

BIOPAK 240 REVOLUTION



BioPak 240R PRO PP Facemask Service Manual

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1. TECHNICAL DESCRIPTION

The PRO PP facemask is intended for use with the BioPak 240R respirator only. The mask is supplied in two sizes: small and medium/large.

Five head harness attachment points are provided for connection of a Butyl/NR or Kevlar head harness type. A neck strap is provided for added wearer comfort.

The mask is molded in Butyl/EPDM and comprises the following features:

- A speech diaphragm to aid verbal communication.
- A silicone ori-nasal inner mask to minimize CO₂ dead-space and visor fogging.
- A permanent anti-fog film laminated to the inner lens surface to provide fog-free viewing.
- A magnetic wiper to provide visor clearing of the internal and external surfaces during use.

The PRO PP facemask is certified to EN 136 class 3 for use with the BioPak 240R closed-circuit, positive-pressure respirator.

Spectacle frames are available from **Biomarine** into which wearers can insert their own prescription lenses. The frames are sited inside the facemask allowing the facemask seal to remain unbroken during use.

2. TOOLS

The following tools are required to service the facemask

- T15 Torx Screwdriver
- B6-02-5003-43-0, PRO Field Test Kit (or equivalent)
- B6-02-5002-16-0 or B6-02-5002-16-3, BioPak 240R Tool Kit (or equivalent)

3. FIELD SERVICING INSTRUCTIONS

WARNING:

Use only spare parts designated by the manufacture and this manual.

Note:

- Facemasks must be positive-pressure tested a minimum of once per year, or after any servicing involving barrier seals, as described in the PRO PP Mask Field Test Kit.
- Facemasks must be inspected after each use to ensure that all components are in good condition and have not suffered adverse wear or damage.
- Facemasks must be stored in a clean, dry environment, away from direct sunlight and extreme humidity: both of which age and harden rubber components, thus impairing mask performance.
- Facemasks **MUST** be completely dry prior to storing.
- Bracketed numbers in the instructions e.g.: (4) refer to components depicted in the Illustrated Parts List at the end of this manual.

3.1 Replacing the Visor

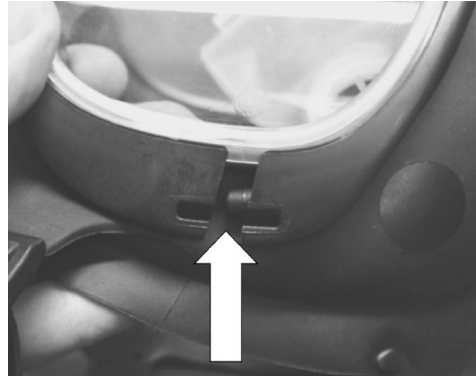


1. Using a T15 Torx Screwdriver, undo visor frame screws (8) and remove visor frame (8) from facemask. Place frame and screws aside or discard as appropriate.
2. Gently pull outer mask (6) from location groove in periphery of visor (7). Remove visor from facemask and discard.
3. Examine replacement visor (7) to ensure correct orientation prior to fitment. Visors are marked with the word “**UP**”, which should be in the uppermost position when fitted to the facemask.



4. Carefully align visor (7) with aperture in outer mask (6). At area adjacent to front cover (1), insert outer mask location lip into location groove in visor.
5. Starting from front cover (1), work around visor periphery to insert remaining outer mask location lip into visor location groove.
6. Check to ensure that outer mask location lip is correctly positioned within visor location groove.

3.1 Replacing the Visor (continued)



7. Locate lower visor frame into position around lower half of visor, taking care to ensure that location boss on frame is correctly aligned with cut-out in visor.
 8. Position upper visor frame around upper half of visor, taking care to ensure that location boss on frame is correctly aligned with cut-out in visor. Note that the upper frame will contain blind holes from the screws, while the lower frame will have through holes for the screws.
- Note:** When the visor frames are correctly positioned, there will be a gap of approximately 5mm between the upper and lower frames at the positions where the screws are to be fitted (see above). This gap is closed by the action of the screws during fitment.
9. Secure upper and lower halves of frame together with screws, using a T15 screwdriver. Tighten screws evenly until hand-tight. DO NOT over-tighten.
 10. Leak-test the facemask assembly using the PRO PP Mask Field Test Kit or equivalent. The completed facemask shall be able hold an internal pressure of 15-20 mbar (6-8 "WC) with an internal pressure drop of no more than 0.5 mbar (0.2 "WC) in a 1-minute period.

3.2 Replacing the Inhale Valve Flaps in the Inner Mask



1. Pull head harness (13) aside to allow easy access to inner mask (9).
2. Inspect inhale valve flaps (12) carefully to ensure that they lie flat against the valve frames (11).
3. To remove valve flap (12), grip flap from inside inner mask (9) and pull gently until flap disengages from valve frame (11). Discard valve flap.
4. To fit new valve flap (12), work from inside of inner mask (9) to insert shank on flap into center hole in valve frame (11).
5. Working from outside of inner mask (9), gently pull shank on flap through valve frame (11) until shank is fully engaged. Ensure that new flap lies flat on valve frame.

3.3 Replacing the Speech Diaphragm



1. Remove inner mask (9) from around speech diaphragm (4).
2. Depress locking tab on speech diaphragm (4) and pull diaphragm to withdraw from speech channel body (3). Place diaphragm aside or discard as appropriate.
3. Lightly lubricate diaphragm O-Ring (5) with Dow-111 lubricant and insert diaphragm (4) into speech channel body (3), ensuring the locking tab clicks into place on speech channel body.
4. Re-position inner mask (9) around speech diaphragm and side ports until correctly located.
5. Leak-test the facemask assembly using the PRO PP Mask Field Test Kit or equivalent. The completed facemask shall be able to hold an internal pressure of 15-20 mbar (6-8 "WC) with an internal pressure drop of no more than 0.5 mbar (0.2 "WC) in a 1-minute period.

3.4 Replacing the Inner Mask



1. To provide greater access, remove speech diaphragm (4) as described in Section 3.3 of this manual.
2. Working from inside of facemask, use the fingers to pull retaining ring (10) from its mounting on valve housing.
3. Withdraw inner mask and retaining ring (9 & 10) from facemask. If inner mask is to be discarded, remove valve flaps (12) and valve frames (11) prior to disposal.
4. Insert replacement inner mask and retaining ring assembly (9 & 10) into facemask and locate retaining ring (10) over valve housing.

WARNING:

Ensure that the retaining ring is correctly seated on the valve housing before proceeding further.

5. Re-fit speech diaphragm (4) and position inner mask (9) as described in Section 3.3 of this manual.
6. Leak-test the facemask assembly using the PRO PP Mask Field Test Kit or equivalent. The completed facemask shall be able hold an internal pressure of 15-20 mbar (6-8 "WC) with an internal pressure drop of no more than 0.5 mbar (0.2 "WC) in a 1-minute period.

3.5 Replacing the Speech Channel Body

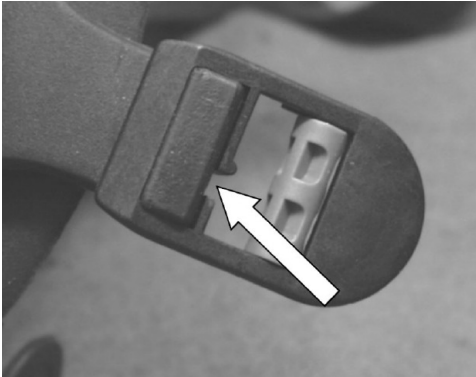


1. Remove speech diaphragm (4) as described in Section 3.3 of this manual.
2. Using a T15 Torx screwdriver, remove front cover screws (2) and place aside or discard as appropriate.
3. Pull front cover (1) to remove from outer mask (6) and place aside or discard as appropriate.

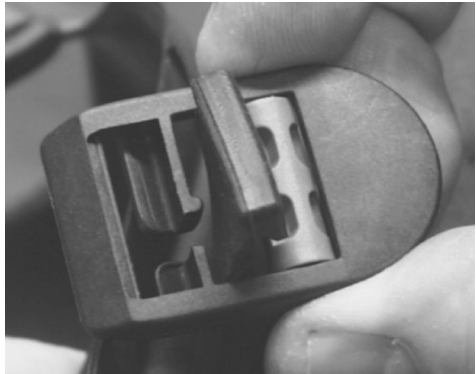


4. Working from OUTSIDE of facemask, use thumb to firmly but carefully push speech channel body (3) towards inside of facemask.
5. Remove speech channel body (3) and place aside or discard as appropriate.
6. Working from INSIDE of facemask, insert replacement speech channel body (3) into aperture in outer mask, taking care to ensure that speech channel body is correctly seated in aperture.
7. Push front cover (1) firmly into position over front rim of speech channel body (3), ensuring that cover is correctly seated.
8. Secure front cover (1) in position with screws (2) using T15 Torx screwdriver. Hand-tighten evenly, DO NOT over-tighten.
9. Leak-test the facemask assembly using the PRO PP Mask Field Test Kit or equivalent. The completed facemask shall be able to hold an internal pressure of 15-20 mbar (6-8 "WC) with an internal pressure drop of no more than 0.5 mbar (0.2 "WC) in a 1-minute period.

3.6 Replacing a Head-Harness Buckle and Roller



1. Remove head-harness (13) from buckle and roller (14).
2. Curl edge of strap into gate in buckle (arrowed above) and thread full width of strap through gate.
3. Remove buckle from strap.



4. Insert strap through replacement buckle.
5. Curl edge of strap into gate in buckle and thread full width of strap into position through gate.

3.7 Non-Serviceable Components

The below listed components are not considered serviceable in the field. Repairs to the below components should be sent to Biomarine or a local authorized Biomarine Distributor.

- Front Interface BioPak Connection (not depicted)
- Cheek Blanking Port
- Cheek Drinking Port

4. FACTORY SERVICING

Please contact **Training & Technical Support Services** or your local distributor for training course details or for servicing.

Local distributor contact information can be obtained from the Biomarine website at:

www.BioPak240R.com

Training & Technical Support Services:

Biomarine Inc.
456 Creamery Way
Exton, PA 19341
United States of America

Tel: +1 610.524.8800

Fax: +1 610.524.8807

5. ILLUSTRATED PARTS LIST

ITEM #	PART NUMBER	DESCRIPTION
REF	B6-02-5003-09-1	PRO PP Facemask-Small
REF	B6-02-5003-21-1	PRO PP Facemask-Small with Drink Port
REF	B6-02-5003-09-0	PRO PP Facemask-Medium/Large
REF	B6-02-5003-21-0	PRO PP Facemask-Medium/Large with Drink Port
1	B2-06-6002-61-0	Front Cover & Screws
2	B2-06-6002-62-0	Front Cover Screw, Supplied in Pack of 10
3	B2-06-6002-63-0	Speech Channel Body
4	B2-06-6002-64-0	Speech Diaphragm
5	-	Speech Diaphragm O-Ring ¹
6	-	Outer Mask Assembly-Small ²
6	-	Outer Mask Assembly-Medium/Large ²
7	B6-02-5003-47-0	Visor with Anti-Fog Laminate & Hard Coat-Polycarbonate
8	B2-06-6002-65-0	Visor Frame and Screws
9	B2-06-6002-66-0	Inner Mask & Ring
10	-	Inner Mask Retaining Ring ³
11	B2-06-6002-67-0	Valve Frame, Supplied in Pack of 2
12	B2-06-6002-68-0	Valve Flap, Supplied in Pack of 6
13	B2-06-6002-51-0	Web Head-Harness-Butyl/NR
13	B2-06-6002-51-1	Net Head Harness-Kevlar
14	B2-06-6002-50-0	Buckle & Roller, Supplied in Pack of 5 each
15	B2-06-6002-52-0	Neck Strap Assembly
16	B2-06-6002-69-0	Neck Strap Mounting Clip
17	B2-06-6002-37-0	Spectacle Frame

Note:

1. O-Ring, item 5, is to be lubricated with Dow-111 lubricant, B5-01-3000-11-0. O-ring is only supplied as part of item 4.
2. Outer mask, item 6, is not supplied as a spare part. Damaged outer masks will require the purchase of a complete mask assembly.
3. Retaining Ring, item 10, is only supplied with Inner Mask, item 9.

5. ILLUSTRATED PARTS LIST (continued)

