

Kirby Morgan® KMB 18/28 BandMask®

A2.2 Monthly Inspection And Maintenance Checklist

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.

This checklist is intended to aid persons performing routine maintenance and inspections of the KMB 18/28 Band Masks. This checklist should be used in conjunction with the Modular Operations and Maintenance Manual for the Band Mask model being serviced, and is primarily intended to be used as a guide and to document the maintenance as it is completed. Specific detailed procedures for each section of this checklist can be found in the Modular Operations and Maintenance Manuals. This checklist when completed should be retained in the equipment maintenance files. This checklist is generic in nature and is intended to be used for all models of KMDSI Band Masks.

**NOTE**

Mask(s) being used in 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 Number _____

Associated Equipment Serial #(s): _____

Technician (*print name*): _____

1. Hood Assembly

DIVER/TENDER - CHECK THE FOLLOWING:

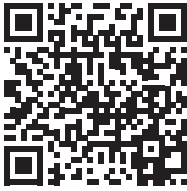
Procedures	Initials
1) Remove Head Harness (Spider) and inspect for signs of tearing, deterioration, and/or damage. Ensure all five legs of the Head Harness are present. GUIDANCE: BandMask Hood, Face Seal, Band Keepers and Head Harness (HBNK)	
2) Remove the Earphones from their pockets in the Hood. Remove the Hood from the Mask. Perform a visual inspection of all components. GUIDANCE: BandMask Hood, Face Seal, Band Keepers and Head Harness (HBNK)	
3) Visually inspect the Hood for signs of damage and/or deterioration. Make sure the earphone pockets have no cuts tears or punctures. They must be sealed to prevent possible regulator free flow issues. GUIDANCE: BandMask Hood, Face Seal, Band Keepers and Head Harness (HBNK)	
4) Visually inspect all metal parts of the Band Assembly, Band Keeper, components, including the Band Screws, for damage. Replace if necessary. GUIDANCE: BandMask Hood, Face Seal, Band Keepers and Head Harness (HBNK)	

2. Mask Assembly

DIVER/TENDER - CHECK THE FOLLOWING:

Procedures	Initials
1) Visually inspect the Mask exterior for loose and/or missing fasteners and obvious signs of fiberglass (KMB 18) or thermoplastic (KMB 28) damage; including cracks, gouges or depressions.  NOTE KMB 18 Fiberglass Mask Frames Only: Any gouges into the gelcoat that goes thru the gel coat and into the fiberglass should be repaired as soon as possible by a KMDSI Dealer Technician that has received certification for fiberglass shell repairs by KMDSI or Dive Lab, Inc. Only an Authorized KMDSI Repair Facility should repair any cracks, depressions and/or fractures.	

Procedures	Initials
2) Remove the Covers and Protectors from the Earphones. Remove Microphone from Oral Nasal Mask. Inspect and repair or replace as necessary. Perform a complete communications check. GUIDANCE: Communications on SuperLite® 17B and 17C Helmets, KMB 18 and 28 BandMasks® (17COM)	
3) Remove the Nose Clearing Device. Clean and inspect the Nose Clearing Pad, Shaft and O-rings. If O-rings show signs of damage replace. GUIDANCE: Oral Nasal Mask (ON) and Face Port, Port Retainer and Nose Block (FCPRT)	
4) Remove the Oral Nasal Mask and Oral Nasal Valve as an assembly. Clean and inspect Mask and Valve Assembly for damage. Replace the Oral Nasal Mask if any damage is found. Replace the Valve if it appears dried, stiff, and/or does not lay flat or if parts show sign of damage. Reinstall Valve Assembly into Oral Nasal Mask. GUIDANCE: Oral Nasal Mask (ON) and Face Port, Port Retainer and Nose Block (FCPRT)	
5) Remove the Comfort Insert [KMB 18 only]. Clean and inspect the Comfort Insert and its fasteners for damage and/or deterioration. Mark N/A for KMB 18 or 28 with a molded face seal. Reinstall.	
6) 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 O-rings and Shaft. GUIDANCE: Face Port, Port Retainer and Nose Block (FCPRT)	
7) Reinstall Oral Nasal Mask with Valve Assembly back onto Regulator Mount Nut. GUIDANCE: Oral Nasal Mask (ON)	

8) Reinstall Nose Clearing Device, Comfort Insert [KMB 18 ONLY], and Hood with Retainer Band, Band Keepers and Head Harness. GUIDANCE: Oral Nasal Mask (ON), Face Port, Port Retainer and Nose Block (FCPRT) and BandMask Hood, Face Seal, Band Keepers and Head Harness (HBNK) https://www.youtube.com/watch?v=sloPVO7NaQ	
9) Without air to the Side Block, check the operation of the Defogger/Steady Flow Valve and EGS Valve. If the Valves do not operate smoothly, they must be overhauled or replaced. GUIDANCE: Brass/Chromed Brass Side Block (SB)	
10) Remove the Cover, Water Dump. Inspect the Main Exhaust/Dewatering Valve 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. GUIDANCE: BandMask Tri-Valve Exhaust (BTRI)	

3. Side Block/Demand Regulator

DIVER/TENDER - CHECK THE FOLLOWING:

Procedures	Initials
1) Inspect and replace the bent tube if it is excessively scratched, dented, or compressed deeper than 1/8" (3.18 mm). Check for erosion of the metal and severe corrosion. Replace if any erosion is present or integrity is in question. The bent tube is a critical component that routes breathing gas to the regulator system.	
2) Remove the EGS knob and inspect the exterior surfaces of the shaft and packing nut for obvious signs of corrosion and damage. Replace and repair as necessary. GUIDANCE: Brass/Chromed Brass Side Block (SB)	

Procedures	Initials
3) Remove the Steady Flow Knob and inspect the exterior surfaces of the shaft and bonnet nut for obvious signs of corrosion and damage. Replace and repair as necessary. GUIDANCE: Brass/Chromed Brass Side Block (SB)	
4) Check the Umbilical Supply One-Way Valve for proper operation by sucking on the Umbilical Adapter with the Emergency Valve or steady flow valve open. No gas should be drawn through the One-Way Valve. GUIDANCE: One Way Valve (OWV)	
5) Remove the Regulator Cover Clamp, Cover, and Diaphragm for the SuperFlow®/ SuperFlow® 350 and Regulator Cover/Retainer Assembly and Diaphragm for the 455 Balanced Regulator. Visually inspect the interior of the Regulator Body for corrosion and/or contamination. Clean as necessary. GUIDANCE: 455 Balanced Regulator (455BAL) or SuperFlow® 350 Regulator (SF350) As a general guideline dents in the regulator cover should not exceed 1/8"/3.2 mm. Additional guidance on when a SuperFlow®/SuperFlow® 350 regulator cover may need to be replaced: • Sharp dents may require cover replacement even if they do not exceed 1/8"/3.2 mm • Dents that deform the regulator cover slots. These slots are critical for proper regulator function. • Dents next to the purge button which prevent smooth operation of the button • Old regulator covers that appear rippled and thin from long term use. • If there's any doubt about the integrity of the cover it should be replaced.	
6) Carefully inspect the Diaphragm for cuts, tears, and/or deterioration. If any damage is found, replace the Diaphragm. Reinstall Diaphragm and Regulator Cover. GUIDANCE: 455 Balanced Regulator (455BAL) or SuperFlow® 350 Regulator (SF350)	

Procedures	Initials
7) Carefully check the Regulator Exhaust Valve 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: 455 Balanced Regulator (455BAL) or SuperFlow® 350 Regulator (SF350)	
8) Attach an air supply source to the Umbilical Adapter and set the supply pressure between 135-150 psig (10-11 bar). Turn the Regulator Adjustment Knob out, until a slight free flow develops, then turn in until the free flow just stops and check the lever play. Depending on regulator model, there should be between 1/16"–1/4" (1.5-6 mm) of play in the Lever. Adjust as necessary. GUIDANCE: 455 Balanced Regulator (455BAL) or SuperFlow® 350 Regulator (SF350)	
9) Install Diaphragm and regulator cover. Depress the purge button. With all regulators depressing the purge more than a 1/4" (6 mm) should result in a strong flow of gas. If the regulator purge travel is less than or greater than amount specified, re-adjust the lever. GUIDANCE: 455 Balanced Regulator (455BAL) or SuperFlow® 350 Regulator (SF350)	
10) Check the Steady Flow Valve for proper operation.  NOTE The Defogger/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 (10-11 bar), turning the Defogger/Steady Flow Valve one full rotation should result in a strong flow of gas through the Defogger Train.	
11) Attach a regulated gas supply (normally the EGS system), adjusted to between 135-150 psig (10-11 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 Defogger/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.	
12) Turn off the gas supply, then bleed down and remove the gas supply from the Umbilical Adapter.	

4. Emergency Gas Supply (EGS)



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.

DIVER/TENDER - CHECK THE FOLLOWING:

Procedures	Initials
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.  Visually inspect parts for corrosion. Look for discoloration, pitting and micro cracks. These conditions could result in a part failure. Corrosion pitting may have deep cavities that are not visible. If there’s any doubt about the integrity of the part it should be replaced.	
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.  Visually inspect parts for corrosion. Look for discoloration, pitting and micro cracks. These conditions could result in a part failure. Corrosion pitting may have deep cavities that are not visible. If there’s any doubt about the integrity of the part it should be replaced.	
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) Check the Submersible Pressure Gauge, ensure it has been compared to a gauge of known accuracy and inspect the HP hose for signs of corrosion and damage. Replace the hose if any damage is found.	
5) Test the Bleed/Relief Valve and confirm relief is between 180–200 psig (12–14 bar) when tested. GUIDANCE: Bleed Relief Valve Appendix found on the Kirby Morgan website under Support > Checklists > Misc. Appendices	

Procedures	Initials
6) Log the lifting pressure _____ psig.  NOTE An adjustable First Stage Regulator and a Gas Cylinder with a minimum of 500 psig (35 bar) available are required for this step.  NOTE The Bleed/Relief Valve should be adjusted to start relieve between 180-200 psig (12-14 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 bar) and the maximum 165 psig (11 bar). Log the intermediate pressure.	
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.	

Recorded service in helmet maintenance log book? ☐ Yes ☐ No



I _____ hereby certify that I have performed the work required in the A2.2 and that **I AM** a certified KMDSI / Dive Lab technician.

Print Name: _____

Signature: _____ Date: _____

ID #: _____ Date of Certification: _____



I _____ hereby declare that I have performed the work required in the A2.2 and **I AM NOT** a certified KMDSI/Dive Lab technician.

Technician/Owner Print Name: _____

Signature: _____ Date: _____

Comments: _____

KMDSI strongly 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 user guide and 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 kmdsi@kirbymorgan.com, or contact Dive Lab, Inc., by telephone at (850) 235-2715 or via e-mail at divelab@divelab.com.



The Maintenance Log, Appendix 3, found in the Misc. Appendices checklists on the Kirby Morgan website, may be used as a template to create blank pages to record all the maintenance performed.