

PX2

(BALANCED PISTON)

SERVICE PROCEDURE

This PX2 Product Service Procedure conveys a list of components and service procedures that reflect the PX2 as it was configured at the time of this writing (4/23/02).

It also contains Supplemental Information intended to assist the Authorized Oceanic Regulator Service Technician who is servicing a PX2 configured with older components.

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PX2 FIRST STAGE

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GENERAL PROCEDURES

REFER TO ..... **DOC. 12-2202**

SPECIFICATIONS

Torques

Yoke Retainer (p/n 6564)	23 to 25 ft-lbs
DIN Filter Retainer (p/n 4544.300)	120 to 140 in-lbs*
*If the DIN Filter Housing has a hex machined into the Inner Bore, increase DIN Filter Retainer torque to 16 to 18 ft-lbs.	
DIN Filter Housing (p/n 6565)	16 to 18 ft-lbs
HP Port Plug (p/n 3462)	35 to 40 in-lbs
LP Port Plug (p/n 3463)	35 to 40 in-lbs
HP Hose into First Stage Body	35 to 40 in-lbs
LP Hose into First Stage Body	35 to 40 in-lbs
Inflator Hose into First Stage Body	35 to 40 in-lbs
Piston Cap (p/n 6592)	120 to 140 in-lbs
Swivel Retainer (p/n 6342)	100 to 120 in-lbs
End Cap (p/n 6596)	80 to 100 in-lbs
End Plug (p/n 6594)	80 to 100 in-lbs

Intermediate Pressure

Preferred	140 to 145 psi at 3,000 psi supply
Acceptable	137 to 148 psi at 3,000 psi supply
Preferred	130 to 136 psi at 500 psi supply
Acceptable	127 to 139 psi at 500 psi supply

TOOLS REQUIRED

Standard Tools

5/32" Allen Key
7/32" Allen Key
1/4" Allen Key
9/16" Open End Wrench
5/32" Open End Wrench
13/16" Open End Wrench
1" Thin Wall Box Wrench
3/16" Hex Drive Socket
3/8" Socket Drive Spanner
13/16" Crows Foot Wrench
1" Crows Foot Wrench
1/4" Hex Socket

Specialty Tools

P/N 40.2302	Christo-Lube MCG111 - 2 oz
P/N 40.6671	End Cap Tool Kit
P/N 40.9309	Piston Body Spanner
P/N 40.9312	Piston Installation Bullet
P/N 40.9315	Intermediate Pressure Gauge
P/N 40.9513	Wiper Installation Tool
P/N 40.9518	Circlip Pliers
P/N 40.9520	O-ring Tool Kit

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TROUBLE SHOOTING

SYMPTOM	POSSIBLE CAUSE	TREATMENT
* **Restricted airflow and inhalation resistance through complete system.**	1. Cylinder valve not completely opened. 2. Cylinder valve requires service. 3. CONE FILTER (4,12) is contaminated.	1. Open valve completely. 2. Connect regulator to a different cylinder. 3. Replace with new and perform a complete service.
* **Air leakage detected from inlet openings of First Stage.**	1. PISTON HEAD O-RING (35) is damaged or worn. 2. PISTON CAP O-RING (31) is damaged or worn. 3. INNER BODY O-RING (27) is damaged or worn. 4. VALVE PISTON Shaft (34) is damaged or worn.	1. Replace with new. 2. Replace with new. 3. Replace with new. 4. Replace with new.
* **Air leakage detected from between SWIVEL (41) and PISTON CAP (38).**	1. SWIVEL O-RING (40) is damaged or worn.	1. Replace SWIVEL RETAINER (36), RETAINER WASHER (37), SWIVEL O-RING (40), and SWIVEL WASHER (39) with new.
* **Air leakage detected from END PLUG (21).**	1. HP SEAT O-RING (24) is damaged or worn. 2. END PLUG O-RING (22) is damaged or worn. 3. END PLUG (21) is loose.	1. Replace with new. 2. Replace with new. 3. Tighten END PLUG (21) to proper torque.
* **Insufficient intermediate pressure.**	1. END PLUG (21) is loose. 2. PISTON CAP (38) is loose. 3. PISTON SPRING (33) is weakened.	1. Tighten END PLUG (21) to the proper torque. 2. Tighten PISTON CAP (38) to proper torque. 3. Add SHIMS (32) or replace PISTON SPRING (33).
* **Excessive intermediate pressure.**	1. Contamination under SHIMS (32). 2. HP SEAT (23) is damaged or worn. 3. Knife edge of VALVE PISTON Shaft (34) is damaged. 4. PISTON HEAD O-RING (35) is damaged or worn. 5. Internal damage to seating surface inside BODY (30).	1. Clean seating surface and replace SHIMS (32) with new. 2. Replace with new. 3. Replace VALVE PISTON (34), HP SEAT (23), and PISTON HEAD O-RING (35). 4. Replace with new. 5. Replace BODY (30) with new.
* **Honking or squealing accompanies inhalation mode. (Harmonic Imbalance)**	1. PISTON HEAD O-RING (35) or HP SEAT (23) has deteriorated. 2. PISTON SPRING (33) is incorrectly seated. 3. Excessive lubricant present on PISTON SPRING (33), PISTON HEAD O-RING (35), or SHIMS (32). 4. Faulty PISTON SPRING (33). 5. Incorrect HP SEAT (23) used.	1. Replace with new parts. 2. Reverse PISTON SPRING (33). 3. Remove excessive lubricant. 4. Replace with new. 5. Replace with correct HP SEAT (23).

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DISASSEMBLY PROCEDURE

NOTE: Be sure to check and record the intermediate pressure and perform the Leak Detection Test outlined in the Initial Inspection Procedures (Doc. 12-2202) prior to disassembling the Regulator. Review the Troubleshooting Section on page 3 to gain a better idea of which internal parts may be worn, and to better advise your customer of the service that is needed.

1. Before disassembling the First Stage, remove the low pressure Hoses with a 9/16" open end wrench, the high pressure Hose(s) with a 5/8" open end wrench, and the low pressure inflator Hose with a 9/16" or 1/2" open end wrench. Remove all remaining PORT PLUGS (17, 19) with a 5/32" hex key.

2. Remove and inspect the O-rings now visible on all these items for any signs of decay. If found, discard the O-ring(s).

3. Place the First Stage in a soft jawed or well padded vise oriented with the Swivel End facing up.

CAUTION: Tighten the vise only as needed to hold the First Stage secure, and DO NOT overtighten. Doing so could result in permanent damage.

4. Loosen the PISTON CAP (38) by turning it in a counter clockwise with an End Cap Tool or Body Spanner Wrench (Fig. 1). DO NOT loosen more than 1/4 turn.

NOTE: Be certain the Wrench is well seated in the inlet opening(s) of the PISTON CAP (38). Damage to the finish will result if the Wrench is allowed to slip.

NOTE: For units received with Yoke Connectors perform step 5Y, for units received with DIN Connectors perform alternate step 5D.

5Y. Yoke Connector disassembly:

A. Remove the YOKE SCREW (1) from the YOKE (2).

B. Secure the First Stage in a soft jawed or well padded vise oriented with the Yoke End facing up. Apply a thin wall, or modified, 1" box Wrench to the YOKE RETAINER (6) and using firm steady force, turn it counterclockwise to remove it. DO NOT use impact to loosen it.

CAUTION: It is important that the Wrench be properly seated over the entire hex portion of the YOKE RETAINER (6) to prevent any damage to the part. (Fig. 2)

CAUTION: Tighten the vise only as needed to hold the first stage secure, and DO NOT overtighten. Doing so will result in permanent damage, rendering it inoperable.



Fig. 1

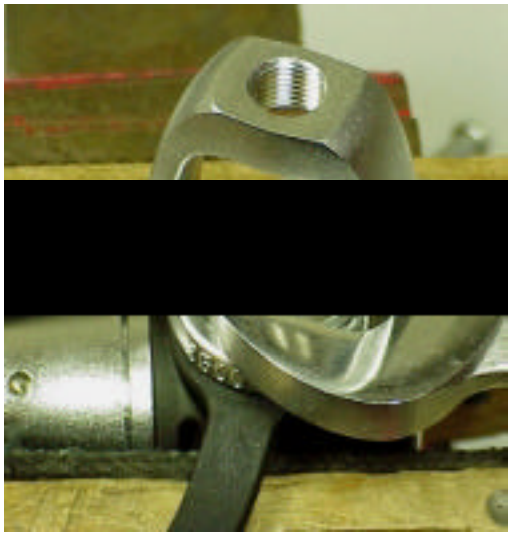


Fig. 2

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C. Remove the YOKE (2) and PROTECTOR CAP (16) and set them aside. Remove the RETAINER O-RING (7) (Fig. 3). Discard the O-RING and DO NOT attempt to reuse it.

D. Using Internal Circlip Pliers, remove the RETAINING CLIP (3). The CONE FILTER (4) should now drop out freely. Remove the FILTER O-RING (5). Discard the FILTER and O-RING, and DO NOT attempt to reuse them.

5D. DIN Connector disassembly:

A. Secure the First Stage in a soft jawed or well padded vise with the DIN Connector facing up.

⚠ **CAUTION: Tighten the vise only as needed to hold the First Stage secure, and DO NOT overtighten. Doing so will result in permanent damage, rendering it inoperable.**

B. Loosen the DIN FILTER RETAINER (9) by turning it counter clockwise with a 1/4" Hex Key (Fig. 4). Remove by lifting it straight out.

⚠ **NOTE: Due to the torque specifications for the DIN FILTER RETAINER (9) and DIN FILTER HOUSING (14), the complete DIN Fitting may come loose from the First Stage when attempting to remove the DIN FILTER RETAINER. If this occurs, refer to Supplemental Information on page 14.**

C. Remove the DIN FACE O-RING (8) and RETAINER O-RING (10). Discard the O-INGS and DO NOT attempt to reuse them.

D. Lift the DIN COUPLER WHEEL (11) straight off the DIN FILTER HOUSING (14) and set aside.

E. Loosen and remove the DIN FILTER HOUSING (14) by turning it counter clockwise with a 13/16" open end Wrench positioned on the Flange at the base (Fig. 5). Use firm steady force, DO NOT use impact to loosen.

⚠ **CAUTION: Ensure that the Wrench is deep enough to seat entirely over the Flange to avoid any damage to the seating surface.**

F. Turn the FILTER HOUSING (14) over and tap it lightly to drop out the DIN CONE FILTER (12). Remove the FILTER O-RING (13) and FILTER HOUSING O-RING (15). Discard the FILTER and O-RINGS, and DO NOT attempt to reuse them.



Fig. 3



Fig. 4



Fig. 5

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NOTE: To improve leverage for the next few steps, reinstall the YOKE RETAINER (6), or the DIN FILTER HOUSING (14), hand tight into the BODY (30).

6. Oriented with the PISTON CAP (38) facing up (vertically), rotate the BODY (30) and PISTON CAP in opposite directions to loosen the PISTON CAP. Lift the PISTON CAP straight up and off the VALVE PISTON (34) avoiding any angular pressure that might damage the delicate edge of VALVE PISTON's shaft.

7. Carefully lift the VALVE PISTON (34) out of the BODY (30) by grasping the Head of the PISTON between your thumb and forefinger and pulling it straight up with slow, steady force (Fig. 6). With the use of a magnifier, closely examine the knife edge of the PISTON SHAFT End, checking for any signs of damage or wear. If found, discard the PISTON SHAFT and DO NOT attempt to reuse it.



Fig. 6

8. Remove the colored SHIMS (32) from the base of the VALVE PISTON (34), and inspect for signs of wear or distortion. If found, discard the SHIMS.

9. Remove the PISTON HEAD O-RING (35). Discard the O-RING and DO NOT attempt to reuse it.

10. Lift the PISTON SPRING (33) straight up and out of the BODY (30). Closely examine it with the use of a magnifier, checking for any signs of corrosion. If found, discard the PISTON SPRING.

CAUTION: If the initial intermediate pressure was lower than 135 PSI, indicating that the PISTON SPRING (33) has weakened, discard the SPRING and DO NOT attempt to reuse.

11. Remove the colored SHIMS (32) found either inside the Cavity of the BODY (30) or on the end of the PISTON SPRING (33), and inspect for signs of wear or distortion. If found, discard the SHIMS.

12. Remove the END PLUG (21) from the BODY (30) by turning it counter clockwise with a 1/4" Hex Key . Remove and discard the HP SEAT O-RING (24). Remove and inspect the END PLUG O-RING (22) for any signs of decay. If found, discard the O-RING.

13. Remove the YOKE RETAINER (6), or the DIN FILTER HOUSING (14) from the BODY (30).

CAUTION: When performing the next step, only use pneumatic pressure, DO NOT attempt to insert a dental pick or other sharp instrument through the opening in the END PLUG (21). Doing so may damage the part requiring its replacement.

14. Remove the HP SEAT (23) from the END PLUG (21) by directing short blasts of low pressure air through the small opening found directly in the center of the END PLUG (Fig. 7). First, wrap a cloth over the HP SEAT to prevent it from ejecting suddenly. Discard the HP SEAT and DO NOT attempt to reuse it.

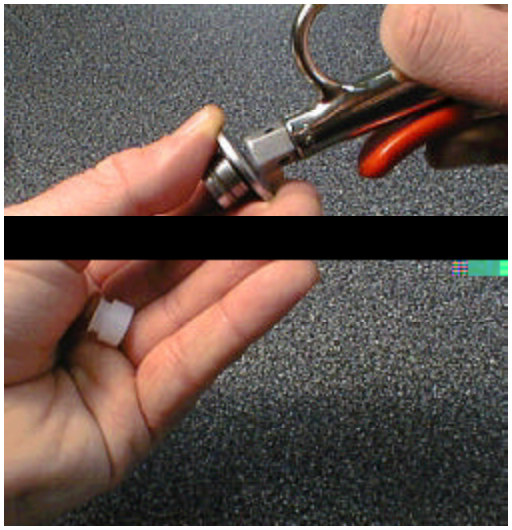


Fig. 7

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CAUTION: When performing the next step, extreme care must be taken not to damage the Seating Surfaces inside the BODY (30).

15. Lift the RETAINING SPRING (25) straight up and out from the smaller opening End of the BODY (30). Using the Brass O-ring Service Tool, remove the STEPPED BACKUP RING(26), INNER BODY O-RING (27), and BACKUP RING (28) (Fig. 8). Disgard the INNER BODY O-RING and DO NOT attempt to reuse it.

16. While holding the BODY (30) by the threaded end, place your thumb inside the raised lip on the Saddle Face of the BODY BOOT (29) and carefully pull and peel the BODY BOOT from the grove in the BODY to remove it (Fig. 9). Check for any signs of damage or distortion. If found, discard the BODY BOOT.

17. Remove the PISTON CAP O-RING (31), and inspect for signs of wear or distortion. If found, discard the O-RING.

18. Using the broad flat end of the Brass O-ring Tool, press gently between the edge of the END CAP (42) and the SWIVEL (41) to lift and remove the END CAP.

19. SWIVEL (41) and PISTON CAP (38) disassembly:

    A. Secure the SWIVEL in a soft jawed or well padded vise, oriented with the open end of the PISTON CAP facing up.

CAUTION: Tighten the vise only as needed to hold the SWIVEL secure, and DO NOT overtighten. Doing so will result in permanent damage, rendering it inoperable.

B. Loosen the SWIVEL RETAINER (36) by turning it counter clockwise with a 3/16" Hex Key (Fig. 10). Use firm steady force, DO NOT use impact to loosen.

C. Remove the SWIVEL RETAINER O-RING (40), SWIVEL WASHER (39), and RETAINER WASHER (37). Discard these parts and DO NOT attempt to reuse them.

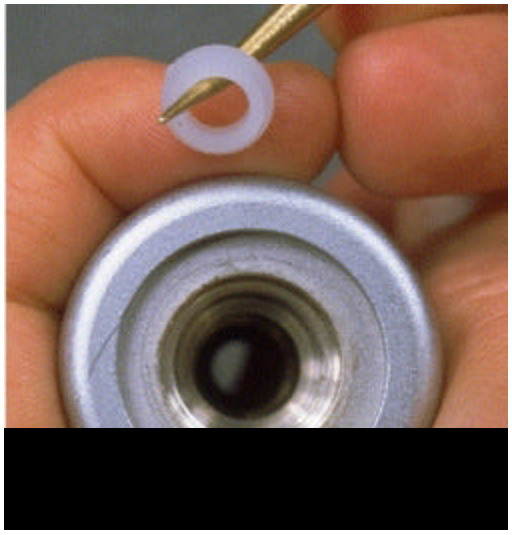


Fig. 8



Fig. 9



Fig. 10

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REASSEMBLY PROCEDURE

NOTE: Prior to reassembly, it is necessary to inspect all parts, both new and those that are being reused. Check to ensure that O-rings are clean and supple, and that every part and component has been thoroughly cleaned and dried.

WARNING: Use only genuine Oceanic parts, subassemblies, and components whenever assembling Oceanic products. DO NOT attempt to substitute an Oceanic part with another manufacturer's, regardless of any similarity in shape, size, or appearance. Doing so may render the product unsafe, and could result in serious injury or death of the user.

NOTE: Use only Christo-Lube MCG111 lubricant.

1. Lubricate and install the PISTON CAP O-RING (31) on the BODY (30).

2. Lubricate and install, through the small opening end of the body, the BACKUP RING (28), a new INNER BODY O-RING (27), and the STEPPED BACKUP RING (26), using a wooden dowel to guide them into place.

3. Install the RETAINING SPRING (25) into the BODY (30) directly on top of the STEPPED BACKUP RING (26).

NOTE: When handling the BODY (30) in the following steps, be sure to hold the RETAINING SPRING (25) in place.

4. Lubricate and install the a new PISTON HEAD O-RING (35) onto the Head of the VALVE PISTON (34).

5. Ensuring proper alignment, guide the BODY BOOT (29) onto the BODY (30)

6. Apply a very light film of lubricant to both sides of the SHIMS (32). Install one over the Shaft of the VALVE PISTON (34) onto the inner surface of the Head and another into the main Cavity of the BODY (30) (Fig. 11).

NOTE: The SHIMS (32) are color coded for thickness (Fig. 12). Replace with the same color to avoid changing the intermediate pressure. If you are replacing the PISTON SPRING (33), it will be necessary to experiment, by using different combinations of the various colors to obtain the correct intermediate pressure of 140 to 145 psi, at 3000 psi supply pressure. A minimum of one, and no more than two, SHIMS should be used on each end of the SPRING.

7. Place the PISTON SPRING (33) over the Shaft onto the VALVE PISTON (34). Use caution to avoid damaging the delicate knife edge of the Shaft as this is done.

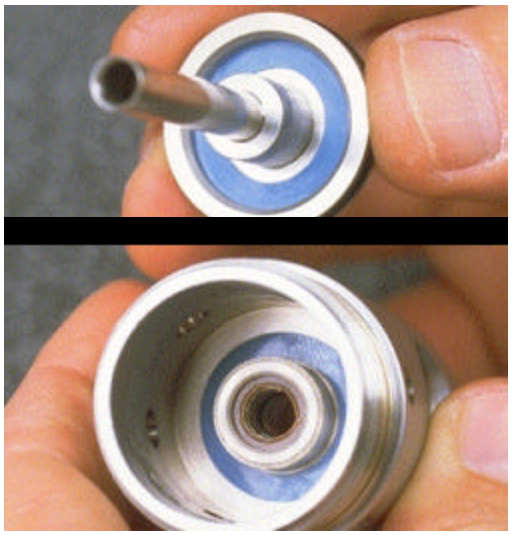
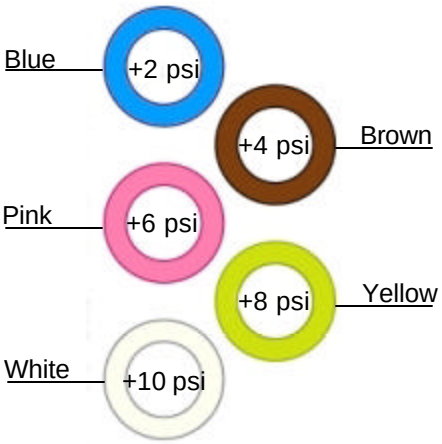


Fig. 11



Values shown are approximate.

Fig. 12

Doc. 12-2210-r02 (4/23/02)

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8. Set the VALVE PISTON (34) on its Head with the Shaft facing straight up, and fit a Piston Installation Bullet onto the Shaft.

CAUTION: Failure to use this Bullet while performing the next step may result in damage to the Guide Parts inside the BODY (30), or the knife edge of the VALVE PISTON (34) Shaft.

9. While holding the RETAINING SPRING (25) in place with your finger tip, carefully lower the BODY (30) onto the Shaft of the VALVE PISTON (34) (Fig. 13) until the Bullet and Shaft have passed through the Guide Parts and RETAINING SPRING inside the BODY. The BODY should now be resting on the RETAINING SPRING, mated flush with the end.

10. While holding the VALVE PISTON (34) and BODY (30) together to prevent the VALVE PISTON from sliding back out, and with the tips of both thumbs on the outer edges of the RETAINING SPRING (25), turn the Assembly over to allow the Bullet to drop out. Set the Assembly aside, on end, with the RETAINING SPRING side up.

11. SWIVEL (41) and PISTON CAP (38) reassembly:

    A. Lubricate and install the SWIVEL O-RING (40) onto the SWIVEL (41). Place the SWIVEL WASHER (40) flat onto the Base of the SWIVEL.

    B. Place the RETAINER WASHER (37) onto the SWIVEL RETAINER (36), and insert the threaded end of the SWIVEL RETAINER through the open Cavity of the PISTON CAP (38). Ensure that it seats flush with the threaded end extruding through the Head of the PISTON CAP.

    C. Holding the SWIVEL RETAINER (36) and PISTON CAP (38) together between your thumb and forefinger (Fig. 14), install them onto the SWIVEL (41), so that the threads seat properly. Immediately hand tighten in a clockwise direction until secure.

    D. Secure the SWIVEL (41) in a soft jawed or well padded vise with the open end of the PISTON CAP (38) facing up. Using a torque wrench with a 3/16" Hex Drive Socket, carefully tighten the SWIVEL RETAINER (36) clockwise into the SWIVEL (41) **to a torque of 100-120 in/lbs**. (Fig. 15)

CAUTION: Tighten the vise only as needed to hold the SWIVEL (41) secure, and DO NOT overtighten. Doing so will result in permanent damage, rendering it inoperable.

CAUTION: If the SWIVEL RETAINER (36) is overtightened, disassemble, discard, and replace with new.



Fig. 13



Fig. 14



Fig. 15

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NOTE: To improve leverage for the next few steps, reinstall the YOKE RETAINER (6), or the DIN FILTER HOUSING (15), hand tight into the BODY (30).

12. Carefully lower the PISTON CAP (38) and SWIVEL Assembly over the Head of the VALVE PISTON (34), and press it straight down, causing the PISTON CAP to seat upon the threads of the BODY (30). Grasp the BODY with one hand and turn the PISTON CAP with the other in a clockwise direction until secure.

13. Lubricate and install a new HP SEAT O-RING (24) over the RETAINING SPRING (25) and into the base of the HP SEAT Cavity of the BODY (30), above the end of the Shaft of the VALVE PISTON. Ensure that the HP SEAT O-RING is seated evenly, and not resting on the RETAINING SPRING.

14. Lubricate and install the END PLUG O-RING (22) onto the END PLUG (21), around the Base of the threads.

15. Install a new HP SEAT (23) into the END PLUG (21), ensuring that it seats completely (Fig. 16). Install the END PLUG into the BODY (30) and turn clockwise until secure using a 1/4" Hex Key.

16. Secure the BODY (30) in a soft jawed or well padded vise, Swivel End facing up. Using an inch/pounds Torque Wrench and 3/8" Socket Drive Spanner, tighten the PISTON CAP (38) onto the BODY **to a torque of 120-140 in/lbs** (Fig. 17).

17. Invert the First Stage and resecure it in the vise, End Plug End facing up. Using an inch /pounds Torque Wrench and 1/4" Hex Key Socket, tighten the END PLUG (21) into the BODY (30) **to a torque of 80-100 in/lbs** (Fig. 18).

CAUTION: Tighten the vise only as needed to hold the First Stage secure, and DO NOT overtighten. Doing so will result in permanent damage, rendering it inoperable.

18. Remove the YOKE RETAINER (6), or the DIN FILTER HOUSING (15), from the BODY (30).

19. Reposition the First Stage in the vise, threaded HP Inlet Bore facing up.

CAUTION: Tighten the vise only as needed to hold the First Stage secure, and DO NOT overtighten. Doing so will result in permanent damage, rendering it inoperable.

NOTE: For units received with Yoke Connectors perform step 20Y, for units received with DIN Connectors perform alternate step 20D.



Fig. 16



Fig. 17



Fig. 18

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20Y. Yoke Connector reassembly:

A. Lubricate and install a new FILTER O-RING (5) into the YOKE RETAINER (6), at the base of the Filter Cavity.

B. Install a new CONE FILTER (4) into the YOKE RETAINER (6). Using Internal Circlip Pliers install the RETAINING CLIP (3) into the Groove above it.

NOTE: Close examination of the RETAINING CLIP (3) will show that one side is slightly rounded and the other is flat. Install with the flat side facing out of the YOKE RETAINER to ensure greater holding strength.

C. Lubricate and install a new RETAINER O-RING (7) into the Groove on the end of the YOKE RETAINER 6).

D. Insert the threaded end of the YOKE RETAINER (6) through the YOKE (2), facing opposite the end that holds the YOKE SCREW (1). Place the Loop End of the PROTECTOR CAP (16) over the raised Lip on the Saddle Face of the BODY BOOT (29) and hold it in place (Fig. 19).



Fig. 19

E. Holding the YOKE RETAINER (6), and YOKE (2) together between your thumb and forefinger, install the YOKE RETAINER into the BODY (30), so that the threads seat properly. Hand tighten in a clockwise direction until secure, then using a thin wall, or modified, 1" crows foot Wrench that is properly seated over the entire hex portion of the YOKE RETAINER (Fig. 20), tighten it **to a torque of 23-25 ft/lbs**.



Fig. 20

F. Install the YOKE SCREW (1) into the YOKE (2).

20D. DIN Connector reassembly:

A. Lubricate and install a new FILTER HOUSING O-RING (15) into the Groove on the end of the DIN FILTER HOUSING (14).

B. Holding the DIN FILTER HOUSING (14) between your thumb and forefinger and insert it into the BODY (30), so that the threads seat properly. Hand tighten in a clockwise direction until secure. Using a 13/16" crows foot Wrench that is properly seated over the entire seating surface of the Flange, tighten the DIN FILTER HOUSING **to a torque of 16-18 ft/lbs**.

C. Lubricate and install the FILTER O-RING (13) into the DIN FILTER HOUSING (14), at the Base of the Cone Filter Cavity. Install the CONE FILTER (12) into the FILTER HOUSING.

D. Place the Loop End of the PROTECTOR CAP (16) over the raised Lip on the Saddle Face of the BODY BOOT (29) and, while holding it in place, install the DIN COUPLER WHEEL (11) down over the Stem of the DIN FILTER HOUSING (14), with the threaded end facing up (Fig. 21).



Fig. 21

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E. Lubricate and install a new DIN FACE O-RING (8) and new RETAINER O-RING (10) onto the DIN FILTER RETAINER (9).

F. Insert the threaded end of the DIN FILTER RETAINER (9) through the DIN COUPLER WHEEL (11) into the DIN FILTER HOUSING (14), and hand tighten until secure. Apply a 1/4" Hex Socket (Fig. 23) and tighten **to a torque of 16-18 ft/lbs (if theDIN FILTER HOUSING has a hex machined into its Inner Bore) or 120 to 140 in/lbs (if it does not have the hex).**

21. Lubricate and install all Hose and PORT PLUG O-RINGS (18, 20) onto the Hoses and PORT PLUGS (17, 19). Install the LP Hoses and LP PORT PLUGS (19) into the SWIVEL (41), and the HP Hose(s) and HP PORT PLUGS (17) into the BODY (30), and tighten clockwise **to a torque of 35-40 in/lbs**.

⚠ **CAUTION: Be certain not to install any low pressure Hose into a high pressure Port via an Adaptor.**

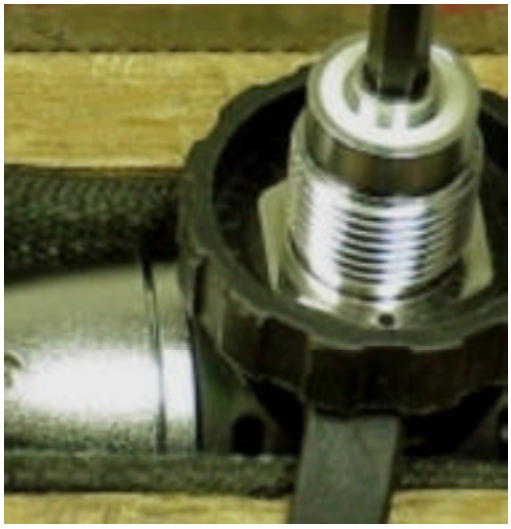


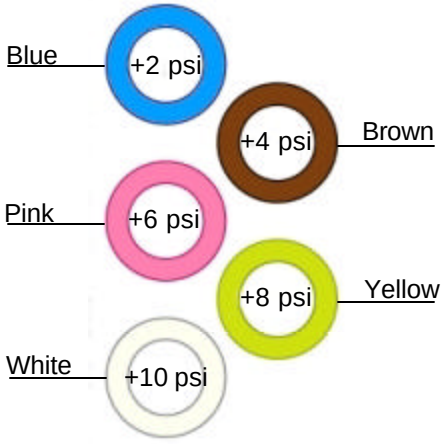
Fig. 22

TUNING AND TESTING

1. Connect a recently calibrated Low Pressure Test Gauge to a low pressure Hose, and connect the First Stage with Second Stage and Test Gauge to a pure breathing gas source of 3000 PSI. Slowly open the supply valve to pressurize the Regulator Assembly, and purge the Second Stage several times.

2. Ensure that the intermediate pressure holds stable at 140-145 PSI, and does not creep or fluctuate after the Second Stage has been purged several times. If creeping is detected, refer to the Troubleshooting Section to determine possible cause and treatment.

⚠ **NOTE: If necessary to adjust the intermediate pressure to read 140-145 PSI, it will be necessary to add, or substitute, SHIMS (32) to increase or decrease the pressure. Repeat the Disassembly and Reassembly procedures as required the access the SHIMS omitting steps that may not be relevant, such as removal of O-rings, Yoke, DIN, etc.**



(Values shown are approximate.)

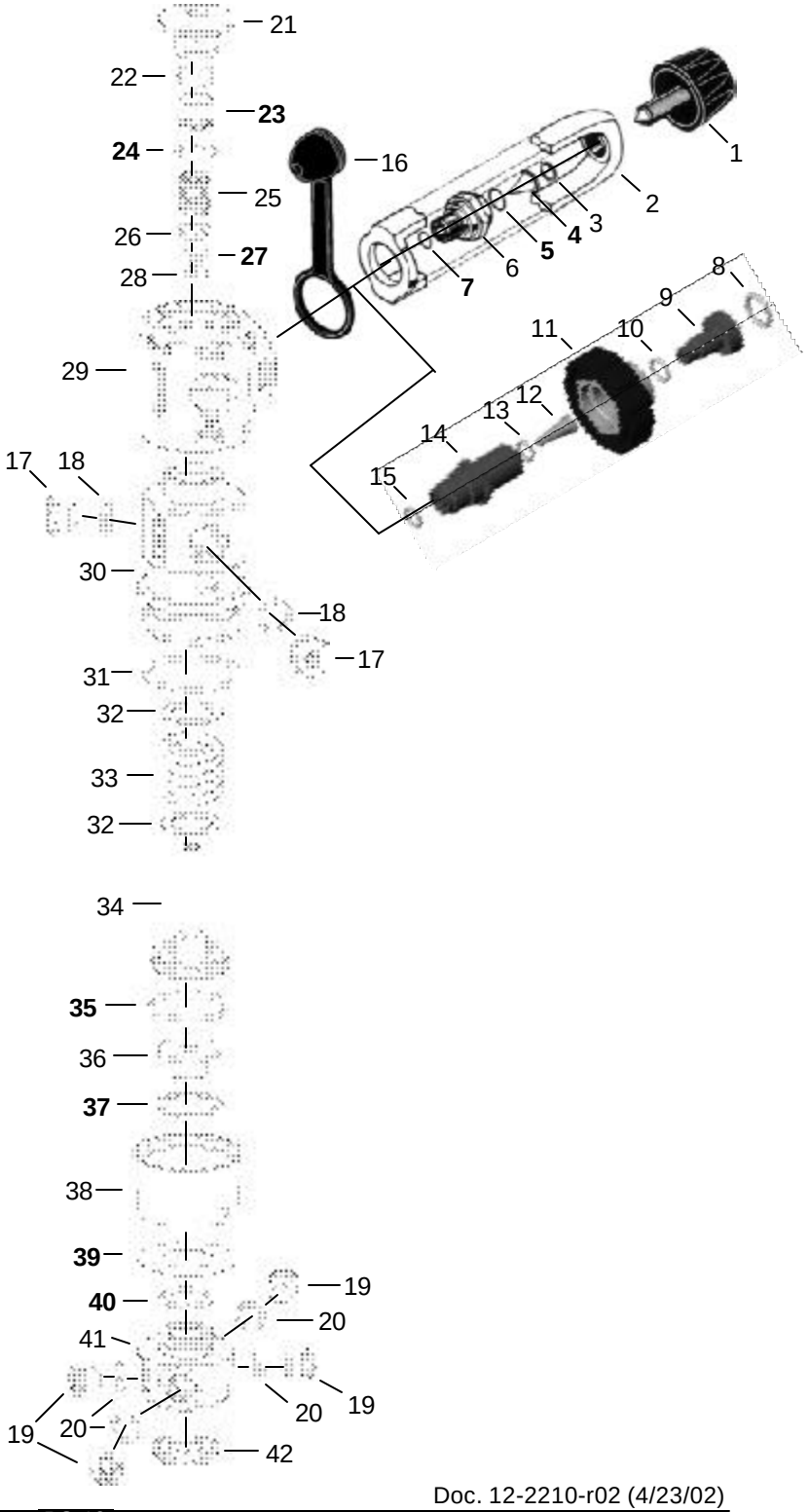
SPRING ISOLATORS (32)

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PX2 FIRST STAGE

Dia No.	Part #	Description
YOKE VERSION		
1c	6563.07	SCREW, YOKE (BK)
2c	6562	YOKE
3c	3530	CLIP, RETAINING
4a	**3545**	**FILTER, CONE**
5a	**2.013**	**O-RING, FILTER**
6c	6564	RETAINER, YOKE
7a	**2.011**	**O-RING, RETAINER**
DIN VERSION		
8a•	6374	O-RING, DIN FACE
9c	4544.300	RETAINER, DIN FILTER
10a•	2.012	O-RING, RETAINER
11c	6559	WHEEL, DIN COUPLER
12a•	4546	FILTER, DIN CONE
13a•	2.011	O-RING, FILTER
14c	6565	HOUSING, DIN FILTER
15a•	2.011	O-RING, FILTER HOUSING
YOKE AND DIN VERSIONS		
16c	6560	CAP, PROTECTOR (BK)
17c	3462	PLUG, HP PORT
18c	3.904	O-RING, HP PORT PLUG
19c	3463	PLUG, LP PORT
20c	3.903	O-RING, LP PORT PLUG
21c	6594	PLUG, END
22b	2.015	O-RING, END PLUG
23a	**6851**	**SEAT, HP**
24a	**2.013**	**O-RING, HP SEAT**
25c	2137	SPRING, RETAINING
26b	6347	RING, STEPPED BACKUP
27a	**2.010**	**O-RING, INNER BODY**
28b	6346	RING, BACKUP
29c	6595.07	BOOT, BODY
30c	6591	BODY
31b	2.026	O-RING, PISTON CAP
32b	3546	SHIM (WH)
	3547.1	SHIM (BL)
	3547.2	SHIM (BN)
	3547.3	SHIM (PK)
	3547.4	SHIM (YL)
33c	3464	SPRING, PISTON
34c	6162	PISTON, VALVE
35a	**2.022**	**O-RING, PISTON HEAD**
36b	6342	RETAINER, SWIVEL
37a	**6343**	**WASHER, RETAINER**
38c	6592	CAP, PISTON
39a	**6344**	**WASHER, SWIVEL**
40a	**2.016**	**O-RING, SWIVEL**
41c	6593	SWIVEL
42c	6596	CAP, END

Part #	Description
SERVICE PARTS KITS	
40.6150	KIT, YOKE CONNECTION SERVICE PARTS (includes all **Bold** items)
40.6151	KIT, DIN CONNECTION SERVICE PARTS (includes all • items)



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SUPPLEMENTAL INFORMATION

Due to design enhancements that have been made since the PX2 was released, the unit being serviced may not have the same components previously described.

The intent of this Supplemental Information is to assist the Oceanic Regulator Service Technician with identification of previous component parts and provide guidelines for their reuse or replacement.

The exploded view diagram on page 13 can be used as a reference for older units.

DIN FITTING

In the event that the complete DIN Fitting comes off the First Stage when the DIN FILTER RETAINER is being removed during Disassembly (step 5D.B., page 5), it will be necessary to disassemble the Fitting to replace the FILTER.

If the DIN FILTER HOUSING has a hex machined into the end opening of the Inner Barrel, hold the HOUSING with a 7/32" hex key and remove the DIN FILTER RETAINER using a 1/4" hex key.

If the DIN FILTER HOUSING does not have a hex machined into the end opening of the Inner Barrel, insert a flat blade screwdriver into the opening to hold the HOUSING and remove the DIN FILTER RETAINER using a 1/4" hex key. If the HOUSING becomes damaged, it must be replaced.

Dia. No. 1 - YOKE SCREW

current p/n 6563.07
Cosmetic changes.
Compatible with existing Yoke.

older p/n - 6307
Replacement with the newer part is not required, but is allowed at your discretion.

Dia. No. 23 - HP SEAT

current p/n 6851
New material.
Configured with a groove (see photo).
Compatible with current and older parts.



older p/n 6492
Replacement with the newer part is not required, but is allowed at your discretion.
Compatible with current and older parts.

Dia. No. 30 - BODY

current p/n - same
Does not have a groove for a Piston Wiper Ring which is not required due to other improvements that have reduced the relative benefit of the Ring.
Compatible with current parts only.

older p/n 6591
Configured with a groove to accomodate a Piston Wiper Ring
Replacement with the newer part is not required, but is allowed at your discretion.
Use of a Piston Wiper Ring is not required, but is allowed at your discretion.

WARNING: DO NOT attempt to install a Piston Wiper Ring (p/n 6377) in a Body (p/n 6591) unless it is configured to accomodate one (with a groove).

NOTE: Piston Wiper Rings (p/n 6377) are no longer included in the PX2 Service Parts Kits (P/N 40.6150 & 40.6151).

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SUPPLEMENTAL INFORMATION (CONTINUED)

Dia. No. 38 - PISTON CAP

current p/n 6592
Cosmetic changes.
Compatible with current and older parts.

older p/n 6345.3
Replacement with the newer part is not required, but is allowed at your discretion.
Compatible with current and older parts.

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