



**Dive Lab, Inc.**  
**1415 Moylan Road, Panama City Beach, FL 32407**  
**Phone: 850-235-2715 Fax: 850-235-0858 E-mail: divelab@aol.com**

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*Complete Support & Testing of Underwater Diving Equipment*

## **DIVE LAB NEWS LETTER**

Mike Ward, July 12, 2010

Hello to All:

### **New Items:**

EXO Full Face Mask Checklists have been completed and you can get them off the KMDSI and Dive Lab websites. The checklists follow the same format as the helmet checklists and can be reviewed at [www.kirbymorgan.com](http://www.kirbymorgan.com) and [www.divelab.com](http://www.divelab.com).

KMACS-5 Pre-dive checklist: There is a new pre-dive checklist for use with the KMACS-5 and DCS-2 control consoles. The checklist can be reviewed at [www.kirbymorgan.com](http://www.kirbymorgan.com) and [www.divelab.com](http://www.divelab.com).

Helmet Pull-Pin Oil: P/N 520-008, 1 oz \$12.72 and 2 oz \$23.84. Dow Corning 550R. The Dow Corning oil is the only recommended oil for the pull pins. Dive Lab has 1 and 2 oz bottles in stock. The pull pin kit P/N 525-211 and is available through an authorized Kirby Morgan dealer. Visit [www.kirbymorgan.com](http://www.kirbymorgan.com) for dealer location near you.

Kirby Morgan's ecommerce site is up and running. Visit <https://apparel.kmdsi.com> T-shirts, polo's, sweats, jackets, hats, accessories, stickers and more. Adults and youth.

### **Latest KMDSI Bulletins:**

All KMDSI Bulletins can be viewed at [www.kirbymorgan.com](http://www.kirbymorgan.com).

Bulletin #1 of 2010 Starboard Whisker Wing, P/N 510-786 and Port Whisker Wing, P/N 510-787

Bulletin #2 of 2010; Anode Kits for KMDSI Helmets and BandMasks®

Bulletin #3 of 2010 Kirby Morgan has developed several new kits that are in stock and ready to ship.



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**Frequently Asked questions on KMDSI Helmet and Full Face Masks  
Maintenance and Training**

Revised: 5/11/2010 Mike Ward

**Q - WHO IS ALLOWED TO WORK ON KMDSI HELMETS AND FULL FACE MASKS?**

A - Privately owned helmets can be worked on by the owner of the helmet or any authorized KMDSI repair technician. As stated in all KMDSI operations manuals, the owner of the equipment can perform all maintenance and repairs. KMDSI recommends all users receive training from a recognized KMDSI training facility, however, if users feel they have the knowledge, experience, and technical ability to make repairs and perform maintenance they can download all manuals and checklist from the KMDSI website free of charge.

According to OSHA regulations, the diving company (contractor/employer) is required to ensure all man worn equipment is being properly maintained and that the maintenance and inspections are being performed as recommended by the manufacturer of the equipment. OSHA makes little differentiation between privately owned manned worn diving equipment, and company owned diving equipment and places the responsibility for the condition and use of diving equipment on the employer/contractor. In short, this means the diving contractor could be held liable for an accidents resulting from improperly maintained equipment.

In accordance with (IAW) the ADC Consensus Standards:  
Diving helmets, full face masks, and their associated diver-carried regulators are components of a critical life support system that, if not functioning properly, can expose the diver to significant hazard.

**As such, all helmets and masks and their associated diver-carried regulators shall be maintained and inspected in strict compliance with the manufacturers recommendations. Suitable logs shall be maintained to reflect compliance. The owner of helmets, masks, and their associated diver-carried regulators shall be responsible to ensure that these life support critical elements are functioning properly prior to the commencement of each and every dive.**

Allowing improperly maintained or inspected equipment to be used regardless of who actually owns the equipment does not alleviate the contractor/employer of responsibility. For this reason, it is important that the diving contractor/employer have a good maintenance program and the documentation to go with it.

All helmets and masks shall be maintained in accordance with manufacturers recommendations and any modifications, which affect safety or performance must be documented in the equipment log. All routine and corrective maintenance should be logged in the equipment log book.

**Q - IS IT A REQUIREMENT THAT THE OWNER OF THE HELMET OR MASK BE FACTORY TRAINED / CERTIFIED TO PERFORM REPAIRS?**

A - No, although KMDSI recommends all life support equipment should only be used, set-up and maintained by properly trained persons. Due to liability concerns, many companies and agencies that are hiring diving contractors, require contractors to provide proof that the diver worn equipment is being maintained and serviced by trained qualified persons. This is especially true when performing U.S. Government work even though there are no federal regulations that specifically mandate training qualifications or certification for persons performing maintenance, repairs, and operational set-up procedures.

KMDSI **strongly** recommends that diving contractors protect their employees and themselves by ensuring that persons performing maintenance and repairs have the recommended training and perform all maintenance and repairs in accordance with the applicable helmet or mask operations and maintenance manuals, checklists, and procedures as recommended by KMDSI.

All the KMDSI operations and maintenance manuals, as well as the operations and maintenance checklists can be downloaded at [www.kirbymorgan.com](http://www.kirbymorgan.com). Technical advice and information can be obtained from KMDSI and Dive Lab, Inc.

**Q - SHOULD THE OWNER/ USER OF THE HELMET / MASK PERFORM THEIR OWN DAILY / MONTHLY INSPECTIONS?**

A – Yes, all users of KMDSI helmets, full face masks, and equipment **should** know how to perform the daily and monthly maintenance in order to safely use the equipment. All KMDSI helmets and full face masks have pre and post dive checklists. The use of checklists is a requirement in many countries throughout the world in order to meet occupational safety and health requirements. The equipment checklists have been expanded to raise the level of knowledge, thereby improving diver safety. The checklist A2.1 (overhaul inspection procedure) should be performed anytime the daily or monthly inspection reveals signs of damage or deterioration of components, or whenever the equipment has been exposed to extreme environments, harsh or caustic / contaminated waters. It is strongly recommended that persons performing the A2.1 complete the basic

helmet and band mask technician training course by a certified KMDSI technician training facility.

*All equipment checklists can be found at [www.divelab.com](http://www.divelab.com)*

**Q - HOW OFTEN SHOULD THE APPENDIX A2.1 (OVERHAUL INSPECTION) BE PERFORMED?**

**A** - KMDSI recommends the A2.1 be performed at least every 12 months, or whenever daily and monthly checks reveal the need. Ultimately, it is up to the user / maintainer to make the determination as to how often the A2.1 should be done based on his / her knowledge, training, and experience. (Equipment used in relatively clean waters may only require the A2.1 inspection once a year). Helmets used in contaminated waters, i.e. sewage and oily waters could require the A2.1 several times a year. The A2.2 (monthly) should be performed by the user at least once a month or anytime daily inspections indicate possible damage, deterioration, or components do not operate properly. The monthly can also be used at anytime to demonstrate the equipments suitability for use. The monthly can also be used by KMDSI dealers in conjunction with the log book and receipts as a means of a third party inspection for verifying the A2.1 was completed within the past 12 months others.

**Q - WHAT IS INVOLVED IN THE A2.1 INSPECTION?**

**A** - The helmet or mask is completely disassembled as called out in A2.1 checklist procedure. Basically, the checklist has you disassembling the entire helmet so all components can be cleaned and inspected. A 14 inch lb pull test is performed on the face port retainer inserts, and the side-block and demand regulator components are disassembled, cleaned, and inspected for wear damage and corrosion then all O-rings and exhaust valves are replaced with new ones. The A2.1 also calls out for a few other items such as inlet valve soft seat and diaphragm replacement. Any other components showing signs of wear, deterioration, damage or non-conformance that may affect safety, reliability or performance, as described in the applicable manual, should be repaired or replaced. In short, this means if the inspection reveals worn or damaged components, they should be replaced to ensure proper performance.

KMDSI encourages all users of KMDSI helmets or masks to attend at a minimum the one-day Operator/User course, which teaches the daily and monthly checklist procedures. KMDSI **strongly encourages and recommends** that users performing or desiring to perform the A2.1 overhaul / inspection receive certified KMDSI technician training.

All owners/users of KMDSI helmets or masks should maintain a log for each helmet or mask, as well as associated equipment such as the EGS and harness assembly that shows clearly a record of use and the repairs and maintenance done, as well as who performed the maintenance. KMDSI strongly recommends maintaining a file containing the overhaul A2.1 and Monthly A2.2 checklists.

**Q - MY LOCAL KMDSI DEALER CHANGED PARTS THAT WERE NOT WORN OUT.**

**A -** KMDSI service dealers should give a written estimate to customers before performing any repairs. Dealers are required to replace all soft goods when conducting scheduled annual overhauls. Unless the customer has done this and provides their maintenance log book to the dealer

Dealers should not do work that does not leave the helmet or mask fully operational. The dealer must also maintain work orders and a record of work performed for each customer. The customer should have a record or log book for the equipment that shows a history of all work done. KMDSI Dealers have the right to turn away customers if they feel the log book has been falsified. The use of aftermarket non genuine KMDSI parts and components are not recommended by KMDSI. Aftermarket components and parts could affect the safety and performance of the equipment. KMDSI dealers should only sell and install genuine KMDSI parts and components that are intended for use on KMDSI products. KMDSI will not accept the liability for aftermarket parts or non-approved modifications. Owners and users of KMDSI products that use aftermarket parts and components do so against the recommendation of KMDSI and at their own risk.

**Q - CAN A PERSON / USER OF KMDSI HELMETS AND MASKS USE THE KMDSI CHECKLISTS IF THEY HAVE NOT TAKEN KMDSI TECHNICIAN OR OPERATOR/USER TRAINING.**

**A -** Absolutely! The KMDSI Helmet and Full Face Mask checklists are intended for all users of KMDSI Helmets or Band Masks regardless of whether they have attended Technician or Operator/User Training. All KMDSI Helmets and Full Face Masks should be used, maintained, and serviced in accordance with the applicable Operations and Maintenance Manual along with the appropriate Checklists. KMDSI cannot force or mandate maintenance policy to owners of KMDSI equipment, they can only recommend.

**Q - CAN INDIVIDUAL FREE LANCE DIVERS / USERS OF KMDSI EQUIPMENT ATTEND KMDSI TECHNICIAN TRAINING?**

**A -** Yes! KMDSI technician training course is open to all users of KMDSI equipment. For further information contact KMDSI at [www.kirbymorgan.com](http://www.kirbymorgan.com) Tel: 805-928-7772 or Dive Lab, Inc. [www.divelab.com](http://www.divelab.com) Tel: 850-235-2715.

**Q - WHAT DOES THE TECHNICIAN COURSE INVOLVE?**

**A -** The three day course instructs divers, tenders, and diving personnel how to perform routine repair and maintenance of all KMDSI Helmets, Band Masks, and other specific associated equipment. The course also teaches Helmet and Band Mask® inspections, adjustments, and overhauls, as well as face port insert testing. In addition, trainees learn about the KMDSI set-up and maintenance Check Lists, and Operations and Maintenance

Manuals. The basic technician course does not include instruction in fiberglass and gel coat repair but does teach insert testing.

The course when taught at Dive Lab also goes into calculating basic air consumption, supply pressures, and how clean, pressure test, and flow test umbilicals. Upon completion, each student will receive a three-year certification valid for the individual's own equipment and/or the company for which the individual works.

Once certified as a KMDSI Helmet and Band Mask Technician, the technician can teach the KMDSI Operator/User Course using the curriculum guidelines set-up by KMDSI and Dive Lab Inc. Course certification is given at Dive Lab, Inc. The main purpose for this course is to promote diver safety through knowledge and training within the commercial diving industry. We feel this is best accomplished using persons trained within the industry. The operator user training raises the level of awareness for the proper use and maintenance of KMDSI Helmets, BandMasks® and associated equipment. It will also help safety in other areas as well.

#### **Q - WHAT DOES THE OPERATOR/USER COURSE INVOLVE?**

**A -** The Operator User Course was developed to teach commercial diving personnel standardized pre and post dive inspection, set-up, and operation procedures for the KMDSI Helmets and Band Masks. The Operator/User course is considered the minimum training for users of KMDSI helmets and masks can be taught by any current KMDSI Helmet and Band Mask Technician. This course **“is not a Repair/Technician Course”**.

The Operator/User Course instructs commercial divers, tenders, and supervisors how to perform standardized, routine, daily pre-dive / post-dive procedures, as well as corrective adjustments, and teaches how to identify equipment deficiencies which could hamper helmet or band mask performance and/or pose a potential hazard. The course teaches the KMDSI Monthly, and Daily helmet and band mask pre/post dive maintenance, set-up, adjustment, and inspection procedures for Kirby Morgan helmets, band masks and associated equipment. Upon completion, each student will receive a two-year certification. **The course does not qualify or certify the individual to perform repairs, overhauls, or do face port insert testing.** Depending on the experience level and or the number of persons being instructed, the course generally requires about 4-6 hours of instruction. Certification as a KMDSI Operator/User is valid for two years on initial certification, and three years upon re-certification. The operator user is considered the minimum level of technical training for anyone using the helmet or performing duties as a tender/supervisor when KMDSI helmets and masks are being used.

#### **Q - IF I TAKE THE KMDSI TECHNICIAN COURSE CAN I WORK ON OTHER PEOPLES EQUIPMENT FOR PROFIT?**

**A - NO!** Non-dealer technicians can work on their own equipment, the company they work for equipment, and other divers' equipment within the company providing this does not go against the companies policy. **Only KMDSI Dealer Technicians are authorized by KMDSI to perform repairs for profit.** KMDSI Dealers are bound by the KMDSI dealer agreement to perform work on KMDSI products strictly IAW the requirements set

forth by KMDSI. Dealers performing repairs and maintenance must only use genuine Kirby Morgan parts and must perform all work IAW dealer technician requirements. Non dealer technicians must limit repairs to their own equipment, company owned equipment, and equipment belonging to company/affiliate companies and employees as dictated by company policy. Non-dealer technicians that perform repairs for profit do without the permission or support of KMDSI and Dive Lab. All KMDSI customers should be sure the technicians performing service on their equipment are trained and authorized by KMDSI. All the KMDSI dealers are listed on the KMDSI web page as well as what their qualifications are, and what equipment they are trained and authorized to service.

**Q - DO ALL THE DIVING SCHOOLS TEACH THE KMDSI OPERATOR/USER TRAINING?**

**A** – No, not all, but many of the major commercial diving schools in the United States, as well as Canada and overseas have integrated the Operator/User Course into their curriculum. This makes the graduating divers better prepared for the real world. Any school that is “using and teaching” KMDSI equipment, but not teaching the Operator/User Course to its students, is not teaching the equipment IAW the recommendations of the manufacturer (KMDSI) and these schools should re-evaluate their curriculum.

**WHERE CAN I GET MORE INFORMATION ON TRAINING?**

Check out the Dive Lab web page at [www.divelab.com](http://www.divelab.com) and click on training. Further information can be obtained by e-mailing [divelab@aol.com](mailto:divelab@aol.com) or calling Dive Lab at 850-235-2715

**Reminder:** Please don't hesitate to call or e-mail technical questions or problems. It is important to include e-mails (CC) to KMDSI as well. KMDSI is interested in any and all comments, problems and anything that can make it better for the user/maintainer.

Dive Safe  
From Everyone at Dive Lab