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*Complete Support & Testing of Underwater Diving Equipment*

**FREQUENTLY ASKED QUESTIONS ON KMDSI HELMET AND BAND MASK  
MAINTENANCE AND EQUIPMENT**

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Mike Ward

**WHO CAN WORK ON KMDSI HELMETS AND BAND MASKS?**

The owner of the equipment can perform all maintenance and repairs as stated in KMDSI Operations and Maintenance Manuals.

**IS THE OWNER OF THE HELMET OR MASK REQUIRED TO BE TRAINED /  
CERTIFIED TO PERFORM REPAIRS?**

No, although strongly recommended by KMDSI, there is no law in the United States requiring that certified technicians perform repairs. However, other countries have laws that govern repair and maintenance. In the U.S. the commercial diving industry tends to self regulate through recognized industry standards. Many diving contract companies, as well as the diving companies customers are requiring proof of diver worn equipment maintenance. In addition, they often require proof that repairs and maintenance performed is done so by qualified technicians. KMDSI **strongly** recommends that persons performing maintenance and repairs receive proper training.

**SHOULD THE OWNER/ USER PERFORM HIS OR HER OWN DAILY /  
MONTHLY INSPECTIONS.**

Absolutely! All users of KMDSI **must** know how to perform the daily and monthly maintenance in order to dive and use the equipment safely. The new KMDSI Checklists were derived from what has always been in the operation manuals. Some of the information has been expanded to further educate users and raise the level of awareness thereby improving diver safety. The checklist A2.1 should be performed anytime the monthly inspection reveals indications of damage or deterioration of components, or whenever the equipment has been exposed to extreme environments, harsh or caustic waters containing strong chemicals.

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## **HOW OFTEN MUST THE APPENDIX A2.1 BE PERFORMED?**

The A2.1 **must** also be completed at least every 12 months, or whenever daily and monthly checks reveal the need. Additionally, each owner, maintainer or user must make the determination using his or her knowledge, training and experience. (Equipment used in relatively clean waters may only require the A2.1 inspection once a year. However, helmets used in extremely contaminated waters, i.e. sewage and oily waters could require the A2.1 five or more times a year. The A2.2 (monthly) should be performed by the owner/user and should be performed **at least once a month** or anytime daily inspections indicate possible damage or deterioration or components do not operate to an acceptable performance level. The monthly can be used make an assessment anytime to demonstrate the equipments suitability for use as long as the A2.1 has been performed within the past 12 months. The monthly can also be used by KMDSI dealers as a means of ensuring proper readiness providing the equipment has had the A2.1 completed within the past 12 months.

## **WHAT IS INVOLVED IN THE A2.1 INSPECTION?**

The helmet and mask is completely disassembled as called out in the procedure. All the face port inserts are tested and the side block and demand regulator components are disassembled, cleaned and inspected. **All** O-rings, exhaust valves require replacement. The A2.1 also calls out for a few other items such as inlet valve seat and diaphragm replacement. Any other components revealing signs of wear, deterioration, damage or non-conformance, as described in the applicable manual, **must** also be replaced. **In short, this means if the inspection reveals worn or damaged components, they MUST be replaced to ensure proper performance. The responsibility is with the owner/user.**

KMDSI strongly encourages all users of KMDSI helmets or band masks to attend the one-day Operator/User course, which teaches the daily and monthly checklist procedures. KMDSI **strongly recommends** that persons performing the A2.1 overhaul / inspection receive certified KMDSI technician training. All owners/users of KMDSI helmets or masks that elect to perform their own inspections and repairs should maintain a log that reflects the maintenance was performed in accordance with KMDSI maintenance policies. No log means no work by dealer technicians.

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

KMDSI dealers **must** perform all repairs in accordance with the most current KMDSI Checklists and Manuals. Dealers are not allowed to do overhauls or work that does not leave the helmet or mask fully operational. This means aftermarket head cushions, neckdams, valve knobs or any other non KMDSI components or parts. All persons

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trained as KMDSI Dealer Technicians, Field Technicians and/or Operator/Users are responsible for their actions. This means how they do maintenance repairs and inspections. KMDSI Dealer Technicians **must** turn away the helmet or mask if they feel maintenance logs or records have been falsified. Dealers **are not** to perform work on KMDSI Helmets or Masks that do not have a log with at least the information described on the KMDSI log page, Appendix 3. The owner can then either perform the A2.1 maintenance and make appropriate log entries, or have the dealer perform an A2.1 inspection and make the appropriate log entry.

These procedures are being put into effect to protect KMDSI Dealers, Technicians and Operator/Users, and the diver. In the past, dealers have performed inspections and functional checks without knowing when or who performed maintenance or repairs. Just because the helmet passed basic functional checks is not enough, there also needs to be a record of routine maintenance and overhaul. Functional checks must be used along with routine maintenance to help provide a good margin of safety. If owners that perform their own maintenance and repairs also require work or repairs to be performed by KMDSI dealers, the owner **must** supply the log showing that the required inspections have been performed, and what repairs have been made. **The log entries must be printed and signed.** The person signing the log is certifying that he or she has performed the maintenance in accordance with what KMDSI recommends in the manual and checklists. The person performing the maintenance / inspection or repair **is responsible** for performing the repair in accordance with the manufacturers recommendations as set forth in the Operations Manual and / or the appropriate KMDSI Checklist.

#### **CAN ANY OWNER / USER USE THE KMDSI CHECKLISTS IF THEY HAVE NOT HAD KMDSI TECHNICIAN OR OPERATOR/USER TRAINING.**

Yes. The KMDSI Helmet and Band Mask checklists were designed for all users of KMDSI Helmets or Band Masks regardless of whether they have attended Technician or Operator/User Training. Kirby Morgan **strongly recommends** that users receive training. All KMDSI Helmets and Band Masks must 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. There is no law that says the owner cannot work on his or her equipment. However, most companies and the customer of diving companies require maintenance records, and many are requiring proof of repair and maintenance training from the persons performing repairs.

#### **CAN INDIVIDUAL OWNERS OF KMDSI EQUIPMENT ATTEND KMDSI AUTHORIZED TECHNICIAN TRAINING?**

Yes. KMDSI offers training courses thru authorized facilities. For further information contact KMDSI at [www.kirbymorgan.com](http://www.kirbymorgan.com) Tel: 805-928-7772 or Dive Lab Inc,

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### **WHAT DOES THE TECHNICIAN COURSE TEACH?**

The two-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 how to conduct 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. Upon completion, each student will receive a three-year certification valid for the individual's own equipment and/or the company or affiliate company's equipment for which the individual works. Once certified as a Basic Helmet and Band Mask Technician, the technician is authorized to teach the KMDSI Operator/User Course using the curriculum guidelines set-up by KMDSI and Dive Lab Inc. Course certification is given by 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 trained persons within the industry. This training raises the level of awareness to the proper use and maintenance of KMDSI Helmets, Band Masks and associated equipment. It will also help safety in other areas as well.

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

Non-dealer technician can work on their own equipment, their companies' equipment, and other divers equipment within the company. Free-lancing as technician is **not allowed**. Only KMDSI Dealer Technicians can perform repairs for profit. All parts must be genuine Kirby Morgan parts purchased from an authorized KMDSI Dealer.

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

The course was primarily developed to teach trained commercial diving personnel standardized inspection, set-up, and operation procedures for the KMDSI SuperLite Helmets and Band Masks. The Operator/User course can be taught by any KMDSI Helmet and Band Mask Technician certified after October 2002. This course is intended to teach commercial divers and diving personnel standardized procedures for the use of KMDSI Helmets and Masks, "it 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 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

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certification. The course **does not** qualify or certify the individual to perform repairs, overhauls, or annual face port insert testing. Depending on the experience level and or the number of persons being instructed, the course generally requires about 4-7 hours of instruction. This course can be taught by KMDSI Technicians certified after October 2002, and taught by persons certified as KMDSI Helmet and Band Mask Technicians **Dive Lab or KMDSI**. Certification as a KMDSI Operator/User is valid for two years on initial certification, and three years upon on re-certification.

Most of the major commercial diving schools in the United States now teach the Operator/User course and all students that graduate have the Operator/User certification. This makes them a lot sharper and better prepared.

### **WHAT'S NEXT?**

All the KMDSI Manuals are being revised so that they work with the new checklists. There will be many changes in the future as the manuals and checklists evolve. In the future there will be standardized checklists and step by step instructions for all KMDSI products including the lightweight masks and diver control consoles. Currently, the Miller Manual is being revised and checklists and maintenance procedure are being written that will follow the same format as the SuperLite and KMB Band Masks. KMDSI is always looking for ways to make equipment safer. Everyone is responsible to make diving as safe as it can be. If the industry cannot self regulate, governments will step in and mandate change often at a cost in time and money much greater than self-regulation.

### **TO: ALL KMDSI CERTIFIED TECHNICIANS**

Thank you for your support. Here is a little update on what's going on with KMDSI training and what's new.

KMDSI has put together a comprehensive **Soft Good Overhaul Kits** that will have everything necessary for reassembly of the Helmets or Band Masks when doing the **Annual A2.1**. The kits give all the minimum mandatory replacement items and makes overhaul easier. The new **Soft Good Overhaul Kit** is basically a modified version of the standard O-ring kit. Some of the items that have been added include the Oral Nasal Valve, Regulator, Main Exhaust Valves, Regulator Diaphragm, Inlet Seat, Inlet Valve Locknut, and various other components that are called out in the A2.1 Checklist.

### **KMDSI continues working on revising the current Helmet and Band Mask Manuals. The first Manual to be revised is the SL-17A/B Manual.**

We are currently making minor changes to the Checklists, which will include some wording changes that help avoid confusion. KMDSI has removed the 400-hour time from the Annual Inspection. This change means the A2.1 should be completed at least once a year, and as dictated by the condition of the Helmet or Mask revealed during the Monthly

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Inspection A2.2 or Daily pre and post dive inspections. This change has been made as a result of feed back from technicians, inspectors, and users indicating that regimented Monthly and Daily Inspections will reveal the need for corrective maintenance more accurately than an hour limit.

Helmets and Masks that are used in clean fresh waters and properly maintained may only need the Annual Inspection once a year while Helmets used around the clock or under severe conditions may require the A2.1 at least two or more times a year. Identifying the periodicity/frequency of the A2.1 can best be determined by the maintainer or as set by in house company policy. Users or companies desiring to stay with the hour duration between overhauls can do so and reflect the periodicity in their Helmet or Mask Log.

Keep in mind that the Manuals have always called out that Helmets and Band Masks must be inspected/overhauled at least once a year. The Annual Inspection requires assembly of all major components as outlined in the A2.1 procedure. After all components have been cleaned and inspected, they are reassembled using new O-rings, Washers, Flapper Valves, and whatever else is called out in the A2.1 Annual.

If the inspection reveals damaged, worn, or questionable components, those components must be repaired and/or replaced. Fiberglass damage as well as bad Inserts must be repaired. Each Helmet and Band Mask has an Annual Kit or will share a kit with other Helmets or Masks. KMDSI is assigning kit part numbers and will be contacting the dealers soon and placing the information on the KMDSI Web Site.

Whenever changes are done to the Checklists, we will e-mail them to everyone. Keep in mind the new training and maintenance system is still growing and things continue to get smoother as time goes on.

We will keep everyone posted on changes. Please don't hesitate to call or e-mail if you have any questions.

Best Regard's  
Mike Ward