

**KMB 18/28 (BANDMASK)  
MONTHLY MASK INSPECTION  
APPENDIX A2.2  
7-12-06**

This inspection is the minimum recommended maintenance and **should be** performed at least **ONCE A MONTH** with Mask(s) in continuous use (used for more than 20 diving days in a month) or at least every **TWO (2) MONTHS**, with Mask(s) used less than 10 diving days a month.

**NOTE:** Mask(s) being used in polluted waters, or extreme environments, will require more frequent inspection.

**NOTE:** During removal of components for inspection, O-rings and other consumable items may be reused, providing they are clean and a visual inspection does not reveal any damage or deterioration.

**NOTE:** Perform the Side Block/Demand Regulator inspection procedures with gas supplies not connected to the Side Block. Attach the gas supply at Step 5 of the “Side Block/Demand Regulator” inspection procedure.

|                                   |
|-----------------------------------|
| Date:                             |
| Mask Serial #:                    |
| Associated Equipment Serial #(s): |
| Technician (print name):          |

| <b>PROCEDURES</b>  | <b>INITIALS</b> |
|--|-----------------|
| <b>HOOD ASSEMBLY</b>   |                 |
| 1. Remove the Earphones from their pockets in the Hood. Remove the Hood (2) from the Mask. Perform a visual inspection of all components. Guidance O & M Manual. |                 |
| <b>PROCEDURES</b>  |                 |
| 2. Visually inspect all metal parts of the Band Assembly, including the Band Screws, for damage. Replace if necessary. Guidance O                                |                 |

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| & M Manual.  |  |
| 3. Visually inspect the Hood for signs of damage and/or deterioration. Guidance O & M Manual.  |  |
| 4. Check the Head Harness (Spider) (1) for signs of tearing, deterioration, and/or damage. Ensure all five legs of the Spider are present. Guidance O & M Manual.  |  |
| <b>MASK ASSEMBLY</b>   |  |
| 1. Visually inspect the Mask exterior for loose and/or missing fasteners and obvious signs of fiberglass damage; including cracks, gouges or depressions.  |  |
| <b>NOTE:</b> On the KMB-18, any gouges in the fiberglass shell deeper than 1/16” should be repaired. Fiberglass and gel coat repairs <b>MUST</b> be completed by a technician that has received certification for Helmet Shell repairs by KMDSI or Dive Lab, Inc. Any cracks or depressions with fractures must be checked by an Authorized KMDSI Repair Facility.   |  |
| 2. Remove the Covers from the Earphones. Remove Microphone from Oral Nasal Mask. Inspect and repair/replace as necessary. Perform a communications check. Guidance O & M Manual.   |  |
| <b>CAUTION:</b> The Nose Block device <b>MUST</b> be replaced when installing a new Oral Nasal Mask. Stretching the Oral Nasal Mask over the Nose Block Device can cause the Oral Nasal Mask to tear.  |  |
| 3. Remove the Nose Clearing Device (34, 33, 3) and Oral Nasal Mask (9). Remove the Oral Nasal Valve as an assembly (4, 5). Clean the Valve and the Valve Body as an assembly. Clean the Oral Nasal Mask. Inspect Mask and Valve Assembly for damage and/or deterioration. Replace the Oral Nasal Mask if any damage is found. Replace the Oral Nasal Valve if it appears dried, stiff, and/or does not lay flat. Clean and inspect the Nose Clearing Pad, Shaft and O-rings for wear. Replace the Pad if deteriorated or damaged. Replace O-rings if worn. Lightly lubricate the Shaft O-rings and Shaft, then reinstall. Reinstall Oral Nasal Mask and Valve Assembly. Guidance O & M Manual. |  |

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| <b>PROCEDURES</b>  |  |
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| 4. Remove the Comfort Insert (14) [KMB 18 only]. Clean and inspect the Comfort Insert for damage and/or deterioration. Mark N/A for KMB28  |  |
| 5. Without air to the Side Block, check the operation of the Defogger and Auxiliary Supply Valve (EGS). If the Valves do not operate smoothly, they must be overhauled or replaced. Guidance O & M Manual.   |  |
| 6. Remove the Main Exhaust Valve Cover (65). Inspect the Main Exhaust/Dewatering Valve (66) and Seat for damage and/or contamination. Ensure the Valve material is not hardened, distorted, and/or warped. Replace the Valve if questionable. Reinstall the Cover.   |  |
| <b>SIDE BLOCK/DEMAND REGULATOR</b>   |  |
| 1. Check the Umbilical Supply One-Way Valve for proper operation by sucking on the Umbilical Adapter with the Emergency Valve open. No gas should be drawn thru the One-Way Valve.   |  |
| 2. Remove the Regulator Cover Clamp, Cover, and Diaphragm. Visually inspect the interior of the Regulator Body for corrosion and/or contamination. Clean as necessary. Guidance O & M Manual.  |  |
| 3. Carefully inspect the Diaphragm for cuts, tears, and deterioration. If any damage is found, replace the Diaphragm.  |  |
| 4. Carefully check the Regulator Exhaust Valve (62) for warping, distortion, stiffness, and/or damage. This is checked by pressing on the Flapper Valve from inside the Regulator. Check the Regulator Body Valve Seat Spokes. The Spokes should be flat and even. Straighten if deformed. If the Valve shows signs of damage and/or deterioration, replace the Valve. Guidance O & M Manual.  |  |
| 5. Attach an air supply source to the Umbilical Adapter and set the supply pressure to between 135 - 150 psig (9.3 – 10.3 bar). Adjust the Regulator Adjustment Knob out, until a slight free flow develops, then adjust in until the free flow just stops and check the Lever play. There should be between 1/16” - 1/8” of play in the Lever. Adjust as necessary. Reinstall the Diaphragm, the Cover, and the Clamp. Guidance O & M Manual. |  |

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| <b>PROCEDURES</b>  |  |
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| 6. Depress the Purge Button. The Button should travel 1/16” – 1/8” before gas starts to flow and a strong purge should be felt when the Button is fully depressed. If the Regulator Purge travel is less than 1/16” or greater than 1/8”, readjust the Lever. Guidance O & M Manual.   |  |
| 7. Check the Steady Flow Valve for proper operation.   |  |
| <b>NOTE:</b> The Steady Flow Valve will rotate approximately two complete revolutions from closed to full open. With the air pressure to the Mask between 135 - 150 psig (9.3 - 10.3 bar), turning the Steady Flow Valve one full rotation should result in a strong flow of gas through the Defogger Train.   |  |
| 8. Secure the gas supply, then bleed down and remove the gas supply from the Inlet Adapter.  |  |
| 9. Attach a regulated gas supply (normally the EGS system), adjusted to between 135 – 150 psig (9.3 – 10.3 bar), to the Emergency Valve on the Side Block. On the Side Block, open the Emergency Supply Valve all the way, and then slowly open the regulated gas supply. Check the function of the Regulator Purge, Regulator Adjustment Knob, and the Steady Flow Valve in accordance with previous steps 6 and 7. Check for gas exiting from the One-Way Valve. There should be no gas exiting the Umbilical Adapter. |  |

## **IMPORTANT NOTES ON REGULATOR ADJUSTMENT**

- If a new Inlet Valve or Soft Seat is installed, allow the Regulator to sit for 24 hours with the Adjustment Knob turned all the way in (clockwise) before adjusting. This will allow the rubber in the Inlet Valve Stem to set against the Inlet Nipple. If the Regulator is to be used immediately, be aware that the Rubber Seat will take a set, changing the Regulators adjustment and performance. This requires a readjustment of the Regulator after the first day of use.
- Normally, if the Regulator leaks breathing gas, the Regulator Adjustment Nut is too tight and must be loosened until the lever has 1/16<sup>th</sup> - 1/8<sup>th</sup> of an inch of freedom at the end.
- If the Regulator continues to leak after proper adjustment has been made, ensure a correct supply pressure of 135 - 150 psig (9.3 – 10.3 bar). Both the Inlet Valve Soft Seat and/or the Inlet Nipple must be inspected for damage. Generally, if the Inlet Nipple has missing chrome or a bent/damaged knife-edge it will damage the

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Soft Seat and will not make a proper seal. Best practice is to replace the Inlet Nipple and the Soft Seat.

| <b>PROCEDURES</b>   | <b>INITIALS</b> |
|---|-----------------|
| <b>EMERGENCY GAS SUPPLY (EGS)</b>   |                 |
| <b>NOTE:</b> The Emergency Gas System consists of a good quality First Stage Regulator equipped with a submersible pressure gauge, an Over Pressure Bleed/Relief Valve, and an Emergency Gas Supply Hose that connects to the Emergency Valve on the Mask Side Block.                                     |                 |
| 1. Check the hydrostatic date and last visual inspection record (“VIP”) of the cylinder. Ensure date(s) are within the specified range. The VIP is done at least annually and the hydrostatic test is done at least every five years.   |                 |
| 2. Check the maintenance record of the EGS components to ensure the First Stage Regulator’s maintenance has been performed in accordance with the manufacturer’s recommendations.   |                 |
| 3. Check all Hoses for signs of blisters, cover slippage, cuts, and/or abrasions. Replace any Hose(s) that show signs of leakage/damage. If a Quick Connect EGS hose is being used, inspect quick connect and fittings for signs of wear/damage.  |                 |
| 4. If a submersible pressure gauge is used, ensure it has been compared to a gauge of known accuracy.   |                 |
| 5. Test the First Stage Bleed/Relief Valve. Guidance per “Appendix 4: Bleed/Relief Valve Cleaning, Inspection, and Overhaul Procedures”.  |                 |
| 6. Log the lifting pressure _____ psig.   |                 |
| <b>NOTE:</b> An adjustable First Stage Regulator and a Gas Cylinder with a minimum of 500 psig (34.5 bar) available are required for this step.   |                 |
| <b>NOTE:</b> The Bleed/Relief Valve should be adjusted to start relieving between 180 - 200 psig (12.4 – 13.8 bar) when tested.   |                 |
| 7. Check the over-bottom setting of the First Stage Regulator to ensure it is within the manufacturer’s specified pressure range. For KMDSI Helmets and Masks, the minimum over-bottom for the emergency supply is 135 psig (9.3 bar) and the maximum 165 psig (11.4 bar). Log the intermediate pressure. |                 |

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| 8. Perform a leak check of all EGS components and fittings using soapy water in a pressurized condition. Repair/replace items as necessary. |  |
| 9. Inspect the Harness Assembly for signs of wear and/or damage. Repair/replace as necessary.   |  |

Technician Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Comments: \_\_\_\_\_

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KMDSI **highly** recommends that a certified KMDSI Repair Technician make all repairs and that only genuine KMDSI repair and replacement parts be used. Owners of KMDSI products that elect to do their own repairs and inspections should only do so if they possess the knowledge and experience. All inspections, maintenance, and repairs should be completed using the appropriate KMDSI Operations and Maintenance Manual(s). Persons performing repairs should retain all replacement component receipts for additional proof of maintenance history. Should any questions on procedures, components, or repairs arise, please contact Kirby Morgan Dive Systems, Inc., by telephone at (805) 928-7772 or via e-mail at [info@kirbymorgan.com](mailto:info@kirbymorgan.com), or contact Dive Lab, Inc., by telephone at (850) 235-2715 or via e-mail at [divelab@aol.com](mailto:divelab@aol.com).

**NOTE:** The Maintenance Log, Appendix 3, of the Operations and Maintenance Manual may be used as a template for creating blank pages to record all the maintenance performed.