

User Guide For Rebreather Pod (Pod P/N 805-080 & 805-082)



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Kirby Morgan® thanks you for your purchase.

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Definitions of Signal Words and Terms Used in this Guide

The original language of the Kirby Morgan Manuals is English. Translation into other languages will be provided upon request. KMDSI may charge a fee for these services.

Throughout this user guide we will use certain words to call your attention to conditions, practices or techniques that may directly affect your safety. Pay particular attention to information introduced by the following signal words:

DANGER

This word indicates an imminently hazardous situation, which if not avoided, could result in death or serious injury.

WARNING

This word indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

CAUTION

This word indicates a potentially hazardous situation, which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE

This word is used to address practices not related to personal injury.

This operation user guide contains important safety information and should always be available to those personnel operating this equipment. Read, understand, and retain all instructions before operating this equipment to prevent injury or equipment damage.

If you sell or loan this equipment to another person, be sure that this user guide accompanies the gear when you transfer possession to them.

Before Going Further

The Rebreather Pod, No Reg P/N 805-080 and Switchover regulator P/N 805-050 parts have a “location number” in parenthesis when mentioned in this user guide. The location number is used to find the part on the exploded view. Be aware that there are two separate exploded views; one for the Rebreather Pod and one dedicated to the regulator components when referencing these numbers. These are not part numbers. Always use part numbers when ordering spare parts.



The exploded views can be downloaded or printed in their intended size of 11" x 17" directly from the Kirby Morgan website.
<http://www.kirbymorgan.com/support>

NOTE

⚠ WARNING

Cold Water Diving (water Temperatures below 50 °F/10 °C) requires specialized training and equipment. Do not attempt diving in cold water unless you are properly trained and equipped for this type of specialized diving. Attempting to dive cold waters without proper training & equipment can cause fatal accidents stemming from poor coordination, gear freeze-ups, hypothermia, etc. When diving in waters that are 50 °F or colder, the KMDSI Cold Water Intermediate Gas Temperature Exchanger, part #200-205 is recommended to prevent the second stage regulator from freezing.

⚠ DANGER

Kirby Morgan Dive Systems, Inc. cannot guarantee the diver protection from contaminants when using the M-48 modular full face masks in waters that are biologically, chemically or radioactively polluted. Radioactive, chemical, and biological contaminants can cause serious, permanent bodily harm or death to the user. While the M-48 modular full face masks can minimize and help reduce the risks associated with the exposure to certain waterborne chemical and biological contamination, it cannot protect the user in all situations or against all contaminants and KMDSI makes NO claim that the mask will protect the diver while diving in contaminated water.

Terms used in this Guide

BOV: Bail Out Valve

CCR: Closed Circuit Rebreather

DSV: Dive Surface Valve

IAW: In Accordance With

Features of the Rebreather Pod



The Rebreather Pod , also referred to in the past, as the NATO Pod, with switch over regulator or Rebreather Pod in the DSV configuration is designed to be used in operation with the Kirby Morgan M-48 MOD-1 and SuperMask® modular full face masks. A Pod Frame which contains a hook and Catch, Release allows the diver to form a water seal to the mask Jaw Frame, creating a dry lower cavity. The Pod can be released and resealed to the Jaw Frame during the dive without removing the mask. This modular design also allows the diver to complete their pre dive without donning the mask, and once the mask is donned, clear communication with topside support personnel is achieved without speaking through or past a BOV/DSV.



The diver will also have the option of using additional Open Circuit Pods connected to offboard gas supply for supplementary gas switching. Once the Pod is sealed to the Mask the diver is back operating in full face mask mode.

Rebreather Pod, P/N 805-080, with unit specific hose adapters (*not included*), has been designed for use with most commercially manufactured rebreathers. The Rebreather Pod incorporates an integrated quarter turn barrel valve similar to other rebreather DSV/T-bit assemblies. The Rebreather Pod utilizes changeable hose adapters (*not included*) that allow it to be used with all rebreathers, even specialty or limited production units, provided the adapters are designed for them (contact Dive Lab for specifics). In addition to standard rebreather capability, the Pod can also provide open circuit switchover capability when configured with the open circuit switchover demand regulator P/N 805-050.

The Rebreather Pod has a flexible silicone rubber skirt that acts as the watertight closure and foundation for the rebreather barrel valve assembly. The lower skirt has a tilt to purge valve installed, which is used to dewater the Pod cavity. Both sides of the skirt have provisions for dewatering valve placement. The standard configuration will have this valve assembly, installed on the right side. The Pod mouthpiece is made of soft flexible silicone that is bellowed to allow for positioning with a ratcheting mechanism, facilitating fore and aft movement of the mouthpiece.

⚠ DANGER

Using the Rebreather Pod in conjunction with the M-48 Modular Full Face Masks will require additional training and practice. Regardless of the system used, the use of this diving equipment by uncertified or untrained divers can be extremely hazardous, and could result in serious injury and/or death. Only divers who have been trained and certified to dive by an accredited training and certification organization in the use of rebreathers should use this Pod. All users should practice donning, doffing, removing and replacing the Pod on the surface or other dry environment before attempting the same procedures in the water. Once the basic maneuvers have been practiced and the user is comfortable, the user can move into a calm, shallow body of water (4- 10 feet in depth) and practice these procedures again. It is recommended that persons with full face mask experience make at least one indoctrination dive for at least 30 minutes.

⚠ WARNING

The Rebreather Pod fitted with or without a switchover regulator are designed to be used only with the Kirby Morgan M-48 MOD-1 and SuperMask® with unit specific hose adapters (*not included*). Users should not try to adapt this assembly to any other mask

⚠ WARNING

You should be thoroughly familiar with the MOD-1 or SuperMask® User's Guide before reading and reviewing the Rebreather Pod User's Guide.

Components of the Rebreather Pod



Switch Over Open Circuit Regulator

If you ordered your Rebreather Pod with the Switchover Open Circuit Demand Regulator, please read and understand the Switch Over Regulator Assembly User Guide prior to diving and retain it for future reference. The regulator User Guide explains the features and functions, as well as general care and maintenance of the Switch Over Regulator. It includes an exploded view and parts list (also found in the back of this guide). The regulator serial number can be found on the regulator body when the Brace, Right is removed. Shoulder Screws and nuts must be removed to remove Brace, Right.

Ratcheting Mechanism

The Rebreather Pod has a ratcheting mechanism that allows easy placement and maximum extension of the mouthpiece. Lifting up on the Hinge Arm, Pod Lock and pushing in on the mouthpiece adjustment tab will bring the mouthpiece closest to the mouth. To move the mouthpiece away from the mouth simply lift up on the Pod lock and the bellows in the Pod Cover will naturally move the mouthpiece forward in the Pod. The mouthpiece is essential for safe operation of the Rebreather Pod and **should always be installed**.

**NEVER DIVE THE REBREATHER POD WITHOUT
A MOUTHPIECE INSTALLED!**

Receiving the Rebreather Pod

When you receive your Rebreather Pod, carefully unpack and examine it for any damage. Be sure to completely fill out the enclosed warranty card and return it to Kirby Morgan Dive Systems, Inc., (KMDSI) no later than ten days after purchase. It is the goal of KMDSI to provide the highest quality diving equipment combined with the best possible customer support and service.

Your Rebreather Pod should have the following parts:

One Rebreather Pod with Switchover Regulator P/N 805-082

or

Rebreather Pod NO Regulator P/N 805-080

One Auto Water Purge Valve w/ Exhaust Valve & O-ring

One 1 High Flow Swivel P/N 305-017

One User's Guide (P/N 100-813)



Hose adapters are purchased separately and are not included in the general packaging.

NOTE

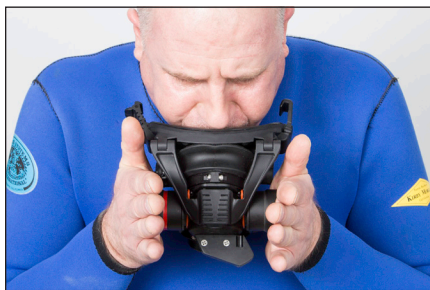
Installing and Removing Hose Adapters (*not included*)

Always inspect the dual sealing O-rings for any possible damage before installing the adapters.

The hose adapters (*not included*) for your specific unit are installed by turning adapters clockwise threading them onto the inhalation and exhalation ports all the way in until the adapters turn freely. They are designed to turn freely on the Pod Hose Adapter Port, which allows the hoses to move freely while still being secured to the Pod. The original equipment manufacturer's mushroom valves (*not included*), hose nuts and hoses are installed as per the rebreather manufacturer's specifications. To remove the hose adapters (*not included*), slightly pull out on the hose adapter to engage threads as you turn counter clockwise until removed.



Positive & Negative Test



Once the a BOV parts are identified, test the Rebreather Pod with the hose adapters (*not included*) installed without the routing valves. Test by placing the barrel valve in the closed circuit position (in the horizontal position and open to each hose end) and sealing each adapter end with your hands, as shown. Forcefully exhale and inhale into the mouthpiece. There should be no gas leakage during inhalation or exhalation.

Next, install the mushroom valves (*not included*) in the same manner as directed by the rebreather manufacturer. Ensure the valves are clean and in good condition and verify the flow direction is correct.

Next, attach the inhalation and exhalation hoses to the KMDSI hose adapters (*not included*). Put the mouthpiece in your mouth and firmly press the open end of the CCR hoses against your face, inhale and exhale. No gas leakage should be felt or heard. This will test the integrity of the hose adapters (*not included*) when secured to the CCR hoses.



⚠ WARNING

Failure to install the valves according to the manufacture's instructions could result in serious injury and/or death. After valve installation, a second person should verify directional flow as an added safety precaution

⚠ WARNING

Only the Switch Over Regulator is designed to be mated with the Kirby Morgan Rebreather Pod. Do not use other brand regulators. They will not mate properly. Failure to follow this WARNING could result in serious injury and/or death.

Before You Dive (Pre-Dive Inspection)

Completely inspect the Rebreather Pod and all related gear before every dive to ensure everything is in proper working order. This should be done well in advance of the dive. Read and completely understand all user guides and practice the procedures and understand the functions and features of the M-48 modular full face mask and Rebreather Pod. It is also important to read and understand the rebreather manufacturer's information and successfully complete formal recognized training in the unit before you dive.

Pre-Dive Inspection of the Rebreather Pod (Appendix 1)

Diver Name: _____ Date: _____

NO.	STEP	INIT.
1.	Visually inspect the exterior and interior of the Rebreather Pod for any type of damage, debris, cuts, nicks, or deterioration. Slowly operate the barrel valve several times to ensure free operation.	
2.	The Pod silicone cover and sealing area should be in good condition, with no cracks, tears debris or punctures.	
	Inspect for any signs of wear, damage or missing parts:	
	<input type="checkbox"/> Pod Frame	
	<input type="checkbox"/> Frame Retainer	
	<input type="checkbox"/> Catch Release	
	<input type="checkbox"/> Hook	
3.	<input type="checkbox"/> Mouthpiece	
	<input type="checkbox"/> Ratchet Mechanism	
	<input type="checkbox"/> Tilt to Purge Valve	
	<input type="checkbox"/> Tie wraps	
	<input type="checkbox"/> O-rings	
	All parts should be securely mounted and undamaged in any way.	
4.	If your Pod is equipped with a Switchover Regulator, ensure that it is properly secured to the Pod, has a proper length hose and the regulator function checks have been completed in accordance with the Switch Over Regulator function checks.	

Pre-Dive Inspection Switch Over Open Circuit Regulator (Appendix 2)

Diver Name: _____ Date: _____

NO.	STEP	INIT.
1.	Regulator Cover Ring: Make certain the ring is tightened completely.	
2.	Adjustment Knob: Check the knob travel. It should travel a total of 3 to 4 turns. Turn the knob all the way in, then back out 1 turn.	
3.	Exhaust Valve: Make certain the exhaust valve is seated properly by using a finger to feel through the Exhaust Tee and verify correct installation. Perform a negative pressure test by inhaling from the regulator mouthpiece. Resistance should be met when inhaling and no air should enter or be heard entering into the second stage regulator.	
4.	Regulator to Pod: Check the mount screws and nuts. Inspect mating areas of the two assemblies for damage.	
5.	L.P. Air Supply: Make sure the hose length is correct and the hose nut is tightened sufficiently. Turn the gas supply ON and listen to the regulator for any possible gas leakage. DO NOT change the adjustment knob setting. Depress the purge button to check for gas flow. Listen to the regulator again to check for gas leakage.	

WARNING

Before entering the water, complete all system checks on the Rebreather as prescribed by the manufacturer. Failure to do so could result in death or serious injury.

⚠ WARNING

When in the water and removing the Rebreather Pod, the barrel valve must be in the vertical position. Failure to do so will flood the breathing loop, leading to a complete system failure, loss of buoyancy, and the formation of a caustic cocktail. Any one of these could lead to serious injury or death.

Diving a KMDSI M-48 Modular Full Face Mask

A watertight seal from the Pod to the mask is not required for the diver to operate the Rebreather Pod in either open circuit or closed circuit dive mode, as long as the mouth creates a seal on the mouthpiece. If the Pod is not sealed to the mask the diver must retain the mouthpiece in their mouth.

Hooking the Rebreather Pod to the Mask

Recovery of the mouthpiece underwater should always be done in the open circuit or bailout mode (barrel valve in the vertical position). It is also highly recommended that all recovery of the Pod underwater be done with the mouthpiece set in the closest position to the diver's mouth.

Hooking, Sealing & Latching the Pod

To understand this procedure, the following parts must be identified on the mask: the Pod Catch/Release, Pod Hook, Tilt to Purge and mouthpiece on the Pod and the Jaw Frame and Pod Catch on the Mask.

There are different ways to hook and seal the Pod to the mask. This guide will explain one method of recovery using the mouthpiece as the principal point of the action.

1. Retrieve the mouthpiece first, then clear the regulator and establish a normal breathing cycle.



2. Continue holding a bite on the mouthpiece and slide the entire Pod assembly to the left until the Pod Hook aligns and captures on the jaw frame recess on the mask. This is basically the same action used when attaching the standard open circuit SCUBA Pod.

3. Allow your hand to travel to the right side of the Pod. Snap the Pod Catch/Release in place making sure it is on the second tooth of the Pod Catch. The Pod Catch found on the mask has an extended ridge/stop (found at the back of the Pod Catch) that should be used by the thumb to assist in correctly mating the Pod to the Mask.



(See the MOD-1 or SuperMask® user guide for further info on latching the Pod).

Dewatering Basics

The same concept of clearing the mask applies to dewatering the Pod. With the mouthpiece in your mouth, increase pressure by exhaling through the nose. This is the force that pushes water through the Tilt-to-Purge Valve to clear the Pod. When air bubbles are heard or seen escaping from the valve, the mask has been cleared.

Purging water from the Mask and Rebreather Pod Dewatering

With the mouthpiece in your mouth, tilt your head to the right, placing the Tilt-to-Purge Valve at the lowest point, and exhale through the nose as traditionally taught when clearing a half mask. At the same time activate the toggle lever on the Tilt-to-Purge w/one way valve. Water in the upper mask cavity is displaced into the lower Pod cavity and out through the one way valve as the toggle lever is pushed in any direction. To clear

any remaining water in the Rebreather Pod, repeat the above procedure. After most of the water has been purged, you can also release the seal on the mouthpiece and continuously lightly exhale while, again activating the tilt to purge valve. This will expel any remaining water and allow normal operation.



NOTE

The Toggle Lever Dewater Valve Assembly is designed to prevent ingress of water when it is opened.

Review: Dewatering Pod

1. With the mouthpiece in your mouth begin exhaling through the nose.
2. While exhaling push on the tilt purge stem in any direction to activate the valve.
3. Repeat process until water is completely out of the Pod.

The head should be tilted down in the direction of the Tilt-to-Purge Valve. The diver has the option of exhaling through the nose (with mouth closed or the mouthpiece in the mouth).

The lower cavity should be clear of water within two to three exhalations from the nose.

Barrel Valve Operation

The main purpose of the open circuit Switchover Regulator is to give the diver the option of switching to an alternate off the loop gas supply. This is done without removing the Pod by simply rotating the Barrel Valve Handle to the vertical position. This will get the diver off the closed circuit breathing loop and immediately on to a known offboard open circuit gas.



BAILOUT OPEN CIRCUIT



CLOSED CIRCUIT

If the Pod is not set up with a Switchover Regulator, the diver can close the Barrel Valve by rotating the handle to the vertical position. The diver can then remove the Pod and go to an alternate gas source, be it another Pod or standard regulator. It is imperative that if the diver removes the Pod to switch to an alternate gas supply, that he/she closes the Barrel Valve **FIRST** by placing the handle in the vertical position. This will keep water from flooding the closed circuit breathing system. Flooding of the breathing circuit/loop will increase the diver's in-water weight, thus reducing buoyancy.

WARNING

Any time the diver switches to an alternate gas source, whether it is the Switchover Regulator or an alternate regulator, the gas must be the proper mix for the depth. It must also be of sufficient quantity to support the diver until the diver reaches a place in the water column where additional breathing gas is available or until the diver reaches the surface. Without factoring in mix, depth and quantity, death or serious injury may result.

WARNING

In the case of system flooding, the Pod Barrel Handle should be turned to the vertical position. Remove the Pod from the mask, and remain on your open circuit gas source, and abort the dive. The Pod may need to be removed and flushed of any possible caustic material. DO NOT TROUBLESHOOT BAILOUT OFF THE LOOP. This may result in death or serious injury.

Flooding of the Loop/Caustic Cocktail

On occasion, rebreathers suffer leaks due to improper assembly, mechanical damage or component damage. If water combines with the absorbent material, a liquid solution known as a "Caustic Cocktail" is formed. Ingesting the water and absorbent material solution can present some very serious problems for the diver. The design of the Rebreather Pod allows for added safety by allowing the user to go off the mouthpiece, retract the bellows of Pod and continue breathing through the Pod cavity while making preparations to abort the dive. When this is done, the air space in the Pod forms a water trap, allowing the caustic water solution in the inhalation circuit to drop into the Pod cavity. It can then be expelled out through the Pod Dewatering Valve (Tilt to Purge). This inherent feature minimizes or reduces the possibility of getting the absorbent/water solution in the mouth.

It is recommended that anytime excessive water in the breathing loop is encountered, the diver should immediately suspect a leak in the closed system and switch to an alternate gas supply and abort the dive. If the Pod is equipped with the Switchover Regulator, the diver can switch over to this open circuit system and breath without the mouthpiece. The diver can then remove the Pod, rinse the mouthpiece out in the surrounding water and go back on the mouthpiece. Once back on the mouthpiece, the diver can purge the Demand Regulator and resume breathing while continuing with the abort.

Rebreather emergency procedures vary from one model to another and it is imperative that the user fully understand the workings of the system and the emergency procedures recommended by the manufacturer.

⚠ WARNING

Any time excessive water is detected within the breathing loop, especially water containing soda lime, the diver must assume a leak has developed and should take appropriate action as dictated by the manufacturer's emergency procedures. It is normal for the rebreather to accumulate some water due to condensation or the CO₂ conversion process itself. However this moisture is usually contained within the water traps and the breathing bags. Any time excessive water is present, the diver should assume the rebreather is leaking and should switch to an alternative breathing supply and abort the dive. Failure to take these precautionary steps could lead to death or serious injury.

Post-Dive

NOTICE

Ensure that the barrel valve/ handle is in the vertical position, (rebreather loop closed), before rinsing the rebreather. Failure to do so can cause a flooding of the system.

Completely inspect the Rebreather Pod and all related gear after each dive in accordance with the checklist in the following Post-Dive Cleaning and Inspection Checklists to ensure that all components are in proper working order.



For the following procedures, the M-48 modular full face mask should already be completely unhooked from the breathing system.

Post-Dive Cleaning and Inspection Checklist (Appendix 3)

Diver Name: _____ Date: _____

NO.	STEP	INIT.
1.	Soapy Solution Wash: Prepare solution of warm water (80-100 °F) and mild hand type dish-washing soap. Agitate components in solution for 2-3 minutes; use soft bristle brush or lint free cleaning cloth. Allow mask to soak for 10 minutes then rinse thoroughly with fresh water.	
2.	Ensure all debris such as sand and dirt is removed from regulator mouthpiece and rebreather Pod inhalation and exhalation ports. Clean the regulator IAW manufacture's instructions. Thoroughly rinse the tilt-to-purge valve. Activate stem to allow water to drain from valve body.	
3.	Rotate Regulator Adjustment Knob fully out (counter clockwise). Inspect for any signs of wear, damage or missing parts <input type="checkbox"/> Pod Cover <input type="checkbox"/> Frame <input type="checkbox"/> Frame Retainer <input type="checkbox"/> Catch Release <input type="checkbox"/> Hook 4. <input type="checkbox"/> Mouthpiece <input type="checkbox"/> Ratchet Mechanism <input type="checkbox"/> Hose Adapters (not included) <input type="checkbox"/> Tilt to Purge <input type="checkbox"/> Tie Wraps <input type="checkbox"/> O-rings <input type="checkbox"/> Regulator or Exhaust Valve Mount Screws and Nuts	
5.	Allow to dry completely before storage. Store Pod out of sunlight and fluorescent light, preferably in protective bag or pouch	

⚠ CAUTION

Never expose plastic or rubber parts to solvents or petroleum base cleaning agents of any type. Never use aerosol silicone sprays to lubricate or clean plastic or rubber parts, as the propellant gas or carrier solvent may attack or weaken them. Only use Tribolube®, Christolube® or Krytox® to lubricate O-rings. Do not use silicone grease. Silicone grease will damage the silicone O-rings.

Cleaning Procedures

After each day of diving, or between use by different users, the mask, and Pod, should be carefully cleaned and visually inspected. Cleaning should be accomplished using a mild hand type dish washing soap and a lint free cleaning cloth.

If you ordered the rebreather Pod with switchover regulator a threaded blue inlet cap with an O-ring are included. Be sure to thread cap onto LP inlet fitting anytime the LP supply hose is not connected. This will protect

the threads and create a watertight seal to allow the Pod to be completely submerged into a cleaning and rinsing solution. Pay attention to never depress the purge button when cleaning or rinsing as this could possibly allow water into the internal workings of the switchover regulator.

Mix the soap and water approximately one tablespoon per gallon of water. Wet all components of the Pod and agitate using the cleaning cloth. Keep the soap solution in contact with the surfaces for at least three to five minutes then thoroughly rinse with clean fresh water and dry. Clean and sanitize the demand regulator/BOV/DSV in accordance with the manufacturer's recommendations.

The mask should be transported and stored, completely dried, in the storage bag with the Pod removed to keep the frame from taking a set.

During a standard overhaul, parts should be cleaned in a warm water and mild soap solution, with a clean, Lint free cloth, and thoroughly rinsed in clean water. Hand dishwashing soap like Joy®, Dawn® or Palmolive® can be used.

With a solution of approximately one tablespoon of mild dish soap per gallon of warm water, a cleaning time of ten to fifteen minutes (parts submerged with some agitation with cleaning rag) is sufficient. Extended time should be avoided. A nylon toothbrush and/or tube brush can be used to remove corrosion. After cleaning, rinse all parts thoroughly with fresh water and allow drying. Always inspect the general condition of the Pod and the components for any damage or wear before reassembling.

WARNING

Always sanitize all diving components an individual will be exposed to prior to use by another person. Failure to do so could result in the transmission of communicable diseases, some of which may cause long term disability or death.

CAUTION

Carefully dilute germicidal cleansing solutions in accordance with manufacturers' recommendation. If solution is not of the recommended strength, it will not act as an effective disinfectant.

CAUTION

Failure to thoroughly rinse germicidal cleansing solution from the diving equipment may result in lung irritation and/or long-term degradation of rubber and silicone components.

Sanitizing of the mask and Pod is accomplished using one of the approved germicidal cleansing solutions listed in “Germicidal Cleaning Solutions” on page 22. Follow the manufacturer’s mixing instructions and procedures. It is important to thoroughly rinse with fresh water.

General guidelines are as follows: Wet or immerse all components to be sanitized. Allow to stay in contact with solution for at least ten minutes while lightly scrubbing over components with nylon toothbrush or clean cloth to help remove mucous or saliva build up. If germicidal solution appears to be drying, apply more solution to keep components wet for full ten minutes. After ten minutes, thoroughly rinse components under fresh (potable) running water while brushing or rubbing components.

If equipment is not being used immediately, allow components to air dry or pat dry with clean towel and reassemble.

CAUTION

Cleaning recommendations used in this guide are intended for the KMDSI M-48 Modular Full Face Masks and Pod assemblies. For cleaning rebreathers, only use cleaning and sanitizing solutions and procedures recommended and authorized by the particular rebreather manufacturer.

Germicidal Cleaning Solutions

1. **SaniZide Plus:** P/N: 34805 (spray) or 34810 (gallon), Ready to use; do not dilute. 1-800-456-7077 <http://safetec.com/products/>
2. **MSA Confidence Plus:** P/N 10009971 (32 ounces) Mix one ounce of concentrate with one gallon of fresh water.
3. **Steramine™:** Steramine Quaternary Sanitizing Tablets – 150 Sanitizer Tablets per bottle 1 Tablet per gallon of water - Makes 150 gallons of cleaning solution <http://steramine.com/>

⚠ WARNING

Routine cleaning, inspection and maintenance are critical for proper operation of the M-48 modular full face mask and Rebreather Pod. It is highly recommended that the Rebreather Pod assembly be serviced by an authorized KMDSI repair facility at least once a year or at 200 hours, whichever comes first, including the replacement of all O-rings. Owners that have technical training and perform their own maintenance and repairs should do so in accordance with this guide, using only genuine KMDSI replacement parts. Failure to do so may lead to a malfunction of the Rebreather Pod resulting in serious injury or death.

Scheduled Maintenance

To help ensure maximum life of the Rebreather Pod, a number of routine, but important, maintenance procedures need to be followed by the owner.

This user guide provides properly trained personnel with the guidance and technical information needed to perform normal scheduled maintenance and adjustments as described herein. Repairs and overhauls must be completed by KMDSI Rebreather Pod authorized trained technicians.



NOTE

Read and understand each section before attempting the procedures in the tables of the user guide. Refer to the accompanying figures for location of callouts included in these maintenance steps. Also refer to the parts information included in the Exploded View of the 805-050 Regulator Assembly, Rebreather Pod found in the Switchover Open Circuit Regulator Assembly user guide or in the Manuals and BlowAparts on the Kirby Morgan® website.



NOTE

Before scheduled maintenance is performed, all components should be thoroughly cleaned in accordance with the procedures found in "Cleaning Procedures" on page 20.

Apply lubricants where needed. Only use Tribolube®, Christolube® or Krytox®.

Scheduled Maintenance (Appendix 4)

ACTION	FREQUENCY	REFERENCE
1. Pre-Dive Inspection	Before Each Use	"Pre-Dive Inspection of the Rebreather Pod (Appendix 1)" on page 24
2. Post-Dive Procedures	After Each Use	"Post-Dive Cleaning and Inspection Checklist (Appendix 3)" on page 24
3. Inspection of Pod Tilt-to-Purge Valve Assembly	Daily	
4. Inspection of Pod Catch/Release and Pod Hook	Daily	"Post-Dive Cleaning and Inspection Checklist (Appendix 3)" on page 24
5. Replace tie wraps	At Least Every 12 Months, Inspect Daily	
6. Inspect mouthpiece	<u>Daily Pre-Dive</u>	
7. Inspect head harness and buckle assemblies	Daily Pre-Dive	
8. Inspect Nose clearing device	Daily	

NOTICE

Store spare valves, and soft goods in a cool, dark, dry place. Avoid prolonged exposure to temperatures above 90 °F (32 °C) and/or exposure to ultraviolet rays or chemical fumes

Adjustments and Minor Repairs

Tilt to Purge Valve w/ One Way Valve P/N 805-045

1. Cut the tie wrap
2. Remove Tilt to Purge Valve w/ One way Valve by pushing from the inside of the Pod Cover on the valve body until the assembly is out and free of the Pod.
3. Inspect assembly for damage. Replace if needed.
4. Install the Tilt to Purge w/ One Way Valve back into the Pod Cover, pushing the assembly from the inside of the Pod. Verify correct orientation of the assembly and seating into skirt tube.
5. Using tie wrap tool or equivalent, install new tie wrap P/N 520-038 to secure Tilt to Purge w/ One Way Valve in Pod tube.

Adjusting Tension of Pod Hook P/N 820-110



Over a period of time it might be necessary to increase the tension on the Pod Hook found on the left hand side of the Pod due to material fatigue. If two clicks are not audible when connecting the Pod to the mask, it might be time to service the Pod hook.

Begin by exposing the mounting screws by using your finger to gently and slightly peel back a portion of the Pod Cover on the left side to expose the three screws holding the hook to the Pod Frame. The hook has three possible settings and arrives from our factory positioned at the optimal setting.

If adjustment is needed remove the three screws and washers from inside the Pod Frame and remove the Pod hook cover found on the outside of the assembly. With the hook accessible move the hook one slot closer to the front of the Pod (away from the mouth) to increase tension.

Once it is secured into the new slot reinstall the Pod Hook Cover followed by the three washers and screws to finalize adjustment.

Rebreather Pod Mouthpiece

To remove inspect or replace the Rebreather Pod Mouthpiece you will need a $\frac{7}{64}$ " Hex driver.

1. Use the hex driver to completely loosen the three screws found at the base of the Retainer, Mouthpiece inside the Pod.
2. Grab the top and bottom of the Retainer, Mouthpiece to lift and or wiggle the retainer with mouthpiece out and away from the Pod. You will notice the Mouthpiece, Retainer Ring (white) will be secured inside the inlet hole. If replacing the Mouthpiece the white Retainer Ring will have to be removed.



3. Install mouthpiece into Retainer, Mouthpiece. Ensure that the raised edges at the base of the mouthpiece fit into the recesses found on the underside of the Mouthpiece, Retainer. Verify correct orientation.
4. Fit Mouthpiece, Retainer Ring inside of mouthpiece inlet (opposite side of mouthpiece opening).
5. Insert screw with lock washer installed into the three holes found on the Retainer, Mouthpiece.
6. Use the top and bottom of the Retainer, Mouthpiece to fit the entire assembly into the inside of the Pod. Apply equal pressure to retainer and verify a flush seating.
7. Tighten screws in a rotating pattern to 8 inch pounds.

Accessories/Spares

Inlet Swivel P/N 305-017

The high flow swivel allows the regulator hose to move freely and align with the mask without putting stress on the hose coupling. It uses standard SCUBA threads for incoming breathing air.





Mask Bag P/N 800-905

A convenient Mask Bag is available for storage and transportation of the mask, Pod, and regulators.

Mouthpiece, Angle P/N 810-040

Only the KMDSI Angled mouthpiece can be used with the Rebreather Pod. REMEMBER: if any area of the Pod, lenses/ mask or mask straps fails, your MOUTHPIECE could be your LIFELINE! Make certain it is properly installed and in good condition before and after every dive!



SCUBA Pod Assembly with Balanced SCUBA Regulator P/N 200-130

This SCUBA Pod includes the latest and most advanced SCUBA regulator in our product line, the Balanced SCUBA regulator. The flexible shroud, gives the diver a wider activation area over traditional purge button systems.

This shroud also incorporates a wide exhaust body that aids in lowering the exhalation effort and deflects exhaust bubbles away from the diver's field of vision.

The SCUBA Pod with the Balanced SCUBA regulator comes standard with a balanced water purge tube which, unlike the tilt to purge system, enables the diver to clear and dewater the Pod hands free.

When using P/N 200-130 as spare regulator, divers using the SuperMask[®]/MOD-1 modular full face mask will have the benefit of securing their back up, bailout or decompression gas directly to the mask with the continued benefits of the modular full face mask.



**Tilt-to-Purge w/One Way
Valve P/N 805-045**

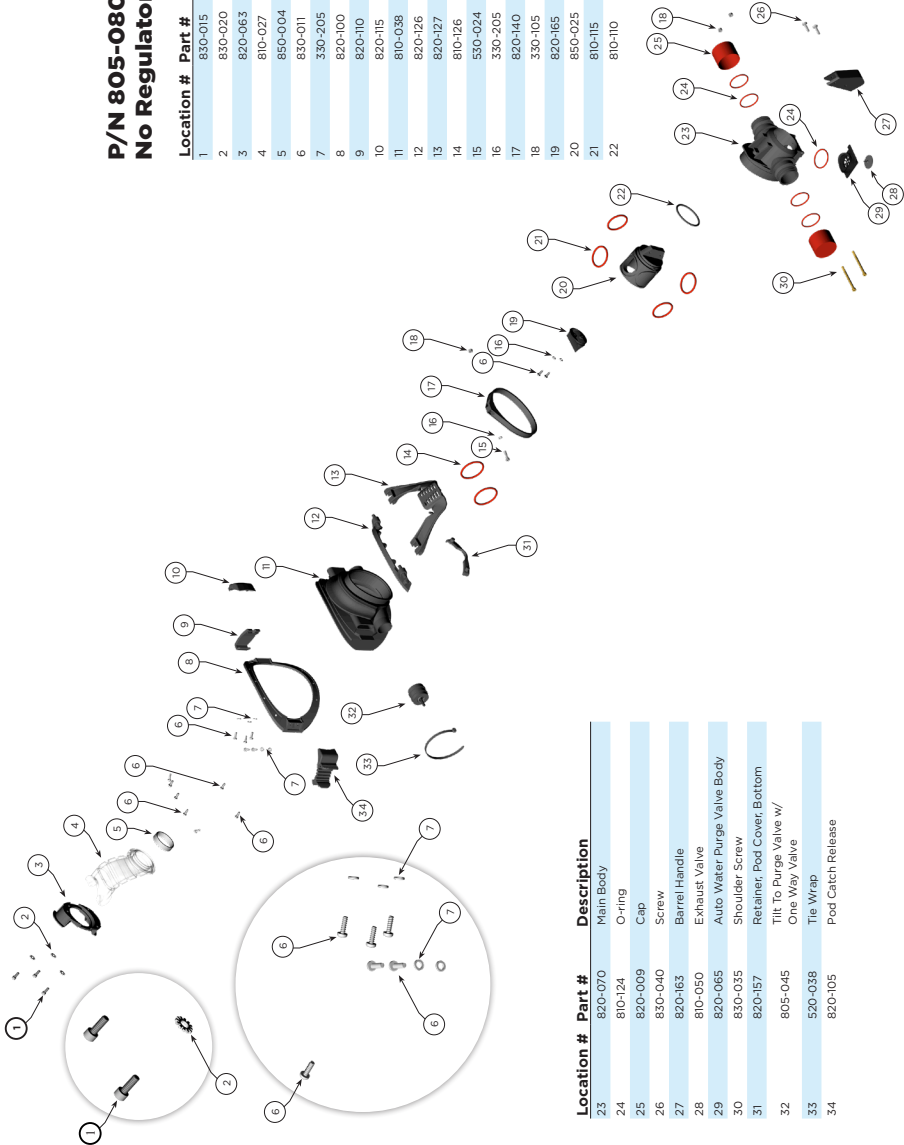
Tie Wrap P/N 520-038

Tie wrap used for securing the Tilt-to-Purge Valve w/One Way Valve.

Exploded View 805-080 Rebreather Pod, No Regulator

P/N 805-080 Rebreather POD,
No Regulator

Location #	Part #	Description
1	830-015	Screw
2	830-020	Lock Washer
3	820-063	Retainer, Mouthpiece
4	810-027	Mouthpiece, Extended
5	850-004	Mouthpiece Retainer Ring
6	830-011	Screw
7	330-205	Washer
8	820-100	Pod Frame
9	820-110	Pod Hook
10	820-115	Hook Cover
11	810-038	Pod Cover
12	820-126	Hinge Mount, Pod Lock
13	820-127	Hinge Arm, Pod Lock
14	810-126	O-ring, Pod Lock
15	530-024	Screw
16	330-205	Washer
17	820-140	Retainer Strap
18	330-105	Nut
19	820-165	Barrel Deflector
20	850-025	Barrel Valve
21	810-115	O-ring, Silicone
22	810-110	O-ring



Location #	Part #	Description
23	820-070	Main Body
24	810-124	O-ring
25	820-009	Cap
26	830-040	Screw
27	820-163	Barrel Handle
28	810-050	Exhaust Valve
29	820-065	Auto Water Purge Valve Body
30	830-035	Shoulder Screw
31	820-157	Retainer Pod Cover Bottom
32	805-045	Tilt To Purge Valve w/ One Way Valve
33	520-038	Tie Wrap
34	820-105	Pod Catch Release

Appendix 1 Pre-Dive Inspection of the Rebreather Pod

Diver Name: _____ Date: _____

NO.	STEP	INIT.
1.	Visually inspect the exterior and interior of the Rebreather Pod for any type of damage, debris, cuts, nicks, or deterioration. Slowly operate the barrel valve several times to ensure free operation.	
2.	The Pod silicone cover and sealing area should be in good condition, with no cracks, tears debris or punctures. Inspect for any signs of wear, damage or missing parts: <div><input type="checkbox"/> Pod Frame <input type="checkbox"/> Frame Retainer <input type="checkbox"/> Catch Release <input type="checkbox"/> Hook</div>	
3.	<div><input type="checkbox"/> Mouthpiece <input type="checkbox"/> Ratchet Mechanism <input type="checkbox"/> Tilt to Purge Valve <input type="checkbox"/> Tie wraps <input type="checkbox"/> O-rings</div> All parts should be securely mounted and undamaged in any way.	
4.	If your Pod is equipped with a Switchover Regulator, ensure that it is properly secured to the Pod, has a proper length hose and the regulator function checks have been completed in accordance with the Switch Over Regulator function checks.	

Appendix 2 Pre-Dive Inspection Switch Over Open Circuit Regulator

Diver Name: _____ Date: _____

NO.	STEP	INIT.
1.	Regulator Cover Ring: Make certain the ring is tightened completely.	
2.	Adjustment Knob: Check the knob travel. It should travel a total of 3 to 4 turns. Turn the knob all the way in, then back out 1 turn.	
3.	Exhaust Valve: Make certain the exhaust valve is seated properly by using a finger to feel through the Exhaust Tee and verify correct installation. Perform a negative pressure test by inhaling from the regulator mouthpiece. Resistance should be met when inhaling and no air should enter or be heard entering into the second stage regulator.	
4.	Regulator to Pod: Check the mount screws and nuts. Inspect mating areas of the two assemblies for damage.	
5.	L.P. Air Supply: Make sure the hose length is correct and the hose nut is tightened sufficiently. Turn the gas supply ON and listen to the regulator for any possible gas leakage. DO NOT change the adjustment knob setting. Depress the purge button to check for gas flow. Listen to the regulator again to check for gas leakage.	

Appendix 3 Post-Dive Cleaning and Inspection Checklist

Diver Name: _____ Date: _____

NO.	STEP	INIT.
1.	Soapy Solution Wash: Prepare solution of warm water (80-100 °F) and mild hand type dish-washing soap. Agitate components in solution for 2-3 minutes; use soft bristle brush or lint free cleaning cloth. Allow mask to soak for 10 minutes then rinse thoroughly with fresh water.	
2.	Ensure all debris such as sand and dirt is removed from regulator mouthpiece and rebreather Pod inhalation and exhalation ports. Clean the regulator IAW manufacture's instructions. Thoroughly rinse the tilt-to-purge valve. Activate stem to allow water to drain from valve body.	
3.	Rotate Regulator Adjustment Knob fully out (counter clockwise).	
	Inspect for any signs of wear, damage or missing parts	
	<input type="checkbox"/> Pod Cover	
	<input type="checkbox"/> Frame	
	<input type="checkbox"/> Frame Retainer	
	<input type="checkbox"/> Catch Release	
	<input type="checkbox"/> Hook	
4.	<input type="checkbox"/> Mouthpiece	
	<input type="checkbox"/> Ratchet Mechanism	
	<input type="checkbox"/> Hose Adapters (not included)	
	<input type="checkbox"/> Tilt to Purge	
	<input type="checkbox"/> Tie Wraps	
	<input type="checkbox"/> O-rings	
	<input type="checkbox"/> Regulator or Exhaust Valve Mount Screws and Nuts	
5.	Allow to dry completely before storage. Store Pod out of sunlight and fluorescent light, preferably in protective bag or pouch	

Appendix 4 Scheduled Maintenance

ACTION	FREQUENCY	REFERENCE
1. Pre-Dive Inspection	Before Each Use	"Pre-Dive Inspection of the Rebreather Pod (Appendix 1)" on page 33
2. Post-Dive Procedures	After Each Use	"Post-Dive Cleaning and Inspection Checklist (Appendix 3)" on page 33
3. Inspection of Pod Tilt-to-Purge Valve Assembly	Daily	
4. Inspection of Pod Catch/Release and Pod Hook	Daily	"Post-Dive Cleaning and Inspection Checklist (Appendix 3)" on page 33
5. Replace tie wraps	At Least Every 12 Months, Inspect Daily	
6. Inspect mouthpiece	<u>Daily Pre-Dive</u>	
7. Inspect head harness and buckle assemblies	Daily Pre-Dive	
8. Inspect Nose clearing device	Daily	

Records

Switch Over Regulator Serial Number: _____

Date of Purchase: _____

KMDSI Dealer: _____

Dealer Phone Number: _____

Notes

[illegible]

Notes



1430 Jason Way, Santa Maria, CA 93455
Phone: 805/928-7772 Fax: 805/928-0342
www.kirbymorgan.com E-mail: KMDSI@kirbymorgan.com