All Models of KMDSI Helmets

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KIRBY MORGAN DIVE SYSTEMS INCORPORATED
MAINTENANCE AND REPAIR
TECHNICIAN TRAINING

- Only selected Dive Lab trained Technicians are authorized to teach the Technicians Course
- Only Dive Lab authorized Technicians may teach the KMDSI Operator/User Course
- Course curriculum must be presented within the guidelines set-up in the repair technician's guide and slide show

- This presentation is available at no charge from www.divelab.com for the use of Kirby Morgan Customers & users of Kirby Morgan Diving Equipment ONLY
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All Models of KMDSI Helmets

- Visually inspect helmet shell exterior for loose or missing fasteners, Fiberglass & Stainless Steel helmets

- Inspect Stainless Steel helmets for staining or surface rust (clean in accordance manual

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All Models of KMDSI Helmets

Inspect for:

- Obvious signs of fiberglass damage; including cracks, gouges, and or depressions

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- Fiberglass and gel coat repairs must be completed by a technician that has received certification for Helmet Shell repairs by KMDSI or Dive Lab, Inc.

- Any gouges deeper than 1/16” (1.5mm) should be repaired

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All Models of KMDSI Helmets

- Remove Helmet Liner, inspect liner fabric for tears, broken snaps and chin strap damage (17A/B)

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- Inspect the Head and Chin foam for signs of crumbling/rotting

- Replace if required, Guidance O & M Manual

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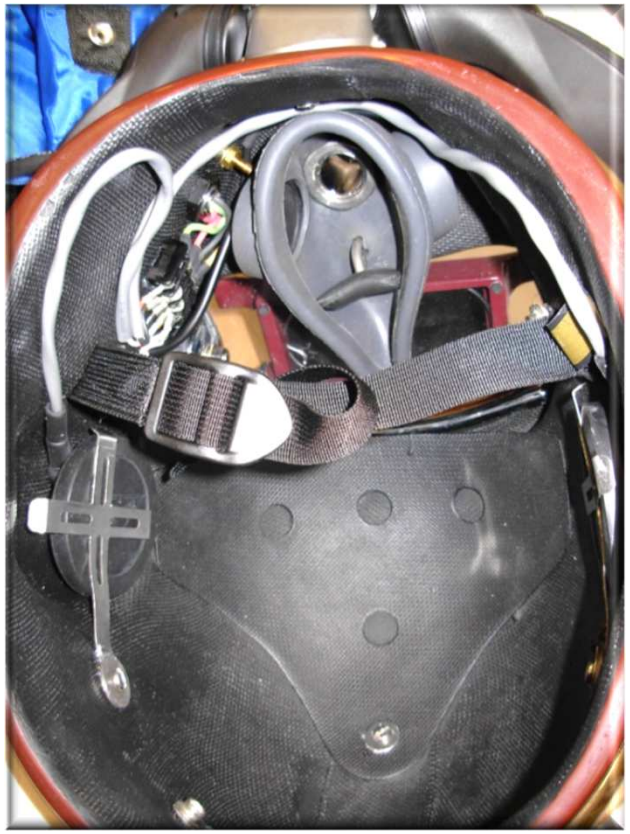
All Models of KMDSI Helmets

- Always use the Chin Strap and Snaps in the helmets
- **All Helmets** must have a serviceable chin strap regardless of age

SL17A/B



SL 17C, K, 27, 37/SS, 47, 57, 77, 97

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All Models of KMDSI Helmets

- Important to have a properly fitted Head Liner
- Replace Foam when worn, in order to maintain a proper “snug” fit, so that a good Oral Nasal seal is obtained

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- A poor seal can result in CO_2 build-up, (When the divers head turns, the helmet should follow)

- Foam can be custom cut to accommodate different size heads

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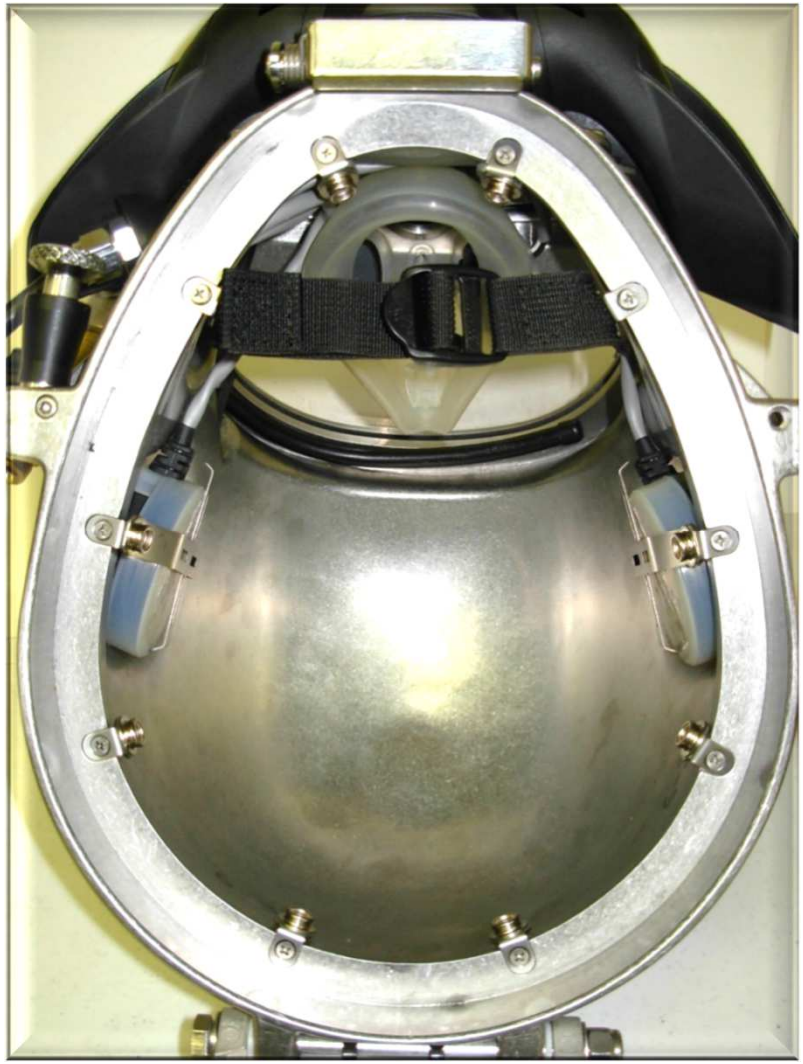
All Models of KMDSI Helmets

- Ensure all snaps are in good condition, operable and all are used



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All Models of KMDSI Helmets

The main causes of CO_2 build up in any Demand Mode Helmet:

- Poor Oral Nasal Mask seal
- High breathing resistance resulting from improper regulator adjustment
- Diving beyond the performance capability of the equipment or the system supporting the equipment

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All Models of KMDSI Helmets

- Remove Earphones from their holders, remove the covers from the Earphones, inspect for corrosion and damage
- Clean repair or replace as necessary
- Remove the Microphone from the Oral Nasal Mask, remove the Cover from the Microphone and inspect
- Check wire connections, solder joints, they should be solid and no corrosion

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All Models of KMDSI Helmets

- If the Mylar is torn or loose, the speaker should be replaced
- The speakers are chrome plated to resist corrosion
- Mylar speakers last longer than cardboard type
- Guidance O&M Manual

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Top Ten Reasons Communication systems Fail

- Corrosion
- Mismatched components
- Short circuit
- Communication posts
- Crossed wire connection
- Communication box
- Umbilical comm wire
- Broken wires/Strands
- Flooded connections
- Solder joints

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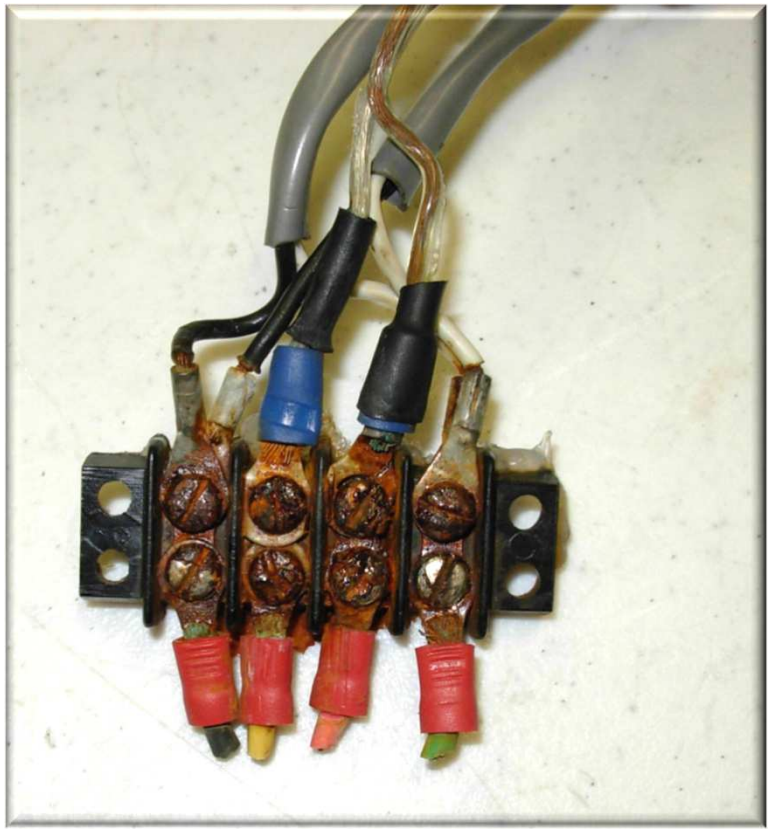
#1 Reason
Communication systems Fail

Corrosion



All Models of KMDSI Helmets

- Remove the Nose-Clearing Device, clean and inspect the Nose-Clearing Pad, and Shaft

- Guidance O&M Manual

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- Shape of device may be altered to fit by adding padding and or bending the V plate
- Check for worn O-rings

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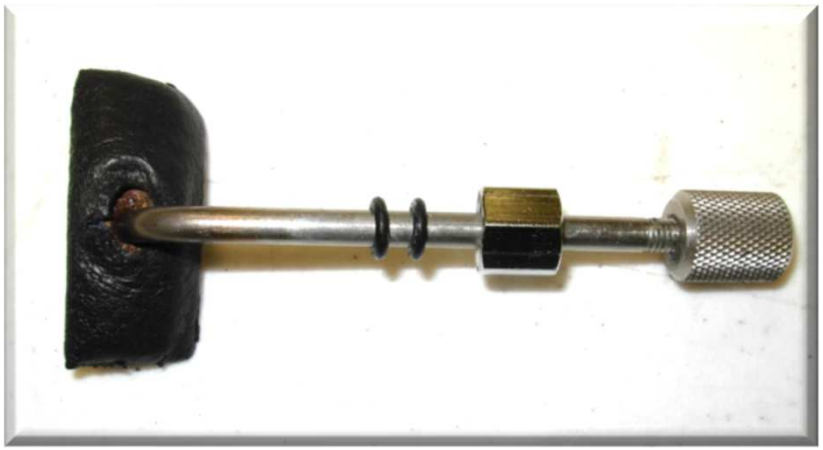
Lightly lubricate o-rings

Complete assembly



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All Models of KMDSI Helmets

- Remove Oral Nasal Mask as an assembly, clean the Valve and the Valve Body as an assembly

- Clean the Oral Nasal Mask

- Inspect mask and valve assembly for damage and deterioration

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Oral Nasal Mask

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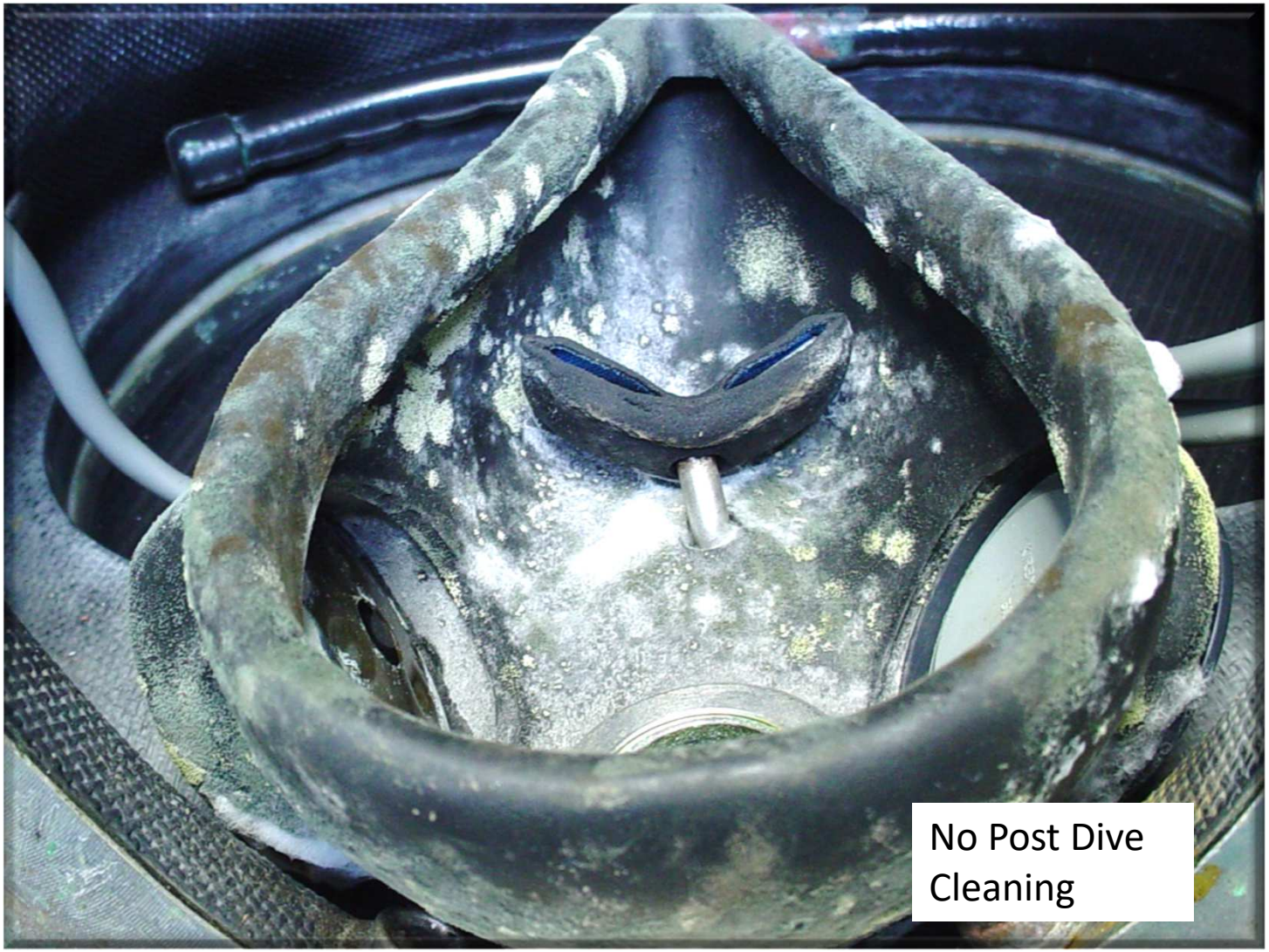
Oral Nasal Mask



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- Replace mask if any damage is found
- Replace the Oral Nasal Valve, if Valve appears dried or stiff or does not lay flat
- Clean and inspect the Nose Clearing Pad, Shaft, and O-rings for wear

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- Reinstall Oral Nasal Mask and Valve Assembly

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- Dangers regarding improper fit or no use of Oral-Nasal
- Installation of Oral-Nasal Valve and reasons why the Valve opens into the Mask
- Types of wear and damage the Valve may have

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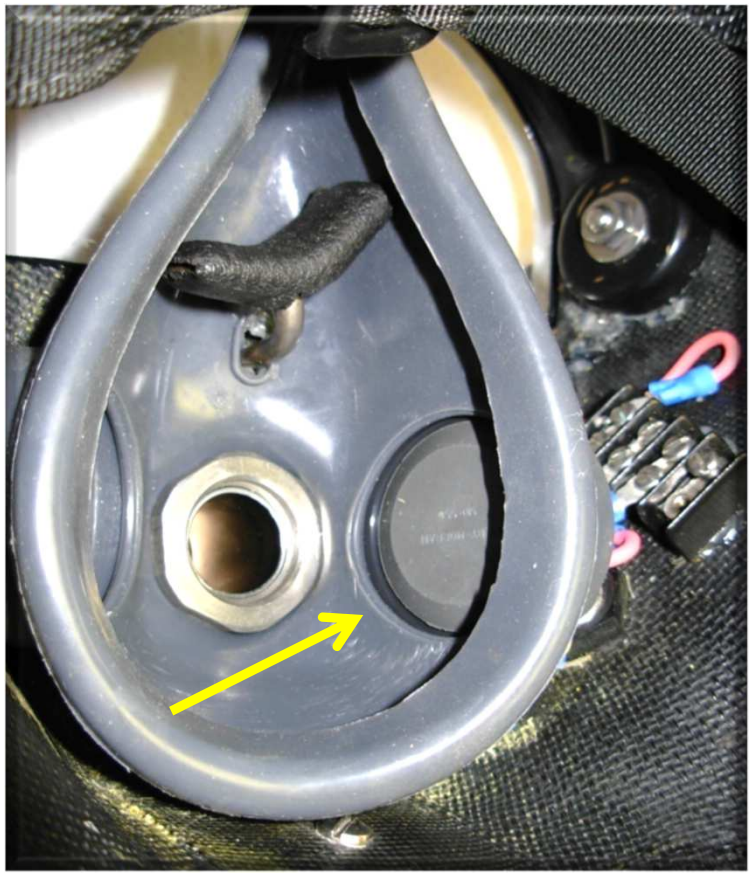
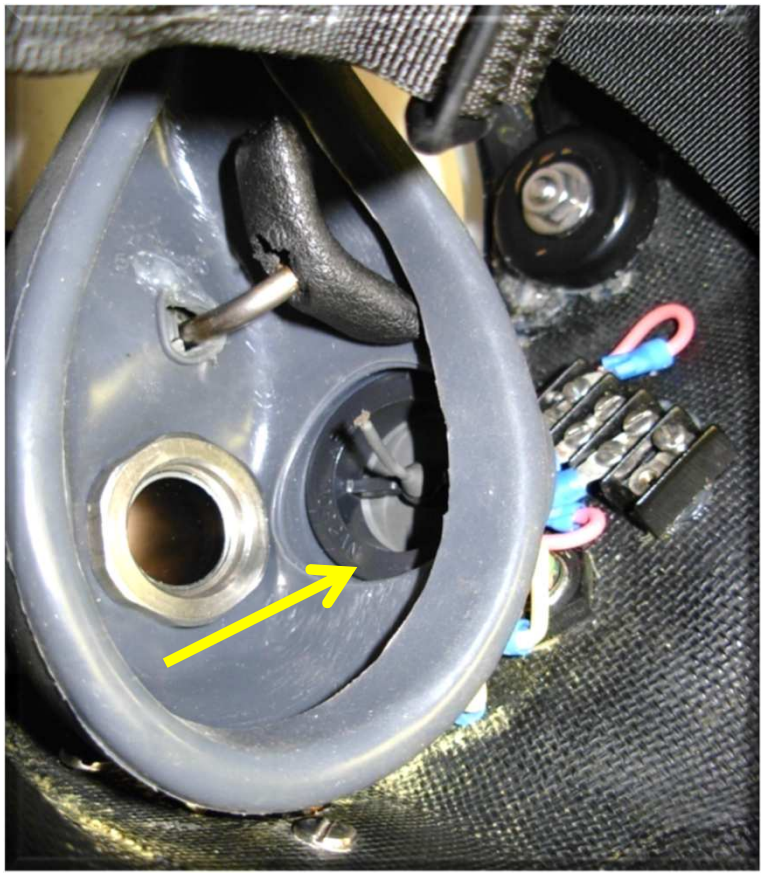
Oral/Nasal Valve



Correct valve installation



Incorrect valve installation

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All Models of KMDSI Helmets

- Without air to the Helmet, check the operation of the defogger and auxiliary gas (EGS) Valve

- If Valves do not operate smooth and easy, the valves should be serviced or overhauled by an authorized KMDSI Technician

- Guidance O&M Manuals

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All Models of KMDSI Helmets

- Valves often get neglected and the Knob(s) get worn or damaged from “Gorilla Griping”
- Valve stems will bend
- Replace if damaged

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All Models of KMDSI Helmets

- Check the rotational play of the Emergency and Steady Flow Valves

- Flats in the Knobs and the flats on the Stem get worn when the Valves become hard to turn, due to lack of service

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All Models of KMDSI Helmets

- Once a month remove Main Exhaust Water Dump Valve Cover, on the SL-17A/B, K, C, KM37, 57 Helmets

- Cover is held in place by two screws remove the Cover, clean and inspect the Flapper Valve and Seating Surface

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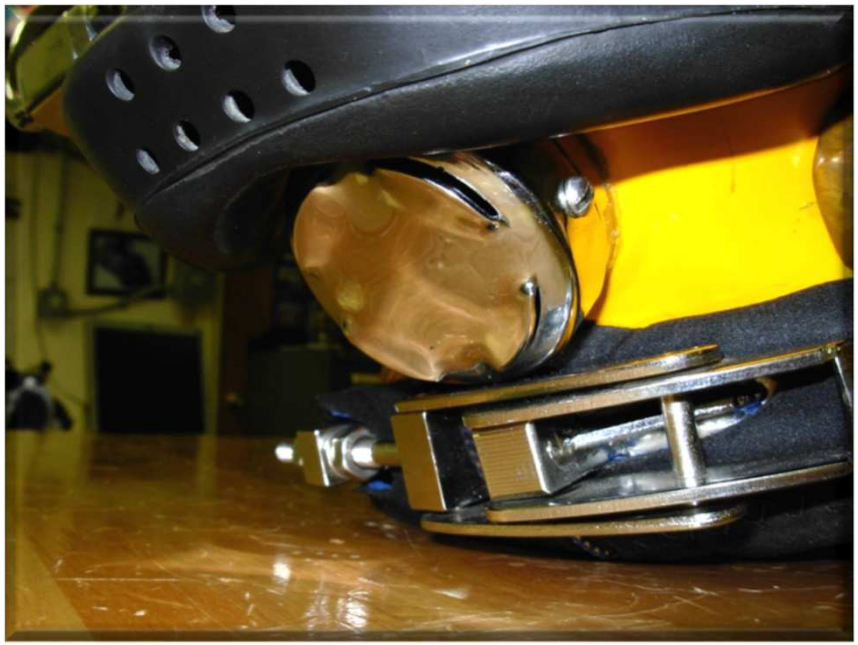
All Models of KMDSI Helmets

17B/A original water dump valve



Quad Valve configuration

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KM 37SS & KM 97 Main Exhaust/Water Dump

- Once a month inspect Main Exhaust/Water Dump Valve on KM37SS, 97 Helmets

- Main Exhaust/Water dump valve can only be accessed from inside the helmet on KM37SS and KM97 helmets

KM 37SS & KM 97
Main Exhaust/Water Dump

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All Models of KMDSI Helmets

- On the SL 27, the Water Dump is on the left side next to the Regulator
- The rubber Shroud needs to be removed by cutting the tie wrap before the Valve can be inspected
- Clean and inspect the Valve, and replace the Valve if dried or damaged or does not lie flat
- Install a new tie wrap (SL 27 only)

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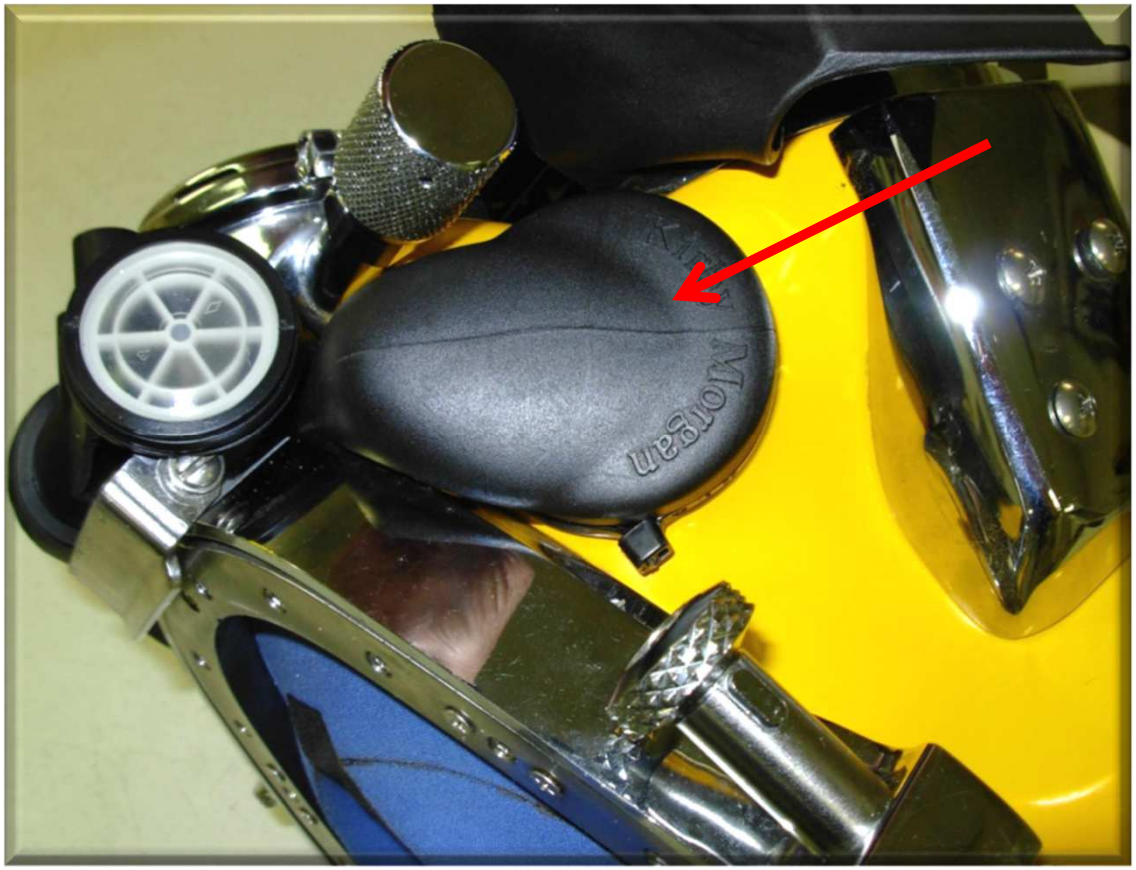
All Models of KMDSI Helmets

- SL 27 water dump is located on the left cheek



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- Exhaust/water dump valves should never look like this

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All Models of KMDSI Helmets

- Inspect exhaust shroud and or whiskers, replace if necessary
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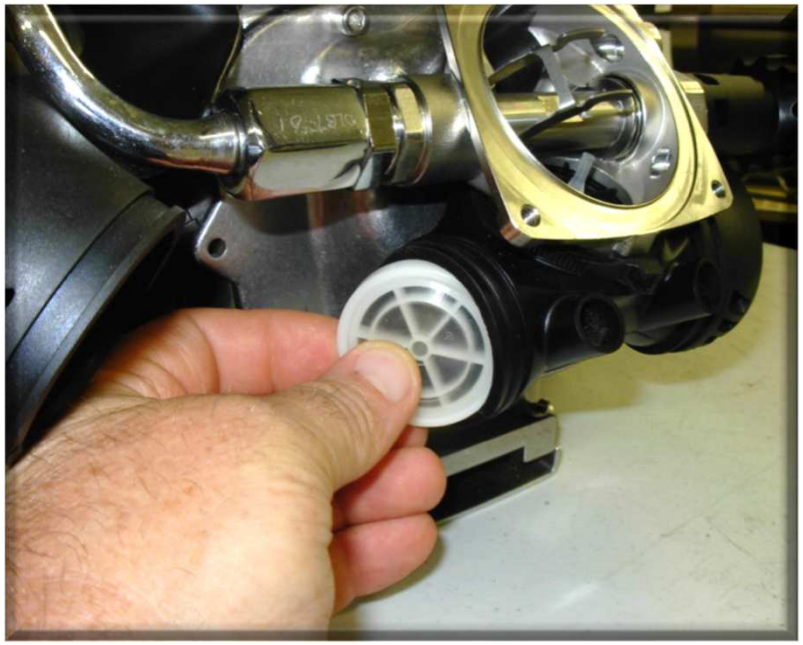
All Models of KMDSI Helmets

- Inspect exhaust valve “Seating / Sealing Surface” it is important in keeping the seating surface clean and free of corrosion



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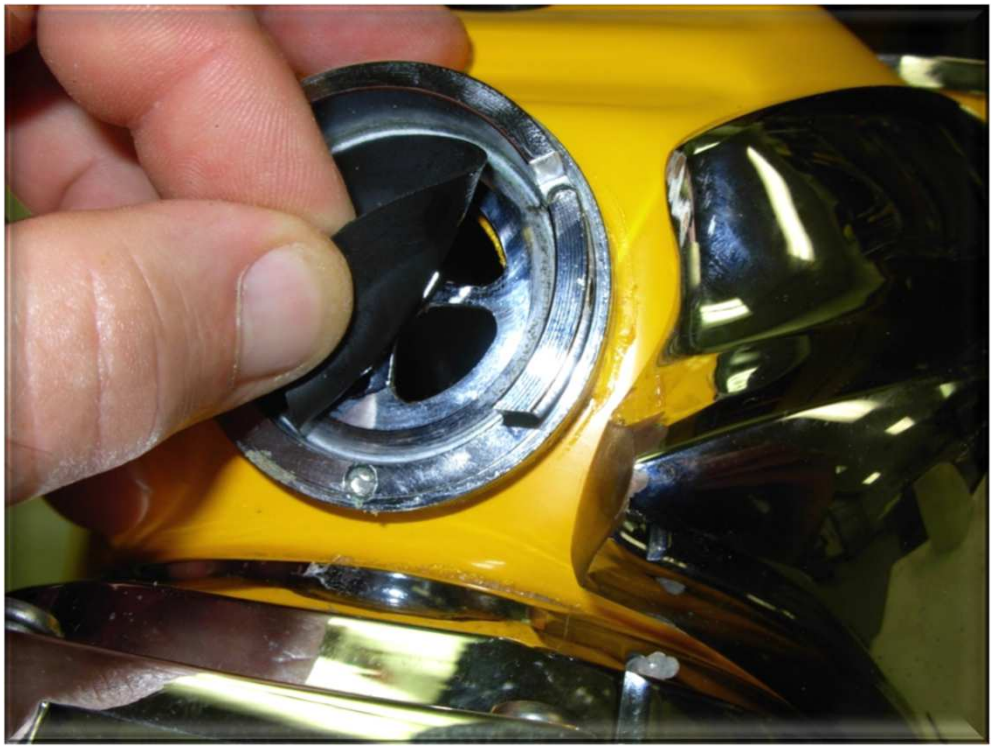
All Models of KMDSI Helmets

- Do not lubricate the Flapper Valves: dirt can stick to the surfaces of Flapper Valves that have been lubricated causing leakage



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All Models of KMDSI Helmets

- Only use KMDSI Valves when conducting repairs (Do not substitute Parts)
- Use of wrong Valve can cause Helmet flooding and/or poor breathing performance
- Helmet will free flow and or leak if this Valve is not in good condition

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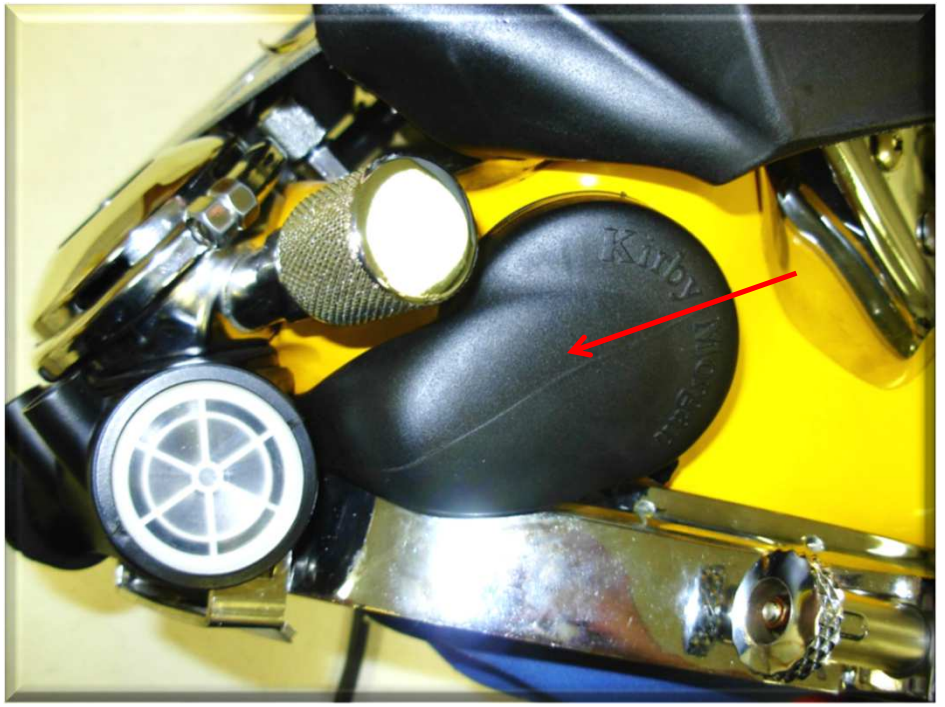
All Models of KMDSI Helmets

- Do not use helmet without shroud on the SL 27 main / Water Dump Valve
- The Shroud allows the Water Dump Valve to sense the same pressure as the demand Regulator, keeping the Helmet from free flowing



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Exhaust/Dewatering System

OBSOLETE: no longer available

- Old Double Exhaust Whisker (Latex) two Exhaust valves, integrated water dump, first "contaminated water exhaust system" fits: SL 17 A, B, C, K, KM 37, 57

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Exhaust/Dewatering System

OBSOLETE: no longer available

- Old Double Exhaust Whisker (Latex) two Exhaust valves, integrated water dump, “contaminated water exhaust system” fits: SL 27

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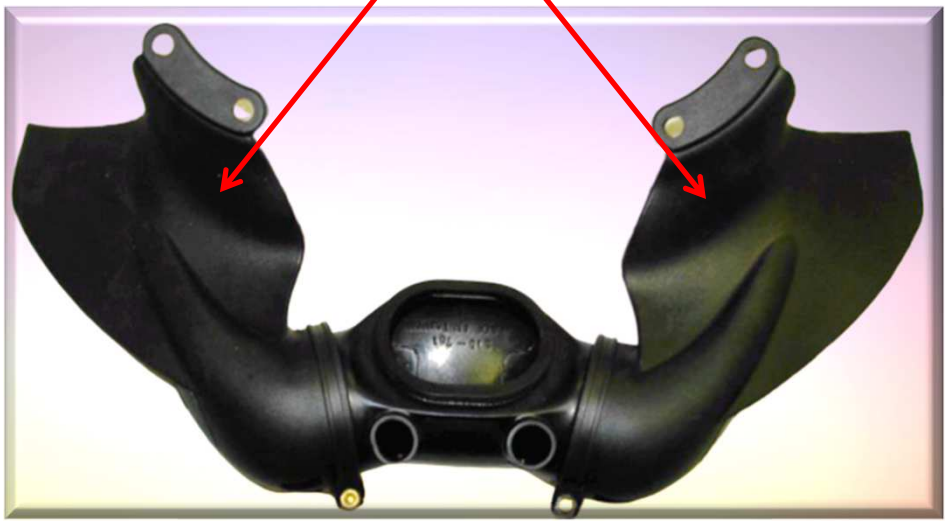
Exhaust/Dewatering System

- Tri-valve, Three exhaust Valves , Standard on SL27 and 18/28, will fit on older 18/28 band mask

Whisker Wings



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Exhaust/Dewatering System

- Quad-Valve, four exhaust valves, standard on: SL17B, KM37/SS,57,97 will fit on 17A,C,K (Recommended for diving in water with unknown contaminates)

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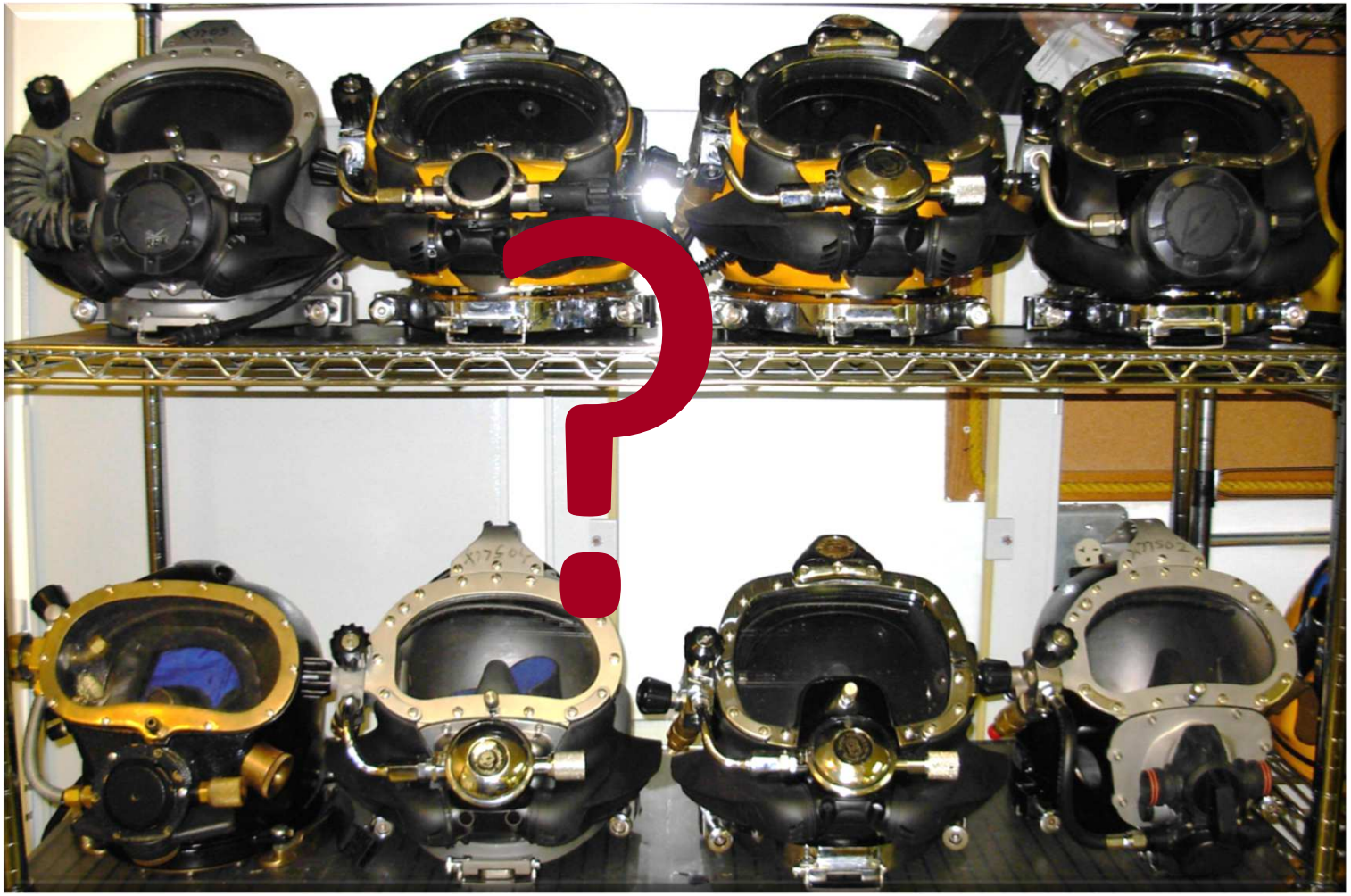

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