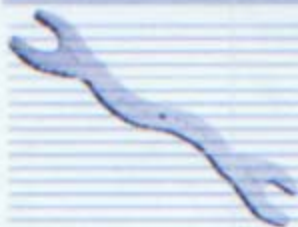




# → OT-8X SERVICE MANUAL

# SCUBA MAX

→ Regulator Service Manual →



Professional SCUBA Diving Equipment

# SCUBA MAX

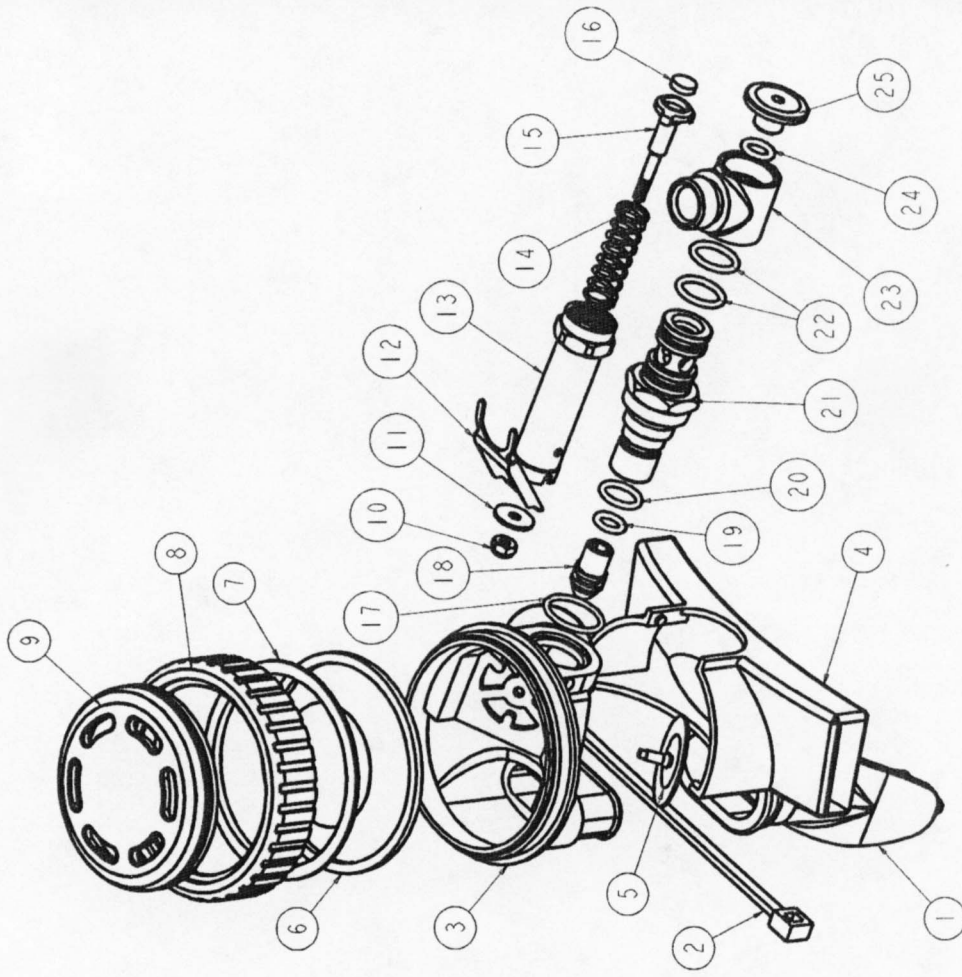


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**RG2-008-01 PART LIST**

NO:	P/N NO	DESCRIPTION	Q'TY
1	A-02-010-11	LONG MOUTHPIECE-P5 #0801	1
2	A-02-010-12	NYLON TIE #0802	1
3	A-02-008-03	MAIN HOUSING #0803	1
4	A-02-008-04	EXHAUST TEE #0804	1
5	A-02-008-05	EXHAUST VALVE - SERVICE #0805	2
6	B-02-010-01	DIAPHRAGM - SERVICE #0806	1
7	A-02-010-10	DIAPHRAGM WASHER #0807	1
8	A-02-010-04	COVER RING PLASTIC #0808	1
9	A-02-010-05	COVER BUTTON #0809	1
10	C-02-010-06	NUT SCREW 5-40 #0810	1
11	P-02-008-01	STAINLESS SPACER #0811	1
12	S-02-008-01	LEVER ARM #0812	1
13	C-02-008-01	ADJUST TUBE #0813	1
14	D-02-008-01	SPRING #0814	1
15	C-02-008-02	POPPET #0815	1
16	A-02-008-01	LP SEAT - SERVICE #0816	1
17	O-EKM-15MX-1-5	O-RING-N70 - SERVICE #0826	1
18	A-02-008-02	ORIFICE #0818	1
19	O-AS568-010	O-RING-N70 - SERVICE #0817	1
20	O-AS568-012	O-RING-N70 - SERVICE #0819	1
21	C-02-008-05	SWIVEL SCREW #0820	1
22	O-AS568-013	O-RING-N70 - SERVICE #0821	2
23	C-02-008-03	SWIVEL #0822	1
24	O-AS568-010	O-RING-N70 - SERVICE #0823	1
25	C-02-008-04	SWIVEL CAP #0824	1



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### Before You Begin .....

Read these instructions completely before you begin servicing the regulator or filling whip. These instructions are intended for people who have been **AUTHORIZED** by **SCUBAMAX** to repair **SCUBAMAX** Scuba equipment. If you are not so authorized - **STOP**.

## 1.0 INTRODUCTION

- 1.0.1 The procedures in this manual apply to the **SCUBAMAX** the **OT-8X** type **2ND** stage. Refer to the exploded views as you read the service section of the manual. The Item Numbers referred to in the service section are those seen in the corresponding exploded view



**! WARNING !**

**NEVER** tighten the hose fitting to the first stage with more than 40 in. lbs. (4.5 Nm) of torque. The inlet hose fitting will be weakened by over tightening. Failure to heed this warning may result in serious injury or death.

## **NOTE:**

**All SCUBAMAX Scuba Regulators have service kits available which contain the parts which must be changed at every annual service no matter what their condition. The standard annual service kit part numbers are shown in the parts list. All other parts not contained in these kits must be inspected by the technician and changed if necessary. Parts will be handled under warranty, only if they have failed due to problems with material or workmanship.**



**! WARNING !**

**SCUBAMAX Scuba Regulators are manufactured using materials suitable for use with oxygen enriched gases (i.e. Nitrox, etc.) providing the oxygen content does not exceed 40%. Equipment intended for enriched air (Nitrox) use, must not be used with regular compressed breathing air or other gases. Regulators intended for enriched air use, can be serviced only by technicians trained by one of the major oxygen enriched air training agencies. Failure to heed this warning may result in serious injury or death.**

- 1.0.2 This manual gives breakdowns of regulator parts, equipment specifications, servicing instructions, troubleshooting recommendations, and guidelines for proper care of SCUBAMAX regulators. This manual is intended for use only by persons specially trained and authorized to service SCUBAMAX Scuba equipment.**
- 1.0.3 Anyone attempting to service or repair SCUBAMAX Scuba regulators must have a thorough understanding of the principles of operation of scuba regulators and valves, as well as the appropriate mechanical ability. The technician must be properly trained in the safe use of compressed air and the various tools and cleaning solutions involved in the procedures outlined in this manual.**
- 1.0.4 The best source for current part numbers for any of the parts listed in this manual is your current parts and price list from SCUBAMAX.**
- 1.0.5 If you have any questions, or need more information, contact your**

**SCUBAMAX Scuba Sales Representative or SCUBAMAX Customer Service. You can e-mail you technical questions to SCUBAMAX'S mail box.**

## **2.0 SPECIFICATIONS**

### **PROBLUE OT-8X SECOND STAGE REGULATOR**

**AIR FLOW ..... 33 cu. ft. (935 liters/min). @ 1 atmosphere**  
**INHALATION RESISTANCE .. 0.9" -2.0" (2.3 - 5.08 cm) w.c. @ 1 atmosphere**  
**EXHALATION RESISTANCE .. 0.6" (1.52 cm) w.c. max. @ 1 atm.**

**RECOMMENDED LUBRICANT LTI Christo-Lube 111®**

#### **A. OT-8X SECOND STAGE REGULATOR**

**TYPE .....POPPET VALVE , BALANCE DIAPHRAGM**







**WEIGHT.....26 lb.(.54 kg) ( w/o hose )**

**MATERIALS .....PURGE BUTTON ----- PU**  
**CASE ----- ABS HI-IMPACT**  
**LP SEAT ---- SILICONE**  
**O-RING ----- Buna-N**  
**DIAPHRAGM ----- SILICONE**  
**EXHAUST VALVE----- SILICONE**  
**MOUTHPIECE ----- SILICONE**

#### **2.1 Torque Specifications:**

<b>Description</b>	<b>Item #</b>	<b>Torque</b>
<b>SWIVEL SCREW</b>	<b>21</b>	<b>1-2 ft/lb (2-3 Nm)</b>
<b>SWIVEL CAP</b>	<b>25</b>	<b>1-2 ft/lb (2-3 Nm)</b>
<b>Hose inlet end</b>		<b>2-3 ft/lb (3-4 Nm)</b>
<b>Hose outlet end</b>		<b>2-3 ft/lb (3-4 Nm)</b>

### 3.0 SERVICE KIT LIST

OT-8X SERVICE KIT				
DRAWING	NO	PART NO	DESCRIPTION	QTY
	16	A-02-008-01	LP SEAT	1
	17	O-EKM-15X1-5	O-RING	1
	19	O-AS568-010-01	O-RING	1
	20	O-AS568-012-01	O-RING	1
	22	O-AS568-013-01	O-RING	2
	24	O-AS568-010-01	O-RING	1

### 3.1 SERVICE KIT LIST



1	TORQUE WRENCH 5-25 N.M	2	13/16" HEX DEEP SOCKET
3	6MM COMBINATION WRENCH	4	4MM HEX BIT SOCKET
5	ADJUST TOOL	6	O-RING TOOL SET
7	3H POPPET TOOL		

#### **4.0 SERVICE PROCEDURES FOR THE SCUBAMAX OT-8X**

- 4.0.1 Before you begin disassembly of the regulator, test the first and second stages for output pressures and leakage. Pre-testing in this way will help the technician to pinpoint any specific problems requiring repair.**
- 4.0.2 The work area must be clean and well lighted, with clean compressed air available to blow sand and dirt from parts.**
- 4.0.3 The procedures covered in this manual section apply to the OT-8X second stage. To access the exploded view of this model open the front cover of this manual.**

#### **4.1 TOOLS REQUIRED (or suggested) FOR SECOND STAGE SERVICING**

- 13/16" HEX DEEP SOCKET**
- 4MM HEX BIT SOCKET**
- 3H POPPET TOOL**
- 6MM COMBINATION WRENCH**
- Adjust tool for second stage**
- OT-8X 2nd Stage Annual Service Kit**
- Clean Shop Rags**
- Dow-Corning Compound 111**

**Silicone Grease or LTI Christo-Lube 111<sup>®</sup> (p/n 347-0111)**

## **4.2 DISASSEMBLY OF THE SECOND STAGE**



### **! WARNING !**

**NEVER** tighten the hose fitting to the first stage with more than 40 in. lbs. (4.5 Nm) of torque. The inlet hose fitting can be weakened by over tightening. To view the complete parts list of the second stage, open the front cover of this manual.

#### **4.2.1**

**Use the 6" and 8" adjustable wrenches to loosen the hose nut from the SWIVEL (23). Remove the hose assembly from the second stage. Inspect the hose assembly for any cuts or cracks, especially on the hose at the metal ferrules. Blow the interior bores of the hoses.**

**Replace the hose assembly if any cuts or cracks are found. Remove and discard the O-rings from each end of the hose. Clean, rinse, and blow-dry the interior bores of the hoses. Replace the hoses if necessary.**

#### **4.2.2**

**If the mouthpiece is in good condition, you can don't remove and be reused. If not good to remove the mouthpiece (1) by cutting the mouthpiece tie(2) with side cutting pliers. Discard the old mouthpiece tie. Examine the condition of the mouthpiece.**

#### **4.2.3**

**Remove the exhaust cover (4) from the case by pulling it back.**

#### **4.2.4**

**Before removing the exhaust valve (5) from the housing (3), bend the valve over as far as it will go from the top, bottom, left, and right sides. If it fails to snap back quickly, and does not lie perfectly flat against the housing exhaust grid, the valve should be replaced. If it does snap back satisfactorily, remove it by pulling it out with your fingers. Inspect the**

sealing edges. If they appear smooth, and the locking tab on the nipple is good, the valve can be reused.

#### 4.2.5

Unscrew the cover ring (8) from the housing (3).

If the cover is difficult to remove you can try several methods to loosen it;

Heat the 2nd stage body surrounding the Ring by running hot water from a tap over it. When the plastic is hot, it will expand and loosen the threads.

Rubber pads are available to use in the hand to loosen tight jar lids. These pads will allow you to get a better grip on the Cover Ring (8)

#### 4.2.6

Remove the diaphragm washer (7) and the diaphragm (6) from the housing (3).

#### 4.2.7

Loosen and remove the swivel cap (25) from the swivel screw (21) with **4MM HEX BIT SOCKET**. Remove and discard the o-ring(24). Remove the swivel(23).

#### 4.2.8

Loosen and remove the swivel screw(21) with **13/16" HEX DEEP SOCKET** from housing(3). Use a **ADJUST TOOL(FOR SWIVEL)** to turn right the orifice (18) until remove it. Remove and discard all o-ring (22,20,19,18) from swivel screw and orifice.

#### 4.2.9

Remove and discard the o-ring (17) from housing.

#### 4.2.10

Remove the adjust tube (13) from housing.

#### 4.2.11

Before remove the poppet(15) must be check and record the poppet thread length that over the nut screw(10). Use the **6MM COMBINATION WRENCH** hold the nut(10) and use the **3H POPPET TOOL** turn left the