

SECTION FIVE: OP-1
EXTREME LIGHTWEIGHT DIVING SYSTEM
CONSOLE PRE-DIVE SET-UP AND INSPECTION

06/13/11

CAUTION: BEFORE STARTING THIS PROCEDURE ENSURE THE SUPPLY REGULATORS ARE BACKED OFF COUNTER CLOCKWISE UNTIL THE KNOBS SPIN FREELY AND THE DIVERS PNEUMOFATHOMETER SUPPLY VALVES ARE SHUT.

NOTE: OP-1 can be used for either the RDC-2 or RDC-3. For the RDC-2, the third diver, Yellow diver should be n/a. OP-1 should be performed prior to System use. Performing this procedure as the operator cycling all Valves prior to bringing up gas supplies from the HP source to ensure all Valves operate smoothly. The procedure leaves the RDC-3 lined up for diving.

NOTE: OP-1 is intended to train the operators in set-up procedures. The OP has all Valves being cycled without pressure to identify potential equipment problems. Blowing down the Umbilicals can be done prior to deployment/use, providing all Interface Whips, Umbilicals, and Fittings have remained capped to prevent foreign material intrusion.

NOTE: The standard RDC-3 and RDC-2 Systems have two Yokes per diver circuit for attachment to two single or double SCUBA Cylinders. If other types of Cylinders and connections are being used, ensure the connections contain a Bleed Valve so that Cylinder changing can be accomplished without gas interruption. Ensure all fittings have a proper pressure rating for the Cylinders being used, and have an orifice size no smaller than of .112”.

Date:
Helmet/Mask Serial #:
Associated Equipment Serial #(s):
Technician (print name):

STEP	PROCEDURES	INITIALS
CONSOLE PRE-DIVE SET-UP AND INSPECTION SECTION 1		
WARNING: Do not over tighten Valves. Over tightening multi-turn Valves could result in Valve seat and / or stem damage, resulting in reduced capability. Initials _____		
1.1 Test operate Valves	Diver/Tender- Check the following (a - e):	INITIALS
	a. Open the Console lid and lock in place. Carefully inspect all Gauges and Valves for obvious signs of damage. <u>Without air lined up</u> , test operate all Valves as outlined below to ensure smooth operation. Caution: Do not over tighten the valves, over tightening Valves will cause stem and/or seat damage. Perform the following:	
	b. <u>HP Regulators</u> : back out counterclockwise until no resistance is felt and the hand wheel spins freely, then rotate in clockwise using two fingers, until a slight resistance is felt, then stop.	
	c. Red HP Reg 1	
	d. Green HP Reg 2	
	e. Yellow HP Reg 3	
1.2. Cross Connect Valve XC-1, 2	Diver/Tender- Check the following (a):	
	a. Open cross connect valve XC-1, check for smooth operation, then shut.	
	b. Open cross connect Valve XC-2, check for smooth operation, then shut.	

STEP	PROCEDURES	INITIALS
1.3. Removing Umbilical supply outlet Caps	Diver/Tender- Check the following (a-d):	
	a. On the right side of the Control Console, remove each of the Umbilical Supply outlet Dust Caps.	
	b. ALP-1 Red outlet	
	c. ALP-2 Green outlet	
	d. ALP-3 Yellow outlet	
1.4. Removing HP Supply Dust Pugs	Diver/Tender- Check the following (a-d):	
	a. On the left side of the Console, remove the HP Inlet Supply Caps.	
	b. Red Diver	
	c. Green Diver	
	d. Yellow Diver	
1.5 Pneumo supply Valves	Diver/Tender- Check for proper operation the following (a - c):	
	a. Pneumo Valve R ALP-4, open one full turn, then close lightly	
	b. Pneumo Valve G ALP-5, open one full turn, then close lightly	
	c. Pneumo Valve Y ALP-6, open one full turn, then close lightly	
1.6 Diver Umbilical supply Valves	Diver/Tender – Check the following (a - c):	
	a. Outlet Valve ALP-1R, open then close.	
	b. Outlet Valve ALP-2G, open then close.	
	c. Outlet Valve ALP-3Y, open then close.	

STEP	PROCEDURES	INITIALS
<p>NOTE: Visually inspect all portable gas supply Cylinders to be attached as well as all reserve Cylinders that will be placed at the ready. Ensure all Cylinders are fully charged. Inspect the Cylinder Valves to ensure the seal area is clean and the O-ring is present. Ensure the valve shows no signs of damage. Inspect the Yokes, Fittings, Cylinder Whips, and Main Supply Whips for signs of damage in the form of bent, frayed or dented hoses. Initials _____</p>		
<p>NOTE: When using the RDC-3, if only one diver is being deployed, set-up Red Diver as the primary and Green Diver as the standby. If two divers are being deployed set-up Red and Green as primary and Yellow Diver as standby. Initials _____</p>		
<p>SETTING UP THE CONTROL CONSOLE FOR RED, GREEN, AND YELLOW DIVERS SECTION 2</p>		
<p>NOTE: If the RDC is equipped with VCO O-ring Fittings that connect the high-pressure supply Whips to the Console, The fittings need only be lightly tightened using the power of three fingers on the 5/8”wrench. Initials _____</p>		
<p>2.1. Red Divers Whip</p>	<p>Diver/Tender- Check the following (a-d)</p>	
	<p>a. Remove the protective Plug from Red Divers Supply Whip. Inspect the fitting surface for signs of damage and contamination, Inspect Red regulator inlet fitting, to ensure the O-ring is present and fitting is free of damage and obvious signs of contamination. Attach and tighten whips. Repeat this procedure for Green and Yellow</p>	
	<p>b. Red</p>	
	<p>c. Green</p>	
	<p>d. Yellow</p>	
<p>NOTE: Each diver must have at least ONE Cylinder attached to each Yoke or DIN prior to commencement of diving. Only one Cylinder should be on line at a time with the other Cylinder in standby. Initials _____</p>		

STEP	PROCEDURES	INITIALS
2.2 Red Divers Cylinder Yokes	Diver/Tender: - Check the following (a-c): a. Red Divers Cylinder Yokes, or fitting attachment, remove the protective Cap/Plug from each Cylinder Yoke, or connection and inspect Seat for damage and obvious signs of damage and contamination. Attach and tighten Red Divers whips to Cylinder Valve.	
	b. Red Yoke 1	
	c. Red Yoke 2	
2.3 Green Divers Cylinder Yokes	Diver/Tender: - Check the following (a-c):	
	a. Green Divers Cylinder Yokes or attachment, remove the protective Caps from each Cylinder Yoke, or connection and inspect Seat for damage and obvious signs of contamination. Attach and tighten Green Divers whips to the Cylinder Valve.	
	b. Green Yoke 1	
2.4 Yellow Divers Cylinder Yokes	Diver/Tender: - Check the following (a-c):	
	a. Yellow Divers Cylinder Yokes or attachment, remove the protective Caps from each Cylinder Yoke, or connection and inspect Seat for damage and obvious signs of damage and contamination. Attach and tighten Yellow Divers whips to each Cylinder Valve.	
	b. Yellow Yoke 1	
c. Yellow Yoke 2		

STEP	PROCEDURES	INITIALS
2.5 Yoke Bleed Valve	Diver/Tender: - Check the following (a-d):	
	a. Open, then shut, each Yoke Bleed Valve.	
	b. Red Yoke Bleed 1 Open ____ Shut ____ Red Yoke Bleed 2 Open ____ Shut ____	
	c. Green Yoke Bleed 1 Open ____ Shut ____ Green Yoke Bleed 2 Open ____ Shut ____	
	d. Yellow Yoke Bleed 1 Open ____ Shut ____ Yellow Yoke Bleed 2 Open ____ Shut ____	
<p><u>CAUTION</u></p> <p>THE HIGH-PRESSURE ISOLATION VALVES ON THE DIVE LAB HP WHIP SYSTEM HAS SOFT SEAT VALVES AND OPERATE WITHOUT THE NEED FOR HEAVY TIGHTENING. DO NOT OVER TIGHTEN. OVER TIGHTENING THESE VALVES COULD DAMAGE THE SEAT OR STEM, RESULTING IN REDUCED CAPABILITY. INITIALS _____</p>		
2.6 HP Isolation Block Valves	Diver/Tender: - Check the following (a-d):	
	a. Open then shut, each high-pressure Isolation Block Valve.	
	b. HP-1R Open ____ Shut ____ HP-2R Open ____ Shut ____	
	c. HP-1G Open ____ Shut ____ HP-2G Open ____ Shut ____	
	d. HP-1Y Open ____ Shut ____ HP-2Y Open ____ Shut ____	
<p>ATTACHING THE UMBILICALS</p> <p>SECTION 3</p>		
<p>NOTE: Prior to attaching Umbilicals, the Umbilicals should be laid out to avoid tangling. Inspect the Umbilical Log to ensure all maintenance has been performed. Initials _____</p>		

STEP	PROCEDURES	INITIALS
3.1 Attach Divers Umbilicals	Diver/Tender: - Check the following (a-d):	
	a. Remove the protective Plug from Red Divers Umbilical. Attach the Umbilical to Red Divers Umbilical Outlet valve QD or Fitting and lock-in or tighten. Repeat this procedure with Green and Yellow Divers Umbilicals.	
	b. Red	
	c. Green	
3.2 Attach Divers Pneumo Hoses	Diver/Tender: - Check the following (a-d):	
	a. Remove the protective caps from Red Divers pneumofathometer hose and attach to Red Diver Console QD fitting and lock-in Repeat this procedure with Green and Yellow Divers Pneumofathometer hoses.	
	b. Red	
	c. Green	
3.3 Attach Umbilical Strain Relief	Diver/Tender: - Check the following (a-d):	
	a. Attach the Umbilical strain relief for each Umbilical to the Console Handle, then secure the Console to an immovable object.	
	b. Red	
	c. Green	
3.4 Attach Divers Comm Plugs	Diver/Tender: - Check the following (a-d):	
	a. Attach divers communication plugs to the communications box being used.	
	b. Red	
	c. Green	
	d. Yellow	

STEP	PROCEDURES	INITIALS
NOTE: At this point, Air can be brought up to the Regulators and the Umbilical blown down.		
<u>CAUTION</u> WHEN BLOWING DOWN THE UMBILICALS, POINT IN A SAFE DIRECTION. BLOW-DOWN ONE UMBILICAL AT A TIME AS OUTLINED BELOW.		
PRESSURIZING THE CONTROL CONSOLE SECTION 4		
4.1 HP Air Cylinder	Diver/Tender: - Check the following (a): a. Slowly open Red Diver Cylinder Valve 2, fully.	
4.2 HP Air Supply	Diver/Tender: - Check the following (a - b): a. Slowly crack open Red Diver Control Block Valve HP-2R, then open fully. Read and record the Cylinder pressure on Red Divers HP gauge. Cylinder 2 _____psig	
	b. Shut HP-2R.	
	Diver/Tender: - Check the following (a): a. Slowly open Green Diver Cylinder Valve 2, fully.	
	Diver/Tender: - Check the following (a - b): a. Slowly crack open Green Diver Control Block Valve HP-2G, then open fully. Read and record the Cylinder pressure on Red Divers HP gauge. Cylinder 2 _____psig	
	b. Shut HP-2G.	
	Diver/Tender: - Check the following (a): a. Slowly open Yellow Diver Cylinder Valve 2, fully.	
	Diver/Tender: - Check the following (a - b): a. Slowly crack open Yellow Diver Control Block Valve HP-2Y, then open fully. Read and record the Cylinder pressure on Red Divers HP gauge. Cylinder 2 _____psig	
	b. Shut HP-2Y.	

STEP	PROCEDURES	INITIALS
4.3 Lining up the HP Air	Diver/Tender: Check the following: (a –e)	
	a. Slowly open Red Cylinder Valve 1, fully.	
	b. Slowly open HP-1R	
	c. Read and record the Cylinder pressure on Red Divers HP gauge.	
	d. Cylinder 1 _____psig	
	e. NOTE: Red Divers air is now lined up to the HP Regulator. Initials _____	
	Diver/Tender: Check the following: (a – e)	
	a. Slowly open Green Cylinder Valve 1 fully.	
	b. Slowly open HP-1G	
	c. Read and record the Cylinder pressure on Green Divers HP gauge.	
	d. Cylinder 1 _____psig	
	e. NOTE: Green Divers air is now lined up to the HP Regulator. Initials _____	
	Diver/Tender: Check the following: (a – e)	
	a. Slowly open Yellow Cylinder Valve 1 fully.	
	b. Slowly open HP-1Y	
	c. Read and record the Cylinder pressure on Yellow Divers HP gauge.	
	d. Cylinder 1 _____psig	
	e. NOTE: Yellow Divers air is now lined up to the HP Regulator. Initials _____	

STEP	PROCEDURES	INITIALS
4.4 HP Air Regulator	<p>Diver/Tender: - Check the following (a):</p> <p>a. Slowly load Red, Green, and Yellow Divers Regulators by rotating the Regulator Adjustment Knob clockwise until the LP Gauge reads between 10-50 PSIG Gauge.</p> <p>Red _____ Green _____ Yellow _____</p>	
4.5 Red Diver	<p>Diver/Tender: Check the following (a-c):</p> <p>a. Point the Umbilical in a safe direction and slowly open the Umbilical Outlet Valve (ALP-1R) and allow gas to flow for 10-15 seconds, then shut.</p>	
4.6 Umbilical Red Diver	<p>Diver/Tender: Check the following (a):</p> <p>a. Red Divers umbilical is ready to be attached to ICS or Mask/ Helmet being used. After completing follow on OP's.</p>	
4.7 Green Diver	<p>Diver/Tender: Check the following (a):</p> <p>a. Point the Umbilical in a safe direction and slowly open the Umbilical Outlet Valve (ALP-2G) and Allow gas to flow for 10-15 seconds, then shut.</p>	
4.8 Umbilical, Green Diver	<p>Diver/Tender: Check the following (a):</p> <p>a. Green Divers umbilical is ready to be attached to ICS or Mask/ Helmet being used. After completing follow on OP's</p>	
4.9 Yellow Diver	<p>Diver/Tender: Check the following (a):</p> <p>a. Point the Umbilical in a safe direction and slowly open the Umbilical Outlet Valve (ALP-3Y) and Allow gas to flow for 10-15 seconds, then shut.</p>	

4.10 Umbilical Yellow Diver	Diver/Tender: Check the following (a): a. Yellow Divers umbilical is ready to be attached to ICS or Mask/ Helmet being used. After completing follow on OP's.	
4.11 Load Regulators XLDS MODE 350-375 psi CONVENTIONAL MODE 115-250PSI	Diver/Tender: Check the following (a): a. Load Regulators IAW the required supply pressures for the equipment being used 1/4" XLDS umbilical or 3/8" conventional umbilical. Red _____psig_____bar Green _____psig_____bar Yellow _____psig_____bar	
4.12 Ready to move on to appropriate OP	Diver/Tender: Check the following (a): a. When ready, slowly bring pressure to the umbilical and helmet or mask being used after completing the appropriate OP's. OP-2 _____ SSOCS OP _____	
END OF PROCEDURE		

Technician Signature: _____ Date _____

Comments: _____

