

**DIVE LAB XLDS ICS
BI- ANNUAL (EVERY 6 MONTHS) MAINTENANCE, AND INSPECTION
CHECKLIST**

APPENDIX A2.1

01-13-12

NOTE: This inspection and maintenance should be performed at least annually and as dictated by condition revealed during daily/monthly inspection. Monthly inspections determine necessity for overhaul with more accuracy than simply placing a number of hours of use.

Complete Overhaul and Maintenance Recommendations and Guidelines:

Complete System Overhaul: A complete system overhaul is defined as disassembly of all major components for inspection, cleaning, and soft goods replacement, followed by a leak test of all systems, as well as a flow test of each ICS assembly.

The frequency or periodicity for a complete overhaul of the XLDS ICS is dependent on frequency of use, and conditions under which the system is used. For this reason, the final decision for overhaul is determined by the end user. Generally, the XLDS ICS system used with low quality breathing air will need more care and service than those used with high quality breathing air. Dive Lab recommends systems being used up to 30 hours a week for commercial diving i.e. salvage, marine harvesting work, and construction be overhauled at least once a year. Users that only use the system five to ten times a month should be able to go up to two years between major overhauls. Systems used more than 250 days a year under extreme or harsh conditions such as extremely hot or cold environments may require more frequent overhauls.

Typically, XLDS ICS used by public safety, law enforcement, and Military divers with high quality HP air supply systems, used less than 20 times a year resulting in less than 200 hours use a year, should perform a complete overhaul every 24 to 36 months.

The above are recommendations based on keeping and maintaining a good log book on the XLDS umbilical, the use, maintenance and repair record. This will help in determining how often routine maintenance and overhauls are required.

NOTE: XLDS ICSs being used around polluted waters, or extreme environments, will require more frequent inspection.

NOTE: Check the Dive Lab website for the latest product improvement bulletins concerning the XLDS UMBILICAL

Date:
ICS Serial #:
Associated Equipment Serial #(s):
Technician (print name):

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ICS & EGS	
PROCEDURES	INITIALS
1. Inspect overall condition of ICS regulator, check for signs of missing, tearing, deterioration, and/or damage to the regulator. Guidance O & M Manual.	
2. Remove surge bottle from ICS regulator, conduct VIP on cylinder. Check for excessive corrosion, moisture. Replace cylinder O-ring, Reinstall cylinder	
3. Check hydrostatic date, ensure bottle meets DOT regulations. Record date _____	
4. Remove the protective Cap from the ICS Emergency Valve, inspect for signs of damage, contamination, check for smooth operation by rotating the Valve fully open. Leave open	
5. Remove the protective Cap from the ICS Umbilical Connection Fitting.	
6. Using your lips, try drawing air through the ICS Umbilical fitting. No air should be drawn through. Next, try blowing into the fitting. Air should flow easily into the Manifold and exit the Emergency Valve. If the air can be drawn through the fitting, the one-way Valve will need to be rebuilt or replaced. If air cannot be blown through and pass freely out the Emergency Valve, the one-way Valve will need to be overhauled or replaced.	
7. Upon successful test, shut the EGS Valve by rotating clockwise and cap if not being used.	
8. Check the over-bottom setting of the ICS Regulator to ensure it is within the manufacturer's specified pressure range. Minimum over-bottom for the ICS is 155 psig and the maximum 165 psig. Log the intermediate pressure. _____	
NOTE: If over bottom pressure is not within range the ICS regulator must be serviced immediately.	
NOTE: ICS regulator should not have to be overhauled on an annual basis, providing normal routine maintenance is being carried out. The ICS regulator can go as long as 36 months between complete overhauls.	

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Emergency Gas System (EGS)	
PROCEDURES	INITIALS
NOTE: 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 Side Block/ICS regulator.	
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.	
NOTE: An adjustable First Stage Regulator and a Gas Cylinder with a minimum of 500 psig (34.5 bar) available are required for this step.	
NOTE: The Bleed/Relief Valve should be adjusted to start relieve between 180 - 200 psig (12.4 – 13.8 bar) when tested.	
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PROCEDURES	INITIALS

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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.	
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 Harness Assembly for signs of excessive wear and damage. Ensure D-rings and sliders are in place. Check to ensure the Intermediate Compensating System (ICS) Manifold/Cylinder Assembly is secured to the Harness Assembly. Repair/replace as necessary.	
10. If using the Atlantic harness with buoyancy wing, inflate the wing and until firm and allow it to sit for at least 10 minutes to see if the wing loses any pressure. Visually inspect all components for signs of wear and damage. Check to ensure the Intermediate Compensating System (ICS) Manifold/Cylinder Assembly are secure to the Harness back plate Assembly. Repair/replace as necessary.	

Technician Signature: _____ Date: _____

Comments: _____

Dive Lab highly recommends that a certified Dive Lab Repair Technician make all repairs and that only genuine Dive Lab repair and replacement parts be used. Owners of Dive Lab 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 Dive Lab 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 Dive Lab, Inc., by telephone at (850) 235-2715 or via e-mail at divelab@aol.com.