

Rebreather Pod (P/Ns 805-006, 805-011, 805-080 & 805-082) Maintenance Manual

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1.1 General Information

1.1.1 Terms used in this Guide

BOV: Bail Out Valve

CCR: Closed Circuit Rebreather

DSV: Dive Surface Valve

IAW: In Accordance With

NID: Non-ionic detergent

NOTE: POD is not an acronym or an abbreviation. It is only capitalized to emphasize the identification of the removable component of the two part M-48 modular full face mask system.

The Rebreather POD with switchover regulator was referred to in the past as the NATO POD with SuperFlow® 450 open circuit regulator. The correct current name is the KMDSI Rebreather POD with switchover open circuit regulator or the KMDSI Rebreather POD.

NOTE: P/N 805-080 Rebreather POD, No Regulator and P/N 805-082 Rebreather POD with Switchover Regulator.

1.1.2 Non-Magnetic Conformity

Both modular full face mask models, the SuperMask® and the MOD-1 are designated Non Mag. In addition there are four complete assemblies that have the Non Mag designation.

- P/N 805-001 Switchover Regulator, Non-Magnetic
- P/N 805-006 Rebreather POD, No Regulator
- P/N 805-011 Rebreather POD /w Switchover Regulator, Non-Magnetic
- SCUBA
805-190 Scuba POD w/ Tilt to Purge, Non-Magnetic

Refer to the corresponding blowapart drawings at the end of this module for part numbers specif-

ic to the non mag components used in the above assemblies.

IT MUST BE NOTED: Components used in the above assemblies that are labeled, “Non-Magnetic” is based on tests performed at initial production startup of the products and NOT based on any ongoing testing.

If products with non-mag designation are to be used where the equipment needs to have a low, or non-magnetic signature, **IT IS THE RESPONSIBILITY OF THE END USER** to apply any specialized testing, to determine if the equipment will pass any needed low or non magnetic requirements.

1.1.2.1 Maintaining and Repairing Non-Magnetic Designated Assemblies

The use of non-magnetic hand tools is crucial in keeping complete assemblies and associated components to a non-magnetic signature. Non magnetic tools are made of materials that do not contain iron (non-ferrous metals) and therefore the risk of a magnetism being created while the tool is in use is reduced. It is critical to understand that simply tightening a screw with the incorrect screwdriver can create magnetism in the Non-Mag Rebreather POD.

1.1.3 Features of the Rebreather POD

The Rebreather POD with switchover 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, 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 uses changeable hose adapters 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—www.divelab.com, divelab@divelab.com or (850) 235-2715. 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. 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.

1.1.4 Use of Kirby Morgan Original Replacement Parts

Users of Kirby Morgan life support equipment are cautioned to always use Kirby Morgan original replacement parts. Parts manufactured by third party companies can cause improper function, leading to accidents.



Look for the Kirby Morgan logo on Kirby Morgan products. This is your assurance that you are getting genuine Kirby Morgan replacement parts.

1.1.5 Safety Precautions

To ensure the best possible Rebreather POD and regulator performance and to avoid damage to regulator components, use only KMDSI original factory replacement parts.

To avoid damage to regulator components, only the correct sizes and types of tools should be used. Certain specialty components may be required for NON/ LOW magnetic specification. The use of adjustable wrenches should be avoided whenever possible to avoid damage to the regulator parts. Do **NOT** use silicone grease anywhere on this assembly.

USE ONLY oxygen compatible **NON SILICONE** lubricant. For example, Christo-Lube® or Tribolube®.

Should you encounter technical difficulties in servicing a Kirby Morgan regulator, please contact Kirby Morgan or Dive Lab—www.divelab.com or (850) 235-2715—directly for assistance.

1.1.6 Specifications

Second Stage Type: Downstream, balanced bias adjustable

Second Stage Body: Glass fiber reinforced nylon

Other misc. parts: ABS + PC, PPO + GF, PPS, ABS, Titanium, POM, Nylon, polyurethane, 300 series stainless steel, liquid silicone, PP, Buna N.

Optimum intermediate working pressure: 140 PSI ± 15 PSI

⚠ WARNING

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 by drowning.

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. 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.

1.2 Preventative Maintenance

1.2.1 Routine Maintenance

Routine maintenance is the best way to ensure long Regulator life and optimum performance.

NOTE: If possible, rinse while pressurized and attached to a tank. This will aid in preventing water from getting into the inlet valve. Purging the regulator after rinsing will aid in drying. Purging the regulator may cause free flow. This is easily stopped by slightly blocking the mouthpiece.

- 1) At a minimum, the regulator should be thoroughly rinsed with fresh clean water after every dive. Mild liquid dish soap can be used to remove grime.
- 2) If possible, the entire regulator should be soaked in fresh warm water, between 80–120 °F (26–49 °C), for 15 minutes or longer. Cap the inlet side using the supplied blue cap with O-ring seal at the bottom to keep water out. Soaking in warm water will remove salt and mineral deposits more effectively than a fresh water rinse alone.
- 3) Allow the regulator to dry completely before storage. Do not leave the regulator sitting in direct sunlight. Shake the second stage to help remove water trapped inside.
- 4) Screw the second stage regulator adjustment knob all the way out, away from the second stage body. This will help lengthen the life of the regulator seat.
- 5) Ensure the regulator is completely dry before storing. Store only in a clean, cool dry place.

1.2.2 Scheduled Maintenance

Do not assume that a regulator is in good working order because of infrequent use. Prolonged or im-

proper storage can result in O-ring deterioration or internal corrosion, causing poor performance.

1) The minimum maintenance suggested for all regulators is an annual inspection and service. However, regulators that are used frequently or under severely harsh environmental conditions should be serviced more often. For example, a regulator used as a rental or for training purposes may require service every two to three months or more. Whenever a regulator has been inactive for longer than three months, it should be carefully inspected and checked prior to use.

1.2.3 Soft Good Kits

Always refer to M-48 appendices for scheduled maintenance. These can be located at the back of the user guides as well as under the support tab at KMDSI.com. While all individual parts in the rebreather POD and switchover regulator assemblies can be ordered separately, KMDSI has also created kits to be used whenever required, or for periodic and annual service.

Guidelines

O-rings should be lightly lubricated with **oxygen compatible, NON-SILICONE lubricant ONLY**, for example: Christo-Lube®, Tribolube® or equivalent in accordance with the operations and maintenance manual. **NEVER USE SILICONE based lubricants.**

At a minimum all O-rings found in the switchover Open Circuit Regulator should be replaced at least once a year. Components might require replacement more often than yearly if the assembly use is extreme, or if used in waters containing oil or chemical contamination. Daily cleaning and inspections as well as performing the monthly inspection will identify the need more accurately than simply placing a number of hours between overhaul. Store spare O-rings, valves and soft goods in a cool, dark, dry place. Avoid prolonged exposure to temperatures above 90 °F (32 °C) and/or exposure to ultra violet rays. Do not lubricate exhaust valves. Lubricating valves can cause dirt to stick, allowing leakage.

⚠ WARNING

If the products are to be used where the equipment needs to have a low, or non-magnetic signature, IT IS THE RESPONSIBILITY OF THE END USER to apply any specialized testing, to determine if the equipment will pass any needed, low or non magnetic requirements.

The following are the overhaul kits available for the Rebreather Pod:

- Part #825-010, Rebreather POD Regulator Overhaul Kit
- Part #825-015, Rebreather POD Soft Goods Overhaul Kit
- Part #825-025, Rebreather POD with Switchover Regulator Annual Overhaul Kit

1.3 Removal from the Rebreather POD

1.3.1 Hose Adapters

One way directional valves must be supplied directly from the SCR/CCR manufacturer. KMDSI and Dive Lab do not make these valves. Dive Lab is the only manufacturer of unit specific hose adapters and must be contacted directly concerning purchase, technical support and customer service.

1) Unscrew each hose adapter in a counter clockwise fashion until free of the POD and set aside.



2) Slight outward pressure will need to be applied to engage the first threads on the hose adapter.



1.3.1.1 Hose Adapter Port O-rings

Use the pinch, push; pull method for removing hose adapter port side O-rings.

NOTE: O-rings should only be removed if damaged, if damage is suspected, or an annual overhaul is being performed.



- 1) Remove all four O-rings.
- 2) Inspect, clean and lubricate.
- 3) Inspect and clean O-ring grooves on hose adaptor ports.

1.3.2 Auto Water Purge Valve Body P/N 820-065

Tools Required:

- 7/64" Hex Key
- 1/4" open end wrench or nut driver

- 1) Remove the two shoulder screws and nyloc nuts securing the valve body to the pod.



- 2) Pull the Auto water purge valve body down and away from the pod.



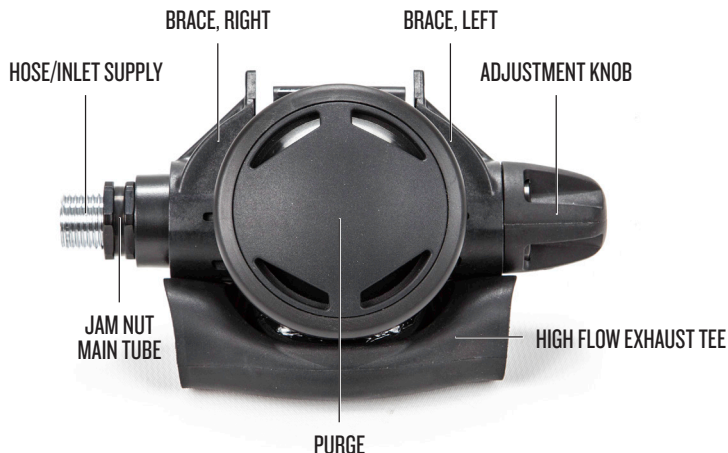
NOTE: a small tool can be used to remove the valve body, but care must be taken not to damage spokes in the valve body.



⚠ DANGER

The Auto Water Purge Valve Body must be installed if using the rebreather POD without the switchover regulator. Diving the rebreather POD without either valve installed will lead to flooding of the POD and death by drowning.

1.3.3 Switchover Open Circuit Regulator P/N 805-050



Tools Required:

- 7/64" Hex Key
- 1/4" open end wrench or nut driver

NOTE: The Auto Water Purge Valve Body **MUST BE REMOVED** if mounting the switchover regulator to the Rebreather POD.

1) Remove the two shoulder screws and nylock nuts securing the switchover regulator to the pod.



2) Pull the regulator down and away from pod.



⚠ DANGER

The Auto Water Purge Valve Body must be installed if using the rebreather POD without the switchover regulator. Diving the rebreather POD without either valve installed will lead to flooding of the POD and death by drowning.

1.4 Installation to the Rebreather POD

⚠ WARNING

The nyloc nuts should be reused, only ONCE. The criteria for replacement is that when tightening the nut it should require the use of a 1/4" wrench to turn and not be allowed to be turned by hand.

Failure to replace the lock nuts during scheduled maintenance, or attempting to reuse them when criteria is not met could result in an improper seal of the pod, or loosening of the fasteners resulting in serious injury or death.

1.4.1 Hose Adaptors

1) Lightly lubricate the O-rings found on the hose adaptor ports.

2) Screw each hose adaptor onto the hose adaptor port in a clockwise fashion until it is free spinning. Once the adaptor is free spinning it is the indicator that it is installed correctly.

NOTE: Depending on the SCR or CCR unit you

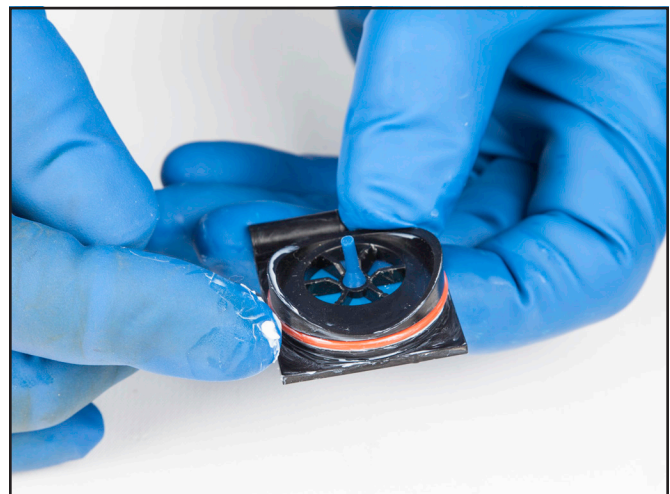
are using the one-way/mushroom valves will have to be properly inserted into the Dive Lab unit specific hose adaptors or into the hose fitting of the SCR or CCR being used. Refer to the KMD-SI rebreather pod user guide for details on how to perform leak /pressure test prior to diving.

1.4.2 Auto Water Purge Valve Body P/N 820-065

Tools Required:

- 7/64" Hex Key
- 1/4" open end wrench or nut driver
- Oxygen compatible NON SILICONE lubricant

1) Lightly lubricate the orange O-ring on auto water purge valve body.



2) Insert auto water purge valve assembly into pod.



3) Insert shoulder screws and nyloc nuts; tighten until snug. Do not overtighten.

4) Ensure that the water purge valve (blue) is resting flush and is not folded over/in the valve body.

1.4.3 Switchover Open Circuit Regulator P/N 805-050

⚠ WARNING

Only the switchover 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 mating procedure could result in serious injury and/or death.

Tools Required:

- 7/64" Hex Key
- 1/4" open end wrench or nut driver
- Oxygen compatible NON SILICONE lubricant

1) Lubricate and install orange O-ring onto switchover regulator.



2) Ensure brace, right P/N 220-067 and brace, left P/N 220-066 are in place on the regulator body and installed correctly.

3) Verify exhaust tee is properly installed and secured onto regulator.

4) Fit switchover regulator to pod with gas supply inlet to diver's right and bias adjust knob to diver's left.

⚠ 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/BOV, resulting in restricted head movement and could increase difficulty of latching the POD to the mask. These factors can decrease the comfort of the diver which could lead to an accident and injury.



⚠ WARNING

Do NOT overtighten the shoulder screws or nyloc nuts. Overtightening may cause damage to the regulator body, which may crack and could result in serious injury and/or death.

5) Insert long shoulder screws and nyloc nuts; tighten until the nut just starts to make contact with the left and right braces. Do not overtighten. Overtightening may cause damage to the regulator body.

1.5 Rebreather Pod and Main Body Disassembly

NOTE: Before attempting these procedures, be certain of the circumstances under which the pod and/or switchover regulator are being serviced. Keep in mind that the soft goods to be discarded during normal scheduled maintenance of pod and regulator are the same parts inspected as candidates for re-use during other circumstances involving maintenance (i.e. inspection after mask has been used in a harsh environment).

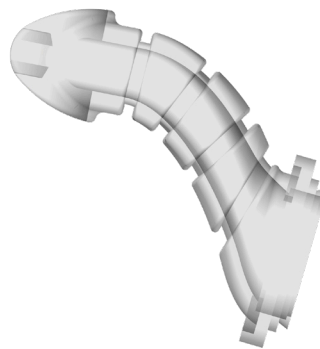
1.5.1 General Information

Tools required

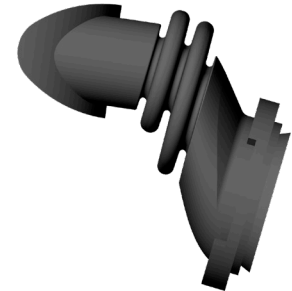
- 7/64" Hex key
- 1/4" Open End Wrench and/or Offset Nut Driver
- T10 Torx Screwdriver
- #2 Phillips Screwdriver
- Cutters

1.5.2 Mouthpiece P/N 810-027 and Angle Mouthpiece P/N 810-040

NOTE: The KMDSI Rebreather PODs has two different mouthpiece options. Mouthpiece P/N 810-027 (clear silicone) and angled mouthpiece P/N 810-040. The procedures for inspection, removal and installation are identical for both mouthpieces.



MOUTHPIECE P/N 810-027



ANGLE MOUTHPIECE P/N 810-040

1) Use the hex driver to completely loosen the three screws found at the base of the retainer, mouthpiece located inside the POD.

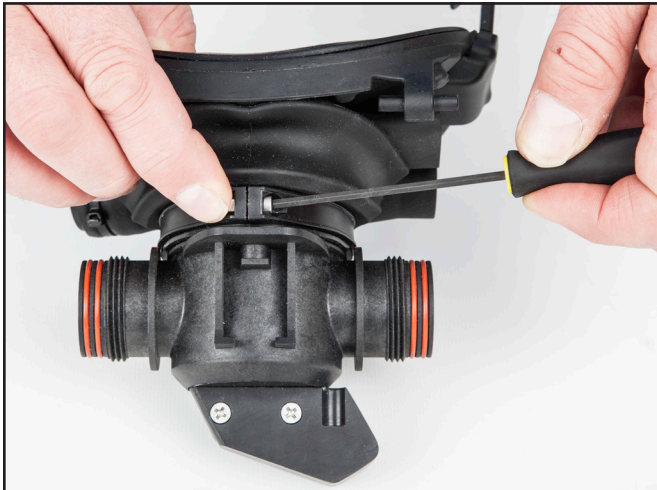


2) Grab the top and bottom of the Retainer, Mouthpiece to lift and or wiggle the retainer with mouthpiece and ring out and away from the POD.

You will notice the Mouthpiece, Retainer Ring (white) will be secured inside the base of the mouthpiece. If removing or replacing the mouthpiece the white retainer ring will have to be removed.

1.5.3 Main Body

1) With the 7/64" hex key loosen and remove the retainer strap found on the outside of the POD cover.

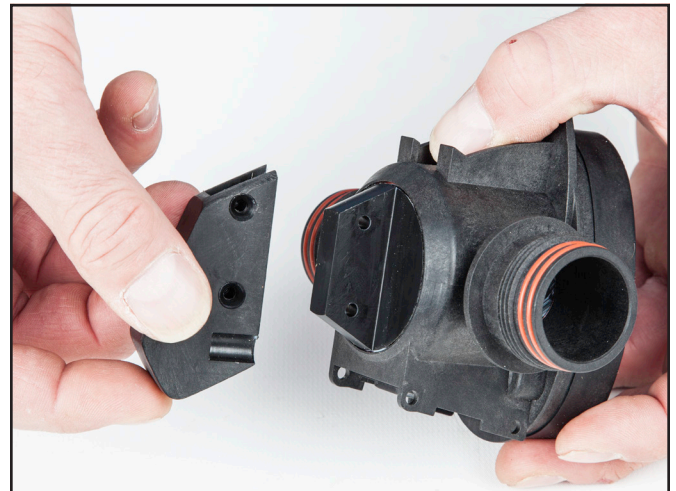


2) Push the main body forward and out of the POD cover.



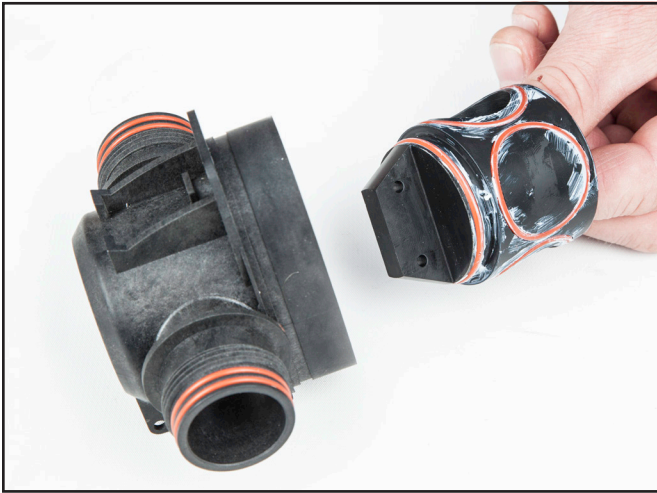
If the auto water purge or switchover open circuit regulator is still attached to the main body refer to the steps in "1.3 Removal from the Rebreather POD" on page 5 to remove it from the main body.

3) Use a #2 Phillips screwdriver to remove the handle screws and barrel handle from main body.



4) Viewing pod from front, rotate barrel valve to left while pushing in on handle mount. Separate the two pieces from each other.





5) Use the pinch push pull method to remove the O-ring located on the front of the barrel valve.



6) Using the corner of a membership I.D./credit card as a tool carefully remove the remaining four O-rings found on the barrel valve



7) Thoroughly clean the O-ring grooves and O-

rings. Carefully inspect the grooves for any damage. **Make certain ALL lubricant has been cleaned from the grooves.**

1.5.4 POD Frame, Cover and Components

1) Use the cutters to remove the tie wrap securing the Tilt to Purge Valve w/ one way Valve. Do this carefully to avoid damaging the silicone on the pod cover.



2) From the inside of the pod, push on the tilt to purge valve until it is separated from the pod cover.

NOTE: The tilt to purge valve w/one way valve is a completely enclosed assembly and is not serviceable.





3) From the inside of the pod, fold back the pod cover where the pod hook is located.

4) Use a T10 Torx screwdriver to remove screws and washers, hook cover and pod hook.



NOTE: Removing the three screws on the pod hook side will release two separate pieces, the pod hook and the hook cover. The pod catch release uses two screws and is one solid component.

6) Peel back the pod cover from the inside of the pod and use the T10 Torx screwdriver to remove the bottom two screws securing the retainer, pod cover, bottom.



5) Repeat steps 3 and 4 on the opposite side of the inside of the pod to remove the pod catch release.



7) Then remove the top five screws securing the hinge mount, pod lock to the pod cover.



8) Remove the pod cover from the pod frame.

1.6 Rebreather Pod and Main Body Reassembly

Tools required

- $\frac{7}{64}$ " Hex key
- $\frac{1}{4}$ " open end wrench and or offset nut driver
- T10 Torx screwdriver
- #2 Phillips screwdriver
- Cutters
- USE ONLY oxygen compatible NON SILICONE lubricant. For example, Christo-Lube® or Tribolube®.

1.6.1 POD Frame, Cover and Components

1) Fit pod cover around pod frame. Match number of holes in cover to the holes in pod frame for proper orientation.

2) On the top of the pod cover prepare to install the pod lock hinge mount using five T10 torx screws. Install screws into pod frame and through pod cover prior to engaging screws into pod lock. The two outer screws will screw into the pod frame at an angle to mate hinge with the pod lock mount.

3) Tighten the screws into the pod lock partially at first until all five screws have been engaged.



4) Complete the installation by tightening the screws down until each screw head is flush or below the edge of the receiving hole on pod frame. Ensure the screws go through the pod cover and into the pod lock and verify that the pod cover did not pull out from pod frame and retainers.

NOTE: It is helpful to use your fingers on inside of the POD cover to press the cover towards the leading edge of the pod frame to ensure cover screw hole mates to retainer cover hole. **The two outside screws are angled.**

5) Repeat steps 3 and 4 for installing the retainer, pod cover, bottom. The retainer, pod cover, bottom uses only two T10 torx screws.

6) Ensure the pod cover seats correctly in recessed sections found on the top and bottom of the pod frame.



7) Reinstall pod catch release on the right side of the pod (outside of the pod). Pay close attention that the pod cover's side flaps are flush on pod frame.



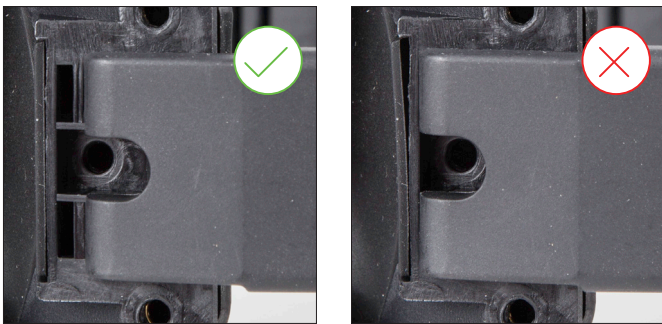
Ensure the pod cover flap is flush on the outside of the pod frame as it must be captured by the pod catch release when reassembling.

8) Apply pressure to the pod hook while gently peeling back the silicone pod cover to expose the two receiving holes for the washers and T10 screws.

9) Use a T10 Torx screw driver to secure washers and screws, locking the pod hook in place. Tighten screws until bottomed out.

NOTE: Gently peel back the silicone cover inside the pod to expose the two T10 torx screw heads and confirm the pod cover flap is captured correctly by the pod hook.

10) Insert pod hook into the slot found on the left side of the pod frame so one slot appears to be empty (in the front facing slot). This will be the third slot when counting from the front of the pod towards the back or towards the diver's face.



11) Ensure pod cover flap is flush onto the outside of the pod frame as it must be captured by the hook cover when reassembling.

12) Put the hook cover in place over the hook while gently peeling back the silicone pod cover to expose the three receiving holes for the washers and T10 screws.

13) Use a T10 Torx screw driver to secure washers and screws, locking the pod hook in place. Tighten screws until bottomed out.

NOTE: Gently peel back the silicone cover inside the pod to expose the two T10 torx screw heads and confirm the pod cover flap is captured correctly by the hook cover.



1.6.2 Main Body and Barrel Valve

1) Ensure the four O-ring port adaptors grooves are clean and without damage.

2) Install four silicone orange O-rings UN-LUBRICATED to port adaptor threads

3) Ensure the five O-ring grooves on the barrel valve are clean and without damage. Very carefully inspect them to make certain they are free of cuts, nicks or any signs damage.

4) Install the four silicone orange O-rings onto the barrel valve.

IMPORTANT NOTE: DO NOT lubricate any of these four O-rings or their grooves! After installing the four O-rings onto the barrel valve, lightly lubricate only the top exposed surfaces. Excess lubrication on the O-rings and in the grooves may allow unwanted movement of the O-ring in its groove, which may lead to O-ring extrusion when installing the barrel.

5) Install first then lubricate (USE ONLY oxygen compatible NON SILICONE lubricant) the final silicone orange O-ring to the front of the barrel valve.

6) Lightly lubricate, with NON SILICONE lubricant, the remaining four O-rings located on the barrel valve.

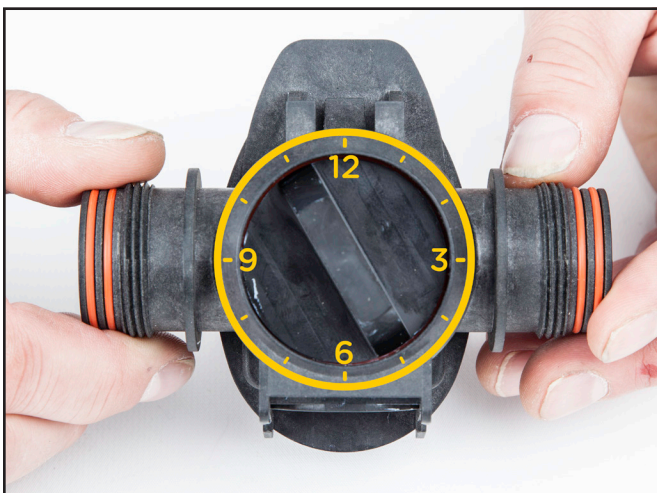
7) Lightly lubricate the interior sealing surface of the main body.



8) Viewing main body from front, slowly and carefully slide barrel valve into main body from inside the main body clocked at the 11 O'clock position..



Handle of barrel valve should be at eleven o'clock position to allow full insertion of barrel valve.

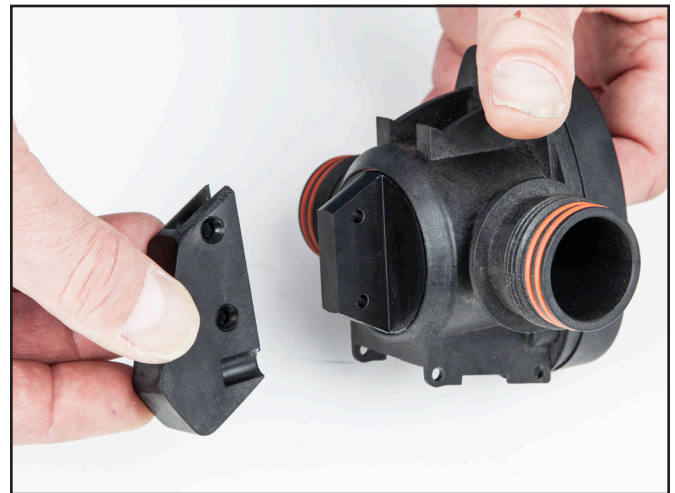


NOTE: Ensure that O-rings remain seated in their grooves while sliding barrel valve into place, especially the last ¼ inch (6.35 mm) of travel.

9) Continue to apply forward pressure to the barrel valve while applying a slow and steady twisting back and forth motion until front of the barrel valve is flush with main body.

It is critical to take special care to avoid possible O-ring extrusion when installing barrel valve into main body.

10) Facing the front of the main body, slide the barrel handle up into the correct position. The larger holes on the barrel handle will be on the right.



11) Use a #2 Philips screwdriver and two screws to secure the barrel handle to the main body. Tighten the screws just until flush with the receiving holes.



1.6.3 Main body to Rebreather Pod cover

It is recommended to attach the switchover regulator or auto water purge valve body after securing the main body to the pod cover.

Orientate the main body to the rebreather pod so the top of the pod with hinge mount, pod lock will mate with the top of the main body. The lower portion of the pod should match with the switchover regulator or auto water purge valve receiving hole.

1) Push the main body into the front pod cover opening. Do not try to insert the main body into the pod cover from inside of the pod.



2) Slightly twist and push the main body back into the pod cover until main body is flush with pod cover. Ensure the cover is resting on the main body evenly flat with no gaps or roll over. Use the parting line in the pod cover and barrel handle to assist in proper alignment.

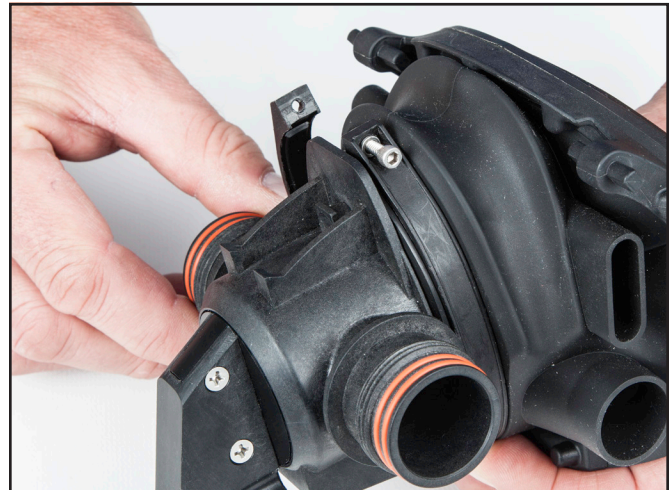
NOTE: The pod cover opening has two flaps; one upper (smaller) and one lower (larger) that will capture the retainer mouthpiece. Ensure that these two flaps are not folded under the retainer, mouthpiece, but capturing the retainer, mouthpiece leading edge.



3) Take the retaining strap and thread the screw and washer into tab side of strap just enough to start the screw and hold it in place.

NOTE: retaining strap **MUST TERMINATE ON TOP** of the main body.

4) Fit the retaining strap around the recessed area of the rebreather pod cover. When both ends meet, insert the nut into the open end of the retaining strap.

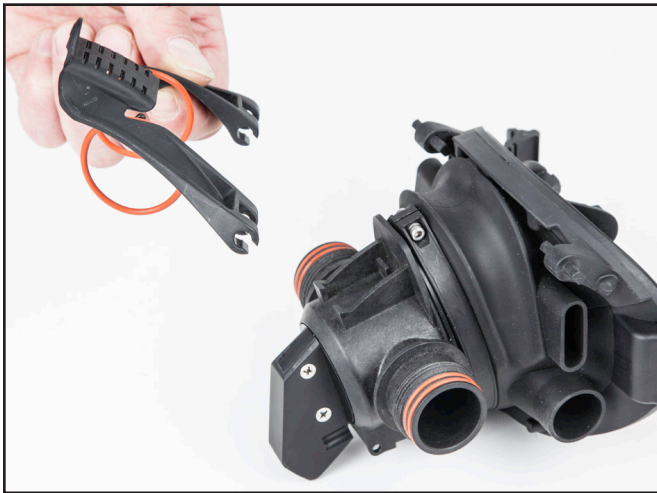


5) Use the $\frac{7}{64}$ inch hex wrench to tighten retaining strap until snug.



MANDATORY: Once the main body is secured to the rebreather pod a pull test of 25 pounds (11.34 kg) must be completed. See pull test in "1.6.7 Performing Pull test" on page 22.

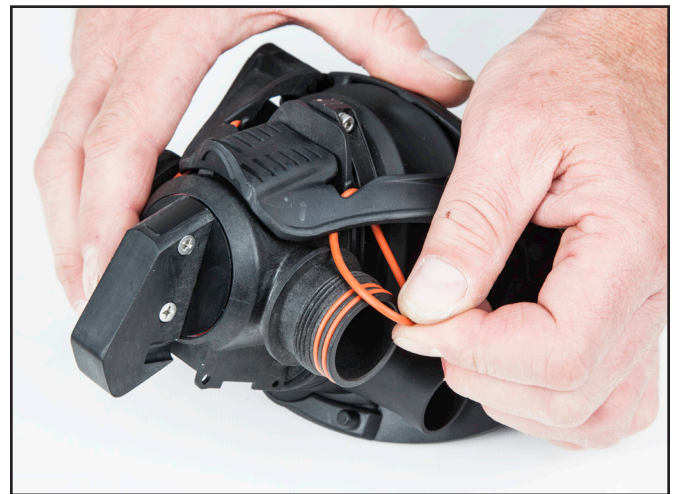
6) Install two O-rings onto each side of the hinge arm, pod lock hooks.



7) Install hinge arm, pod lock to hinge mount, pod lock tabs on pod.



8) Stretch the O-rings over the hose adaptor port on each side of the main body.



1.6.4 Mouthpiece

The mouthpiece can only be inserted into the main body after it is secured to the pod cover. It is also recommend that the specific hose adapters are removed from the hose adaptor ports.



1) Install mouthpiece into mouthpiece retainer. 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. One hole should be at the top and two holes on the bottom of the mouthpiece retainer.



2) Fit the mouthpiece retainer ring inside of mouthpiece inlet (opposite side of mouthpiece opening). This mouthpiece retainer ring is important as it will prevent the mouthpiece from being pulled away from the assembly.



3) Insert screw with lock washer installed into the three holes on the mouthpiece retainer.

NOTE: Flaps – top and bottom on pod cover.



4) Use the top and bottom of the mouthpiece retainer to fit the entire assembly into the inside of the POD. Apply equal pressure to retainer and verify a flush seating.

NOTE: Flaps – top and bottom on pod cover.

5) Tighten screws in a rotating pattern to 8 inch pounds.

⚠ WARNING

Never dive the POD without a mouthpiece installed. A mouthpiece allows use of the POD even if the POD is not sealed to the mask, or if the mask strap fails. Having a bite on the mouthpiece will help maintain a good seal to the mask. Also, buddy breathing cannot be readily accomplished without a mouthpiece installed. The chances of an accident due to a compromised air supply increase greatly without the mouthpiece. This can lead to serious injury or death of the diver and/or the diver's partner by drowning.



1.6.5 Tilt to Purge Valve w/ One-Way Valve

1) Insert the tilt to purge with one-way valve into the dewatering port. Standard placement is on the starboard side of the POD.

CORRECT ORIENTATION: the toggle must be on the outside of the port provision and the VALVE MUST BE SEEN ON THE INSIDE of the pod.



NOTICE

The inside of the assembly will not be flush with the POD cover (inside view) - OUTER edge of assembly sticks out on both of the inside and outside of the dewatering port provision.

2) Using tie wrap tool or equivalent, install new tie wrap P/N 520-038 to secure assembly in place.



1.6.6 Hose Adapter Port O-rings

1) Lightly lubricate the hose adaptor port O-rings.



1.6.7 Performing Pull test

It is recommended that any time a user is in doubt as to the integrity of the component to POD fit, a simple pull test is performed by the end user or installer by simply attaching a 25 pound (11.34 kg). weight to the main body using string or tie wraps in the manner shown on this page. Suspend the weight for three–five seconds from the POD allowing the full weight to pull on the main body.



If there is any doubt regarding the regulator mount, perform a pull test as illustrated here, by using a 25 lb. weight or 50 cu ft aluminum full cylinder.

1.6.8 Hose Adapters

1) Inspect threads and adapter body for damage.

⚠ WARNING

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

2) Inspect and clean interior surface of adapter where mushroom/one-way directional valves seat.

3) Insert SCR/CCR's unit specific one way directional valves and perform leak test. (blowing or exhaling into the adapter).



⚠ CAUTION

Prior to diving, a complete inspection of the mask and all related gear should be made in accordance with the pre-dive set up procedures and 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 before donning the mask. Failure to inspect the POD prior to diving or being unfamiliar with the gear may lead to an accident resulting in injury or death by drowning.

1.7 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 liquid 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 the cap onto the 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. Be cautious and 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 rebreather POD should be transported and stored, completely dried, in the storage bag with the POD removed from the mask to keep the frame from taking a set.

During a standard overhaul, parts should be cleaned in a warm water and mild soap solu-

tion, 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.

Sanitizing of the POD is accomplished using one of the approved germicidal cleansing solutions listed in "1.8 Germicidal Cleaning Solutions" in this module. 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 a 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.

1.8 Germicidal Cleaning Solutions

1. SaniZide Plus: P/N: 34805 (spray) or 34810 (gallon), Ready to use; do not dilute.
SAFETEC of America, Inc
1055 E. Delavan Ave.
Buffalo, NY 14215 USA
1-800-456-7077
www.safetec.com

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>

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.

1.9 Torque Specifications for KMDSI Rebreather POD

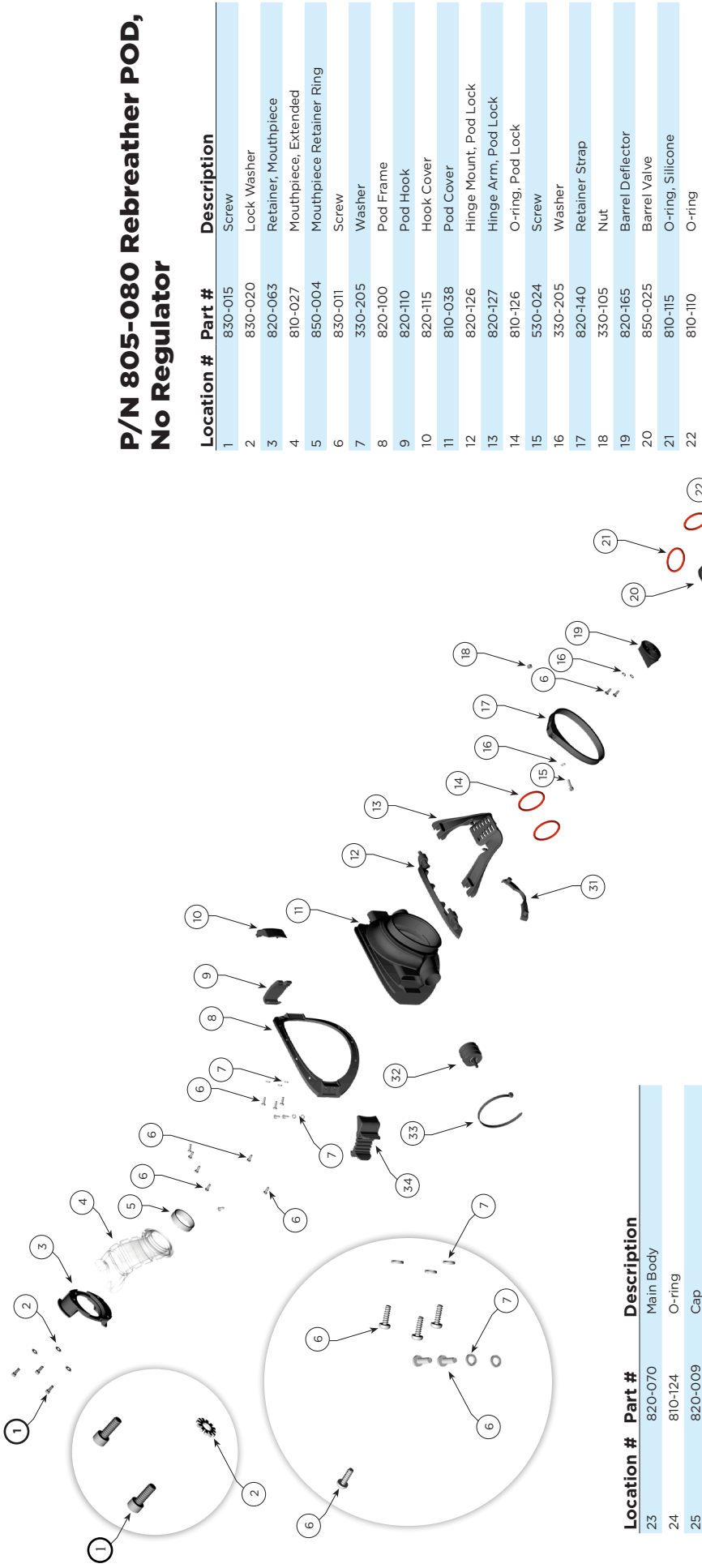
1.9.1 Torque Specifications for KMDSI Rebreather POD P/N 805-080 & 805-082

Loc. #	Part #	Description	Torque in Inch Pounds	Torque in Newton Meters
1	830-015	Screw	10	1.1

1.9.2 Torque Specifications for KMDSI Rebreather POD P/N 805-006 & 805-011 (Non-Magnetic)

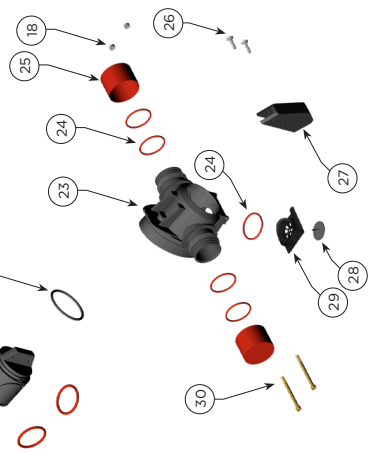
Loc. #	Part #	Description	Torque in Inch Pounds	Torque in Newton Meters
1	830-002	Screw	10	1.1

P/N 805-080 Rebreather POD, No Regulator



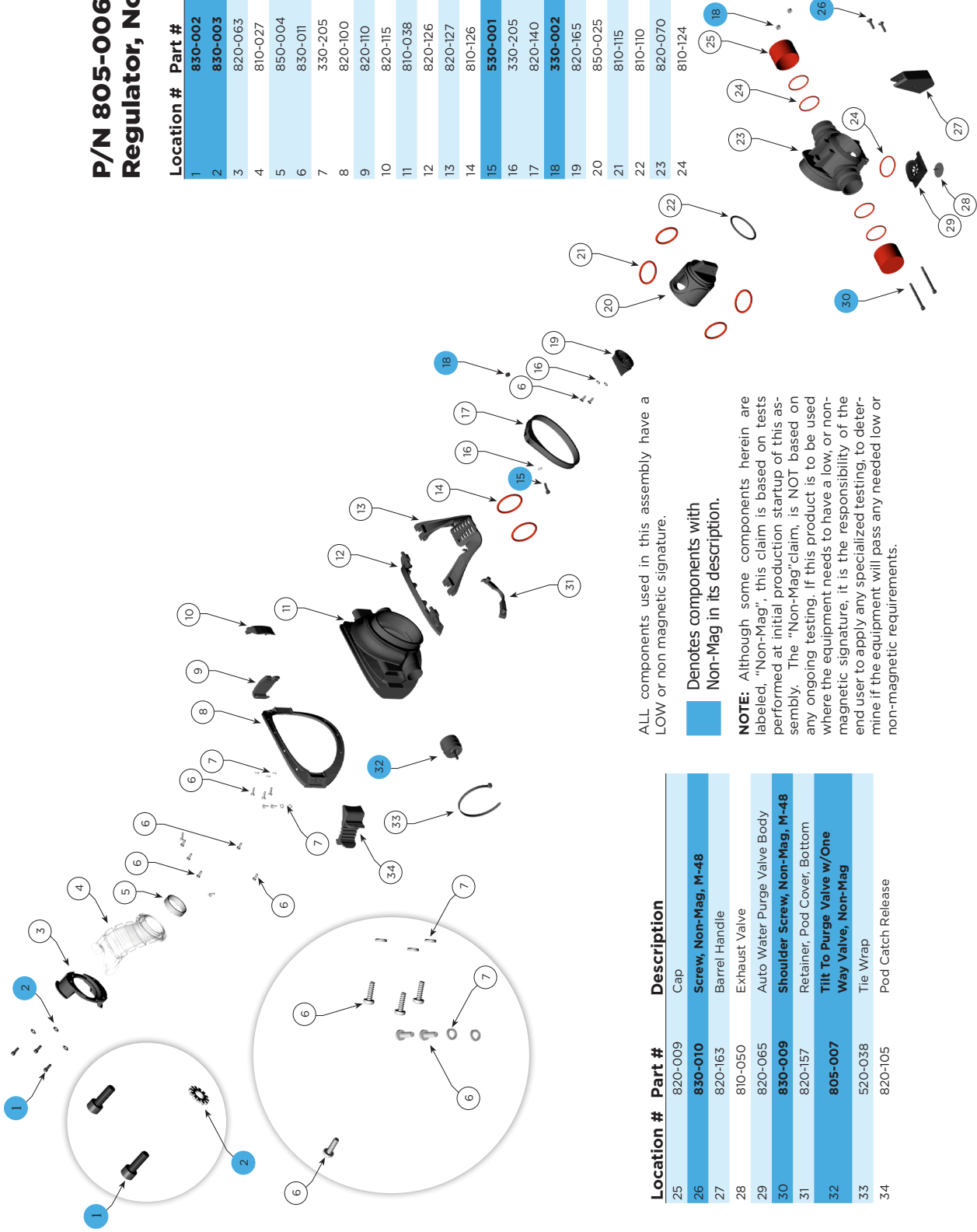
Location #	Part #	Description
1	830-015	Screw
2	830-020	Lock Washer
3	820-063	Retainer, Mouthpiece
4	810-027	Mouthpiece, Extended
5	850-004	Mouthpiece Retainer Ring
6	830-011	Screw
7	330-205	Washer
8	820-100	Pod Frame
9	820-110	Pod Hook
10	820-115	Hook Cover
11	810-038	Pod Cover
12	820-126	Hinge Mount, Pod Lock
13	820-127	Hinge Arm, Pod Lock
14	810-126	O-ring, Pod Lock
15	550-024	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



P/N 805-006 Rebreather POD, No Regulator, Non-Magnetic, M-48

Location #	Part #	Description
1	830-002	Screw, Non-Mag, M-48
2	830-003	Lock Washer, Non-Mag, M-48
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	Pod 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	530-001	Screw, Non-Mag
16	330-205	Washer
17	820-140	Retainer Strap
18	330-002	Nut, Non-Mag
19	820-165	Barrel Deflector
20	850-025	Barrel Valve (Machined)
21	810-115	O-ring, Silicone
22	810-110	O-ring
23	820-070	Main Body
24	810-124	O-ring



ALL components used in this assembly have a LOW or non magnetic signature.

Denotes components with Non-Mag in its description.

NOTE: Although some components herein are labeled, "Non-Mag", this claim is based on tests performed at initial production startup of this assembly. The "Non-Mag" claim is NOT based on any ongoing testing. If this product is to be used where the equipment needs to have a low, or non-magnetic signature, it is the responsibility of the end user to apply any specialized testing, to determine if the equipment will pass any needed low or non-magnetic requirements.

Location #	Part #	Description
25	820-009	Cap
26	830-010	Screw, Non-Mag, M-48
27	820-163	Barrel Handle
28	810-050	Exhaust Valve
29	820-065	Auto Water Purge Valve Body
30	830-009	Shoulder Screw, Non-Mag, M-48
31	820-157	Retainer, Pod Cover, Bottom
32	805-007	Tilt To Purge Valve w/One Way Valve, Non-Mag
33	520-038	Tie Wrap
34	820-105	Pod Catch Release