

# Classic KISS, EXPLORER



***DURABLE***  
***RELIABLE***  
***FLEXIBLE***

# **READ THIS MANUAL & THE CLASSIC** **MANUAL!!!!**

**KISS EXPLORER DIVERS MUST READ BOTH THE EXPLORER MANUAL AND THE CLASSIC MANUAL. THEY GO TOGETHER. THE EXPLORER MANUAL ONLY COVERS THE FEATURES WHICH DIRECTLY RELATE TO THE EXPLORER.**

**IN ORDER TO FULLY UNDERSTAND YOUR NEW REBREATHER, THE COMPONENTS, HOW THEY WORK, HOW TO HANDLE AND TREAT THEM, YOU MUST READ THE MANUAL IN FULL, FOR YOUR REBREATHER.**

**SPORT KISS OWNERS SHOULD READ THE SPORT KISS MANUAL. CLASSIC KISS OWNERS SHOULD READ THE CLASSIC KISS MANUAL. EXPLORER OWNERS SHOULD READ BOTH THE EXPLORER AND CLASSIC MANUALS. CLASSIC OWNERS WHO HAVE UPGRADED TO SOME OF THE EXPLORER COMPONENTS SHOULD READ BOTH THE CLASSIC AND EXPLORER MANUALS.**

**THIS SHOULD BE DONE PRIOR TO DIVING OR SERVICING THIS UNIT!!! SPECIAL ATTENTION SHOULD BE PAID TO ALL NOTES &/OR WARNINGS; THEY MUST BE READ AND UNDERSTOOD!!!! FAILURE TO DO SO, MAY CAUSE SERIOUS INJURY OR DEATH!!!!**

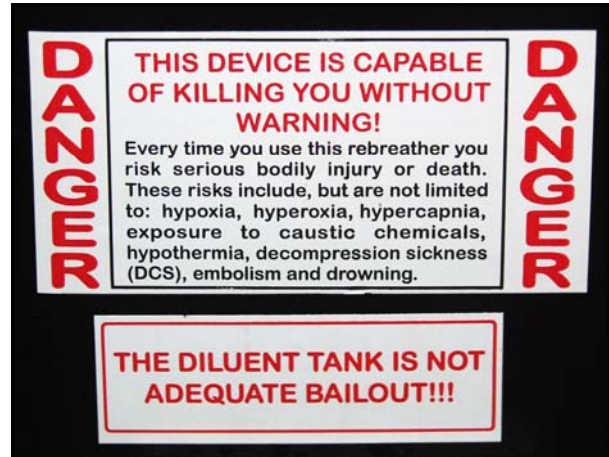
**THE KISS EXPLORER GIVES DIVERS OPTIONS ON HOW TO RIG THEIR UNIT. THIS MANUAL IN NO WAY REPLACES THE TRAINING REQUIRED FOR EXPLORATION DIVING &/OR TECHNICAL DIVING. PROPER TRAINING IS EXTREMELY IMPORTANT AS IS GATHERING PROPER EXPERIENCE PRIOR TO ATTEMPTING ADVANCED DIVING.**

**YOU MUST BE A LEGAL ADULT IN THE AREA IN WHICH YOU LIVE IN ORDER TO PURCHASE AND DIVE A KISS REBREATHER.**

**As with all scuba diving equipment, your KISS rebreather components should be serviced annually by a trained technician. For those diving frequently, servicing may be required more often.**

**ALL INFORMATION IN THIS MANUAL IS SUBJECT TO CHANGE.  
PLEASE VISIT OUR WEBSITE, [www.kissrebreathers.com/manuals.html](http://www.kissrebreathers.com/manuals.html),  
FOR UPDATED MANUALS.**

# **THIS IS NOT A JOKE!!**



## **Participation in rebreather diving can result in serious injury or death to you, the diver!**

The warning on the Classic KISS rebreather is not a joke. Before beginning your dive, you must consider the risks involved. The Classic KISS consists of many parts. All of these components will eventually fail. Careful maintenance, assembly, and testing will not prevent this from happening. At best, it will delay the failure. The Classic KISS is not automatic in any way. It requires constant monitoring, a complete awareness of the potential problems likely to be encountered, and full knowledge of how to deal with whatever problems may occur. If you do not have adequate training, equipment, physical conditioning, and a proper mindset, do not get in the water.

The diver, YOU, has the final responsibility for his or her own safety and actions while using this rebreather. All components of the Classic KISS must be in good working order and be properly assembled and tested to reduce the risk of failure. Regardless of the training and experience of the diver and the reliability of the rebreather the risk of serious injury and/or death can never be reduced to zero.

This manual is not a complete text on the maintenance and operation of the Classic KISS Explorer. The diver must complete a proper training course covering the maintenance, testing and operation of the rebreather before diving this equipment. The rebreather can malfunction while diving even when properly assembled and having passed all pre-dive tests. Only carrying adequate bailout gas and having the training and skills necessary to utilize the bailout system can reduce, but never eliminate, the risk of equipment failure.

# CLASSIC KISS, EXPLORER

THE ORIGINAL KISS REBREATHER, MECHANICALLY CONTROLLED, MANUALLY ASSISTED, IS NOW AVAILABLE IN AN ENHANCED PACKAGE!

The Classic KISS rebreather has always been known to be *DURABLE, RELIABLE* and *FLEXIBLE*.

With the Explorer, we take the original version and add the features that divers have been asking for: a unit better equipped for exploration but which does not compromise on quality and keeps to the KISS philosophy.

Also desired by divers is the ability to modify the rigging of the unit to better work with the environment at hand, the planned dive, or gear available at the destination. And, they would like to be able to do this quickly and easily!

*The Explorer does all this; it can be rigged several different ways!*

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# EXPLORER PARTS LIST

Congratulations on purchasing the KISS Explorer. This is a unit for divers who want options when configuring their rebreather; rigging can be personalized to suit the divers personal style or to suit specific diving requirements. It is up to you, the diver to ensure that the system is rigged properly for the diving that you are planning on executing and also to ensure that you are properly trained and have the appropriate gear and bail out gas.

- 1 Explorer counterlung case with detachable front plate and webbing harness. Also included are 2 attachment screws for securing front plate to case; screw sets for securing the cover plate, if the KISS wing is not used; detachable manifold; spine; detachable tank rails
- Custom KISS wing. Includes over pressure valve as well as inflation hose and inflator
- 1 scrubber head with all required parts (CL attachments and rings, towers, 2 elbows (left side with appropriate tube), exhaust valve, draw nut)
- 1 scrubber head hat
- 2 counterlungs: includes a 2 liter and a 4 liter unless otherwise specified - no charge for different combination
- 1 diluent first stage with, OPV, and 2 swivel elbows
- 1 oxygen first stage with delrin plug, OPV, and swivel elbow
- 1 right side oxygen manual add valve with constant flow orifice, filter and 2 yellow Miflex hoses
- 1 left side gas addition valve; choose either no-flow oxygen valve or no-flow diluent valve.. With filter and 2 black Miflex hoses
- 1 ADV assembly: cover, diaphragm, valve bolt, valve stem, LP swivel elbow
- 1 LP diluent hose with hose adapter (ADV swivel to manifold)
- 1 LP diluent hose with hose adapter (Manifold to diluent first stage)
- 1 Scrubber canister with protective coating. Also includes the base & inner tube, which is packed with:
  - 4 small lined hose clamps - to attach quick connect system to loop hoses
  - 2 O-ring sets - One is a spare
  - 1 nut driver
  - 1 KISS tool - for draw nut
  - 1 back plate attachment kit: 2-1 inch hex bolts, 2-1 1/2 inch hex bolts, 2 fender washers, 2 lock washers
  - 1 counterlung ring, spare
  - 8 SS ballast rings
  - 2 scrubber head plugs. For use if the left side elbow is removed
- 1 bailout mouthpiece with LP hose
- 2 sets (four straps) webbing for on-board cylinders
- 2 loop hoses: 22" included unless otherwise specified - no charge to replace with 17" hoses
- 1 complete off-board accessory kit (rebreather side and cylinder side)
- 4 quick connect hose stubs for loop hoses
- 1 CD - Manuals

#### **DISPLAY OPTIONS, IF ORDERED:**

- Jetsam triple wrist display with attachment plate, 2 wrist straps and jewelers screw driver set
- Jetsam dual wrist display with VR3 cable, 2 wrist straps and jewelers screw driver set (cable will read one sensor)
- VR pendent display with dual fischer attachment plate
- Dual fischer attachment plate only
- No display
  
- Optional Shearwater HUD - attaches to dual fischer plate

#### **NOT INCLUDED:**

- AI PSR-11-39-MD sensors (3), pressure gauges (2). Sensor warranty periods start from the moment they are shipping from the Teledyne warehouse. As such, it is best that they are ordered directly from the distributor or a dealer so that you get the freshest sensors possible. This way you know they have not been sitting on our shelf for some time. Most divers have pressure gauges which can be used. Additional LP and HP swivels.

#### **EXTRAS:**

- We are happy to supply you with additional LP swivel elbows and off-board gas accessories. HP swivel elbows are also available.
  
- Quick connects for the right side oxygen manual add valve and the left side gas addition valve. These quick connect sets are for those who wish to dive their Explorer with no on-board gas, also known as the Travel Explorer. A quick connect is required as this system allows divers to put their rebreathers on separately from the cylinders. Large side mount cylinders can be attached while in the water. Please see page 21 for a full description of this method of diving.

# SET-UP OPTIONS & COMPONENTS

This section of the manual discusses the various options for rigging the KISS Explorer. Explorer owners should read carefully the sections below to determine which rigging methods are appealing. There are some components which are not included in the Explorer package, which are required for some of these methods. We chose not to include all the parts for every rigging style, as not every diver will require them. This helps to keep the cost of the unit down, and divers can then purchase what they need.

Once you determine which style suits you, turn to the appropriate section in the manual for further explanation of that rigging system.

## CYLINDER RIGGING OPTIONS

### 1. ON-BOARD CYLINDERS: Standard, diluent and oxygen; with additional diluent/bailout as side-mount.

With this system, divers can choose any mix they like for the left side cylinder. With this system, divers would plumb their side mount cylinders into the Explorer using the off-board accessory. Extra full off-board kits or cylinder side whips can be purchased.

Divers need to decide which left side gas addition valve they would like to use. They can choose either the no-flow oxygen valve or the no-flow diluent valve. See below for full add valve descriptions.

The right side oxygen manual add valve with flow is standard.

### 2. ON-BOARD CYLINDERS: Oxygen only; with diluent/bailout as side-mount. With this system, divers would plumb their side mount cylinders into the Explorer using the off-board accessory. One off-board accessory kit (rebreather side and cylinder side) is included with the Explorer. It attaches to the Explorer through the manifold. The Explorer can easily be rigged with 2 full off-board kits, if desired. This way, 2 side mount cylinders can be plumbed into the rebreather, and no disconnecting of the off-board is necessary. Or just 1 off-board rebreather side whip can be used. With this set up, the quick disconnect would be utilized when switching to other cylinders. Divers can purchase extra cylinder side whips, if desired.

For those that wish to dive with 2 on-board oxygen cylinders, the left side gas addition valve should be the oxygen valve with no flow. Please see the gas addition valve section below for a full description of this valve. The diluent add valve should not be used; the flow is too high!!

The right side oxygen manual add valve with flow is standard.

### 3. OFF-BOARD CYLINDERS ONLY: diluent and oxygen as side-mount only. This method, also known as the Travel Explorer, does not use on-board cylinders. Cylinders of any size can be used, as they are side-mounted.

With this rigging method, divers will have their diluent cylinder plumbed to the off-board accessory and they will also have use of a left side gas addition valve, if you choose to dive with it. Divers will need to decide which left side gas addition valve they would like to use. They can choose either the no-flow oxygen valve or the no-flow diluent valve. See below for full add valve descriptions.

The right side oxygen manual add valve with flow, is standard. it does not require an off-board accessory.

## GAS ADDITION VALVES

### 1. Right side, oxygen manual add valve with flow. This is standard and is included in all Explorer packages. This is the original manual add valve which is used on all KISS rebreathers.

### 2. Left side gas addition valve, oxygen no-flow. This valve is the same as the right side valve, but it DOES NOT HAVE AN ORIFICE! Instead it is plugged. Gas will only go into the rebreather from this valve if the button is pushed.

This valve is shipped oxygen clean. It can be used with either oxygen or any other type of gas. Divers should be aware that if they use this valve for diluent, it will NOT have enough flow (when the button is pushed) to do a quick diluent flush.

3. **Left side gas addition valve, diluent no-flow.** This valve has been modified from the original O2 manual add valve; the flow has been increased. Also, IT DOES NOT HAVE AN ORIFICE; it is plugged. This means that the only way this valve will deliver gas into the rebreather, is by pushing the button. As this valve has a higher flow, it should NOT be used with oxygen.

### GAS ADDITION VALVES WITH QUICK DISCONNECT FITTINGS

(the quick disconnect fittings are an optional product and not included with the EXPLORER package.)

1. **QD fittings not attached to the manual gas addition valves:** Unless the KISS Explorer is set up for the no on-board cylinder/travel version, these fittings are not required. While they can be used, divers should remember that the more fittings on the rebreather, the more failure points it has.
2. **QD fittings attached to the manual gas addition valves:** The QD fittings enable the diver to dive without on-board cylinders, using side mounted cylinders only. (the QD fittings must be ordered extra). With this rigging method, the rebreather first stages are used as the side mount first stages. These QD fittings are required if the diver wishes to use heavy cylinders which must be attached in the water. The QD allows the add valve hose system to split, making this possible. This method would require the diver to attach the bailout regulators to these first stages. Please see page 21 and page 24 for full details on diving this rig.

### GAS ADDITION VALVE ROUTING

The Explorer ships with the add valves sitting over the divers shoulders. You may choose to route the valve so that the hoses wrap around your waist with the valve clipped on the lower part of your harness. To do this, you will need to turn the scrubber head elbow so that it turns down. Then attach the longer Miflex hose to the elbow, and the shorter hose to the first stage. Basically, you are switching them from how they are shipped. Remember, the hose from the first stage should be attached to the filter on the add valve.



### LEFT SIDE GAS ADDITON VALVE

It's worth noting that this valve does not need to be used on every dive. It is included in the Explorer kit as it is a feature that some divers require on their technical dives. If you find that it isn't a feature that you need at this point in your diving, it can be removed.

The easiest way to do this is to remove the miflex hose from the elbow and use a standard LP first stage port plug to close the elbow. This way, it doesn't need to be removed and the add valve can easily be reinstalled when required.



# COUNTERLUNG CASE & KISS WING

The new Explorer counterlung case ships with the front plate attached, and the wing NOT attached. You will notice that without the wing attached, the plate is secured in the four outer corners with screw sets. Also, the top centre screw has a spacer in between the spine and the back of the front plate. This spacer and the 4 screw sets are NOT required when diving with the KISS wing.

As the KISS wing sits between the front plate and back box, the plate will sit snugly and there will be no gapping in between the parts. The corner screw sets are used to take up the gapping if the case is dived without the wing. Those diving without the wing, may choose not to use the corner screw sets, but add a third spine screw at the bottom. Or as your wing attaches with a screw in this area anyway, it would also be sufficient. The choice is really the divers; the screw sets are included for those who wish to use them. Please see the next page for more information on the corner screw sets.

The spacer (black plastic washer) which is located in between the spine and the plate, at the top is also optional. It is there to remind you to NOT over tighten that top (or bottom screw, if used) all the way down, if the KISS wing is not used. If you choose to not use this washer, or if you lose it, just don't tighten the screw down all the way. Leave a small gap. If the screw is tightened down all the way, it will put stress on the case.



The KISS Explorer counterlung case attaches to the scrubber head in the same manner of the Classic KISS; with two, 2-inch flat head screws. For those upgrading older Classic KISS units, the existing screws can be used. If for some reason, new screws are required to complete the upgrade, they should be ordered with the case. When swapping cases, do not forget to insert the spacer between the head and the case. New units ship with everything in place.

After attaching the back part of the counterlung case to the scrubber head, the various fittings can be reattached to the head. Again, those buying a new Explorer will find everything attached.

At this point, the counterlungs can be attached to the unit. Please see the Classic KISS manual for proper CL insertion instructions.

The next step would be to attach the custom KISS wing and front plate. The wing is situated between the back part of the counterlung case and the front plate. This positioning keeps the Explorer very tight to the divers back and provides a low profile. As this wing was designed for the KISS Explorer, it best provides lift where required and has excellent trim. It has a 360 degree donut style bladder assembly and maximum lift is approximately 40 lb. Tightening the bungees will lower the profile and reduce the lift.



To attach the KISS wing, you will need the 4 barrel nuts which are part of the package. Position the wing so that the inflator and the dump valve are on the right side. The top of the wing is narrower than the bottom. The top also has a tab in the middle of the top portion. See photo to the right. This side is also the side which should be facing you when the wing is attached.

With the wing properly positioned, it can now be attached using the 4 barrel nuts. The wing attaches to the four corners of the counterlung case. On the back side of the wing, there are loops in each corner which have a large stainless steel grommet. Push the female piece through the loop so that the open side is facing the case. Then push the male piece through the hole in the corner of the case, so that the threaded end is facing the wing. Secure them, finger tight. The barrel nuts are meant to be hand tightened only. Do this for each of the four corners. To secure the barrel nut by the manifold mount, first push the male piece through the hole in the case, then line it up with its mating piece.



When the wing is attached at all four corners, you will notice that it seems loose. This is normal. When the top plate is fitted, everything will be positioned properly and will be snug.

Position the top plate as shown in the right hand photo, with the crotch strap slot at the bottom. The photo at the right shows the case assembled without the wing. Arrows are pointing to the 2 securing screws and the crotch strap slot at the bottom of the case. When using the wing, the 4 attachment screws for the outer corners of the top plate, are not used.



Slide the plate under the top flap of the wing first. Then pull the bottom flap over the bottom of the plate.

Line up the plate with the spine and attach the 2 pan head screws. It is best to tighten the plate while the unit is laying down. With one hand, apply pressure to the plate pushing it into position, and tighten the screws with the other. Ensure that it is properly secured. The screws for this application are 5/16-18 x 5/8.

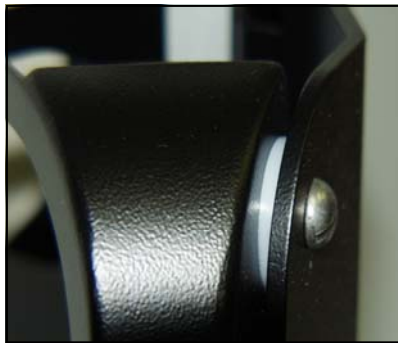


The wing has both an inflator hose and a dump valve. Both are on the left side (when wearing the unit).

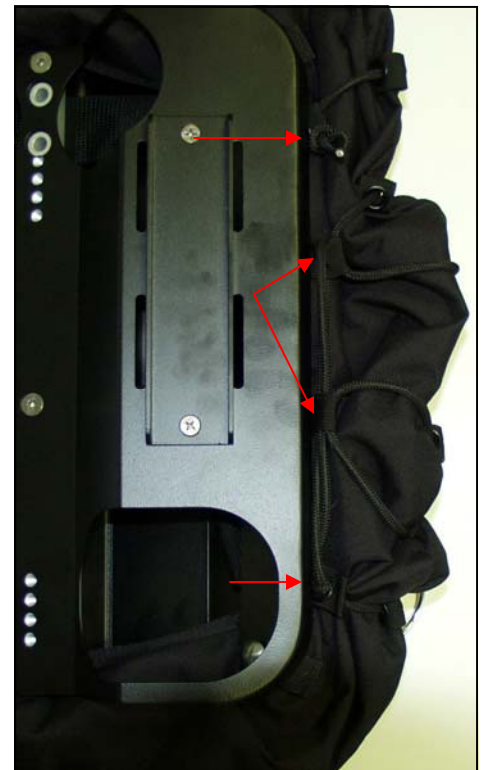
The Explorer counterlung case can be dived without the KISS wing. To do this 4 screws/4 washers/4 nuts which are included with the kit, can be used. As mentioned on the previous page, this is up to you, as a third spine screw at the bottom will also help secure the plate. You may feel that your wing/harness attachment screws will anchor the plate properly.

The spine screws for this method are still the 5/16-18 x 5/8". If you are planning on diving with the corner screw sets, be certain to attach the spine screws first. Otherwise, they will be difficult to line up.

The four outer corners will require each, a screw, washer and nut. The washer acts as a spacer to take up room where the wing would normally sit. To assemble, place the screw through the plate, the washer between the plate and the back counterlung case, and the nut on the inside of the counterlung case. Secure. See the photos below. The corner screws are 5/16-18 x 5/8", using a 5/16 hex nut. As mentioned on the previous page, if the wing is not used, the top (and bottom, if used) screw should not be tightened all the way, if the spacer is not used.



To attach the cord, thread it through the top, back grommet with the knot on the outside. See photo to the far right, top red arrow.



Thread the cord through the grommets on the edge of the wing, and then through the webbing on the front of the wing. Continue threading the cord, alternating from one side to the other, and utilizing the grommets on the edge of the wing.. See photos above. Once the cord has been threaded, pull it through the last grommet at the bottom back of the wing, and secure it with a knot. Any left over cord, can be threaded through the slots to secure it.

# KISS WING HARNESS

The KISS Explorer front plate is designed to work as a back plate; slots have been cut for a standard webbing harness.

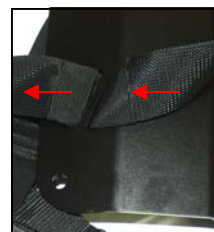
The harness is shipped with a SS buckle, 2 D-rings/slides per shoulder strap, 1 D-ring/slide per waist strap (1 on each hip), adjustable crotch strap with scooter ring and D-ring/slide, 11 feet of webbing, and 4 webbing protectors. Should any more rings or accessories be desired, they can easily be added.

While the Explorer ships with our webbing harness, you may decide to thread your own harness into the Explorer's front plate, or alternatively, to attach a standard harness system using the threaded holes on the plate. (similar to the Classic KISS). The bolts for this application are included.



## THREADING THE HARNESS:

1. Thread the webbing through the shoulder strap slots. Position the webbing so that the grommet is positioned to the right or left of the center. If the grommet is in the center, you will not be able to tighten the top screw properly. As there is plenty of webbing this shouldn't be an issue. See the photo to the right. Before you slide the webbing through the slots, push two of the webbing protectors over the webbing. The protectors should sit so that they cover the webbing which goes through the slots. This will help prevent wear & tear on the harness.
2. Position 2 D-rings/slides on each shoulder. See the top photo for positioning. Note that the top ring should sit fairly high; approximately 3" to 5" from the top of the plate. Remember, the rebreather needs to sit as high on your back as possible for the best work of breathing. **THIS IS VERY IMPORTANT!!**
3. Next, thread the end of the webbing through the waist slot. Push the end through the front of the plate towards the back, and then forward through the next slot. See photo to the right. Repeat this step with the 2nd piece. Again, two of the webbing protectors should be used to protect the harness.
4. Position 1 D-ring/slide on each waist strap. See top photo.
5. Install the crotch strap. Major adjustments should be done on the back part of the webbing. Minor adjustments should be done on the front part of the webbing. The front loop will be threaded over the waist webbing on the right side.
6. Attach the waist buckle to the webbing on the right side.



For those that have never adjusted a webbing harness, it will take a few attempts in order to achieve the desired fit and to ensure that the rebreather is sitting high enough. Be prepared and give yourself plenty of time.

Worth noting is that the waist strap is probably best adjusted so that sits over your hips; lower on your body, rather than higher. Keeping the waist strap low, and the crotch strap snug, will ensure that the harness sits securely and does not shift. Adjusting your harness this way, will also help keep the rebreather higher up on your back.



The Explorer plate has several additional holes drilled into it. They are there for attaching various accessories such as butt plates or side-mount bungee for tank valves.

# CYLINDER STRAPS

The KISS Explorer is shipped with 2 sets (4 straps) of the webbing straps. They are a standard feature for the Explorer.

These straps can be locked under the tank mount brackets on the case. Loosen the tank mount brackets, and instead of sliding the straps through the slots on the case, slide them under the tank mount bracket instead. Position the strap so that the buckle is located where you want it and then tighten the tank mount bracket again. This will keep the straps from sliding around while you attach your cylinders.



# OFF-BOARD ACCESSORY

The KISS Explorer package includes one full set of the off-board accessory. This accessory is used to plumb the side mount gas into the KISS Explorer through the manifold. The kit includes the rebreather side whip and the side mount cylinder side kit.

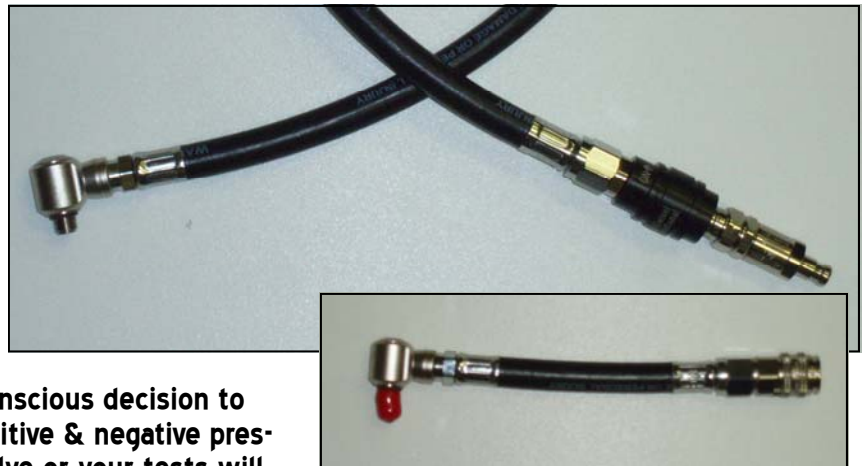
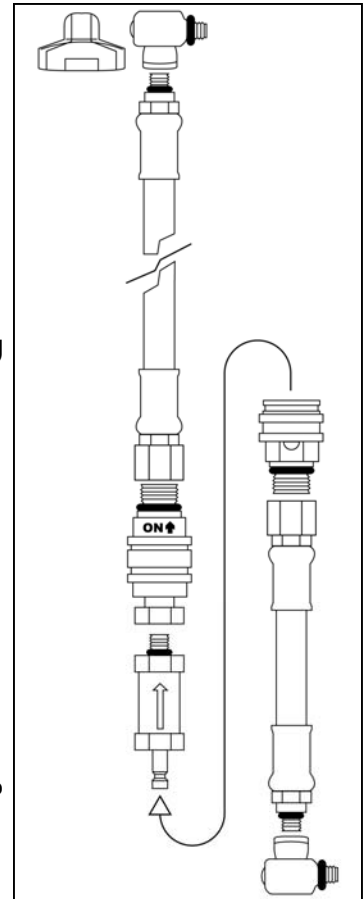
Some divers choose to dive with two complete off-board accessories. Using two sets means that if two side mount cylinders are hooked up, the diver does not need to detach the quick connects from one cylinder to another. This version, while practical does add extra O-rings to the rig.

Alternatively, the diver can choose to purchase only additional cylinder side whips. If the diver has this whip on each side mount cylinder, then in order to bring the gas into the rebreather loop, the diver must connect his rebreather side whip to that particular cylinder. This version cuts down on the number of O-rings on the rig and also is cleaner.

The off-board accessory rebreather side includes: 1 swivel elbow, 1 30inch LP hose, 1 shut-off valve, 1 check valve with quick disconnect male.

The off-board accessory cylinder side includes: 1 swivel elbow, 1 6inch LP hose, 1 quick disconnect female.

The shut off valve is open when it is pushed up, following the direction of the arrow or pushing it towards the LP hose. It is closed when it is pushed down or away from the LP hose. The valve has been designed this way so the diver must make a conscious decision to open the valve. When doing your positive & negative pressure tests, remember to close this valve or your tests will fail!!



Prior to connecting the rebreather side whip to the off board cylinder, you must open the rebreathers on-board diluent cylinder to pressurize the whip. Ensure that the shut off valve is open, with the arrow pushed up towards diver. This confirms that the one way check valve has seated. No gas should exit the off board whip. The check valve has three internal parts; a spring, a poppet, and an O-ring. This process insures the poppet has seated in the O-ring. Make this part of your pre-dive check list.

With this system, the diver can have the off-board cylinders open through out the dive. Even if the quick disconnect is not connected. The check valve in the manifold whip will prevent any water from entering the system.

**AS WITH ANY NEW DIVING EQUIPMENT, USING THIS ACCESSORY WILL REQUIRE THE DIVER TO LEARN NEW SKILLS AND CREATE NEW MUSCLE MEMORY.**

**WITH ANY TYPE OF DIVING, REBREATHING OR OPEN CIRCUIT, THERE IS RISK. WHEN USING NEW EQUIPMENT SUCH AS THE OFF-BOARD ACCESSORY ON A KISS REBREATHING, THE DIVER MUST ACCEPT THIS RISK AND THAT THE ABOVE MENTIONED NEW SKILLS WILL NEED TO BE LEARNED. FAILURE TO LEARN THE PROPER USE OF THE OFF-BOARD ACCESSORY CAN CAUSE THE DIVER SERIOUS INJURY OR DEATH.**

# LEFT SIDE GAS ADDITION VALVE & MIFLEX HOSES

The KISS Explorer ships standard with a left side gas addition valve. Either an oxygen valve or a diluent valve can be used. One valve is included with the Explorer. Additional valves can be purchased, if desired.

This means that we now have 3 gas additional valves.

1. The original oxygen manual add valve which is located on the right side of the rebreather. This valve delivers oxygen in two ways. First through the constant flow orifice and second when the button is pushed.
2. Left side diluent gas addition valve: this valve delivers gas only when the button is pushed. It does NOT have an orifice; it is plugged. The flow for this valve, when the button is pushed, is higher than the oxygen valves. While this valve is oxygen clean, it should not be used for oxygen mixtures as the flow is high.
3. Left side oxygen add valve: this valve delivers gas only when the button is pushed. It does NOT have an orifice; it is plugged. This valve has a similar flow as the right side valve, when the button is pushed. This valve can be used for any gas mixture.

In order to determine which valve is which, we have engraved the larger fitting on the valves. The fitting which is secured into the housing on the button side, will be engraved. Also, we have labelled the filter on each valve assembly.

**\*WARNING: If you remove your valve from the unit, keep spare valves, or keep different valves in your kit, be certain that you know what they are for! Read the inscriptions and use the correct valve for your planned dive.**

As the left side valve does not have an orifice, the left side first stage is not modified. It is a standard first stage. This means that the left side valve will add gas at any depth. This is especially handy for those divers who prefer to run their right side valve at a lower flow, and are unable to add oxygen at depth.

For those upgrading older Classic KISS units to a left side valve, note that both an elbow and tube are required. When installing the elbow and tube on the left side, the outer brass plug and inner stainless steel plug must be removed. Once removed, put them someplace safe; if you ever want to remove the elbow assembly, then BOTH of these plugs must be reinserted. In the event that you don't want to use the elbow, it may be easier to remove the hoses, and plug the elbow using a standard 3/8 first stage plug.



**\*WARNING: IF THE TWO PLUGS ARE REMOVED, IT IS IMPORTANT THAT THE TUBE IS USED WITH THE ELBOW. THIS IS CRITICAL FOR PROPER GAS ROUTING. ALSO, IF THE ELBOW ASSEMBLY IS REMOVED, IT IS ALSO CRITICAL THAT BOTH PLUGS ARE RE-INSTALLED! FAILURE TO DO SO WILL ALSO CAUSE INCORRECT GAS ROUTING. EITHER OF THESE PROBLEMS, COULD CAUSE INJURY OR DEATH!**

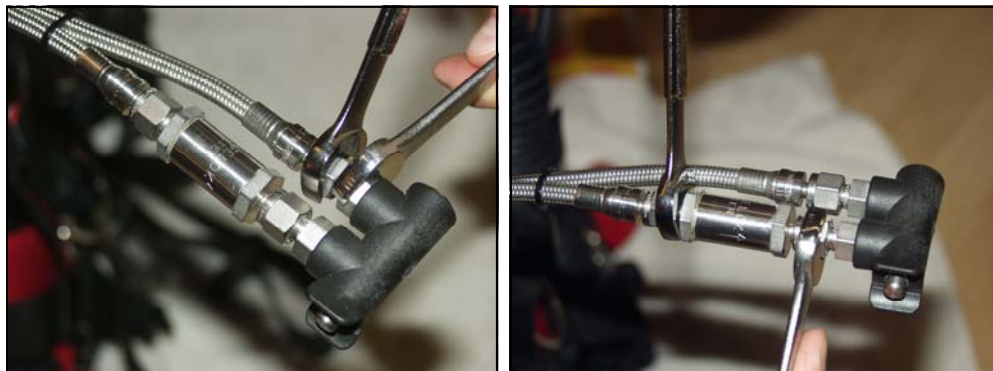


Those that are installing the elbow themselves, should first apply Teflon tape to the threads. While this is not a pressure fitting and tape really isn't required, it will help protect the threads. When attaching the elbow, ensure that it is not cross threaded. Also, do not over tighten. It is not required. Four to five turns is enough. The best tool to tighten the elbow is a 5/8 wrench. Use it to cup the bottom of the elbow to help turn it into position. You should only need the wrench on the last turn. The first few turns can be done by hand.

**\*NOTE: The right and left side elbows, which attach to the rebreather head, are NPT or pipe thread. This is a tapered thread, NOT a straight thread. If you screw a fitting with a straight thread, such as a swivel elbow, into this port it will damage the rebreather head! If this happens, it is NOT repairable. Prior to modifying your rebreather, please be certain that you understand what fittings are required.**

**\*NOTE: See the Classic KISS manual for instructions on disassembling and servicing the gas addition valves.**

**\*NOTE: Remember, when attaching the gas addition valve to the hoses or other fittings, always put one wrench on the fitting which attaches to the plastic valve. Use this wrench to ensure that this fitting does not spin while you are either attaching or removing the valve from other fittings or hoses. If you need to remove or attach any fittings which go directly into the plastic, be careful to not over tighten. Use only two fingers on the wrench!**



The hoses for the left side gas addition valve are both Miflex hoses which are rated for oxygen use. As the Explorer has two similar gas addition valves, it is important to differentiate between them. Therefore, the right side valve hoses which have always been for pure oxygen, remain a bright yellow colour. The new hoses will be black.

### **WARNING FOR RIGHT & LEFT SIDE ADD VALVES!**

**The oxygen injector, is a convenience. It is not a controller in any way. The only device regulating the oxygen partial pressure is your brain. The automatic oxygen add does not reduce the need to monitor the three partial pressure displays. It only reduces the number of times you have to press the oxygen add button. As with any rebreather, the displays should be checked constantly during the dive. The oxygen regulator can fail and stop delivering O<sub>2</sub> or it can fail and increase the flow drastically. The orifice can become plugged and stop delivering oxygen. The add valve O-rings can fail and increase the amount of O<sub>2</sub> being added to the breathing loop. Any of these things can kill you but any of these problems can be overcome if you are aware of the conditions in the breathing loop.**

**KNOW YOUR PO<sub>2</sub> AT ALL TIMES !**

## Left Side Gas Addition Valve Troubleshooting

If the gas addition rate is lower than it should be, the following has happened:

- The filter has become clogged and should be replaced.

If the gas addition rate is higher than it should be, then one of the following things has happened:

- The plug has become loose where it screws onto the valve.
- The valve o-ring is worn or damaged.
- The spring is broken or weakened and is not holding the valve closed.

The regulator should be serviced regularly and maintained in an oxygen clean condition.

**\*WARNING:** It is very important that this valve is in good working order, with good O-rings. Ensure that you rinse your gear after diving in salt water, and if you flood your rebreather, and you think water has gotten into the valve, service it!! If you pay attention to how often you usually add oxygen to your rebreather during a typical dive, it will be easier for you to notice a problem.

**\*NOTE:** The Miflex hoses are rated for oxygen use. As they have standard regulator hose fittings, they can be replaced with other rubber LP hoses. If you do so, please ensure that the hoses you use are rated for oxygen use!

**Also, all low pressure hoses on the KISS Explorer should be inspected periodically to ensure that they are not damaged and in good working order. This includes the oxygen hoses, diluent hoses, mouthpiece 2nd stage regulator hose and ADV hose.**

# EXPLORER WITH ON-BOARD OXYGEN ONLY

This system is for divers who wish to have redundant oxygen. These divers feel that having only one oxygen cylinder for a technical dive, is the weak link of the system. With this configuration, the divers diluent gas is the side mount/bailout gas.

**\*WARNING: As always, all dives should be conducted with the appropriate gear, training and mind set. If any one of these is lacking, death could result!**

With this system, divers would plumb their side mount cylinders into the Explorer using the off-board accessory. With the side mount cylinders attached to the loop via the off-board accessory, gas can be added to the loop in two ways. First by using the ADV and second by using the mouthpiece. Also, open circuit gas can be breathed via the rebreather mouthpiece. As the side mount cylinder is also the bail out cylinder, divers should have a bail out regulator attached to these cylinders.

**\*WARNING: Diving the bail out/side mount cylinders WITHOUT second stages should not be done. If the rebreather mouthpiece for any reason fails, then the bail out gas would not be accessible. Also, divers should ensure that they plan their dives appropriately and take in consideration their gear configuration as well as their buddies gear configuration. Ensure that all divers are properly trained for the planned dives and that they understand each others gear. Failure to do so, may result in injury or death!**

**\*WARNING: If you are going to dive this system, with two on-board oxygen cylinders, you MUST remove the 21" LP hose and adapter, which runs from the manifold to the diluent first stage. If you do not do this, you will be adding both pure oxygen from the left on-board cylinder and also diluent from your side mount cylinder through the ADV!! The ADV should ONLY add the gas from the side mount diluent cylinder!! If oxygen is in the left side cylinder, it must ONLY be added to the rebreather using the left oxygen gas addition valve. Diving in this manner presents challenges and therefore it is only for those with advanced diving experience and adequate training!!! If divers are using large side mount cylinders that are attached to the system in the water, they need to understand that the ADV will not work until the side mount cylinder is attached, using the off-board accessory. SEE PAGE 13. Having two on-board oxygen cylinders means that divers need to pay special attention to their PPO2's!! The PPO2 will creep up if no diluent is being added! The ADV and the mouthpiece/open-circuit will not work until the off-board accessory is connected! The KISS Explorer was meant to be used with the off-board accessory in place. Diving without it means that not all the components will work!! If you are planning on diving this configuration, ensure that you have the proper training and skills. This is not meant for beginner rebreather divers! It is for experience rebreather divers with proper training and experience!**



Those that wish to dive this configuration should choose the left side oxygen gas addition valve with no flow. It is oxygen clean. The diluent valve should not be used as the flow is high for oxygen! This valve is similar to the right side oxygen manual add valve, but it DOES NOT HAVE AN ORIFICE. It is plugged. The only way the oxygen goes into the breathing loop is by pushing the button. This is a multi purpose valve as it can be used with other gas mixtures.

# EXPLORER WITH ON-BOARD OXYGEN AND DILUENT

This system is for divers who wish to have both on board diluent and side mount diluent/bail out gas. These divers prefer to dive the rebreather in a similar manner as the Classic KISS, with a breathable on-board gas in the diluent cylinder. With this configuration, the divers on-board gas and side mount/bail out gas can be any mixture which is appropriate for the dive.

**\*WARNING: As always, all dives should be conducted with the appropriate gear, training and mind set. If any one of these is lacking, death could result!**

With this system, divers would plumb their side mount cylinders into the Explorer using the off-board accessory. With the side mount cylinders attached to the loop via the off-board accessory, gas can be added to the loop in two ways. First by using the ADV and second by using the mouthpiece. Also, open circuit gas can be breathed via the rebreather mouthpiece.

As the side mount cylinder is also the bail out cylinder, divers should have a bail out regulator attached to these cylinders.

**\*WARNING: Diving the bail out/side mount cylinders WITHOUT second stages should not be done. If the rebreather mouthpiece for any reason fails, then the bail out gas would not be accessible. Also, divers should ensure that they plan their dives appropriately and take into consideration their gear configuration as well as their buddies gear configuration. Ensure that all divers are properly trained for the planned dives and that they understand each others gear. Failure to do so, may result in injury or death!**

Those that wish to dive this configuration may choose either the no flow oxygen valve or the no flow diluent valve. The diluent valve, while it is oxygen clean, has a higher flow and therefore should not be used with oxygen mixtures. This valve is plugged; it has NO orifice. The gas enters the loop when the button is pushed. The diluent valve has a higher flow so that loop flushes may be conducted using this valve. Of course, diluent flushes can still be done using the mouthpiece/ADV as with the Classic KISS.

The oxygen valve can also be used, but divers should remember that when the button is pressed, the gas enters the loop much slower. This means that it shouldn't be used for a diluent flush as it will take too long. If this valve is used, do the diluent flush using the Classic KISS method of mouthpiece and ADV.



# EXPLORER FOR TRAVEL

This system is for divers who DO NOT WISH to have on-board cylinders; they wish to use side mount cylinders only. Divers who prefer this configuration are usually explorers who require their gear to be as light as possible for transport to the diving location, or only have large cylinders available. Travellers also like this configuration. The simple changes for this configuration convert KISS Explorer into a light weight travel unit. It is different only due to it using off-board cylinders only. This configuration allows divers to rent cylinders at their destination. As the cylinders are side-mounted, they can be any size; 30, 40, 60, 80 cubic feet.

The KISS Explorer travel rebreather utilizes the same first stages and gas addition hose system. However, an additional quick connect system is required with the existing hose system. These are not included in the Explorer kit and must be purchased extra. See page 24 for installation instructions & further information on this system. This quick connect system is required for those that wish to put the cylinders on in the water. If smaller cylinders are being used, they can be rigged top-side, and then the quick connect system is not required. It is recommended that the quick connect hose system only be used if the Explorer is rigged for this configuration. Otherwise O-rings (failure points) are being added to the system, which serve no purpose.

The left side diluent/bail out cylinder is attached to the loop by both the off-board accessory and also the left side gas addition valve. The right side oxygen cylinder is attached to the loop by the oxygen manual add valve.

**\*WARNING: As always, all dives should be conducted with the appropriate gear, training and mind set. If any one of these is lacking, death could result!**

With this system, divers would plumb their left, side mount cylinder into the Explorer using the off-board accessory. With the side mount cylinder attached to the loop via the off-board accessory, gas can be added to the loop in two ways. First by using the ADV and second by using the mouthpiece. Also, open circuit gas can be breathed via the rebreather mouthpiece also.

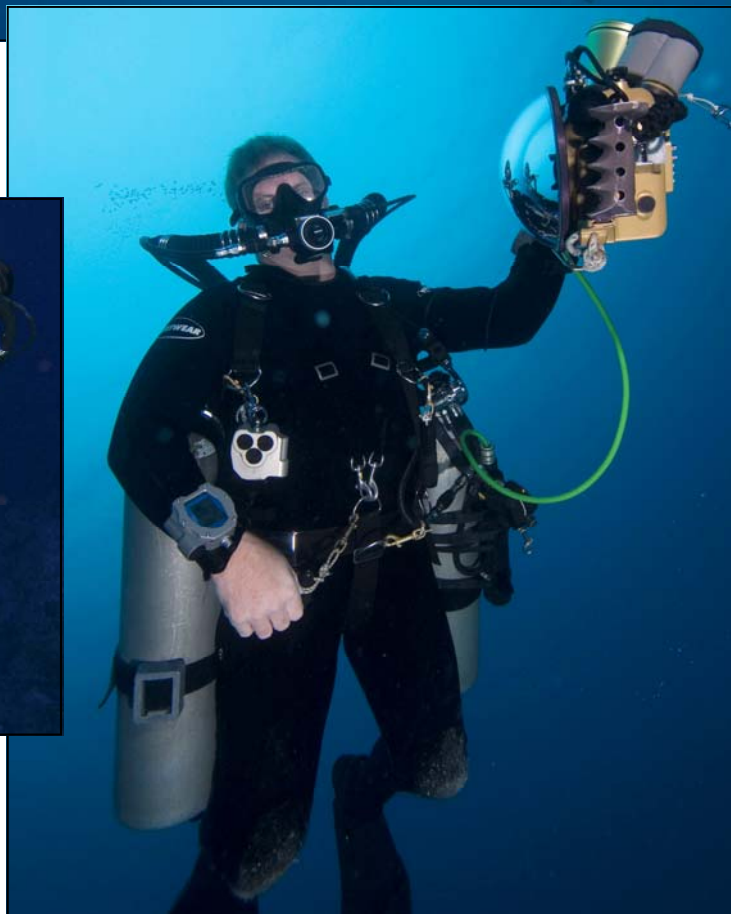
As the side mount cylinder is also the bail out cylinder, divers should have a bail out regulator attached to these cylinders.

**\*WARNING: Diving the bail out/side mount cylinders with NO second stage should not be done. If the rebreather mouthpiece for any reason fails, then the bail out gas would not be accessible. Also, divers should ensure that they plan their dives appropriately and take into consideration their gear configuration as well as their buddies gear configuration. Ensure that all divers are properly trained for the planned dives and that they understand each others gear. Failure to do so, may result in injury or death!**

**\*WARNING: If divers are using large side mount cylinders that are attached to the system in the water, they need to understand that the ADV, open circuit mouthpiece, rebreather loop and both the gas addition valves will not work until the diver hooks up the cylinders and secure the quick connects. The KISS Explorer was meant to dived with the off-board accessory and both gas addition valves in place. Diving without these parts means that not all the components will work!! Divers should be aware that these are advanced diving procedures and that experience and training are required to dive this configuration.**

Those that wish to dive this configuration may choose either the no flow oxygen valve or the no flow diluent valve. The diluent valve, while it is oxygen clean, has a high flow and therefore should not be used in an oxygen environment. These valves are plugged; they do not have an orifice. The gas enters the loop when the button is pushed. The diluent valve has a higher flow so that loop flushes may be conducted using this valve. Of course, diluent flushes can still be done using the mouthpiece/ADV as with the Classic KISS.

The oxygen valve can also be used, but divers should remember that when the button is pressed, the gas enters the loop much slower. This means that it shouldn't be used for a diluent flush as it will take too long. If this valve is used, do the diluent flush using the Classic KISS method of mouthpiece and ADV.

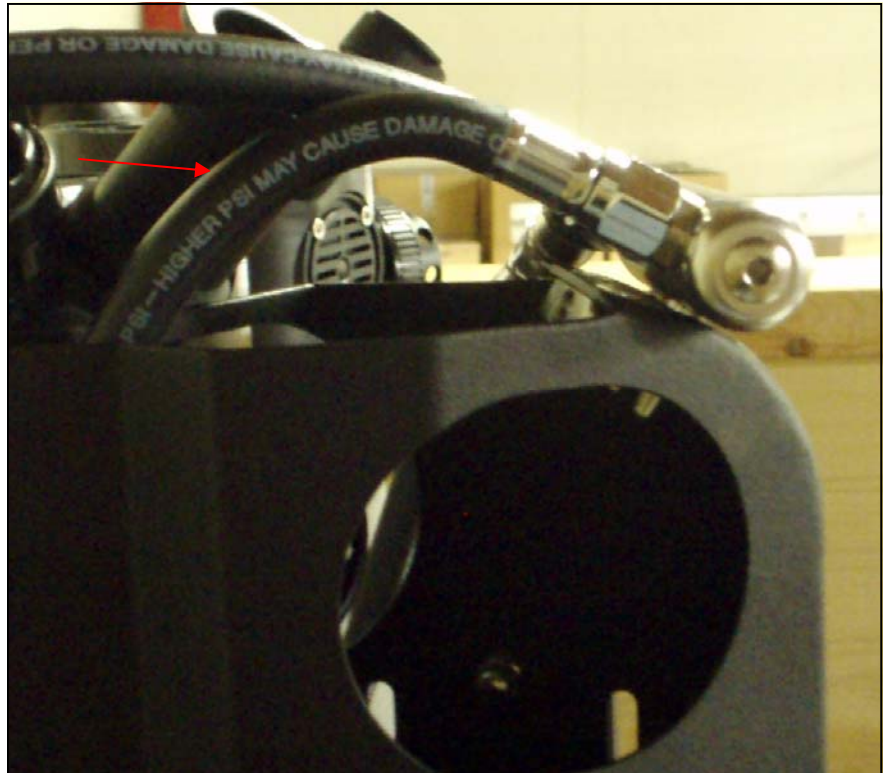


## 21" LP MANIFOLD TO DILUENT FIRST STAGE HOSE

This hose is standard on the Classic KISS as it is required to bring the diluent on-board gas through the rebreather using the ADV. It is attached to the diluent first stage and then to the manifold. See the photo on the right for placement.

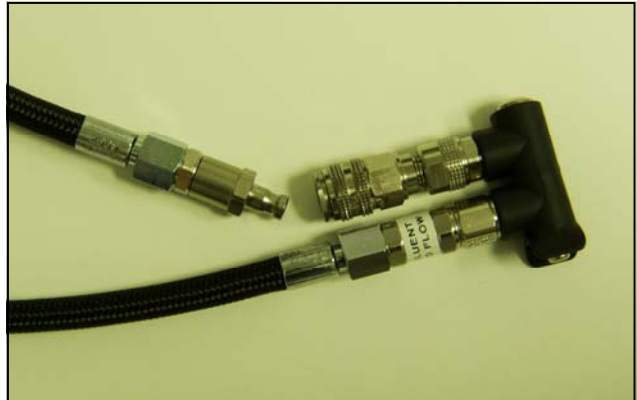
**\*Warning: Some divers may feel that this hose is redundant and wish to remove it. These divers should be aware that if it is removed, the ADV and the open circuit mode of the mouthpiece will not work until a cylinder is attached to the rebreather via the off-board accessory!!!**

This hose should not be used if the diver is using pure oxygen in the left side cylinder. The ADV system is not meant for high oxygen mixtures.



# ADD VALVE QUICK CONNECT SYSTEM

We recommend that the quick connect system is attached to the add valve, on the out flow side. This ensures that the small amount of water which sits in the front of the check valve, will get atomized into the low pressure hose. The amount of water is very slight, and it does get atomized. Even still, it should be after the add valve and filter set up.



What this means is that when the quick connect system is apart, the add valve will be attached to the side mount cylinder. Care should be taken to secure the valve to the side of the cylinder with bungees and/or clips, to ensure that it does not get damaged. Treat it as you would a second stage regulator, with care and respect.

When attaching the fittings to the add valve, remember to put one wrench on the add valve fitting and one on the quick connect. Do not allow the fitting, which is directly attached to the valve, to spin. It could strip the threads of the housing. See page 17 for more information on this subject and wrench placement photos.

When your Explorer is rigged for travel mode, you must still do a full positive and negative test. This must be done with the complete loop intact. This means that the first stages must be secured to the side mount cylinders, and the quick connects pushed together. This is the only way to ensure that the positive and negative tests pass. Don't forget to push the shut-off valve closed, on the off-board accessory. If you don't, it will leak and the test will fail.

While the entire loop is together, take the time to pressurize the off-board whip. Simply open up the off-board cylinder, while the off-board accessory is connected to it. This will pressurize the whip, and will confirm that the one way check valve has seated. Ensure that the shut-off valve is open, while you do this. This should be done prior to entering the water. See the off-board section for full details.





**KISS REBREATHERS**  
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