

M-48 SuperMask® User Guide



Document #050614001
Document P/N 100-800

SuperMask, Kirby Morgan, DSI, Diving Systems International, EXO, SuperFlow and DECA are all registered trademarks of Kirby Morgan Dive Systems, Inc. Use of these terms to describe products that are not manufactured by KMDSI is not permitted.

The two dimensional images (such as photographs and illustrations) of our products are © copyrighted and trademarks of Kirby Morgan Dive Systems, Inc. The three dimensional forms of our products are trademark/trade dress protected.

© Copyright 2005 Kirby Morgan Dive Systems, Inc. All rights reserved. This manual is made available for the express use of owner of this Kirby Morgan product. No part of this manual may be reproduced, stored in any retrieval system, or transmitted, or used in any form or by any means, whether graphic, electronic, mechanical, photocopy, or otherwise by technology known or unknown, without the prior written permission of Kirby Morgan Dive Systems, Inc.

WARRANTY INFORMATION

Kirby Morgan Dive Systems, Inc. (KMDSI) warrants every new mask, helmet, or KMAC Air Control System to be free from defects in workmanship for a period of ninety (90) days from date of purchase. This warranty covers all metal, fiberglass, and plastic parts. This warranty does NOT cover rubber parts, communications components, or headliners. In addition, due to the electrolytic nature of underwater cutting and welding, chrome plating cannot be warranted when the diver engages in these activities.

Should any part become defective, contact the nearest authorized KMDSI dealer. If there is no dealer in your area, contact KMDSI directly at (805) 928-7772. You must have a return authorization from KMDSI prior to the return of any item, Upon approval from KMDSI, return the defective part, freight prepaid, to the KMDSI plant. The part will be repaired or replaced at no charge as deemed necessary by KMDSI.

This warranty becomes null and void if:

- 1) The product is not registered with KMDSI within ten (10) days of purchase.
- 2) The product has not been properly serviced and/or maintained according to the appropriate KMDSI manual. In addition, the user is responsible to ensure that all product updates as recommended by KMDSI have been performed.
- 3) Unauthorized modifications have been made to the product.
- 4) The product has been abused or subjected to conditions which are unusual or exceed the product's intended service.

NOTE: Be sure to complete the enclosed warranty card and return it to KMDSI immediately. No warranty claims will be honored without a satisfactorily completed warranty card on file at KMDSI.

Table of Contents

Definitions of Signal Words Used in this Guide	5
Introduction	6
Components of the M-48 SuperMask	9
Using the M-48 SuperMask with Open Circuit Scuba Surface-Supplied Open Circuit	9
Minimum Equipment for Surface-Supplied Diving Demand Regulator Adjustment / Surface-supplied	11
Regulator Hose	12
European Conformance	12
Mounting Open Circuit Regulators	12
Tools and Components Needed for Installation of Regulator	15
Pre-Dive Inspection with Open-Circuit Demand Regulator	19
Cleaning the Face Port and Interior Surfaces	20
Donning the SuperMask	20
Connecting the Pod to the Mask	22
Alternate Method of Connecting the Pod to the Mask	23
Diving with a Hood	24
Water Entry	24
Removing / Replacing Pod While Underwater	24
Alternate Method of Removing/Replacing Pod Underwater	24
Mask / Pod Dewatering	25
Releasing the Pod	26
Removing the Mask	26
Quick-Release Method of Mask Removal	26
Alternate Method of Mask Removal	26
Post Dive Procedures	27
Head Harness Removal and Installation	28
Removal of Harness from Mask Frame	28
Installation of Harness on Mask Frame	28
Communications with the M-48 SuperMask®	29
Installing a Communications Port Plug Demand Regulators	29
Accessories for the M-48 SuperMask	30
Non-Stretch Harness P/N 805-030•	30
Communications Port Plug P/N 820-155	30
Mask Bag P/N 800-904	31
Inlet Swivel P/N 305-017	31

Table of Contents

Manifold Block	31
Over-Pressure Relief Valve	31
SCUBA Pod	32
NATO Rebreather Pod PN# 805-080	32
Mask Variations	33
Exploded View Drawing	34

Definitions of Signal Words Used in this Guide

Throughout this manual 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, will 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 may result in personal injury or damage to equipment. It may also be used to alert against unsafe practices.

This Operation Manual 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 manual accompanies the gear when you transfer possession to them.

Introduction

Congratulations for choosing the Kirby Morgan SuperMask®. The SuperMask represents years of development and testing. Development of this mask could not have been possible without the help of the diving community as a whole.

The original goal was to develop a modular full-face mask that could offer greater comfort and safety to divers using self-contained breathing apparatus. When the mask is used with a rebreather, it is normally used with a DSV (Dive Surface Valve), which you may also hear referred to as the rebreather's "mouthpiece."

Dive Surface Valves are mechanisms that contain the shut off valve that connects the inlet and exhaust hoses on a rebreather. The mouthpiece for the diver normally connects to the DSV using a cable tie. The mouthpiece mounting tube is where the DSV interfaces with the M-48 mouthpiece pod.

The SuperMask, was designed for use with rebreathers, as well as open circuit SCUBA, and lightweight umbilical supply. The SuperMask has been tested and certified by Dive Lab Inc. Configuration in both open and closed circuit mode have been tested and approved for use by U.S. military organizations

KMDSI will continue to develop the mask as well as additional pods and accessories. Users should routinely check the KMDSI web page for additional information. Questions on the use and care of this mask should be addressed to Kirby Morgan Dive Systems Inc. Telephone 805-928-7772 or e-mail at www.kirbymorgan.com or Dive Lab Inc, Telephone 850-235-2715 or e-mail at www.divelab.com.

DANGER



BIOHAZARD



CORROSIVE



RADIOACTIVE

Kirby Morgan Dive Systems, Inc., cannot guarantee the diver protection from contaminants when using the SuperMask 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 SuperMask 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.

 WARNING

Not all SCUBA regulators or rebreather DSV's (mouthpieces) will fit the M-48 mouth pod. The size of the mouthpiece mounting tube as well as the placement and size of the exhaust tee can affect the mounting and proper functioning of the mouthpiece and folding action on the pod bellows. Additionally, it is extremely important that the demand regulator or DSV being fitted does not have any sharp edges that could cut the pod skirt or mouthpiece orifice.

The SCUBA regulator or DSV must not interfere with the fit of the mask, and all components must be fully functional. Do not use any component with the mask or pod if the component or mask functions are compromised in any way.

 WARNING

Use only mouthpieces with the appropriate dimensions and characteristics for the M-48 mask pod and the breathing apparatus you have selected. Use of other mouthpieces may cause an insecure fit which could lead to separation of the mouthpiece from the pod, resulting in a flooded pod and drowning.

 WARNING

Diving this mask in water containing concentrations of petroleum based chemicals could cause degradation of the components of the mask. Clean the mask using only a solution of one (1) tablespoon of a mild hand dish washing detergent, such as Joy™ or Palmolive™, to one gallon of water.

 WARNING

Cold Water Diving (water Temperatures below 45°F or 100C) 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.



WARNING

The SuperMask is **NOT** equipped with a one-way valve (non-return valve) for surface-supplied diving. When using the mask for surface-supplied diving it must be used with the KMDSI manifold block KMDSI PN# 300-150 or 300-155 and a suitable harness and emergency gas supply system.

Without the non-return valve, the diver could be subject to a “squeeze” if the umbilical supply is severed. This can be fatal.



WARNING

If the mask is used for surface-supplied diving, do not connect the umbilical directly to the SuperMask pod regulator. This can create a direct pull on the mask and pod.

Always connect the umbilical to the one-way valve on the manifold block assembly, which must be properly secured to the harness assembly.



CAUTION

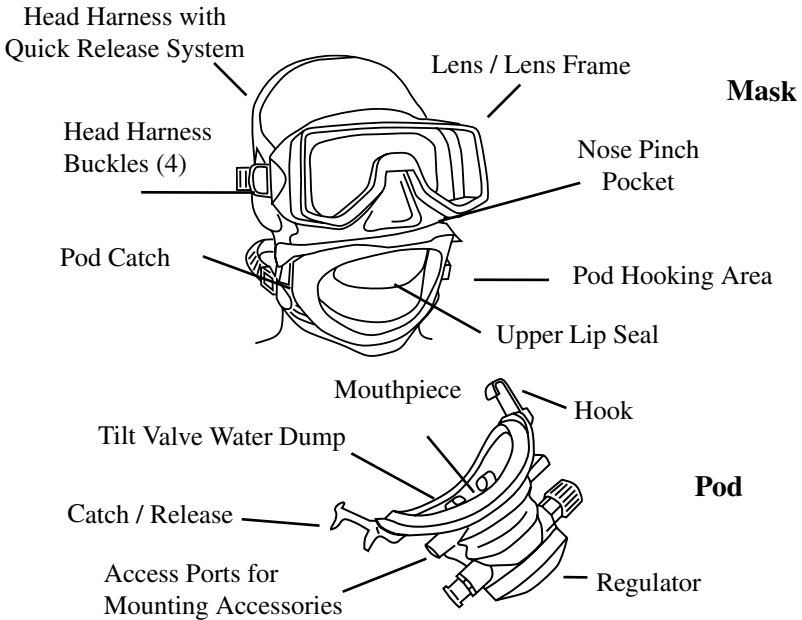
Do not use aerosol spray silicone or other aerosol sprays on or near the mask or pod. Aerosol propellants can damage plastic components on the mask and pod.

We welcome and encourage all input from our customers. Our goal is to provide the highest quality diving equipment and service possible. If you have any questions or comments, please feel free to contact us (see contact information on back cover).

The SuperMask has been designed for use with either open circuit scuba, closed and semi-closed circuit scuba, and demand mode surface-supplied diving. Regardless of the diving mode, the mask must be configured for the type of system employed.

The mask, when used with CE approved open circuit scuba regulators and components, conforms to European CE requirements

Components of the M-48 SuperMask



Using the M-48 SuperMask with Open Circuit Scuba

For open circuit SCUBA, the SuperMask is used in much the same way as a half mask and standard second stage regulator. If you have purchased the SuperMask with a SuperFlow second stage regulator, a special SuperMask Mouthpiece P/N 810-022 L is mounted to the scuba pod and secured with a tie wrap.

If your SuperMask is not already equipped with an appropriate second stage regulator, it is imperative that you read, understand and follow the instructions for mounting open circuit demand regulators instructions in this User's Guide before attempting to install a second stage. When using this mask in countries that conform to CE standards the mask must only be used with components that have been CE certified. The maximum recommended recreational diving depth for the SuperMask with open circuit scuba is 130 FSW (39 msw).

WARNING

Deep diving requires special training and equipment. Deep diving increases your risk of decompression sickness and possible other diving injuries. KMDSI does not recommend recreational diving deeper than 130 feet of seawater (40 meters), or beyond the no-decompression limits.

Surface-Supplied Open Circuit

The SuperMask can be used for surface-supplied diving when used with a surface-supplied diving system.

When using the KMDSI SuperFlow second stage, the mask can be used to depths of 130 FSW (39 msw) when supplied with an air source capable of delivering at least 4.5 actual cubic feet of air per minute (acfm) (127 alpm) to the diver worn manifold assembly. An ordinary scuba regulator first stage connected to a diving cylinder on the surface with a long hose to the mask is **not** an acceptable arrangement for this purpose, no matter what type of regulator is used.

The mask should only be used for surface-supplied diving by divers trained and qualified in surface-supplied techniques and procedures. A fully functional emergency gas supply system and body harness must always be used when diving the SuperMask or any of the KMDSI full-face masks models in the surface-supplied mode.

The mask has not been CE approved for surface-supplied diving or rebreather use, and should not be used for rebreather or surface-supplied diving in countries conforming to CE standards

Users of the SuperMask should practice donning, doffing, pod removal, and replacement procedures on the surface, in the dry. Once the basic maneuvers have been practiced and the user is comfortable, the user can move into a calm, shallow, controlled body of water (5-10 feet in depth).

It is recommended that persons with previous full-face mask experience make at least one thirty minute indoctrination dive prior to open-water diving. Newly trained divers and divers not experienced in full-face mask diving must complete a training course in surface-supplied diving. Using the SuperMask is very easy, but as with all new equipment, training and practice is the key to enjoyable diving.



If you plan to use the mask for surface-supplied diving, you will need an air control manifold topside, like the Kirby Morgan Air Control System -5.

Minimum Equipment for Surface-Supplied Diving

The minimum equipment for surface-supplied diving with this mask includes the following:

- Topside air supply
(either low pressure compressor or high-pressure cylinders)
- Air control manifold
- Bail-out bottle with harness
- Bail-out regulator with over-pressure relief valve
- Umbilical with breathing gas supply hose, communications wire, and pneumofathometer hose
- Communications box
- M-48 SuperMask® equipped with communications

Demand Regulator Adjustment / Surface-supplied

When using the mask for surface-supplied diving in countries conforming to CE standards, only the KMDSI bias adjustable demand regulator should be used. The purpose for the bias adjustment is to allow flexibility in the use of various surface supply systems and to allow the surface-supplied diver to make adjustments for variations in supply pressure.

Occasionally, during the course of the dive, the diver should turn the adjustment knob out until the regulator develops a slight free-flow, then back in until the free flow stops, this will ensure maximum breathing performance for the delivery pressure. The diver can also use the adjustment knob when working in various positions or current.

Regulator Hose

The supply hose that attaches the 1st and 2nd stage regulators together should be of sufficient length to allow full movement of the head when the pod is latched. Ensure that the hose is firmly secured to both stages and that the regulator is properly functioning and pressured up before donning the SuperMask. A special swivel attachment P/N 305-017 (included) may be attached to the demand regulator. This swivel allows a better fairlead of the intermediate hose and less restriction in head movement.



*The Hi Flo Swivel
Part #305-017*



CAUTION

Do not dive with a low pressure regulator hose connected to the mask that is too short. Using a hose that is too short will put unnecessary stress on pod and regulator, resulting in restricted head movement and could increase difficulty of latching the pod to the mask.

European Conformance

The SuperMask has undergone self-certification for use with open circuit SCUBA and surface-supplied umbilical diving. In countries that conform to CE standards the mask must only be used with CE certified components and within the limitations stated in this user guide. Questions in regards to the use of this mask should be addressed to KMDSI by telephone at 805 928-7772 e-mail info@kirbymorgan.com, or Dive Lab Inc., telephone 850-235-2715 or e-mail at divelab@aol.com.

Mounting Open Circuit Regulators

If your mask was not supplied with a KMDSI regulator installed by the factory, you will need to have an acceptable regulator or rebreather DSV installed in the pod on your M-48.

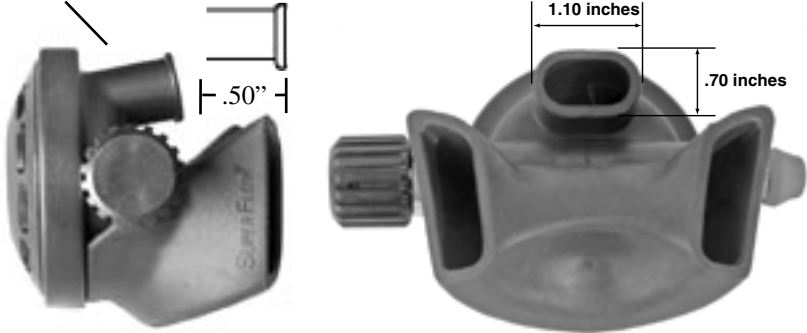
Prior to installation, to check to see if your regulator will work properly with the M-48 Pod, remove the mouthpiece from the regulator and loosely fit the regulator in the pod. Check to ensure that it functions properly, with no interference from, or to, the exhaust tee. If in doubt do not install the regulator until first consulting with KMDSI or Dive Lab Inc.

Since there are no standards that govern the size and shape of all the various second stage regulator mouthpiece mounting tubes, there are many different types. To properly mount the regulator into the pod, the mouthpiece mount tube must have a retaining lip at the end and be at least 3/4"

long. Some manufacturers have specially-shaped mouthpiece mounting tubes that have mating mouthpieces. These types of regulators cannot be used. There must be a retaining lip at the end of the mouthpiece mounting tube of your regulator in order to retain the mouthpiece. Use the included mouthpiece to check the mount tube compatibility.

The mouthpiece mount tube must have a minimum width of 1.10 inches and a height of .70 inches.

Mouthpiece
Mounting Tube



Only use regulators that have a retaining lip at the end of the mouthpiece mount tube as shown in the drawing here. The mount tube must be at least .50 inch long.

Any regulator that is close to the minimum size dimensions, or creates any doubt regarding its use with this mask, must be pull tested as per the procedure on page 18 of this manual.



Do not use regulators that have a mouthpiece tube that have a double lip at the end of the tube closest to your mouth, as illustrated at the left.

WARNING

The Scuba pod, P/N 805-015, must only be used with demand regulators that have a mouthpiece mount tube that is at least .50 inch in length, 1.10 inches in width, and .70 inches high. In addition, the mount tube must have a single lip on the end that will be closest to the diver's mouth. Failure to use the correct type of demand regulator will result in flooding of the pod which can lead to drowning.

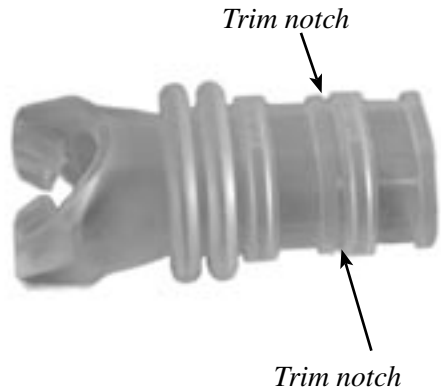
! WARNING

Not all second stage regulators can be properly mounted in the M-48 pod. The size of the mouthpiece mounting tube and the placement and size of the exhaust tee can affect the mounting and proper functioning of the mouthpiece and folding action on the pod bellow. An incorrect regulator will lead to flooding of the pod which can result in drowning.

A mouthpiece must always be installed in ALL pods regardless of whether the user intends to keep the mouthpiece in the mouth or not. Having the mouthpiece allows for the user to clear the water from the demand regulator/DSV valve and allows for buddy breathing.

NOTE: Some divers may find the mouthpiece as supplied, to be uncomfortable. It is possible to trim the mouthpiece to a shorter length. Using scissors, carefully shorten the mouthpiece at the trim edge notch.

The M-48 mouthpiece.



! WARNING

Only SuperMask mouthpieces will function correctly in your SuperMask. Do not attempt to use any other manufacturer's mouthpiece.

! WARNING

Never dive the mask without a mouthpiece installed in the mask. A mouthpiece allows use of the pod even if the pod is not sealed to the mask. Buddy breathing cannot be readily accomplished without a mouthpiece installed.

! WARNING

Diving the M-48 SuperMask without a mouthpiece will make dewatering the regulator or DSV very difficult. This could lead to drowning.

 WARNING

This procedure requires proper tools and a complete understanding of the installation procedure. Read the procedure carefully and entirely before attempting to install the regulator. If you are not confident you can perform this installation correctly, have the work performed by a trained technician at an authorized Kirby Morgan dealer.

Tools and Components Needed for Installation of Regulator

Needle Nose Pliers

Side Cutter Pliers

Tie Wrap PN#520-039 (rated for 50 lb. pull)

1. Using the side cutters, cut and remove the tie wrap that secures the mouth piece to your demand regulator or DSV.
2. Carefully inspect the regulator or DSV for sharp edges, and ensure the length and dimensions of the mouthpiece attachment point meet the requirements as shown previously.

 WARNING

It is extremely important that the demand regulator or DSV being fitted does not have any sharp edges that could cut the pod skirt or mouthpiece.

3. Insert the mouthpiece from inside the pod, into the opening so that the bite end extends into the cavity and the other end is flush with the pod opening.
4. Insert the demand regulator or DSV into the mouthpiece opening and fit so that the mouthpiece and pod opening are fully seated on the demand regulator.
3. Insert the mouthpiece from inside the pod, into the opening so that the bite end extends into the cavity and the other end is flush with the pod opening.

Insert the mouthpiece into the pod.



NOTE: Installation of the long mouthpiece (P/N 810-022L) will ensure conformance to the CO₂ allowable dead space, CE/EN250.



The end of the mouthpiece must align evenly with the end of the mouthpiece tube on the pod.

When the regulator is inserted into the pod, the mount tube of the regulator must be inserted as far as it will go into the pod. In addition, the regulator must be oriented correctly, i.e., right side up.



! WARNING

Use only a KMDSI tie wrap rated for a minimum pull of 50 lbs. Use of a weaker tie wrap could allow the regulator to pull out of the pod. This could lead to flooding of the pod and drowning.



Use only a KMDSI tie wrap with a minimum pull rating of 50 lbs.

Tighten the tie wrap properly using a tie wrap gun to achieve the correct tension.



4. Insert the demand regulator or DSV into the mouthpiece opening and fit so that the mouthpiece and pod opening are fully seated on the demand regulator.

5. Fit the tie wrap (520-039) into position, ensure the joint of the tie wrap ends up in the center of the side of the mouth opening as shown pull tight as tight as possible by hand or use a tie wrap installation tool. Cut off excess tie wrap material flush with the joint lock of the tie wrap. There should be no sharp edges.

6. Pull the mouthpiece and the regulator or DSV in opposite directions with enough force to ensure that they are both securely mounted to the pod.

M-48 SuperMask User Guide

7). If the mouthpiece or regulator pulls off the pod, even partially, they must be remounted!

It is recommended that any time a user is in doubt as to the integrity of the component to pod fit in question, a simple pull test be performed by the end user or installer by simply attaching a 34 lb. weight to the DSV or regulator using string or tie wraps in the manner shown on this page. Suspend the weight for 10 seconds from the pod with the pod mounted on a stable device and allowing the full weight to pull on the regulator or DSV.



WARNING

A properly secured mouthpiece and regulator/DSV should be able to withstand a pull force of at least 34 lbs. (150 Newtons). If in doubt, a pull test should be conducted by securing a weight to the regulator or DSV and allowing the full force of the weight to be applied for a minimum of 10 seconds.

If there is any doubt regarding the mounting of the regulator, perform a pull test as illustrated here.



WARNING

After assembling, ensure the demand regulator or DSV functions properly with out interference to or from any part of the pod or mask. If in doubt, do not use until first consulting with KMDSI or Dive Lab Inc.

Pre-Dive Inspection with Open-Circuit Demand Regulator



CAUTION

Prior to diving, a complete inspection of the mask and all related gear should be made in accordance with the pre-dive maintenance and set up procedures as well as the pre-dive checklists to ensure that everything is in proper working order. Users should become familiar with all components and functions of the mask as well as all support equipment used with the mask.

- Visually inspect the entire exterior and interior of the mask and pod for any type of obvious damage, dirt and debris.
- The face seal and pod silicone should be in good condition, with no cracks, tears, or punctures.
- Carefully inspect the head harness for signs of cracking or tearing. The quick release system, as well as the head harness adjustment buckles, should be checked for damage and tested for proper function.
- Inspect the pod components. The pod frame, hook and catch should all be securely mounted and undamaged in any way.
- Check to ensure the mouthpiece and regulator are properly installed in the pod, and the regulator or DSV is secure
- Check the regulator assembly for proper operation per the manufacturer's recommendations.
- Check the dewatering "tilt" valve for proper function.
- Check any communication system that may be mounted to ensure proper installation and function.
- Check accessory ports.

Cleaning the Face Port and Interior Surfaces

The SuperMask frame and rigid pod components are made of high impact plastic. The flexible face seal and pod skirts are molded of high grade silicone.

Ensure that the lens is clear and clean. Fogging can be eliminated or reduced by thoroughly cleaning the interior of the lens and applying a good quality anti-fog solution. Follow the manufacturer's recommendations for use.

If commercial anti-fog solution is unavailable, a drop of liquid dish washing soap can be used. Apply a small dab, smearing a thin film on the inside of the lens followed by a light rinse but allowing a slight residue of soap film to remain on the face port to inhibit fogging.

Donning the SuperMask

Although you can don the mask as one complete unit, most of the time, you will probably find that it is more convenient to don the mask in two steps, i.e., don the mask and pod separately. If you are using scuba gear, this will allow you to conserve air on the surface until the exact moment when you are entering the water.

1) Snap shut the quick-release head harness buckle and then loosen the four head harness straps all the way by lightly pushing out on the buckle tabs and pulling back on the individual straps.



2) Hold the SuperMask so that it is hanging from the head harness.

3) Place the SuperMask on your head in a face down position. Arrange the head harness so that the strap is on top of your head and the quick-release is against the back of the head and neck. Pull the mask down over the face and position the chin into the lower section.



4) Lightly tighten the top head harness straps first, positioning the mask as necessary for a comfortable fit on the face.

5) Lightly tighten the lower head harness straps. Do not over tighten. The mask should fit snug, but should be comfortable.



Connecting the Pod to the Mask

Only when you are ready to enter the water is it necessary to fasten the pod to the mask frame. Be sure to practice donning and removing the mask before you enter the water.



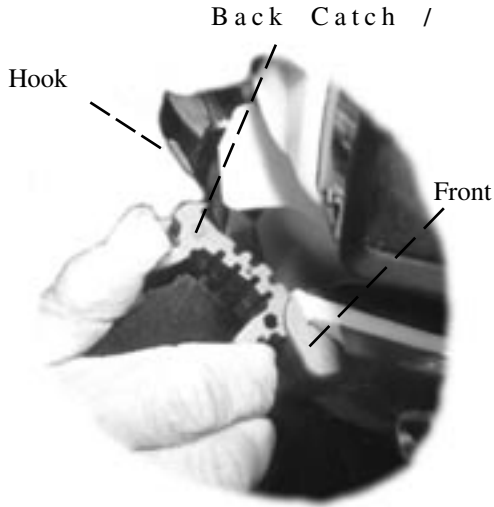
1) Engage the hook on the pod onto the left side of the mask frame, just above the lowest head strap.

2) Swing the pod to the right so that the mating surface on the pod properly engages the mating surface on the mask frame.



3) Snap the latch closed on the right side of the mask, using the thumb and forefinger by pinching the front and back parts of the latch catch together. Ensure that the pod is snapped onto the second tooth of the latch catch (two clicks),

The latch on the pod must properly engage the corresponding latch on the mask frame.



Alternate Method of Connecting the Pod to the Mask

Place the mouthpiece in your mouth first. Clear the regulator and breathe.

With the mouthpiece in your mouth, slide the pod to the left hooking the hook onto the mask frame.

Using the thumb and forefinger, snap the latch closed by pinching the front part of the latch and the back part of the latch catch together. Ensure that the pod is snapped onto the second tooth of the latch catch (two clicks).

With either method, you may use your fingers and the palm of your hand to snap the Catch/Release closed by pinching the front part of the Catch/Release and the back part of the hook together. Ensure that the pod is snapped onto the second tooth of the latch catch. This method can be of help when wearing heavy gloves.



Alternate method of closing the pod

WARNING

The pod must properly engage the mask frame and be tightened correctly. Failure to properly engage and latch the pod to the mask could lead to the pod separating from the mask and/or flooding. This can result in drowning.

Diving with a Hood

There are many different types of diving hoods. The thicker neoprene-type (wet suit) generally has a 1/8" – 3/16" thick face seal and should be worn on the outside of the mask face seal so that the upper lip seal is not held off.

Some neoprene hoods use a very thin face seal. With these, the mask seal can usually be placed over or under the face seal of the hood. The thinner, latex rubber-type (found on some dry suits) may either be worn under or over the face seal as long as a good seal is obtained around the upper lip.

Water Entry

Many methods of water entry are possible due to the secure nature of the mask seal. However, the diver should hold the demand regulator securely when doing a roll off or drop type entry. Once in the water, the diver should adjust the mask straps as necessary, check the regulator for ease of breathing, and perform a communications check if so equipped.

Removing / Replacing Pod While Underwater

The pod is removed in the water by holding your breath and pulling out on the latch catch assembly and swinging the pod to the left allowing it to unhinge. If breathing from another pod or source, the other source should be located and secured prior to unhinging the pod to allow for rapid switching. At this point, another pod can be reattached or the user can go on a standard open circuit scuba regulator. To reattach a pod in the water there are two recommended procedures.

Place the mouthpiece in the mouth and exhale forcefully or depress the purge button on the regulator, clearing the water from the demand regulator and mouthpiece. At this point, normal breathing using the mouthpiece can resume but the lower cavity should be dewatered by tilting the tilt purge stem, releasing the mouth piece and exhaling forcefully or by depressing the purge button and discharging the water out the dewatering valve located in the bottom of the pod.

Alternate Method of Removing/Replacing Pod Underwater

- 1) Place the mouthpiece in your mouth first. Clear the regulator by exhaling or depressing the purge button then breathe.
- 2) With the mouthpiece in your mouth, slide the pod to the left hooking the hook onto the mask frame.

3) Using the thumb and forefinger, snap the latch closed by pinching the front part of the latch and the back part of the latch catch together. Ensure that the pod is snapped onto the second tooth of the latch catch (two clicks) then place the mouthpiece in the mouth and exhale forcefully or depress the purge button on the regulator, clearing the water from the demand regulator and mouthpiece.

At this point, normal breathing can resume. The water in the pod can then be removed by simply tilting the valve stem on the tilt purge valve assembly while at the same time removing the mouthpiece and pressing on the purge button or by simply exhaling forcefully.



WARNING

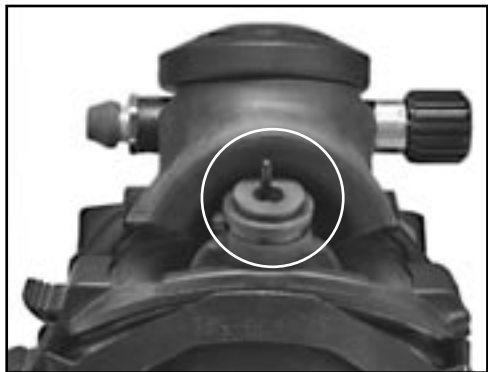
Never dive the mask without a mouthpiece installed in the mask. A mouthpiece allows use of the pod even if the pod is not sealed to the mask. Buddy breathing cannot be readily accomplished without a mouthpiece installed.

Mask / Pod Dewatering

The SuperMask is unique in that it has two separate cavities, the upper eye cavity and the lower section (oral section), called the pod. To dewater water from the eye section, the diver should attain a face forward position, pull out lightly on the bottom of the eyepiece frame and exhale through the nose. The higher pressure created in the eye cavity forces the water down through the upper lip in the same manner as clearing a standard scuba mask.

The water travels into the pod and collects at the bottom around the purge valve. The water in the pod can then be removed by simply tilting the valve stem on the tilt purge valve assembly while at the same time removing the mouthpiece and pressing on the purge button or by simply exhaling forcefully.

The purge valve on the bottom of the pod is used to expel water from the pod.





WARNING

Practice clearing the mask and pod in warm, clear, shallow water under the supervision of a qualified diving instructor prior to using the mask in open water. You must also train to clear the mask and pod in open water, with all of the gear with which you normally dive, under the supervision of a qualified diving instructor. Failure to properly train to use this equipment can lead to serious injuries or death.

Releasing the Pod

Squeeze the front and the back parts of the latch together to release the pod from the mask. Swing the pod forward and to the left to release the pod hook from the mask.

Removing the Mask



Quick-Release Method of Mask Removal

Squeeze the latch tabs together on the quick-release buckle to remove the mask from your head.

Alternate Method of Mask Removal

The mask can also be removed by pushing outward on the SuperMask while at the same time gently pushing out on the two lower head harness adjustment buckles allowing the mask to slide forward.



CAUTION

Do not use excessive pressure when pushing out on the adjustment buckles. Using excessive pressure can damage the buckles.

Post Dive 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 detergent and cleaning rag.

Mix the detergent and water approximately 1 tablespoon per gallon of water. Wet all components of the mask and agitate using the cleaning rag. Keep the detergent solution in contact with the mask surfaces for at least 3-5 minutes then thoroughly rinse with clean fresh water and dry. Clean and sanitize the demand regulator/DSV in accordance with the manufacturer's recommendations.

The mask should be transported and stored in the storage bag with the pod removed to keep the frame from taking a set. Follow the manufacturer's recommendations on periodic maintenance of your regulator. (see Regulator User's Guide)

If the mask is equipped with communications, the earphones should be removed from the ear pockets and opened up, if necessary, for rinsing and drying. The microphone should be rinsed with fresh water and dried. If sealed plastic earphones and microphones are used, only a rinsing is necessary because the internal components are environmentally sealed and are not affected by salt water. Refer to the manufacturer's post-dive procedures for corrective maintenance.



CAUTION

Clean and sanitize this mask using only the procedure described in this user's guide. Never use cleaning solvents or petroleum-based chemicals on this mask.

Head Harness Removal and Installation

There are two types of head harness. The standard is a Semi-stretch Harness, P/N 805-031, that has a certain amount of elasticity in the straps of the harness. Also available is an optional Non-Stretch Harness, P/N 805-030.

The Non-Stretch Harness is a heavy duty harness which has special cords molded into the straps, making them non-elastic. This harness is recommended when using rebreathers because it is capable of forming a tighter fit.

Removal of Harness from Mask Frame

Using your thumb, release the head harness adjustment buckle by pulling or pushing it forward. Carefully, but firmly, pull the harness through the adjustment buckle.



Installation of Harness on Mask Frame

Orient the harness so that the quick-release buckle will be positioned down on the back of the head, with the smooth side of the harness facing out. Open the mating harness adjustment buckle with your thumb and feed the harness leg through the adjustment buckle.



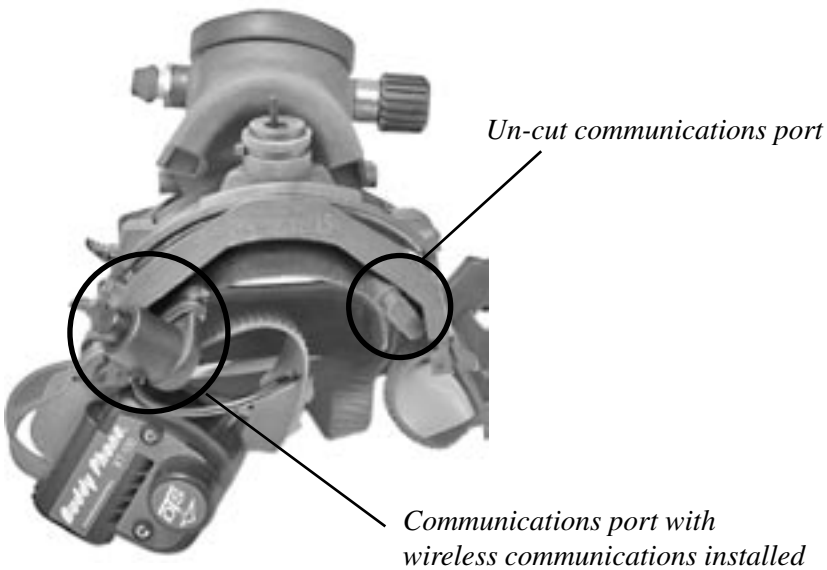
WARNING

The use of the M-48 mask with rebreathers not equipped with an overpressure relief system requires specialized training. The sealing capability of the mask can make venting around the mask difficult, resulting in an overpressure situation if the user is not experienced and properly trained. This can lead to lung over-pressure injuries which can cause serious injury or death.

Communications with the M-48 SuperMask®

Communications are available for the SuperMask. Either hard wire or wireless communications can be mounted in the mask or pod. The communications mounting instructions will vary, depending on what type of system you purchase.

To mount a microphone into the mask, follow the manufacturer's recommended mounting instructions. In almost all cases, you will need to open up one of the communications ports, which are located below the bottom edge of the mask frame.



Installing a Communications Port Plug

If you need to remove any communications system you have installed in the mask, you will need to plug the communications port if you need to use the mask without the communications in the mask. Install the Communication Port Plug as shown, curved side towards the diver's face.





Ensure that the Communications Port Plug (P/N 820-155) has been properly installed, then tie wrap it in place. The head of the tie wrap should be located low and slightly forward to avoid contact with the skin. Using a small cutter, cut off the excess tie wrap. There should be no sharp edges.

Demand Regulators

The SuperMask, if purchased with a SuperFlow 2nd stage demand regulator, will also include a User's Guide for the demand regulator. The regulator User's Guide explains the features and functions, as well as general care and maintenance.

It also includes a parts exploded view break down and parts list. Please read and understand the SuperFlow Scuba Regulator Assembly User's Guide prior to diving, and retain it for future reference.

The SuperFlow First Stage (P/N 305-161) and Second Stage (P/N 305-166) Regulators have been designed to be used with the SuperMask. They are high-quality, high-performance regulators.



KMDSI SuperFlow regulator

Accessories for the M-48 SuperMask

Non-Stretch Harness P/N 805-030

The Non-Stretch Harness is a heavy duty harness that has special cords molded into the straps, making them non-stretch. This harness is recommended when diving with a rebreather.



Communications Port Plug P/N 820-155

If communications have been removed, the Communications Port Plug allows the mask to be used without communications.

Mask Bag P/N 800-902

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



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. The inlet swivel is CE approved for the M-48 with CE approved regulators. The Inlet Swivel is provided with the purchase of a SuperMask w/second stage regulator, P/N 800-050



Manifold Block

The SuperMask SCUBA Pod can be used with surface-supplied umbilical systems by using a manifold block system. The diver must be properly trained and equipped for surface-supplied diving. A manifold block with a non-return valve that is securely fastened to a harness and bailout system must always be used when diving surface-supplied.

The SuperMask is not equipped with a one-way valve (non-return valve)

which is essential for surface-supplied diving. This Manifold Block provides this essential system component. The Manifold Block Assembly shown comes in three configurations, Part # 300-150 with 9/16" Oxygen fitting, Part # 300-155 w/ #6 JIC fitting or Part # 300-145 w/ standard scuba fitting. It is equipped with an Emergency Gas Supply valve, four low pressure outlets and a non-return valve.

Over-Pressure Relief Valve

This valve is designed to be mounted on a first stage bail-out regulator for surface-supplied diving. It allows pressure to bleed from the intermediate pressure hose in the event of a "creeping" first stage. Without this valve,



M-48 SuperMask User Guide

the intermediate pressure hose would burst and the diver would lose his entire emergency gas supply.

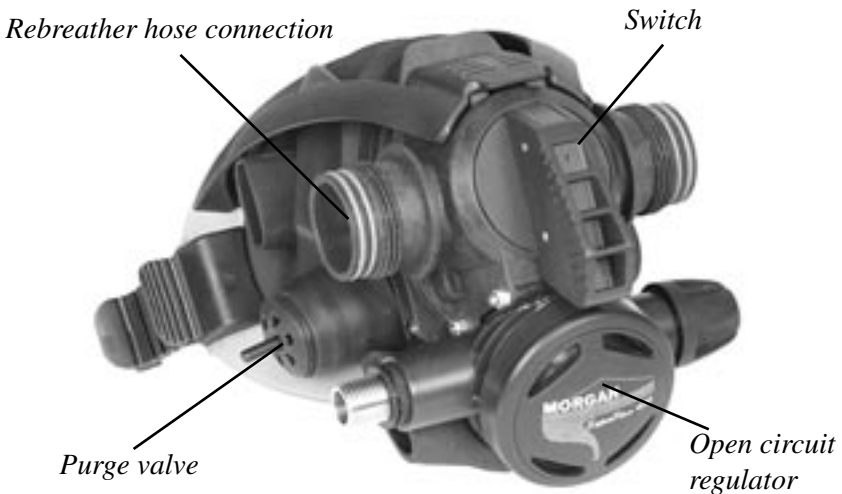
NATO Rebreather Pod PN# 805-080

The NATO Pod has been designed to interface with most commercially manufactured rebreathers when equipped with the appropriate hose adapters. The SuperMask NATO Rebreather Pod incorporates an integrated quarter turn barrel valve similar in operation to other rebreather DSV assemblies.

In addition to standard rebreather capability, the pod can also provide open circuit switch over capability when configured with the optional open circuit demand regulator P/N 805-082.

At the present time the NATO rebreather pod and/or switchover regulator is not CE certified and should not be sold or used in countries requiring conformance to CE certification.

The NATO Rebreather Pod has a flexible silicone rubber skirt that acts as the watertight closure and the foundation for the rebreather barrel valve assembly. The lower left side of the skirt has a tilt to dewater valve installed,



Close-up details of the rebreather pod.

which is used to dewater the pod cavity. Both sides of the skirt have provisions for dewatering valve placement.

The pod mouthpiece is made of soft flexible silicone. The mouthpiece is bellowed to allow for positioning. The flexible silicone skirt can be positioned through the use of a ratchet mechanism allowing general fore and aft movement of the barrel valve assembly and mouthpiece. For more

information see the rebreather pod user guide, P/N 800-003.

For the rebreather pod to work with an open-circuit supply, an appropriate scuba cylinder with a first stage must be connected to the second stage integrated with the pod. A high-quality intermediate pressure hose must connect the cylinder and first stage to the second stage.



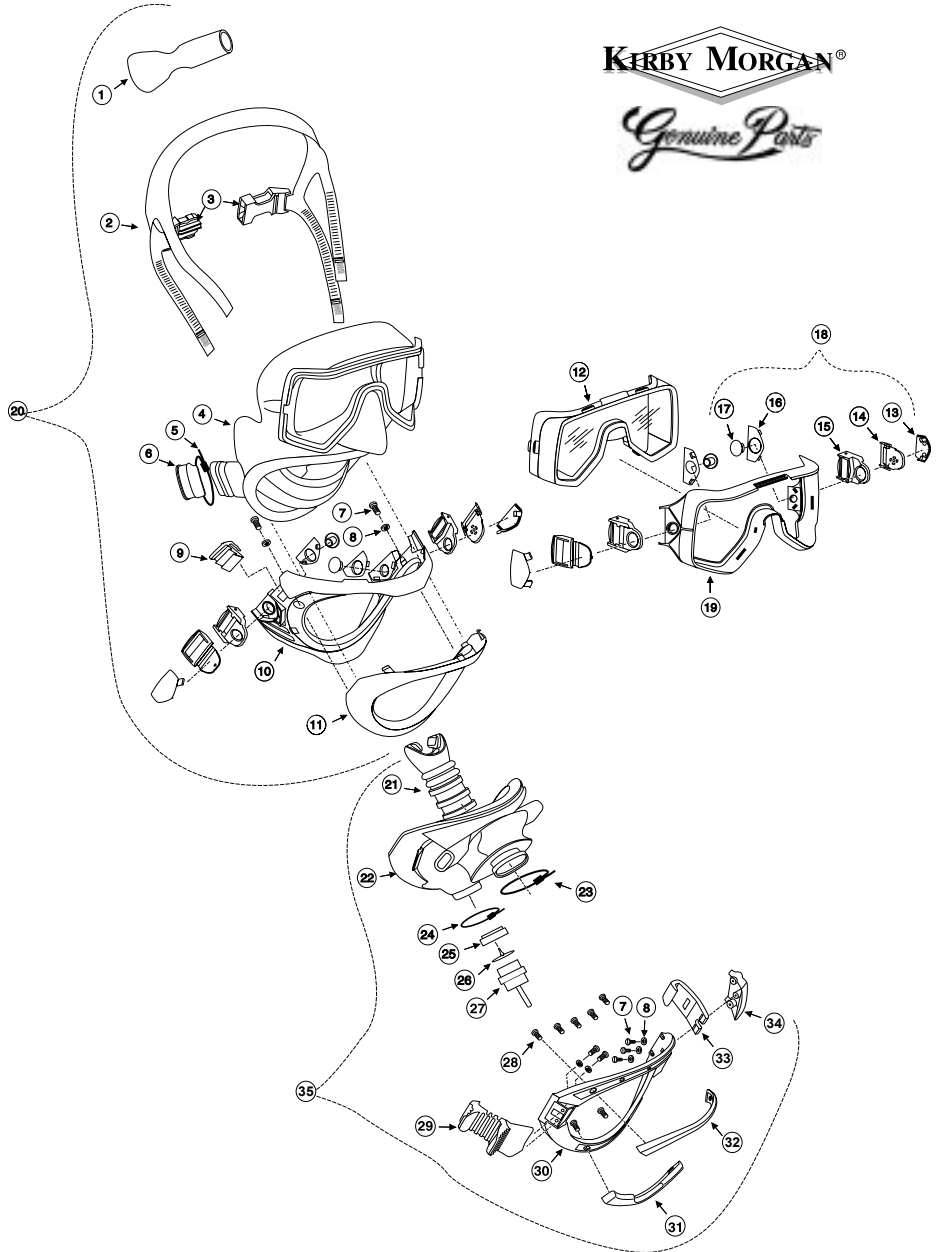
! WARNING

The use of the M-48 mask with rebreathers not equipped with an overpressure relief system requires specialized training. The sealing capability of the mask can make venting around the mask difficult, resulting in an overpressure situation if the user is not experienced and properly trained. This can lead to lung over-pressure injuries which can cause serious injury or death.

Mask Variations

The M-48 may be ordered in a variety of configurations. KMDSI Part #800-070 is the M-48 w/Scuba pod equipped with a non-stretch spider (with no regulator). KMDSI Part #800-105 is the M-48 w/Mk 16 pod (with no regulator).

Exploded View Drawing of the KMS-48 SuperMask



**Note: Not all SuperMask parts are available for purchase.
Please see the parts list on the following page.**

Exploded View © 2002 Kirby Morgan Dive Systems, Inc. All Rights Reserved Doc #020820001

*Note: Not all SuperMask parts are available for purchase.
Parts available for purchase are indicated with an asterisk **

LOC #	PART #	DESCRIPTION
1	810-001	Cushion
2	*805-031	Harness, semi-stretch (includes 1 & 3)
	*805-030	Harness, non-stretch (sold separately) (includes 1 & 3)
3	805-020	Quick Release
4	810-005	Mask Skirt
5	*520-038	Tie Wrap
6	*820-155	Comm port plug
7	830-005	Screw
8	330-205	Washer
9	820-045	Pod Catch
10	820-035	Jaw Frame
11	820-040	Jaw Frame Retainer
12	865-005	Lens
13		Buckle Cap
14	<i>Order</i>	Buckle Catch/Release
15	All Buckles	<i>Complete</i>
16		Buckle Swivel
17		<i>Unit</i>
		Buckle Cap Retainer
		<i># 18</i>
		Lock Plug
18	*805-005	Buckle Assembly
19	820-050	Lens Retainer
20	*805-010	Mask, without pod
21	*810-022L	Mouthpiece
22	810-100	Pod Cover, SCUBA
23	*520-039	Tie Wrap
24	*520-038	Tie Wrap
25	820-120	Water Dump Valve Body
26	*810-025	Water Dump Valve
27	*805-047	Tilt to Dump Body
28	830-008	Screw
29	*820-105	Pod Catch Release
30	820-100	Pod Frame
31	820-157	Pod Cover Retainer (bottom)
32	820-156	Pod Cover Retainer (top)
33	820-110	Hook
34	820-115	Hook Cover
35	*805-015	SCUBA Pod
	*800-048	Mask Complete (18 & 31) no regulator
	*800-050	Mask Complete (18 & 31) with regulator

NOTES