metal shavings to prevent build up of metal shavings from damaging the threads. Continue to screw in the tap up to the measured mark. Remove the filter screen and retainer. Remark the tap for this new depth and tap to that depth. Clean the threads and insert a 1/4" pipe plug to check the threads. Use an appropriate material pipe plug (stainless steel is preferred). The preferred type of pipe plug will have a low profile and will include a recessed hex socket similar to image above. Whatever type of plug is used, make sure that it has tapered threads. Some pipe plugs include straight pipe threads similar to a screw. The plug should screw into the threaded hole approximately 1/4 to 1/3 its threaded length with little effort. Some brands of NPT taps work better on blind holes than others. Bottom taps for NPT threads are not available. Some taps will have

a longer cutting edge past the first cutting thread than others. It may be necessary to grind more material off the leading end to obtain the appropriate thread depth. Use caution not to over tighten the tap. If the tap bottoms out in the hole and you continue to turn it, you can remove all of the threads from the hole.

Clean the housing and vent port threads and pipe plug to remove all metal shavings and cutting oil. Apply a good quality anaerobic type thread sealant such as Hercules Block. Insert the pipe plug and tighten. There are no torque recommendations for tapered threads. Do not over tighten. This is a tapered pipe plug in a tapered hole. Over tightening can crack the housing. The best approach is to tighten to a good snug fit and check for leaks. If the joint does leak it will be necessary to remove the plug and clean off all thread sealant. An anaerobic thread sealant will set up quickly when in contact with certain active metals such as aluminum. Apply new sealant to pipe plug and reinstall a little tighter.

Not all fuel reference operated couplers will require this field modification. We have recently modified new production units to include 1/4" NPT threads in the vent port. All 64803 hydrant couplers with serial number 390 and higher and all 64903 hydrant couplers with serial number 101 and higher will include this upgrade. For those hydrant couplers, remove the filter and retainer and install a pipe plug as described above.

We recommend that this pipe plug be removed monthly to check for excess leakage. To check for excess leakage remove the pipe plug in the vent port and turn the coupler over to drain any residual fuel. Connect the hydrant dispenser to a suitable test facility to recirculate product. Activate the deadman to flow product. Observe the vent port for leakage for one minute. If fuel begins to come out of the vent port before one minute has passed, this would indicate that the inner piston seals need to be replaced. If fuel does not come out of the vent port in one minute, clean and dry the threads of the port and the pipe plug and reinstall per the instructions above.