



# User's Instructions

## CAPR® Systems

**Bio-Medical Devices Intl • [www.maxair-systems.com](http://www.maxair-systems.com)**

17171 Daimler Street, Irvine, CA 92614 800.443.3842

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For more Information:

**U.S./ Canada**

**Telephone:**

800-443-3842/ 949-752-9642

**Fax:**

949-752-9658

**Website:**

[www.maxair-systems.com](http://www.maxair-systems.com)

**E-mail:**

[info@maxair-systems.com](mailto:info@maxair-systems.com)

**Shipping/ Mailing Address:**

Bio-Medical Devices Intl  
17171 Daimler Street  
Irvine, CA 92614  
USA

**International**

**Telephone:**

49-511-39 08 95 30

**Fax:**

49-511-39 08 95 39

**Website:**

[www.mdi-europa.com](http://www.mdi-europa.com)

**E-mail:**

[info@mdi-europa.com](mailto:info@mdi-europa.com)

**Shipping/ Mailing Address:**

Mdi Europa GmbH  
Langenhagener Straße 71  
D-30855 Langenhagen  
Germany

**CE Notified Body No: 0194**

**Telephone:**

+44 (0) 16 1737 0699

**Fax:**

+44 (0) 16 1736 0101

**Website:**

[www.inspec-international.com](http://www.inspec-international.com)

**E-mail:**

[kevin.warren@inspec-international.com](mailto:kevin.warren@inspec-international.com)

**Shipping/ Mailing Address:**

INSPEC International Ltd  
56 Leslie Hough Way  
Salford  
Greater Manchester  
M6 6AJ  
United Kingdom

**\*\* IMPORTANT - PLEASE REGISTER YOUR HELMET AND BATTERY WITHIN 30 DAYS \*\***

Please take a moment to register at <http://www.maxair-systems.com/warranty.html>.

## MAXAIR Limited Warranty

**MAXAIR Limited Warranty:** The BMDI (Bio-Medical Devices Intl) limited warranty provides, subject to the following limitations, that each MAXAIR Systems Helmet and Lithium Ion Battery will be free from defects in material and workmanship and will conform to BMDI's specifications for that particular product. This limited warranty is in effect for a period of one year (12 calendar months) from the date of original purchase.

**Limitation of Remedies:** Within the limited warranty period, it is the sole discretion of BMDI to elect which remedy, repair, replacement or combo to provide, as long as Buyer has not altered the said products in any way and has maintained said products in accordance with BMDI's recommendations. BMDI shall have a reasonable amount of time after determining that a defective Product exists to repair or replace a defective Product. BMDI's replacement product under this limited warranty will be manufactured from new and serviceable used parts. BMDI's limited warranty applies to repaired or replaced products for the balance of the applicable period of the original warranty, or ninety days from the date of shipment of a repaired or replaced Product, whichever is longer.

**Limitation of Damages:** BMDI's ENTIRE LIABILITY FOR ANY DEFECTIVE PRODUCT SHALL IN NO EVENT EXCEED THE PURCHASE PRICE FOR THE DEFECTIVE PRODUCT.

## Return Material Authorization (RMA)

No Product may be returned directly to BMDI without first contacting BMDI Customer Service, 1-800-443-3842, for a Return Material Authorization ("RMA") number. If it is determined that the product may be defective, BMDI Customer Service will provide an RMA number and instructions for product return. An unauthorized return, i.e. one for which an RMA number has not been issued, will be returned to the customer at the customer's expense. Authorized returns are to be shipped prepaid and insured to the address on the RMA in an approved shipping container. Your original box and packaging materials should be kept for storing or shipping your product.

## Notification of Status of Decontamination (SOD)

A Status of Decontamination (SOD) certification, signed by the institution's Infection Control Director, must accompany all returned product(s). This certification must be affixed to the outside of the box containing the returned product(s). The certification is to clearly state 1) the decontamination status of the returned product(s) relative to their having been exposed to any pathogenic, toxic, or otherwise harmful contaminants, and 2) the list of contaminants the product(s) may have been exposed to, that could jeopardize the health of all BMDI receiving personnel who may handle the product(s) during unpacking.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE OF THE BMDI LIMITED WARRANTY. BMDI DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING THE PRODUCTS, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. THIS WARRANTY IS THE EXCLUSIVE REMEDY OF BUYER WITH RESPECT TO ANY CLAIM RELATING TO THE MAXAIR SYSTEMS HELMET AND LI-ION BATTERY, WHETHER ARISING AT LAW OR AT EQUITY, OTHER THAN CLAIMS FOR PERSONAL INJURY PROXIMATELY CAUSED BY A DEFECT IN THESE ITEMS.

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# 1. Warnings, Cautions, Notes, Symbols and Part Numbers

## 1.1 Important Information

The words WARNING, CAUTION, and NOTE have special meanings and should be reviewed.

<b>WARNING</b>	The personal safety of the user may be involved. Disregarding this information could result in injury to the user.
<b>CAUTION</b>	These instructions point out special procedures or precautions and must be followed. Disregarding this information could result in jeopardizing the product reliability.
<b>NOTE</b>	Provide special information that supplements and/ or clarifies important instructions.
	A triangle with an exclamation point alerts the intended user to place extra emphasis on reading and understanding the accompanying instructions for operating, maintenance and safety information.

## Warnings and Cautions



### **WARNING**

This User's Instructions and Instructions for Use, that accompany each package of system components, including the Warnings, Cautions and Special or Critical User's Instructions, must be read thoroughly and followed carefully by all persons who have, or will have, the responsibility for using the system. The system will perform as designed only if it is used and maintained per the User's Instructions. Failure to follow the User's Instructions may be hazardous to the user's health.

### **NIOSH Cautions and Limitations**

- A Not for use in atmospheres containing less than 19.5% oxygen, or more than 25% oxygen.
- B Not for use in atmospheres immediately dangerous to life or health.
- C Do not exceed maximum use concentrations established by regulatory standards.
- F Do not use powered air-purifying respirators if airflow is less than 4 CFM (115 LPM) for tight fitting face pieces or 6 CFM (170 LPM) for hoods and/or helmets.
- I Contains electrical parts that may cause an ignition in a flammable or explosive atmosphere.
- J Failure to properly use and maintain this product could result in injury or death.
- L Follow the manufacturer's instructions for changing cartridges, canisters and/or filters.
- M All approved respirators shall be selected, fitted, used, and maintained in accordance with MSHA, OSHA, and other applicable regulations.
- N Never substitute, modify, add, or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
- O Refer to User's Instructions, and/or maintenance manuals for information on use and maintenance of these respirators.
- P NIOSH does not evaluate respirators for use as surgical masks.
- S Special or Critical user's instructions and specific use limitations apply. Refer to User's Instructions before donning.

## 1.2 S- Special or Critical User's Instructions



### **WARNING** **Special or Critical User's Instructions**

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- NIOSH approved HE filters can be used for protection against particulate aerosols containing oil. However, Bio-Medical Devices Intl does not recommend use of MAXAIR Systems in oily atmospheres unless specifically indicated on the product.
- Do not use near flame or other heat source.
- The use of MAXAIR Systems in an alarm condition is only for immediate exit to a safe environment.
- During high energy work (exertion) rates, it is possible to over-breathe the MAXAIR System and create a negative pressure situation.
- If air flow is cut off, immediately hold your breath and immediately exit to clean air.
- In the power-off state, little or no respiratory protection is to be expected. Attempted use in this manner is an abnormal situation.
- In the powered-off state, rapid buildup of carbon dioxide and depletion of oxygen within the DLC system may occur.
- Non-Filtering areas of the Body Coverings for the 2270-04 and 2270-06 Hoods are tested per ASTM F1671 by an accredited third party laboratory demonstrating compliance to the ANSI/AAMI PB70 Level 4 standard or testing criteria as applicable. NIOSH does not conduct this testing as part of their approval.



### **CAUTION**

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- When subjected to harsh use in critical environments (e.g. holding and dropping a battery by the power cord) the helmet-battery power cord will wear at a much faster rate than normal. In these types of circumstances, the power cord should be examined prior to each use, and it is recommended to be changed out every 30 days, or sooner if it becomes damaged or degraded.
- Do not operate in environments with temperatures exceeding 54°C
- A suitable environment is when an employee can work a full shift comfortably without any special paraphernalia other than normal clothing.
- Replace damaged or worn Filters immediately.
- Always start with a fully charged battery.
- Charge Li-Ion Battery in a MAXAIR Lithium-Ion battery charger only.
- The Helmet Power Cord should not be removed from its connection to the Helmet unless the Power Cord needs replacement.
- Do not immerse system components in liquid.
- Never use compressed air to clean any part of the MAXAIR System.
- There are no user-serviceable parts inside the Helmet and Li-Ion Battery. Do not attempt to dis-assemble, open or service the Helmet and Li-Ion Battery. Call Customer Service, 1-800-443-3842, for assistance.

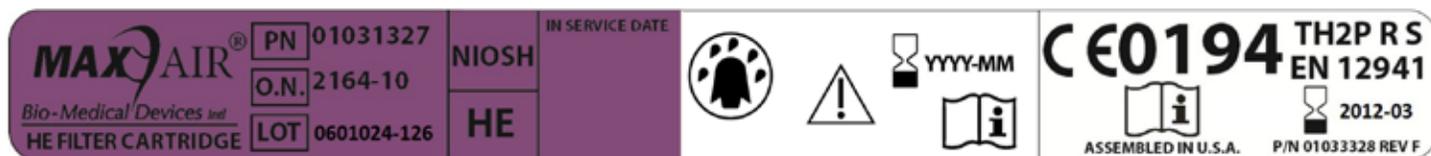
### 1.3 SYMBOLS – General and Packaging

1		European market "CE" and notified body number "0194".	19		Serial Number
2		National Institute for Occupational Safety and Health.	20		Part Number
3		Refer to approval label and User's instructions for cautions, limitations, and approved assembly configurations.	21		Batch Code
4		High Efficiency.	22		Quantity
5		Fluid Resistance / Standard	23		Order Number
6		Level 4, ANSI/ AAMI PB70	24		Authorized representative in the European community.
7		Consult instructions for use (IFU)	25		Indoor Use Only
8		Consult User Instructional Manual (UIM) of MAXAIR System	26		Type L and Type R Listing Marks for Canada and the United States
9		Do Not in environments requiring intrinsic safety	27		UL Recognized Component Marks for Canada and the United States.
10		Place of Manufacture	28		European EMC testing to EN60601-1
11		Date of Manufacture	29		Caution, risk of electrical shock. High Voltage.
12		Storage Kept Dry. Keep away from rain.	30		Double insulation
13		Storage Humidity Upper limitation.	31		Recyclable.
14		Storage Temperature limitation.	32		Caution, Warning
15		Battery: Operational Upper limit of temperature.	33		British Standard: Respiratory protective devices- Powered filtering devices incorporating a helmet or a hood.
16		Per Directive 2002/96/EC, product must be collected separately. Do not dispose of as unsorted municipal waste. Contact local distributor for disposal information.	34		Charging
17		Per Directive 2006/66/EC, collect and recycle batteries/ battery packs according to EU Member State regulations.	35		Charge Complete.
18		Use by			

## 2. Regulatory Marking Definitions

### 2.1 Marking Definitions

Filter markings and colors contain shared and unique information respective to the NIOSH and CE regulatory bodies.



#### NOTE

Artwork Shown is for Reference Only.

**NIOSH (Contents within magenta background):** MAXAIR Systems provide HE- High Efficiency Particulate Air Filtering per NIOSH 42 CFR 84.

- "HE" and "NIOSH" are specific terminology for Filter Protection Classifications per NIOSH VFR.
- Purple label background color is specific to NIOSH Filter color coding requirement per ANSI Z88.7-2001.

**CE (Contents outside of magenta background):** The user should not confuse the markings on a filter relating to any standard other than EN 12941 with the classification of this device when used with the corresponding filter.

- MAXAIR Systems meet CE TH2 Class design requirements.
- "EN12942, TH2P R S, CE0194" is specific terminology for Filter Protection Classification per EN 12941:1998 + A2 : 2008.
- White label background is specific to CE Filter color coding requirements per EN 12941:1998 + A2 : 2008.



#### CAUTION

The purchaser/user is responsible for determining the appropriateness of the CAPR System for each/any of their particular applications/environments.

## 2.2 Approved System Configurations

Refer to the regulatory approval inserts and the following NIOSH website addresses for MAXAIR CAPR regulatory approval status.

[http://www2a.cdc.gov/drds/cel/cel\\_results.asp?startrecord=1&Search=cel\\_form&maxrecords=50&manufacturer=BMD&appdatefrom=&appdate to=&powered=&scbatype=&scbause=&privatelabel=](http://www2a.cdc.gov/drds/cel/cel_results.asp?startrecord=1&Search=cel_form&maxrecords=50&manufacturer=BMD&appdatefrom=&appdate to=&powered=&scbatype=&scbause=&privatelabel=)

[http://www.cdc.gov/niosh/nppt/topics/respirators/disp\\_part/PAPRtables.html](http://www.cdc.gov/niosh/nppt/topics/respirators/disp_part/PAPRtables.html)

The following table summarizes current components that may be used to configure systems relative to the applicable Approval Body.

ITEM NUMBER	DESCRIPTION	FILTER CARTRIDGE			NIOSH	CE
		2164-10	2165-10	2163-10 XP		
2071-01	Liner (included with 2070-03)	✓	✓	✓	✓	✓
2070-03	CAPR Helmet	✓	✓	✓	✓	✓
2061-03	Filter Cover Cap (FCC)	✓		✓	✓	✓
2075-03	CAPR Helmet with Filter Frame (Cage)				✓	
2076-03	CAPR Helmet with Filter Frame and ChinBar				✓	
2365-02ML	DLC Lens-Cuff, Medium-Large	✓		✓	✓	✓
2365-02SM	DLC Lens-Cuff, Small	✓		✓	✓	✓
2367-02	Quick Cuff				✓	
2260-05ML	DLC Shroud, Medium-Large	✓		✓	✓	
2260-05SM	DLC Shroud, Small	✓		✓	✓	
2261-01ML	DLC Double Shroud, Medium-Large	✓		✓	✓	
2261-01SM	DLC Double Shroud, Small	✓		✓	✓	
2270-01ML	DLC HE Hood, Medium-Large		✓		✓	
2270-01SM	DLC HE Hood, Small		✓		✓	
2270-03ML	DLC XP Hood, Medium-Large		✓		✓	
2270-03SM	DLC XP Hood, Small		✓		✓	
2270-04ML	DLC HE Hood, Medium-Large	✓			✓	
2270-04SM	DLC HE Hood, Small-Medium	✓			✓	
2270-06ML	HE Hood, Medium-Large	✓			✓	
2270-06SM	HE Hood, Small-Medium	✓			✓	
2500-30TSC	Li-Ion Battery, Large	✓	✓	✓	✓	✓
2500-36TSC	Li-Ion Battery, Small	✓	✓		✓	✓
2000-76	Battery Belt	✓	✓	✓	✓	✓
2600-01	Li-Ion Battery Charger	✓	✓	✓	✓	✓
<b>Use of Gang Charger and Bracket do not require NIOSH approval or CE Marking</b>						
2601-06	6-Gang Charger, w/6 2600-01 Chargers	✓	✓	✓		
2601-06B	6-Gang Charger Bracket, for 2600-01 Chargers	✓	✓	✓		

**NOTE:** \*The CE Marking affixed to the devices, indicates compliance with the following European Community Directives:

- Directive 89/686/EEC – Personal Protective Equipment (PPE)
- Directive 93/42/EEC – Medical Device

This PPE has been EC-type examined by the following notified body:

**INSPEC International Ltd**

**56 Leslie Hough Way**

**Salford**

**Great Manchester**

**M6 6AJ**

**Number 0194**

### 3. Introduction

#### 3.1 Part Numbers

Order Numbers (O.N.) are used throughout the User's Instructions for brevity. Table 1 lists the Order Numbers and respective Part Numbers for each component.

Table 1. Part Number Reference Chart

NIOSH No.	Syntech No.	Order No.	General Description
<b>Helmets</b>			
03531001 Helmet 03531021 Liner 2590-01 Power Cord	03531001 Helmet 03531021 Liner 2590-01 Power Cord	2070-03	CAPR Helmet
03531001 Helmet 01031269 Filter Frame 03531021 Liner 2590-01 Power Cord	03531001 Helmet 01031269 Filter Frame 03531021 Liner 2590-01 Power Cord	2075-03	2070-03 Helmet with Filter Frame (Cage)
03531001 Helmet 01031269 Filter Frame 03531104 Liner w/ChinBar 2590-01 Power Cord	03531001 Helmet 01031269 Filter Frame 03531104 Liner w/ChinBar 2590-01 Power Cord	2076-03	CAPR Helmet with Filter Frame (Cage) and Liner-ChinBar
<b>Helmet Covers</b>			
01031284	01031284	2061-03	Filter Cover Cap
<b>Helmet Liners</b>			
03531021	03531021	2071-01	Liner
03531104	03531104	2071-02	Liner w/Chinbar
<b>Helmet Power Cords</b>			
2590-01	2590-01	2590-01	Long Power Cord
2590-03	2590-03	2590-03	Long Power Cord w/Quick Connect
<b>Filters &amp; Filter Cartridges</b>			
01031327	01031327	2164-10	(HE) Filter Cartridge
01031279	01031279	2163-10	XP Filter Cartridge
01031254	01031254	2165-10	Post Filter Cartridge
07831040	07831040	2170-26	Heavy Loading Filter (HLF)
<b>Hoods</b>			
01031417	01031417	2270-01SM	HE Hood
01031425	01031425	2270-01ML	HE Hood
01031513	01031513	2270-03SM	XP Hood
01031521	01031521	2270-03ML	XP Hood
07831036	07831036	2270-04SM	L4 HE Hood for 2075-03 Helmet, Small Medium
07831037	07831037	2270-04ML	L4 HE Hood for 2075-03 Helmet, Medium Large
07831038	07831038	2270-06SM	L4 HE Hood for 2076-03/2026-03 Helmet, Small Medium
07831039	07831039	2270-06ML	L4 HE Hood for 2076-03/2026-03 Helmet, Medium Large
<b>SHROUDS</b>			
01031435	01031435	2260-05SM	DLC Shroud
01031434	01031434	2260-05ML	DLC Shroud
01031394	01031394	2261-01SM	DLC Double Shroud, Basic
01031396	01031396	2261-01ML	DLC Double Shroud, Basic
<b>Cuffs</b>			
01031316	01031316	2365-02 SM	DLC Lens-Cuff
01031291	01031291	2365-02 ML	DLC Lens-Cuff
07631022	07631022	2367-02	Quick Cuff

Table 1. Part Number Reference Chart - continued

NIOSH No.	Syntech No.	Order No.	General Description
<b>Batteries</b>			
01532116	01532116	2500-30TSC	Li-Ion Battery, Large, Secured Cord
01531104	01531104	2500-36TSC	Li-Ion Battery, Small, Secured Cord
01531030	01531030	2000-30,	Battery, Li-Ion, Large
01531032	01531032	2000-30T 2000-36 , 2000-36T	Battery, Li-Ion, Small
<b>Chargers</b>			
01432089	01432089	2600-01	Li-Ion Battery Charger
	01432150 brackets&plate 01421149 power cord	2601-06	Charger, 6-Gang, for 2600-01 chargers
	01432150 brackets&plate 01421149 power cord	2601-06B	Charger Kit, 6-Gang, for 2600-01 chargers
<b>Accessories</b>			
2000-76	2000-76	2000-76	Li-Ion Battery Belt
	P900072	2000-201	Comfort Strips
	02023003	2000-204	Helmet Hook
02531132	02531132	2000-203	Chin Strap
	2000-206	2000-206	Liner Foam Kit
	2000-SB	2000-SB	Duffel Bag
	2702-01	2702-01	Front and Rear Adapters, 2070-03 Helmet

## 3.2 Systems and System Components

Systems are configured from a base of four main components, a Helmet, a Battery, a Battery Belt, and a Battery Charger. The Belt and Charger are common to all systems.

The Helmet and Battery determine the available Head/Face Covers available to a specific System

ITEM	O.N.	PN	DESCRIPTION
<b>DLC-CAPR-36</b>			
1	2070-03		Helmet
2	2500-36TSC		Li-Ion Battery
3	2000-76	2000-76	Li-Ion Battery Charger
4	2600-01		Battery Belt
<b>DLC-CAPR-30</b>			
1	2070-03		Helmet
2	2500-30TSC		Li-Ion Battery
3	2000-76	2000-76	Li-Ion Battery Charger
4	2600-01		Battery Belt
<b>CAPR-36</b>			
1	2075-03		Helmet
2	2500-36TSC		Li-Ion Battery
3	2600-76	2000-76	Li-Ion Battery Charger
4	2600-01		Battery Belt
<b>CAPR-30</b>			
1	2075-03		Helmet
2	2500-30SC		Li-Ion Battery
3	26000-76	2000-76	Li-Ion Battery Charger
4	2600-01		Battery Belt
<b>CAPR-CB-36</b>			
1	2076-03		Helmet
2	2500-36TSC		Li-Ion Battery
3	2000-76	2000-76	Li-Ion Battery Charger
4	2600-01		Battery Belt
<b>CAPR-CB-30</b>			
1	2076-03		Helmet
2	2500-30TSC		Li-Ion Battery
3	2000-76	2000-76	Li-Ion Battery Charger
4	2600-01		Battery Belt

### 3.3 Head/Face Covers vs. Helmet/Battery Selections

HELMET		2070-03		2075-03		2076-03	
BATTERY		2500 -36TSC	2500 -30TSC	2500 -36TSC	2500 -30TSC	2500 -36TSC	2500 -30TSC
O.N.	DESCRIPTION	APPLICABILITY					
2000-76	Battery Belt	✓	✓	✓	✓	✓	✓
2600-01	Battery Charger, Single	✓	✓	✓	✓	✓	✓
<b>Hoods and related</b>							
2270-01ML	DLC HE Hood, Medium-Large	✓	✓				
2270-01SM	DLC HE Hood, Small	✓	✓				
2270-03ML	DLC XP Hood, Medium-Large		✓				
2270-03SM	DLC XP Hood, Small		✓				
2270-04ML	DLC HE Hood, Medium-Large			✓	✓	✓	✓
2270-04SM	DLC HE Hood, Small-Medium			✓	✓	✓	✓
2270-06ML	HE Hood, Medium-Large					✓	✓
2270-06SM	HE Hood, Small-Medium					✓	✓
<b>Shrouds</b>							
2260-05ML	DLC Shroud, Medium-Large	✓	✓				
2260-05SM	DLC Shroud, Small	✓	✓				
2261-01ML	DLC Double Shroud, Medium-Large	✓	✓				
2261-01SM	DLC Double Shroud, Small	✓	✓				
<b>CUFFS</b>							
2365-02ML	DLC Lens-Cuff, Medium-Large	✓	✓				
2365-02SM	DLC Lens-Cuff, Small	✓	✓				
<b>Helmet Options</b>							
2061-03	Filter Cover Cap	✓	✓				
2590-01	Straight Power Cord, 59"	✓	✓	✓	✓	✓	✓
2590-03	Straight Power Core, 59", Quick Connect	✓	✓	✓	✓	✓	✓
<b>Options for Charging</b>							
2601-06	6-Gang Charger, with 2600-01 Chargers	✓	✓	✓	✓	✓	✓
2601-06B	6-Gang Charger Bracket, for 2600-01 Chargers	✓	✓	✓	✓	✓	✓

### 3.4. Applicability of Earlier Version Components and Assemblies

#### 3.4.1 Filter Cover Cap (FCC), 2061-03

The current version FCC includes a right-side and a left-side snap on the rear half of the FCC Skirt (A). These snaps are to secure the top of the DLC-Shroud and DLC-Double Shroud, 2260-05ML/SM and 2261-01ML/SM, respectively.

The earlier version of FCC does not include these snaps (B) and must not be used with the DLC-Shroud and DLC-Double Shroud, 2260-05ML/SM and 2261-01ML/SM, respectively.

When upgrading older DLC CAPR Systems to use them with the DLC-Shroud and DLC-Double Shroud, 2260-05ML/SM and 2261-01ML/SM, respectively, you must upgrade those systems to the new version FCC.



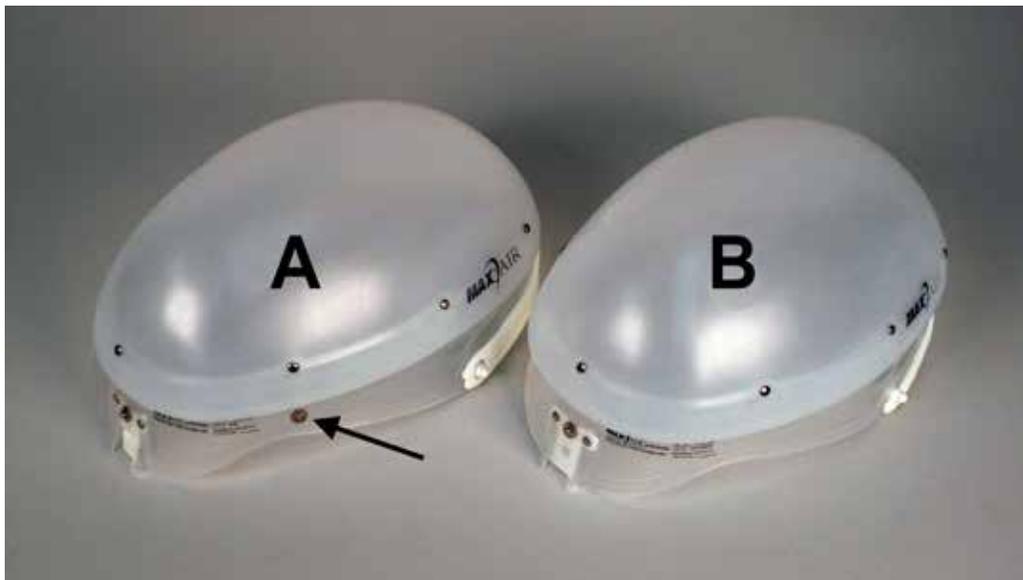
#### NOTE

The new version FCC was included with your 2074-04 Helmet Kits and 2061-03 FCCs if purchased after September 2012.



#### WARNING

If you have CAPR Helmets with Filter Cover Caps, 2061-03, with lot numbers with a lower number than 1209007-N, inspect them for the presence of the rear snaps on each side (A). If they are not there, you must replace those FCCs with newer versions with the snaps to safely use the DLC-Shroud and DLC-Double Shroud, 2260-05ML/SM and 2261-01ML/SM, respectively, with your CAPR Helmets.



### 3.4.2 Lithium-Ion Batteries (LIBS) - 2500-36TSC and 2500-30TSC

The 2500-36TSC supersedes the 2000-36 and 2000-36T LIBs.

The 2500-30TSC supersedes the 2000-30 and 2000-30T LIBs.

The functionality and performance of the 2500 Series LIBs is equivalent to those LIBs they supersede and they may be used interchangeably relative to performance and application.



**CAUTION**

The power cord for the 2500 Series LIBs has a different cord-to-battery connector (A) and this cord must be used with the 2500 Series LIBs, and not the older cord (B). The new cord is also compatible with the older style LIBs. The older cords do not connect reliably with the 2500 Series LIBs and must not be used with these new LIBs.

When you purchase a 2500 Series LIB you will receive new power cords for each of the MAXAIR Helmets you have purchased over time. You must discard all older power cords when you receive your new 2500 Series LIBs to ensure you are always using the correct connector, regardless of newer or older battery.



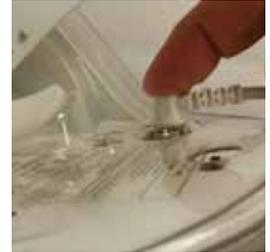
**To Exchange Power Cords**



1. Firmly grasp the flat sides of the older Power Cord-to-Helmet Connector.



2. Firmly lift the flat Power Cord-to-Helmet Connector up and out of the Helmet receptacle.



3. Place the newer Power Cord-to-Helmet Connector into the Helmet receptacle and push in until it is firmly seated.



**NOTE**

The 2500 Series LIBs incorporate a Secure Lock Button and mechanism that securely locks the power cord connector, from the helmet, into the battery connector. The operation of this Secure Lock Button is described in all appropriate sections of the User's Instructions.



If you have questions about the newer versions described in this section, please contact Customer Service at [info@maxair-systems.com](mailto:info@maxair-systems.com), or 1-800-443-3842.

### 3.5 Standard System Components and Order and Part Numbers

The MAXAIR® Systems CAPR® DLC (**D**isposable **L**ens **C**uff) Systems are multi-application air-purifying, Li-Ion Battery powered particulate respirators that optimize user safety, convenience, ease-of-use, and cost effectiveness.

The CAPR loose fitting Powered Air Purifying Respirator (PAPR) System configurations are for filtering aerosolized and droplet particulates from otherwise breathable air.



ITEM	O.N.	PN	DESCRIPTION
1	2071-01 <sup>A</sup>	03531021	Helmet Liner
2	2070-03 <sup>A</sup>	03531001	Helmet
3	2164-10 <sup>B</sup>	01031327	HE Filter Cartridge
4	2061-03 <sup>C</sup>	01031284	Filter Cover Cap (FCC)
5	2365-02SM <sup>D</sup> 2365-02ML <sup>D</sup>	01031316 01031291	Disposable Lens Cuff (DLC) - Small/ Medium (SM) and Medium/ Large (ML)
6	2500-36TSC <sup>E</sup>	01532104	Li-Ion Battery
7	2600-01	01432089	Li-Ion Battery Charger
8	2000-76	2000-76	Battery Belt

A Each 2070-03 Helmet ships with a 2071-01 Helmet Liner assembled to the helmet.

B Alternate Filter Cartridges for Hoods and Shrouds.

C Not used with Hood configurations.

D Alternate head/face covers include Shrouds and Hoods.

E Alternate Batteries may be available for some configurations.

### 3.6 Helmets

#### 3.6.1 2070-03 Helmet - Common Helmet Characteristics Except Where Noted

Identify, familiarize and understand the following key items

1. LED Safety Status Indicators

2. Front Headband Comfort Strip

3. Front Liner Pads

4. Side Foam

5. Side Strap with Snaps

6. Rear Liner Pads

7. Helmet Label

8. Power Cord

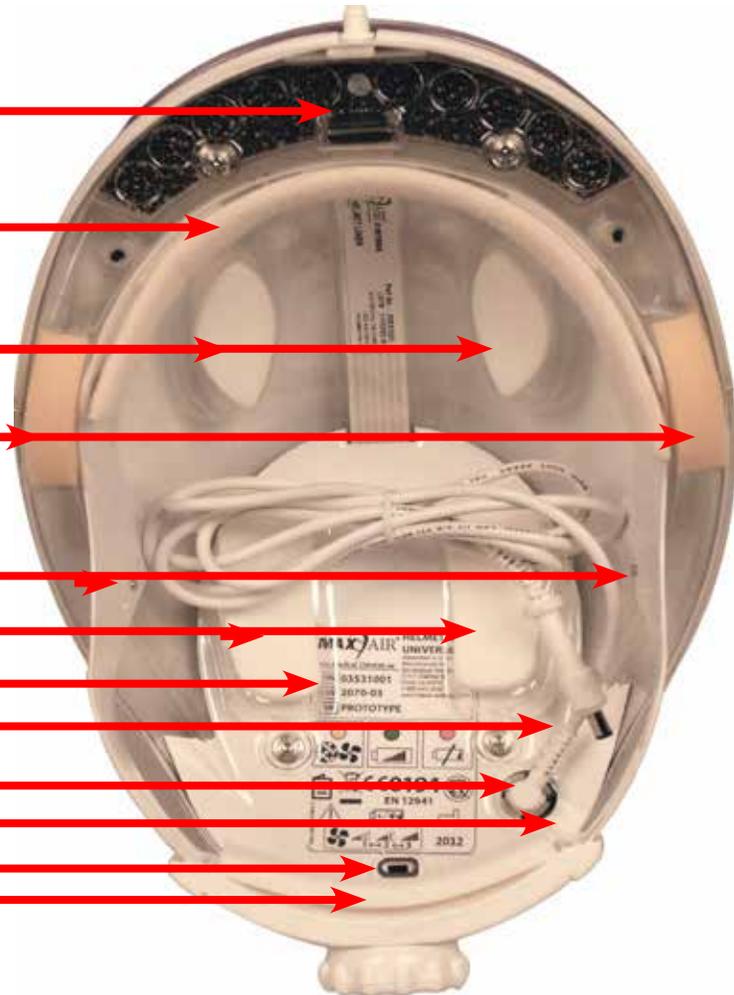
9. Helmet Power Cord Connector

10. Liner Power Cord Slot

11. Airflow Controller

12. Back Headband Comfort Pad

**FRONT**



**REAR**



13. FCC Rear Adapter Post  
14. FCC T-Tab

15. Rear Headband Ratchet Adjustment Knob

16. FCC Side Adapter Post  
17. FCC Front Adapter Post

18. FCC Gasket



### 3.6.2 2075-03 Helmet with Filter Frame



Filter Frame

### 3.6.3 2076-03 Helmet with Filter Frame and ChinBar



ChinBar

### 3.6.4 Helmets Summary Differentiations



2070-03  
CAPR Helmet  
03531001  
03531021  
2590-01



2075-03  
2070-03 Helmet with Filter Frame  
(Cage)  
03531001  
01031269  
03531021  
2590-01



2076-03  
2070-03 Helmet with Filter Frame (Cage)  
and Liner-ChinBar  
03531001  
01031269  
03531104  
2590-01

Helmet Main Components	2070-03	2075-03	2076-03
03531001 Helmet	✓	✓	✓
01031269 Filter Frame		✓	✓
03531021 Liner	✓	✓	
03531104 Liner w/ChinBar			✓
2590-01 Power Cord	✓	✓	✓

### 3.6.5 Characteristics Details (Refer to pages 18-19)

#### 1 LED Safety Status Indicators



#### **WARNING**

Failure to heed the LED Safety Status Indicators and exit immediately to a safe environment when alarm conditions are present may be hazardous to the user's health. When Green LEDs are not lighted, the user should immediately exit to a safe area to obtain a recharged Battery.

- The CAPR Helmet has five LED Safety Status Indicators located on its underside front that are always visible in the user's peripheral vision. They alert the user to the safe operating conditions of the system. They will provide an early warning alert to the user when the CAPR Helmet is no longer able to maintain adequate airflow and/or Battery charge to provide adequate or continuing protection for the user.
- There are five LED Safety Status Indicators, one yellow, three green, and one red. On start-up, all LED's should come on briefly (LED test) before proceeding to normal operation. During normal operation, the LEDs continuously indicate the status of the Airflow and Battery charge level.
- Airflow is proper if the Yellow LED is off. A continuously lit or flickering Yellow LED indicates low or marginal airflow. If the Yellow LED is lit, check the Filter Cartridge for excess particulate/dirt build-up and damage, and replace if necessary.
- The Battery charge level is indicated by the three Green and one Red LEDs. The approximate charge level is continuously indicated by the changing LEDs.

CONDITION	DESCRIPTION	YELLOW	GREEN 3	GREEN 2	GREEN 1	RED
1	Battery charge OK, 75% to 100%, Airflow OK		✓	✓	✓	
2	Battery charge OK, 50% to 75%, Airflow OK			✓	✓	
3	Battery charge OK, 25% to 50%, Airflow OK				✓	
4	Battery charge LOW, 0% to 25%, Airflow OK					✓
5	Airflow LOW, Battery charge LOW	✓				✓
6	Airflow LOW, Battery charge OK, 75% to 100%	✓	✓	✓	✓	
7	Airflow LOW, Battery charge OK, 50% to 75%	✓		✓	✓	
8	Airflow LOW, Battery charge OK, 0% to 50%	✓			✓	

- When all three Green LEDs are lit, the Battery has approximately 75% to 100% of its charge.
- When two Green LEDs are lit, the Battery has approximately 50% to 75% of its charge.
- When only one Green LED is lit, the Battery has approximately 25% to 50% of its charge. When this occurs the user should prepare to exit to a safe area to obtain a fully charged Battery.
- When all three Green LEDs are off and the Red LED is lit, the Battery level is low, with approximately 0% to 25% charge left. When this occurs the user should promptly exit to a safe area to obtain a fully charged Battery.
- If the Battery did not provide 8-10 hours of use, change to a fully charged Battery or recharge the current Battery. (The optional large Battery can provide as much as 16-20 hours of use per charge).

#### 2 Front Headband Comfort Strip

Provides cushion for comfort. Attached via Velcro, and removable. For replacement refer to Accessories, Section 14.

#### 3 Front Liner Pads

Provide cushion for comfort. Attached via adhesive. For replacement refer to Accessories, Section 14.

#### 4 Side Foam

Attached via permanent adhesive. Cannot be replaced, require new Helmet Liner. For replacement refer to Section 14.

### 5 Side Strap with Snaps

Height adjustment. Four holes represent four possible height adjustments to accommodate different head sizes and ensure convenient viewing of the LED Safety Status Indicators. Secure into desired position by snapping against post/stud.

### 6 Rear Liner Pads

Provide cushion for comfort. Attached via adhesive. For replacement refer to Section 14.

### 7 Helmet Label

PN, O.N. and SN identification. Refer to symbol definition chart for further details.

### 8 Power Cord

Battery to Helmet Connection. For replacement, refer to Section 14.

### 9 Helmet Power Cord Connector

Connection for the Power Cord to the Helmet, which then connects to the Battery. The Power Cord should not be disconnected from this connector under normal operation conditions.

### 10 Liner Power Cord Slot

Allows removal of Helmet Liner without the removal of the power cord.

### 11 Airflow Controller

 **CAUTION**  
The Air Flow Switch is user adjustable to match the amount of air flow with the user's activity level and breathing requirements.

CAPR Helmets are equipped with a switch which adjusts the operating airflow. When the Helmet is first turned on it will start at a low level, then the airflow will increase to a preset point according to the switch position.

 **NOTE**  
When the Helmet is initially connected to the Battery, all five LED Safety Status Indicators are lighted briefly indicating all are functional. The red and yellow LEDs will turn off and the airflow increases to the appropriate operating level based on the Air Flow Switch position. The green LEDs will be on as appropriate to the battery charge level as indicated in the LED Safety Status Indicators table (previous page).

Air Flow Switch Position		
Low	Med	High
Air Flow in Liters Per Minute		
190	215	240

 **NOTE**  
The flow levels, in liters per minute, are only approximate.

### 12 Back Headband Comfort Pad

Provides cushion for comfort and sizing for very small head sizes. Attached via Hook and Loop, and removable. For replacement, refer to Section 14.

### 13 FCC Rear Adapter Post (optional, not on all models)

### 14 FCC (Rear) T-Tab

Locking/Release mechanism to provide secure mounting and dismounting of the FCC.

### 15 Rear Headband Ratchet

Head circumference adjustment knob.

### 16 FCC Side Adapter Posts

Attachment posts for the DLC Face Seal on both sides.

### 17 FCC Front Adapter Post

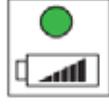
Front alignment post that mates with the front FCC hole.

### 18 FCC Gasket

Provides seal against DLC

### 3.6.6 Helmet Symbol Definitions

These symbols are located on the Helmet and are defined as follows:

	Yellow safety LED = Low airflow, check filter and replace if necessary.		Use with rechargeable Li-Ion batteries only.
	Green safety LEDs = battery level.		Airflow Speed relative to position of switch.
	Red safety LED = low battery.		Do Not Use in environments requiring intrinsic safety

### 3.7 2365-02SM/ML Overview

Identify, familiarize and understand the following key items.

1. Side Attachment Holes

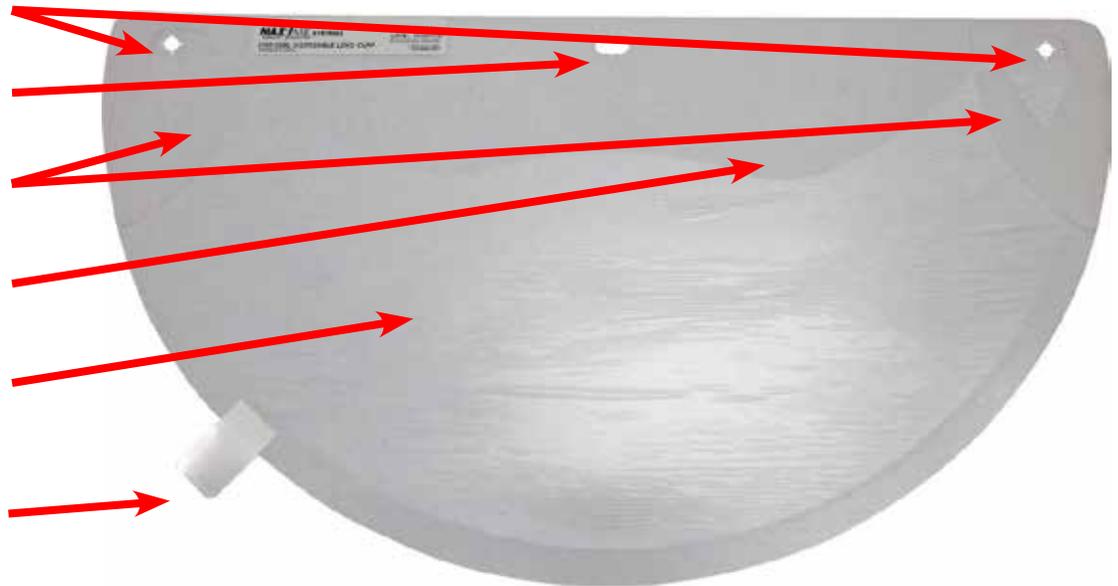
2. Front Attachment Hole

3. Flappers

4. Lens

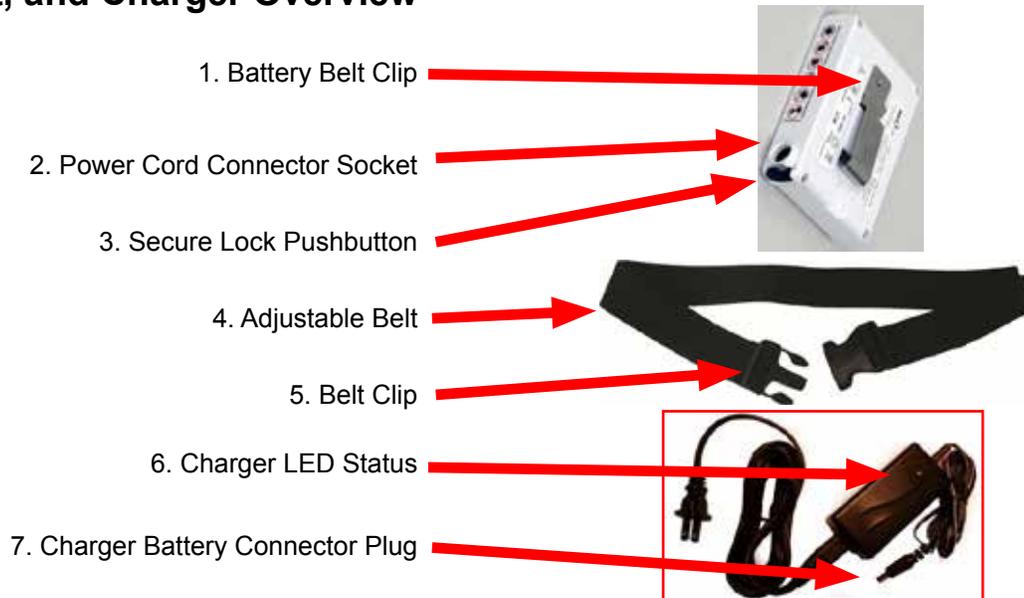
5. Cuff

6. Peel Tab attached to Lens protective liner



#	Characteristics
1	Mounts to the FCC Side Post Adapters.
2	Mounts to the Helmet FCC Front Post Adapter.
3	Rest against Helmet Liner Side Foam. Act as side air deflectors that channel air away from the ears.
4	Transparent for visibility. Lens is on the front, outside of the DLC.
5	Facial conforming seal, from one temple, down under the chin, and up to other temple. Cuff is on the back, inside of the DLC.
6	To facilitate Len's protective liner removal.

### 3.8 Battery, Belt, and Charger Overview



#	Characteristics
1	Attaches to Adjustable Belt or clothing
2	Socket for Helmet's Power Cord or Charger's Battery Plug.
3	Releases the Power Cord Connector for removal
4	Wraps around waist. Battery is attached to belt via the belt clip.
5	Secures belt to the waist.
6	Charging status indicator for Li-Ion Battery. Red= Charging Green= Charge Complete
7	Plugs into Li-Ion Battery socket.

### Battery and Charger Symbol Definitions

These symbols are located on the device and are defined as follows

#### Battery

	Rechargeable. For use only with MAXAIR Li-Ion Batteries		Do not attempt to dis-assemble, open, or service.
	Do not place near or in a flame.		Do not drop.
	Do not immerse in liquid.		Do not puncture.

#### Charger

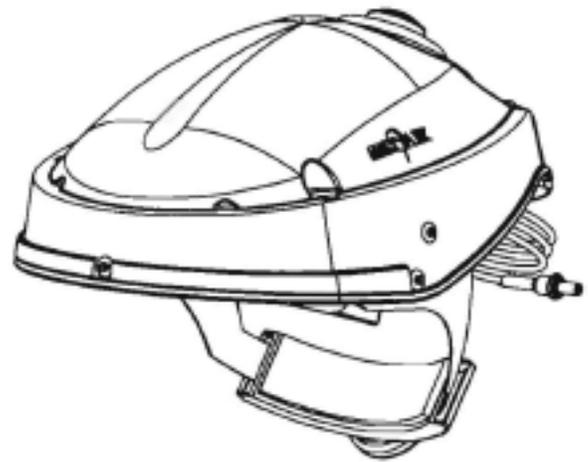
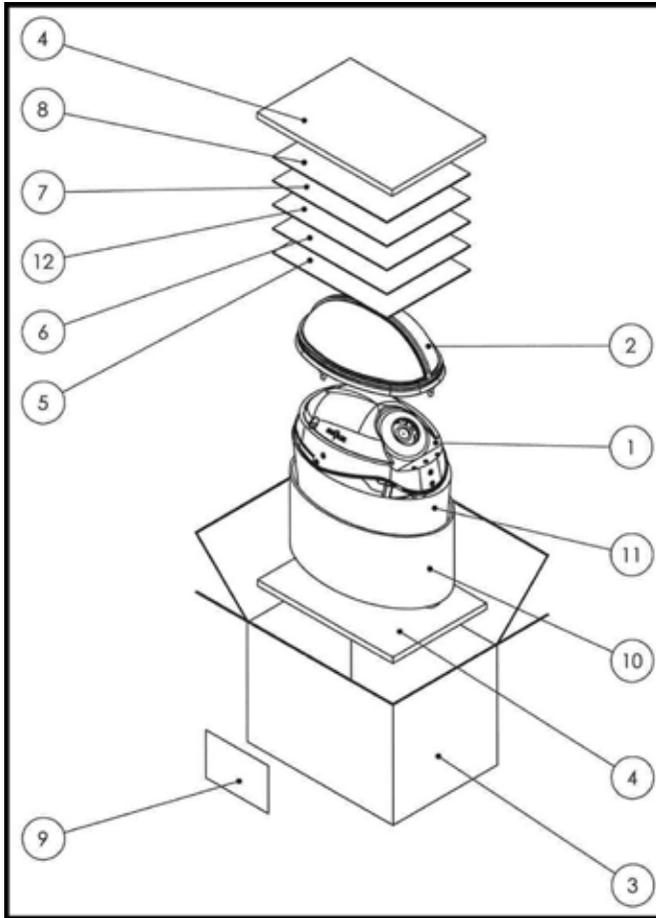
	Charger's Green LED light, Charge Completed.		Charger's Red LED light, Charging
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## 4. Unpacking Standard System Components and Parts Identification

### 4.1 Unpacking the 2070-03 CAPR Helmet

Carefully unpack the 2070-03 MAXAIR CAPR Helmet from the shipping box. Verify there are no missing or loose components and that the helmet shows no signs of physical damage. Assemble the Helmet into the desired configuration and verify that it is fully functional. Report any damage to the shipper immediately for resolution.

Contact Customer service 1-800-443-3842, if you have questions.

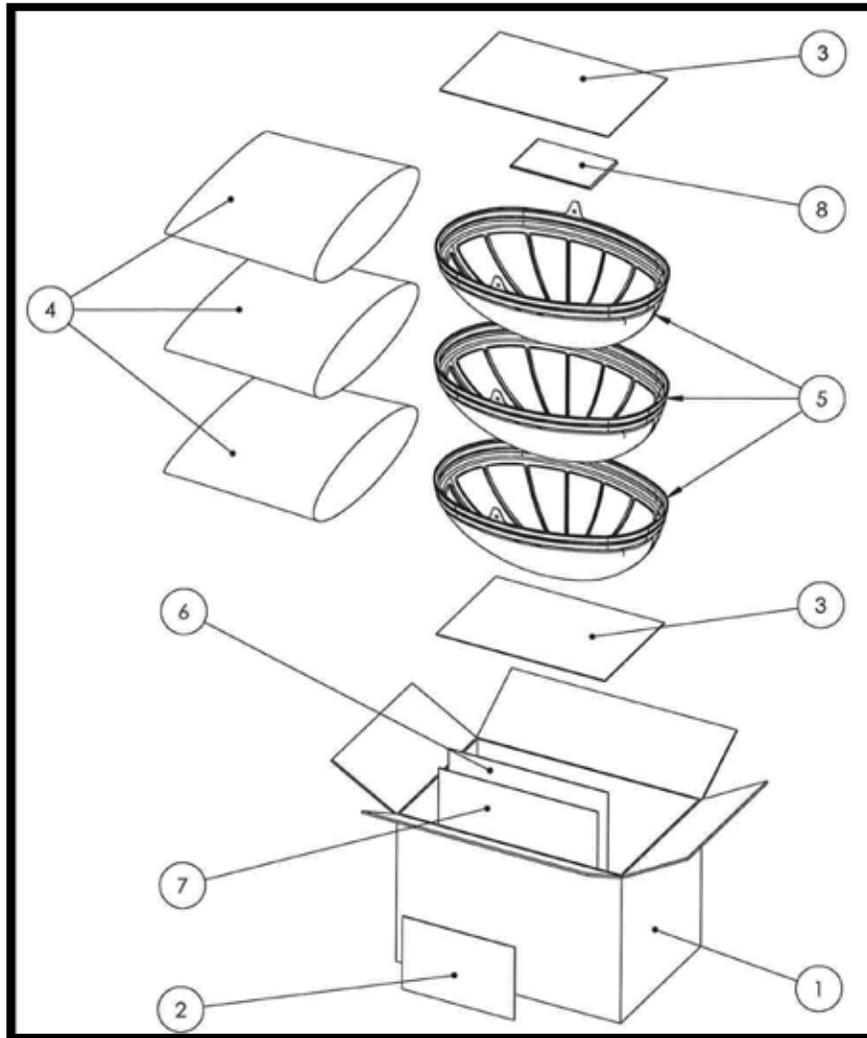


Item No.	Part No.	Description
1	03531001	MAXair Helmet, CH
2	03531135	Helmet Fan Protector
3	03521053	Box 13 x 9 x 7
4	03523060	Foam Pad, 9 x 12
5	03531052RFL	207X-03 Respirators NIOSH Approved Matrix
6	00723154	Registration - Warranty Sheet
7	03521015	710 DLC IFU
8	03521080	Symbol Definition Chart
9	03533055	Label, Box, Maxair Helmet, LP
10	03523054	Single Face Corrugated Pad
11	P900037	Bag, 18 x 24 x 0.002
12	02521228	Quick Set-up Guide

## 4.2 Unpacking the 2164-10 Filter Cartridge

Carefully unpack the 2164-10 Filter Cartridges, 3 per box, from the shipping box. Verify there are no missing or loose components and that the Filter Cartridges show no signs of physical damage. Report any damage to the shipper immediately for resolution.

Contact Customer service 1-800-443-3842, if you have questions.

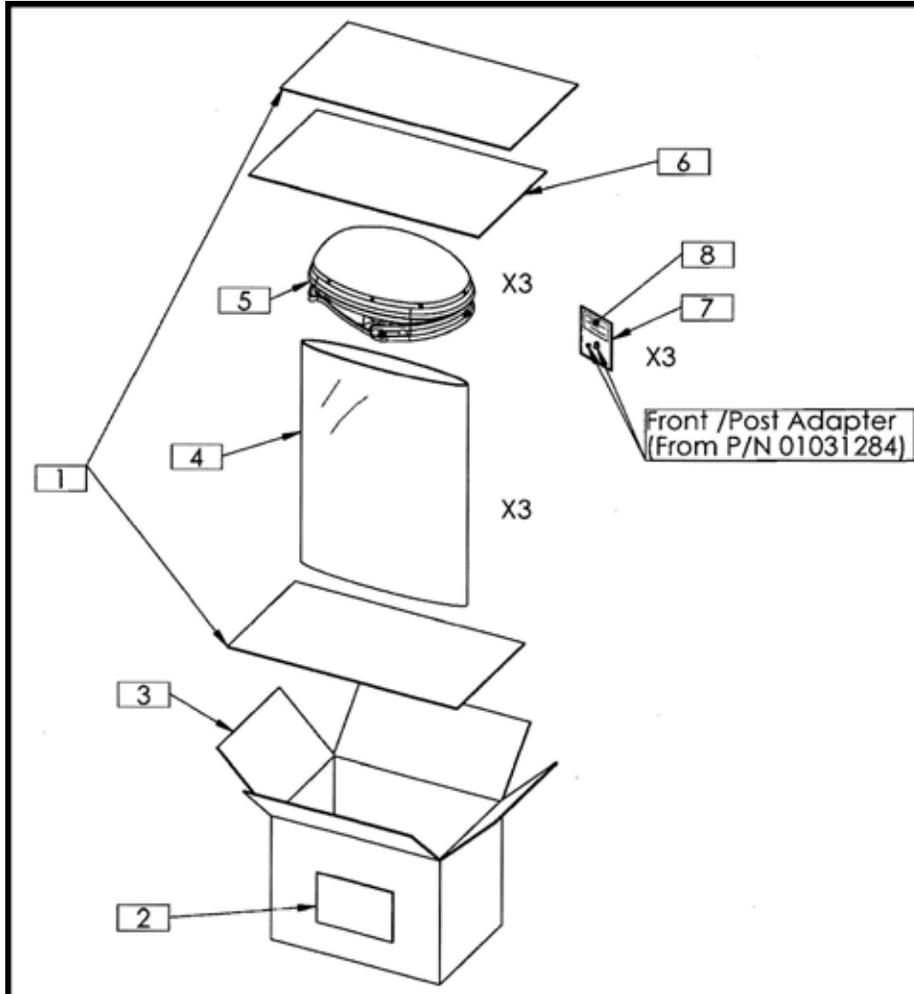


Item#	Part Number	Description
1	01023343	Box, 12" x 8" x 8"
2	01033346	Label Box, Filter Cartridge
3	01023344	Corrugated Pad, 6" X 9"
4	01021342	Reclosable Bag, Filter Cartridge
5	01031327	HE Filter Cartridge
6	03531051FFL	Label Filter, NIOSH Approved
7	01021347	IFU, 8.5 x 11
8	03521080	Symbol Definition Chart

### 4.3 Unpacking the 2061-03 Filter Cover Cap (FCC)

Carefully unpack the 2061-03 MAXAIR CAPR Helmet Filter Cover Cap (FCC) from the shipping box, 3 per box. Verify there are no missing or loose components and that the FCCs show no signs of physical damage. Report any damage to the shipper immediately for resolution.

Contact Customer service 1-800-443-3842, if you have questions.

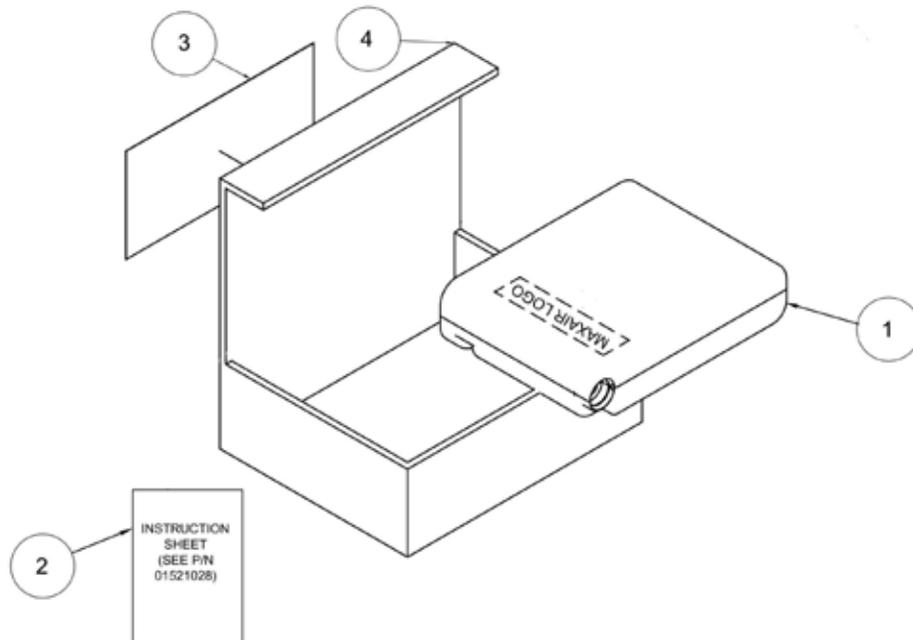


Item	Part Number	Part Name
1	01023349	Corrugated Pad, Filter Cover Cap
2	01033350	Label Box, Filter Cover Cap
3	01023348	Box, Final Packaging, Filter Cover Cap
4	P900037	Bag, 18" x 24" .002 ML
5	01031284	Assy. Filter Cover Cap
6	01023360	IFU, DLC, Filter Cover Cap
7	02021001	Ziplock Bag
8	01021533	Front/Post Adapter Insert

## 4.4 Unpacking the 2500-36TSC Battery

Carefully unpack the 2500-36TSC Battery from the shipping box. Verify there are no missing or loose components and that the Battery show no signs of physical damage. Connect the Battery to a fully assembled CAPR Helmet with Filter Cartridge and Filter Cover Cap or Hood to verify that it powers the Helmet and that at least one Green LED lights. Report any damage or non-function to the shipper immediately for resolution.

Contact Customer service 1-800-443-3842, if you have questions.

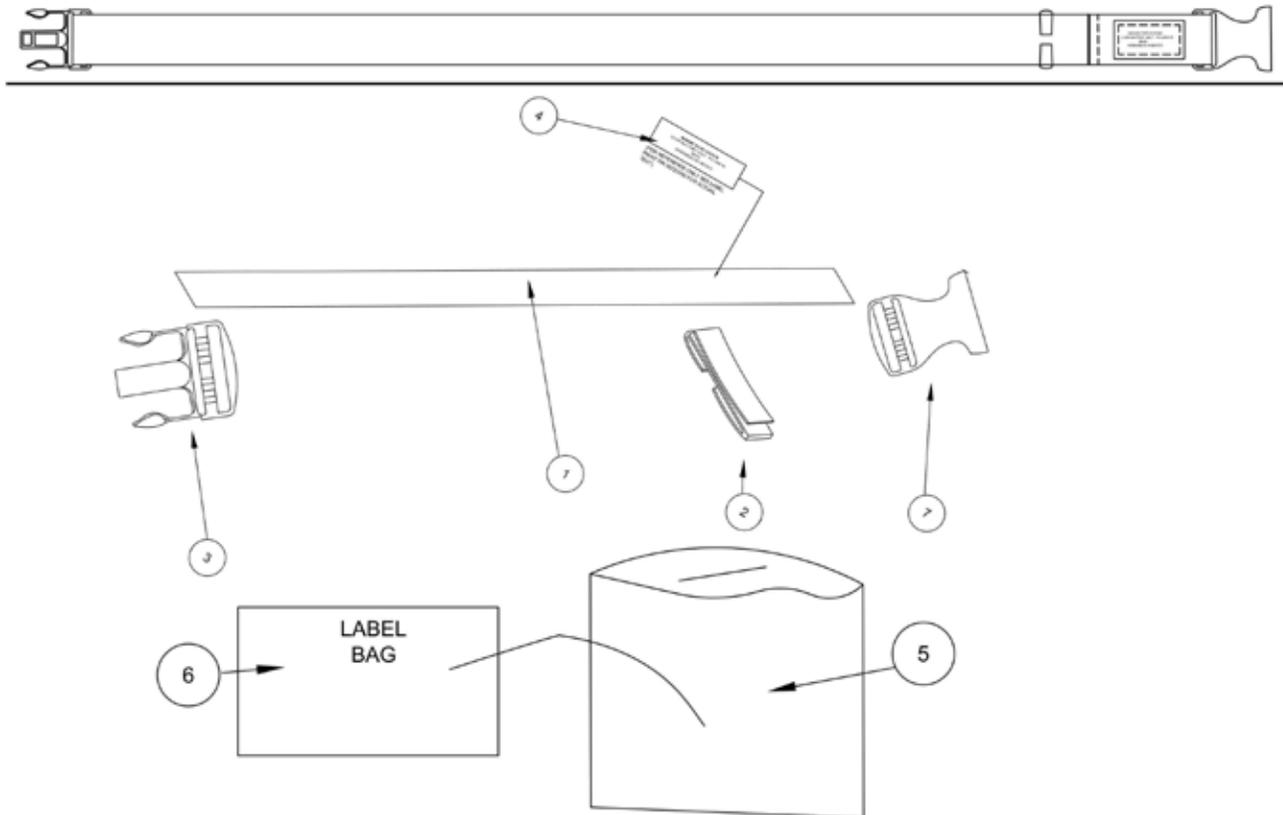


ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	01532104	LI-ION BATTERY
2	1	01523128	INSTRUCTION SHEET
3	1	01523115	BOX LABEL
4	1	P900127	BOX

## 4.5 Unpacking the 2000-76 Battery Belt

Carefully unpack the 2000-76 Battery Belt from the shipping bag. Verify there are no missing or loose components and that the Belt shows no signs of physical damage. Report any damage or non-function to the shipper immediately for resolution.

Contact Customer service 1-800-443-3842, if you have questions.

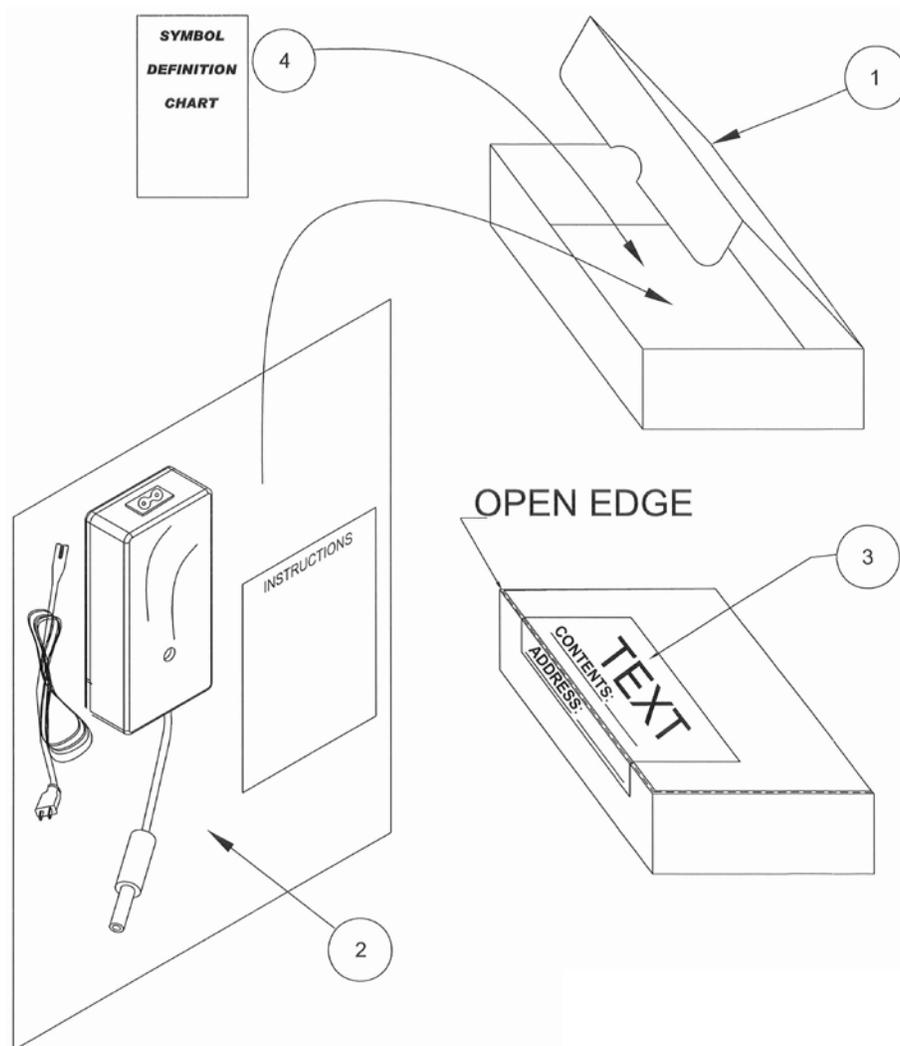


7	1	DUAL BODY	00721160
6	1	LABEL, BAG LITHIUM-ION BELT	00723151
5	1	BAG SWEATBAND 12 X 16	P900263
4	1	LABEL PART NUMBER	00723150
3	1	BELT CLIP	00721143
2	1	BELT HOLDER	00721144
1	1	PLASTIC WEBBING	P940003
ITEM	QTY	DESCRIPTION	PART NUMBER

## 4.6 Unpacking the 2600-01 Battery Charger

Carefully unpack the 2600-01 Battery Charger from the shipping box. Verify there are no missing or loose components and that the Charger shows no signs of physical damage. Connect the Charger to a working wall outlet and verify that the Green LED is lit. Connect the Charger to a Battery that powers a MAXAIR Helmet with either a red LED or one or two Green LEDs lit, and verify that when that Battery is connected to the Charger, the Charger LED turns from Green to Red to indicate that it is charging the Battery. Report any damage or non-function to the shipper immediately for resolution.

Contact Customer service 1-800-443-3842, if you have questions.



4	1	03521080	SYMBOL DEFINITION CHART
3	1	01433093	SHIPPING LABEL
2	1	01432089	ASSY. BATTERY CHARGER, li-Ion , SINGLE
1	1	P900127	BOX, SHIPPING
Item	Qty.	Part Number	Description

## 4.7 Unpacking 2365-02SM and 2365-02ML DLC (Disposable Lens Cuff)



Carefully inspect the DLC boxes to ensure there is no physical damage to the boxes and contents. Report any damage to the shipper immediately for resolution.

Contact Customer service 1-800-443-3842, if you have questions.



**NOTE**

DLC Boxes are 2 sizes, Long (placed on bottom) for the larger 2365-02ML, and Short (placed on top) for the smaller 2365-02SM. Stack as shown for easy dispensing.



1. Open the dispensing end by grasping the box end with your left hand as shown and push through the top curved perforation line.



2. Pull the top-end piece off and away from the box.



3. Brace the right-side end piece with your right hand. Pull the left-side end piece along its perforation line, tearing downward.



4. Pull the left-side end piece down and off the box.



5. Lift the box a few inches with your right hand. Tear off the small bottom-end piece at its perforation line.



6. When finished, the dispensing box should be as shown above.



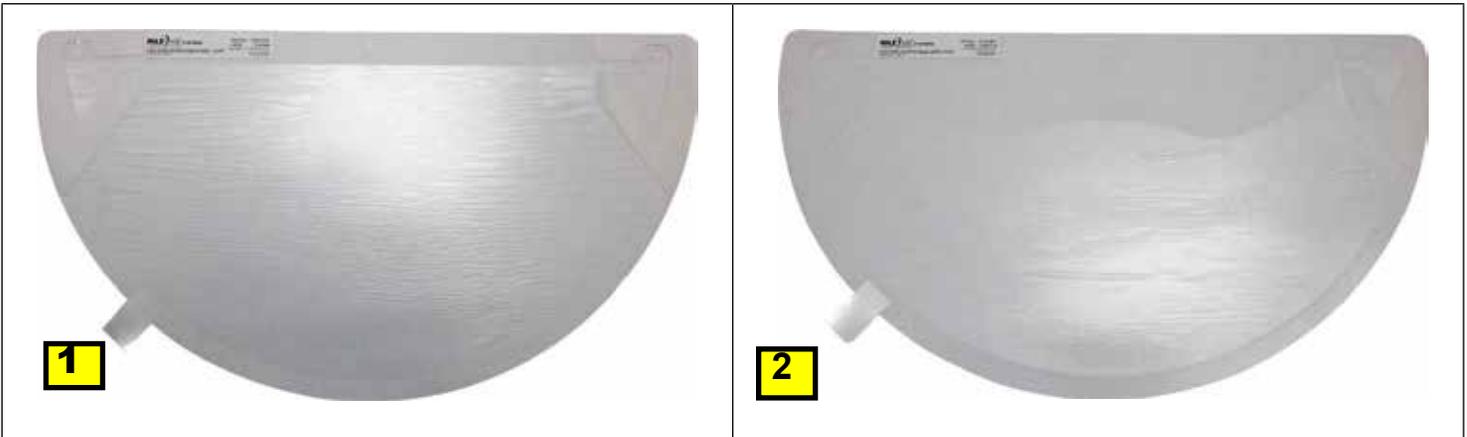
7. To Dispense, merely reach in and grasp the end of the top DLC and pull slightly up and out.



8. Position a SM DLC box on top of a ML DLC box as indicated above.



9. Dispensing DLCs from the top or bottom box is easy and prompt.



ITEM	O.N.	PN	QTY(EA)	DESCRIPTION
1	2365-02SM	01031316	40	DLC (Disposable Lens-Cuff) Small/Medium
2	2365-02ML	01031291	40	DLC (Disposable Lens-Cuff) Medium/Large

## 5. Standard System Set Up

### 5.1 Components Check List

Required Components			
ITEM	O.N.	QTY	DESCRIPTION
1	2070-03	1ea	MAXAIR CAPR Helmet
2	2365-02SM or 2365-02ML	1 Lens	Disposable Lens Cuff (DLC) - Small/ Medium (SM) or Medium/ Large (ML)
3	2500-36TSC	1ea	Li-Ion Battery
4	2600-01	1ea	Li-Ion Battery Charger
5	2000-76	1ea	Battery Belt

### 5.2 Setting Up

1. Check the position of the Headband Comfort Strips. (See Section 16 for Comfort Strip assembly and replacement instructions).
2. Adjust the Rear Headband Ratchet Adjustment Knob counterclockwise to expand the Headband circumference to ensure the Helmet will fit easily before donning. (See Section 9 Donning section for more detail.)
3. Adjust the Height Adjustment Snaps on the Helmet Liner to ensure proper and secure fit of the CAPR System on the head and good visibility of the Safety Status Indicator LEDs. (See Section 9 for more detail.)
4. Check to ensure that the Helmet Power Cord is firmly attached to the Helmet Power Cord Connector.

### 5.3 Assemble and Dis-assemble Components



#### CAUTION

Prior to operation, review all components' Instructions For Use regarding set-up, assembly/dis-assembly, and don/doff in sections 17-27.

The general assembly/dis-assembly steps are as follows:

Assemble	Step		Step	Dis-assemble
Assemble the 2061-03 Filter Cover Cap. (Alternate Filter Covers or no Filter Cover are appropriated for some configurations.)	4		2	If required, dis-assemble the 2061-03 Filter Cover Cap.
Assemble the 2164-10 Filter Cartridge. (Alternate Filter Cartridges or a Filter Frame may be used.)	3		3	If required, dis-assemble the 2164-10 Filter Cartridge. (If necessary, dispose appropriately as hazardous waste.)
Inspect and ready the 2070-03 Helmet for use.	1		5	If required, prep the 2070-03 Helmet for storage.
If required, assemble the 2071-01 Helmet Liner.	2		4	If required, dis-assemble the 2071-01 Helmet Liner
Assemble the DLC. (Alternate Face covers/seals may be used for other configurations.)	5		1	Dis-assemble the DLC (Dispose appropriately as hazardous waste.)

## 5.4 Inspections



### NOTE

If you have difficulty with the proper operation of a MAXAIR System, first check for any visible damage to the outer and inner surfaces of the helmet, and any damage to the attached helmet power cord and the battery.

Prior to each use, if any of the following issues are discovered for any system component(s), replace the particular item(s) by following the assembly/dis-assembly procedures for the particular item(s).

- Tears or Breaks.
- Contamination from blood or other bodily fluids not safely removed by following approved disinfection procedures.
- Compromise between the DLC (or alternate face seal) and FCC (or helmet) seal.
- Damage or distortion to the filter cartridge gasket .
- Filter is soiled or loaded (clogged) with particulate such as to compromise its performance or cause the yellow LED to be lighted.
- Compromise between the filter cartridge and helmet seal.
- Any other threat to proper function.

MAXAIR Systems are very reliable, essentially sealed helmet systems that do not require periodic maintenance. With careful and recommended use and adherence to all cautions, all components are expected to provide reliable service for their full useful life.

## 5.5 Warning Device: Yellow LED Air Flow Indicator Check - Bouffant Cap Method



### CAUTION

Prior to donning the system, the Safety Status Yellow LED function can and should be checked prior to use. The yellow LED indicates that the respirator is no longer able to maintain adequate airflow for protection of the user



### CAUTION

In preparation for the following test,

1. Ensure the Bouffant Cap is in good condition with no holes or tears.
2. For Systems to be configured with a Cuff, Shroud, or Double Shroud, ready the Helmet for test with a Filter Cartridge and Filter Cover Cap attached, and without any Cuff, Shroud, or Double Shroud attached, sections indicated as “a” in the following test.
3. Alternately, for Systems to be configured with a Hood, ready the Helmet for test with a Filter Cartridge and Hood attached, sections indicated as “b” in the following test.



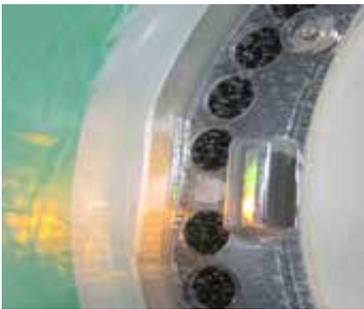
1a. Place the Bouffant Cap over the Helmet, all the way around, from top to bottom.



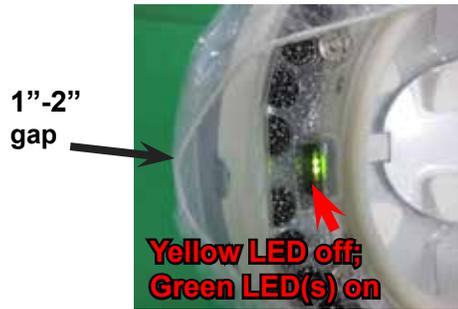
1b. Place the Bouffant Cap over the Hood, all the way around, from top to bottom of the Filter. Close all gaps between Bouffant Cap and Filter.



2. Connect the Helmet Power Cord to the Battery. Push the Power Cord Connector into the Battery Receptacle until the Secure Connection audibly clicks.



3. Allow the Helmet to compensate until the Yellow LED turns on (about 45 seconds with Air Flow set to High, about 90 seconds with Air Flow set to Low).



4a. As soon as the Yellow LED turns on - **in less than five seconds** - open the Bouffant Cap approximately 1" to 2" (3cm to 5cm). Notice the Yellow LED turns off. Close the Bouffant Cap gap.

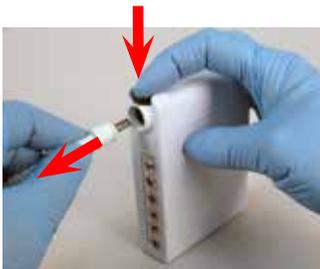


4b. As soon as the Yellow LED turns on - **in less than five seconds** - open the Bouffant Cap approximately 4" to 5" (10cm to 12cm). Notice the Yellow LED turns off. Close the gap of Bouffant Cap.



**NOTE**

Do not allow more than ten seconds to pass before performing this step.



5. Disconnect the Helmet Power Cord from the Battery - push the Secure Connection Button down, pull Cord Connector out, release the Button.



6a. Remove the Bouffant Cap from the Helmet.

This concludes the test.



6b. Remove the Bouffant Cap covering the Hood.

This concludes the test.



**CAUTION**

Ensure the Power Cord is disconnected from the battery before performing step 6.

## 5.6 Warning Device: Yellow LED Air Flow Indicator Check - Tape Method



### CAUTION

Prior to donning the system, the Safety Status Yellow LED function can and should be checked prior to use. The yellow LED indicates that the respirator is no longer able to maintain adequate airflow for protection of the user

Cap of FCC

Air Inlet Channel (Cap overhangs the skirt)

Skirt of FCC



1. Start taping approximately one inch away from the front-center of the Helmet. (One inch to the side of the front Alignment post.

2. Tape over the Air Inlet Channel all the way around the Filter Cover Cap (FCC).

3. Cut the tape so that it stops in the front-center of the Helmet. This leaves about a one inch open gap.



4. Pull back a tape flap about one inch from the front-center of the Helmet, leaving about a two inch open gap.



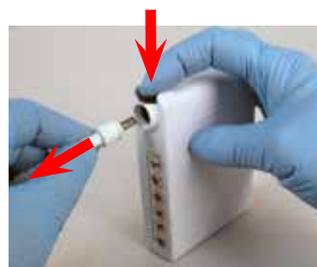
5. Connect the Helmet Power Cord to the Battery. Push the Power Cord Connector into the Battery Receptacle until the Secure Connection audibly clicks.



6. Allow the Helmet to stabilize for about a minute. Notice that the Yellow LED stays off.



7. Lay the tape flap back down to reduce the gap back to a one inch opening. Allow the Helmet to stabilize for about a minute. Notice the Yellow LED turns on.



8. Disconnect the Helmet Power Cord from the Battery - push the Secure Connection Button down, pull Cord Connector out, release the Button.



9. Remove the tape covering the air inlet channel of the Filter Cover Cap.



### CAUTION

Ensure the Power Cord is disconnected from the Battery before performing step 9.

This concludes the test.

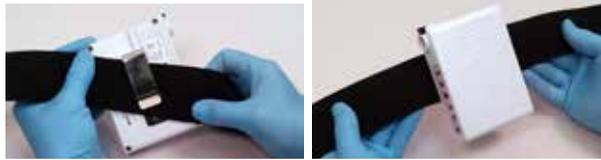
## 6. Standard System Donning and Doffing

 **CAUTION**  
If there is any question about the disinfection status of the CAPR System due to a previous use, it is recommended to disinfect it before using.

### Don the System



1. Obtain a fully charged battery. (Charger LED should be green after battery is connected to charger for more than 10 seconds.)



2. Assemble the battery onto the belt. Place the top edge of the Belt under the Battery Clip. Move the Belt fully under and up to the top of the Clip.



3. Place the belt comfortably around the waist with the battery near the side-back of the right hip.



4. Remove a DLC from the DLC dispensing box and attach the DLC Lens, with the DLC cuff facing the inside to the helmet. Remove the DLC Protective film.



5. Connect the Helmet Power Cord to the Battery. Push the Power Cord Connector into the Battery Receptacle until the Secure Connection audibly clicks.



6. Loosen the ratchet adjustment knob counter-clockwise to ensure the Helmet will easily fit over the head.



7. Hold the Helmet by the rear headband in one hand, pull the front top edge of the DLC Cuff down, and place your chin into the DLC Cuff. Then, pull the Helmet over and down on to your head.



**WARNING**

If conditions 1 and 2 below both are not achieved, switch to the other size DLC before proceeding.



**Condition 1:** Ensure the DLC Flappers are away from the Lens, positioned perpendicular to your temples, and within ¼ inch of the temples on each side of the head.



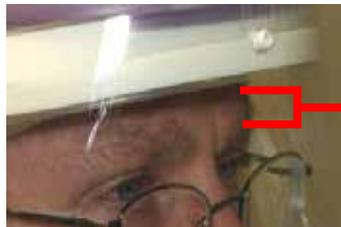
**Condition 2:** Ensure slight tension on the cuff is felt continuously while sliding the index or first finger between the cuff and the face all along the chin and up to the temples, from the right side of the face to the left.

8. Slide your fingers between the Cuff and face from each temple down and under your chin to pull the DLC Flappers away from the lens, and to properly position the cuff.



**CAUTION**

If the Helmet is not secure and comfortable on the head, it may be necessary to change the Height Adjustment. The Height Adjustment raises and lowers the rear headband and the angle of the helmet with respect to the head, and properly positions the DLC Lens from the chin. This optimizes a secure and comfortable fit in conjunction with the Adjustment Knob for optimizing the circumference of the Headband. It also aids in proper positioning for easy visualization of the LED Safety Status Indicators. If necessary, unsnap the Height Adjustment tabs on each side of the Helmet Liner and reposition upward or downward, until the optimum fit for comfort and security is determined.



≤ 1/2  
Inch  
(~1.25 cm)



**CAUTION**

Optimum setting is achieved when the helmet is secure on the head for all movements required and the front headband is within 1/2 inch of the eyebrows to allow good visualization of the LED Safety Status Indicators in the upper peripheral vision. Be sure to have both Height Adjustment tabs in the same position.

9. Position the Helmet so that the front headband is within ½ inch of the eyebrows and the rear headband is resting under the occipital bone above the vertebrae on the neck, and then tighten the Adjustment Knob clockwise to ensure the most secure fit of the helmet on the head for all activities. Do not over tighten to cause discomfort.

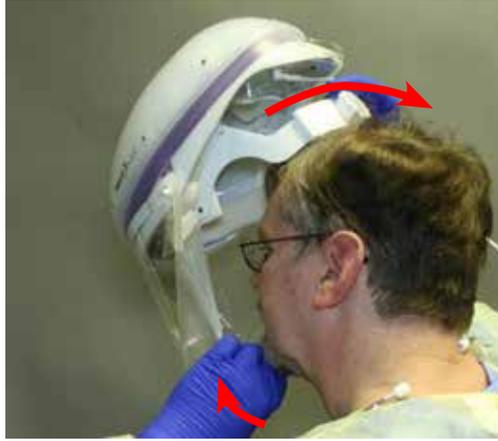
## There are two alternative protocols for doffing the DLC System

- Alternative A is doffing the Helmet leaving the DLC attached for the next use.
- Alternative B is removing the DLC for disposal and doffing the Helmet.

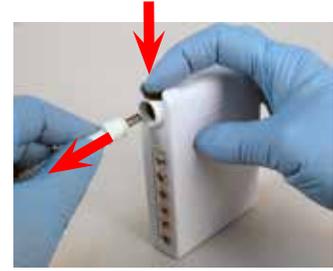
### Doff the System: Alternative A



1. Loosen the rear Headband Adjustment Knob (turn counterclockwise).



2. Hold the front top of the Helmet in one hand and with the other hand on the Adjustment Knob; lift the Helmet up and off the head



3. Disconnect the Helmet Power Cord from the Battery - push the Secure Connection Button down, pull Cord Connector out, release the Button.



4. Disconnect the Battery Belt from around the waist by un-snapping the buckle.



5. With the Charger connected to the mains wall power, connect the Charger Cord to the Battery. Push the Charger Cord Connector into the Battery Receptacle until it is fully seated.



6. The entire CAPR System may be decontaminated, cleaned and/or stored at this time.

7. If desired, the components of the CAPR System may be disassembled and each component decontaminated, cleaned and/or stored at this time.

**Doff the System: Alternative B**



1. With the System mounted on head, remove the DLC from the Helmet. Dispose the DLC according to your institution's protocol for contaminated waste.
2. Loosen the rear Headband Adjustment Knob by turning it counterclockwise
3. Hold the front top of the Helmet in one hand and with the other hand on the Adjustment Knob; lift the Helmet up and off the head.
4. Follow steps 3-7 from Alternative A.

## 7. Instructions For Use: Comfort Strips

Comfort Strips: O.N.2000-201; PN P900072

### Assembling and Disassembling the Comfort Strip



#### **NOTE**

Only one side of the comfort strip will attach to the hook tape on the Headband.

1. To remove a damaged or soiled Front Comfort Strip, pull it away and off of the Headband.
2. To attach a new Front Comfort Strip, align it parallel to the Headband with the loop side facing the Headband and press it on.



## 8. Instructions For Use: Li-Ion Battery

	O.N.	PN
BATTERY, LITHIUM ION , LARGE	2000-30T	01531030
BATTERY, LITHIUM ION , SMALL	2000-36T	01531032
LITHIUM ION BATTERY (8- 10 HRS), SECURED CORD	2500-30TSC	01532116
LITHIUM ION BATTERY (4-8 HRS), SECURED CORD	2500-36TSC	01532104



### CAUTION

Inspect the Battery for damage before every use. Do not use if damaged.  
 Always start with a fully charged Battery and use with the MAXAIR System only.  
 Fully recharge Batteries immediately after every use.  
 Charge the Battery only with a MAXAIR Lithium Ion Charger. See the Charger's Instructions for use.  
 If the Charger LED is red when the Battery is connected, the Battery is not fully charged.  
 If it is necessary to use a non-fully charged Battery, precede using extreme CAUTION. Take very careful note of the Helmet LED Safety Status Indicators when the Battery is connected to the Helmet Power Cord. Refer to the Helmet LED Safety Status Indicator LED Matrix table in Section 5.2, as well as the information in Section 12. to estimate the amount of useful time remaining on the Battery if it is not in a fully charged condition. Proceed once it is determined that there is sufficient charge in the Battery for the next activity.

### Securing the Battery



1. Obtain a fully charged battery. (Charger LED should be green after battery is connected to charger for more than 10 seconds.)

2. Assemble the battery onto the belt. Place the top edge of the Belt under the Battery Clip. Move the Belt fully under and up to the top of the Clip.

3. Place the belt comfortably around the waist with the battery near the side-back of the right hip.



### CAUTION

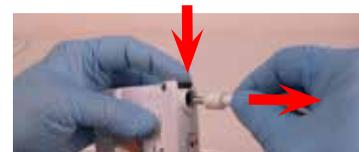
Ensure the power cord connector is fully secured into the battery connector socket. Push the cord connector all the way in until the battery connector socket stops further inward movement of the power cord connector. Handle the power cord by the connector, not the cord.

### Connecting the Battery to the Helmet



To initiate air-flow, connect the Helmet Power Cord to the Battery. Push the Power Cord Connector into the Battery Receptacle until the Secure Connection audibly clicks.

### Disconnecting the Battery from the Helmet



Disconnect the Helmet Power Cord from the Battery - push the Secure Connection Button down, pull Cord Connector out, release the Button.

Material safety data sheet (MSDS) available upon request.

## 9. Instructions For Use: Charger

Charger: O.N. 2600-01; PN 01432089



### CAUTION

Inspect the charger for damage before every use. Do not use if damage is apparent or suspect. A battery should be connected to a charger only until the Charger LED turns Green indicating a fully charged Battery. When the Charger LED turns Green, the Battery should be disconnected from the Charger. Refer to Section 12 for details regarding intermittent use and storage of batteries.

### Intended Use

1. This Charger is designed for indoor use only and should not come into contact with water or excessive dust. To prevent overheating the product should not be covered during use.
2. The mains socket should be easily accessible. In the event of operational error, the plug should be immediately removed from the socket.
3. This Charger is designed for use with MAXAIR Lithium-Ion Batteries. For safety reasons, this Charger must be used only for MAXAIR Batteries which have the right number of cells in series: Output voltage divided by 4.1V or 4.2V.
4. The Charger contains dangerous voltages and the cover should not be removed.
5. All recommended maintenance work should be carried out by qualified personnel who can get assistance by contacting the manufacturer's agent.
6. A fuse protects the Charger against short circuiting and overloading.
7. This symbol means that the charger is double insulated (Insulation Class II)
8. If the Charger is mounted in a vehicle it can only be used when the vehicle is not in use.
9. If the Charger is labeled "EN60601-1" and therefore it complies with the requirements of electro-medical equipment, it can be used in hospital environments, etc.
10. The Charger should not be used in the vicinity of flammable gases.
11. The Charger has a plastic casing; avoid its coming into contact with oils, grease etc., as most types of plastic can be broken down by chemicals and solvents.

### Charging Instructions



1. Connect the Charger (single and/or 6-Gang) to an appropriate grounded wall mains power source (120-240 VAC, 50-60 Hz) before connecting to the Battery(ies). The Charger green status LED should turn on.
2. Connect the Battery(ies) to the Charger(s) by pushing the Charger Cord Connector into the Battery Connector Receptacle until fully seated. The Charger LED should change from green to red to indicate charging. If the LED is Green after being connected to the Battery for 10 seconds, the Battery is ready for use.
3. When charging is complete, the Charger LED should change to green. Disconnect Battery(ies) from Charger(s) by pulling the Charger Cord Connector from the Battery Connector receptacle. The Battery(ies) is(are) ready for use.



### WARNING

The Charger has internal fuses which blow if a fault occurs in the charger. Additionally, the Charger is equipped with a fuse switch which cuts off the unit in the case of a reverse polarity connection to the Battery. If a Charger fails, contact Customer Service at 1-800-443-3842 for a Return Material Authorization (RMA).

## LED Indicator and Charge Status

### Fast charge (Red LED)

- The charger is in constant current mode.
- Charge current is at the maximum.

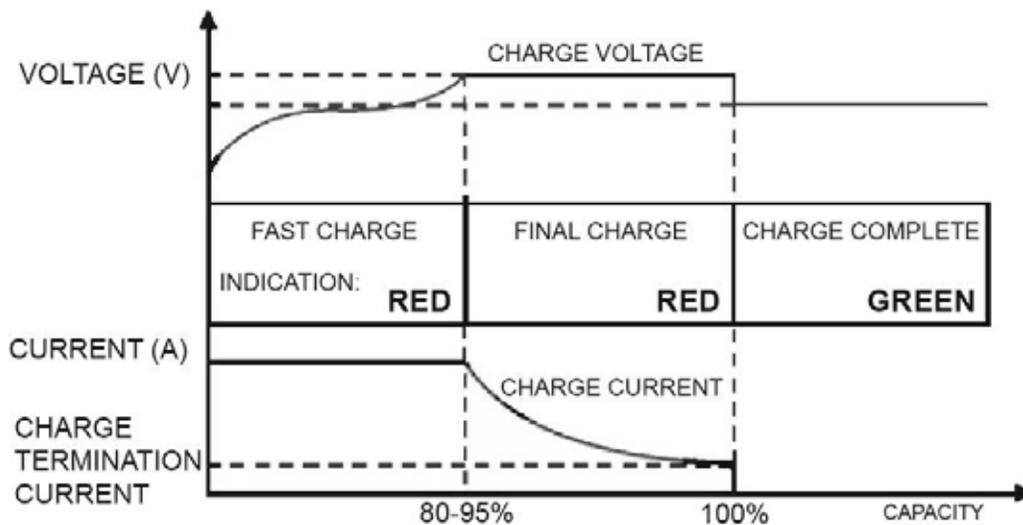
### Final charge (Red LED)

- The charger is in constant voltage mode.
- Charge current is less than the maximum.
- The battery is normally 80-95% charged.
- The charger stays in this mode until the charge current decreases to charge termination level.

### Charge completed (Green)

- The charge is stopped.
- Charge current is zero.

## Charging Diagram



## Gang Battery Chargers

### 2601-06 6-Gang Battery Charger

Includes six 2600-01 Chargers that can be charged simultaneously from one wall power outlet.

### 2601-06B 6-Gang Charger Bracket

The 6-Gang Charger Bracket is for use with from one to six already purchased 2600-01 Chargers.

### Installing the 6-Gang Battery Charger and Bracket

The 6-Gang Charger and 6-Gang Charger Bracket ship with basic mounting hardware for mounting into solid wood and plasterboard.

Locate a suitable location for placing them on a surface. If it is desirable to mount them to a wall, cabinet, etc., use the mounting hardware supplied.

### Charging Batteries with the 6-Gang Battery Charger

Plug the power cord into a standard 110v outlet.

If necessary, connect from one to six 2600-01 Chargers into the clips, at any given time, and connect the chargers to the six-connector cable using the 1-6 charger connectors on the power cable.



**NOTE**

Each connected Charger's LED should be green before a Battery is connected for charging. Connect batteries to appropriate Chargers and the Charger's green LED should turn red.



**NOTE**

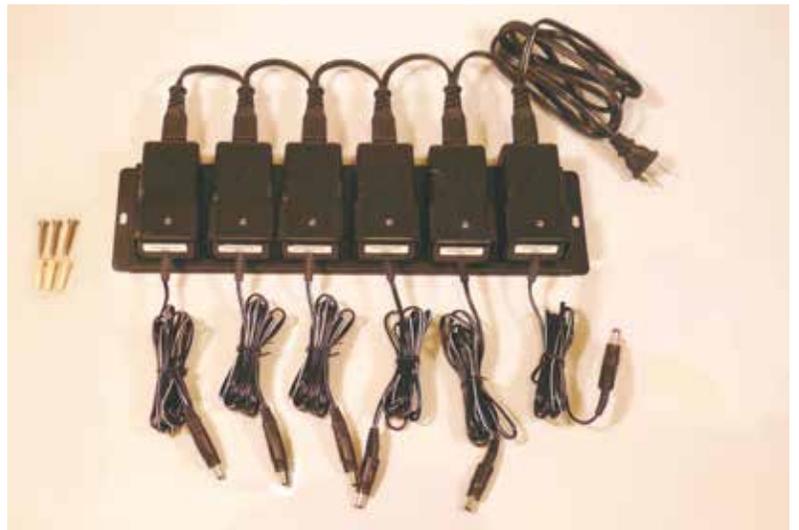
If a charger LED remains red when a Battery is connected, the Battery is charged sufficiently and is ready for use. The Charger LED should change back to green when the Battery is charged, typically in 4-6 hours for a fully drained Battery.



2600-01 (01432089)



2601-06B



2601-06

## 10. Instructions For Use: Helmet

Helmet -CH Universal: O.N. 2070-03; PN 03531001

The 2070-03 Helmet is a component of the MAXAIR CAPR Line of Powered Air Purifying Respirators. This procedure is applicable for Helmets received as O.N. 2070-03, in which case the Helmet ships with the Helmet Protector as described below.



### CAUTION

Always have a Filter Cartridge or a Helmet Protector mounted on the Helmet when it is not in use.

### Prepping the Helmet for use



Helmet Protector  
(O.N. 03531135)



1. Unsnap the left and right side tab of the Helmet Protector.



2. Unhook and remove the Helmet Protector lifting from the front and moving upward and off, towards the rear.



3. The helmet is now exposed and ready for mounting the Filter Cartridge (see Instructions For Use, Section 12.)

### Setting Air Flow

When the Helmet is initially connected to the Battery, all LED Safety Status Indicators light briefly, then the red and yellow LEDs turn off, and airflow increases to the appropriate operating level based on the Air Flow Switch position. The green LEDs will be on as appropriate to the battery charge level.

Adjust the Air Flow Switch relative to the expected activity level and desired comfort level.



Air Flow Switch Position		
Low	Med	High
Air Flow in Liters Per Minute		
190	215	240



### NOTE

The flow levels, in liters per minute, are only approximate.

### Prepping the Helmet for Storage

- Clean all dirty surfaces per Section 10.
- Assemble a Filter Cartridge, Section 23, or the Helmet Protector, reverse of steps 1-3 in Section 21.
- Follow storage instructions per Section 11.

# 11. Instructions For Use: Helmet Liner

Helmet Headband Liner: O.N. 2071-01; PN 03531021

**CAUTION**  
 Prior to assembly, inspect and verify the Liner mounting holes (4) are in good condition. If the mounting holes are worn and connections to the helmet are weak or loose, replace the Liner.  
 Always assemble the Helmet Liner to a Helmet that already has a Helmet Protector or Filter Cartridge attached.

## Assembly



1. Support the Helmet with one hand and position the Liner inside the Helmet. Adjust the power cord over the power cord slot.

**NOTE**  
 The Helmet Liner front should be “caught” in the recessed area, front lip at the Helmet front.



2. Align and place the Liner front bottom edge under and against the front lip of the Helmet.



3. Front Left and Right: Align and snap down the Liner front holes to the Helmet front Snaps with your thumbs.



4. Push the rear edge of the Liner inward with your thumb inward. Align the rear Liner holes over the Helmet rear snaps.



5. Rear Left and Right: Snap the Liner rear holes on to the Helmet rear snaps.

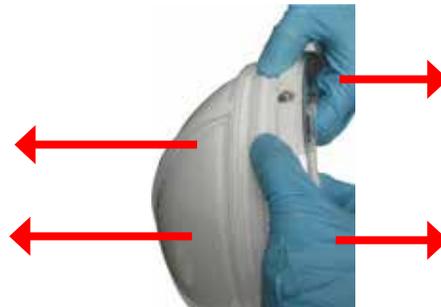


6. Snap the Liner rear lip against the Helmet rear by pressing/squeezing them together.

## Dis-assembly



1. Align the Helmet Power Cord to the Liner cord slot. Grasp the Liner headband with both hands.



2. Apply force with thumbs and fingers in opposite directions to disengage the front mounting snaps.



3. Disengage rear mounting snaps by pulling the Liner away from the Helmet.

## During Use

If the Helmet is not secure and comfortable on the head, it may be necessary to change the Height Adjustment. The Height Adjustment raises and lowers the rear headband and the angle of the helmet with respect to the head, and properly positions the DLC Lens from the chin. This optimizes a secure and comfortable fit in conjunction with the Adjustment Knob for optimizing the circumference of the Headband. It also aids in proper positioning for easy visualization of the LED Safety Status Indicators. If necessary, unsnap the Height Adjustment tabs on each side of the Helmet Liner and reposition upward or downward, until the optimum fit for comfort and security is determined.



### **CAUTION**

Optimum setting is achieved when the helmet is secure on the head for all movements required and the front headband is within 1/2 inch of the eyebrows to allow good visualization of the LED Safety Status Indicators in the upper peripheral vision. Be sure to have both Height Adjustment tabs in the same position.

## 12. Instructions For Use: Filter Cartridge

HE Filter Cartridge: O.N. 2164-10; PN 01031327

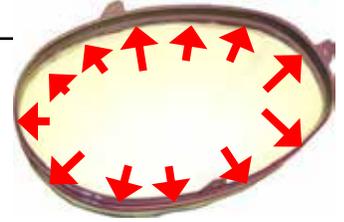
The Filter Cartridge is a component of the MAXAIR CAPR Line of Powered Air Purifying Respirators. (All MAXAIR Systems Filter Cartridges assemble and dis-assemble to/from the 2070-03 Helmet in the same manner.)



### CAUTION

Ensure that the black Filter Cartridge-to-Helmet Gasket Seal is uniform and flat continuously around the Filter Cartridge.

Helmet and Filter Media are exposed. Handle with care. Avoid rough contact with filter media.



### Assembly



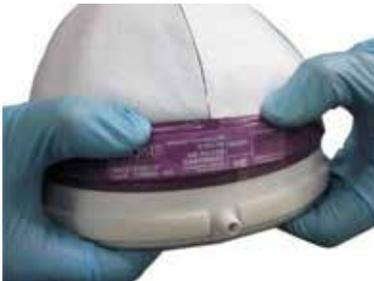
1. Hold the Helmet upright with one hand; with the other hand align the Filter Cartridge with the Helmet rear upper snap.



2. Rear Snap: Snap and secure the Filter Cartridge rear tab in place onto the Helmet rear upper snap.



3. Center and lift the left and right side Filter Cartridge snap tabs such that they sit on top of the Helmet side upper snaps.



4. Using the front top step of the Filter Cartridge retainer ring, firmly push the Filter Cartridge down towards the Helmet front alignment post.



5. Similarly press the Filter Cartridge ring down on each side so the side tabs are in line with the Helmet side upper snaps.



6. Snap and secure each Filter Cartridge side snap tab on to each respective Helmet side upper snap.

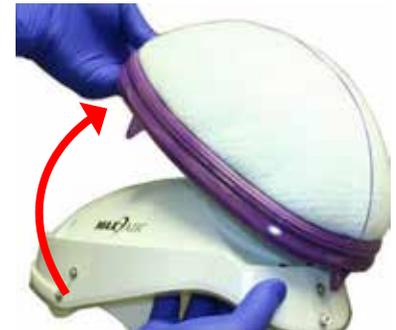
### Dis-assembly



1. Lift and unsnap the Filter Cartridge Left and Right side snap tabs.



2. Using the bottom step on the Filter Cartridge front plastic retainer ring, pull the Filter Cartridge up off the Helmet front.



3. Continue with an up and backward motion to unsnap the Filter Cartridge rear tab and complete removal of the Filter Cartridge from the Helmet.

# 13. Instructions For Use: Filter Cover Cap (FCC)

Filter Cover Cap: O.N. 2016-03; PN 01031284

The 2061-03 Filter Cover Cap is a component of the MAXAIR CAPR Line of Powered Air Purifying Respirators.



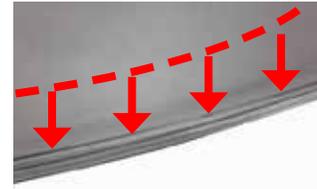
**WARNING**

Never mount a FCC on a Helmet until a fully functional Filter Cartridge is securely in place on the Helmet.

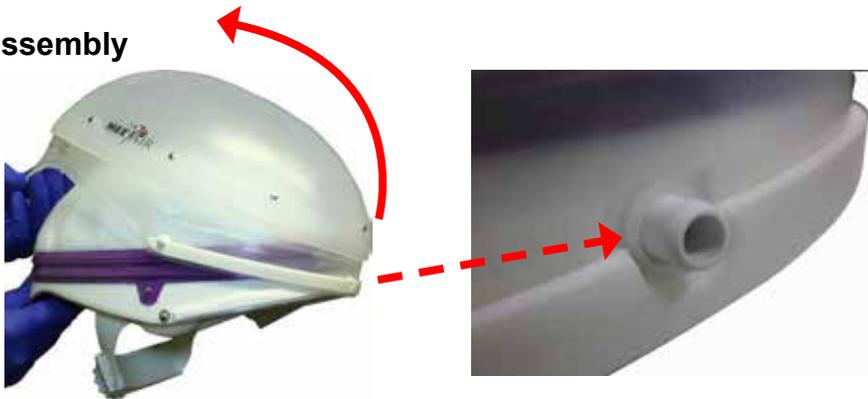


**CAUTION**

Prior to assemble, visually inspect the perimeter of the Helmet and verify the white edges are tucked in. If not, manually tuck the white edges behind the clear lip.



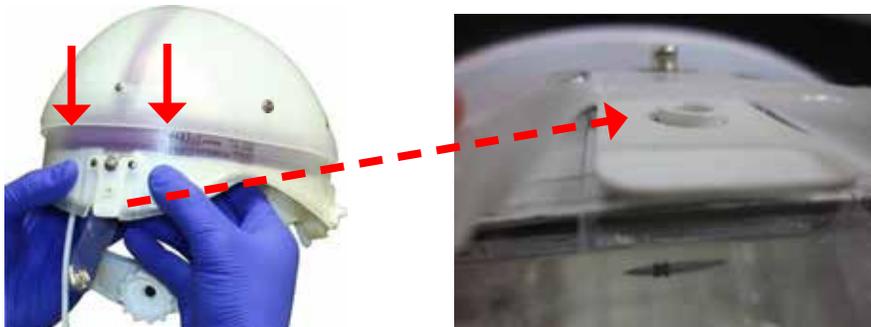
**Assembly**



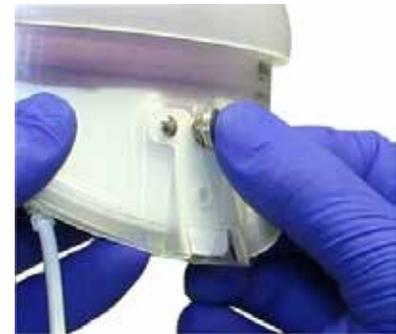
1. Hold the Helmet/Liner/ Filter Cartridge upright by its rear underside with one hand and align/insert the front FCC hole to the Helmet Front Adapter Post. Pull the FCC over and down the back of the Helmet.



2. The FCC Side Adapter Posts should align and slide over the Helmet side lower snaps.

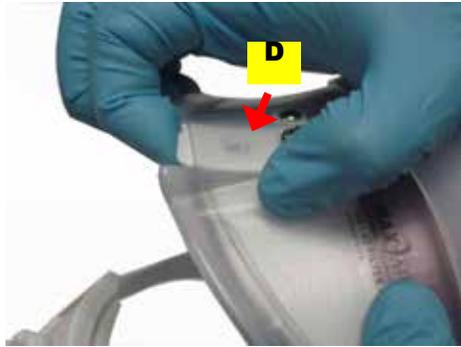


3. With two hands, slide the rear FCC downward so that the FCC T-Tab snaps over the Helmet Rear Adapter Post.

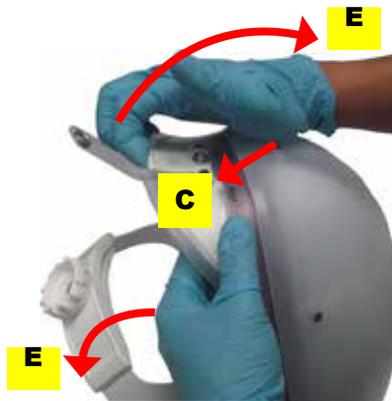


4. If equipped, snap the Helmet FCC Pull Tab (Optional, not on all Helmets) to the FCC rear snap.

**Dis-assembly**



1. Pull up on the FCC Rear T-Tab and unlatch it from the Helmet FCC Rear Adapter Post (if installed) or snap (D).



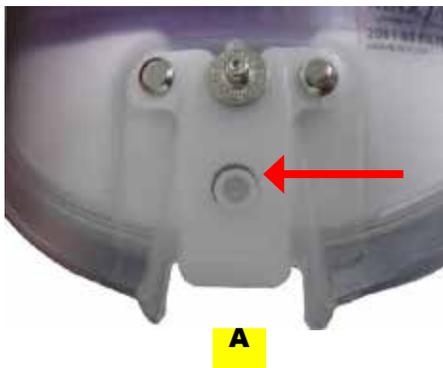
2. Continue pulling up with one hand (E) while pulling down the Helmet and Headband Side Strap with the other hand in the opposite direction (E), until the FCC is up and off the helmet (F).



**CAUTION**

If the Filter Cover Cap does not release easily, it may still be in the locked position relative to the adapter. Refer to photos A and B and step 3. below.

LOCK POSITION = GAP AT TOP



UNLOCK POSITION = GAP AT BOTTOM



3. If the FCC did not fully release from the helmet upon pulling the Pull Tab in step 1, use the palm of the free hand to press down to “UNLOCK” the FCC rear T-Tab (C in Step 2 above).

Refer to photos A and B above for Lock and Unlock positions relative to the Adapter.

# 14. Instruction For Use: Disposable Lens Cuff (DLC)



**O.N. 2365-02SM**  
**Small-Medium**  
**PN 01031316**

**O.N. 2365-02ML**  
**Medium-Large**  
**PN 01031291**



## WARNING

Use only if package is received unopened and contents are undamaged. If damage is noted, contact the shipper for replacement or repair.

Prior to using any MAXAIR® System or component, be sure to be familiar with the system's NIOSH approved configuration.

Read and understand the User's Instructions Manual.

Failure to follow the User's Instructions Manual may be hazardous to the user's health.

The institution using this product in any application is responsible for determining the appropriateness of this equipment relative to regulatory requirements. Bio-Medical Devices Intl, Inc. does not recommend the appropriate systems for a particular institution or facility.

DO NOT use if any component is damaged. If any components are damaged or contaminated and therefore unfit for safe and effective use, they should be replaced immediately.

Use only MAXAIR Systems/ NIOSH approved compatible components.

The DLCs are not intended for use against oily particulates such as paint mist, oil mist or detergents.

NOT for use in atmospheres immediately dangerous to life or health (IDLH), and atmospheres containing less than 19.5% oxygen.

Follow current local regulations governing biohazard waste to safely dispose of used shrouds.

If you need more information, contact your BMDI Sales Representative, or call BMDI customer service at 1-800-443-3842.

## Intended Use

The MAXAIR® CAPR® DLC (Disposable Lens Cuff) Systems are intended to filter aerosolized and droplet particulates.

DLCs are designed for single use applications.

## For Use With

The MAXAIR 2365-02 DLC is a component of the MAXAIR CAPR DLC Systems and is intended to be donned with a MAXAIR CAPR Powered Air Purifying Respirator (PAPR) 2070-03 Helmet and a 2164-10 Filter Cartridge.

## Standard CAPR 2365-02 DLC System



1. 2070-01 Liner (included with 2070-03 Helmet)	5. 2500-36TSC Battery, Small
2. 2070-03 Helmet and Power Cord	6. 2600-01 Battery Charger
3. 2164-10 Filter Cartridge	7. 2000-76 Battery Belt
4. 2061-03 Filter Cover Cap	8. 2365-02 DLC

## Materials

DLC Lens is PETG

DLC Cuff is Polyurethane

## Specifications

Temperature Limits: 490C

Efficiency Rating: HE

## Regulatory

CE Mark

NIOSH



**WARNING**

For persons with medium to large faces, start with the 2365-02ML DLC. For persons with a very small face, start with the 2365-02SM DLC.

The DLC Cuff side must face to the inside of the Helmet; the Lens side must face to the outside of the Helmet.

**Assembly - before donning the Helmet**



1. Obtain the appropriate DLC from the DLC dispensing box.



2. Align and snap one DLC Side Attachment Hole over the respective FCC Side Attachment Post.



3. Align and snap the DLC Front Attachment Hole over the Helmet Front Alignment Post.

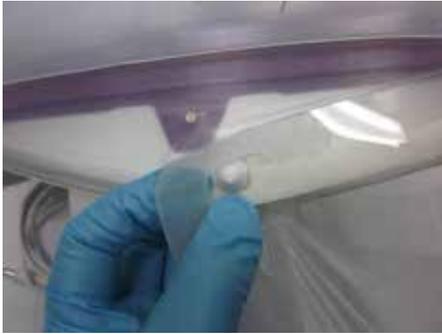


4. Align and Snap the other DLC Side Attachment Hole over the FCC Side Attachment Post.

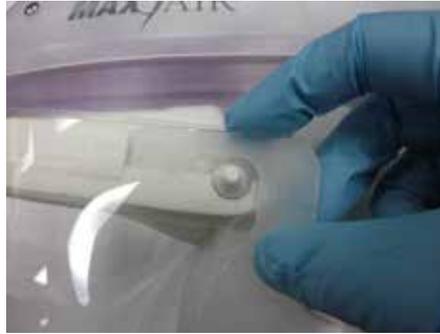


5. Pull the DLC Peel Tab up, over and to the left to remove the Lens Protective Cover off the Lens.

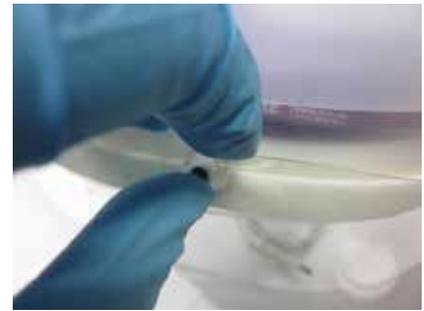
**Dis-assembly - after doffing the Helmet**



1. Grasp one side DLC flapper and lift away from the Side Attachment Post.



2. Grasp the other side DLC flapper and lift away from the Side Attachment Post.



3. Grasp the center of the DLC and lift away from the Helmet. Dispose of the DLC according to your institution's protocol for contaminated waste.

**Dis-assembly - prior to doffing the Helmet**



1. Grasp both side DLC flappers and lift out and away from the FCC Side Attachment Posts.



2. Continue to pull the DLC forward and away from Helmet. Dispose of the DLC according to your institution's protocol for contaminated waste,

**Replacing a DLC for continued use with the Helmet donned**



1. Obtain the correct replacement DLC from the corresponding DLC dispensing Box.



2. Pull the DLC Peel Tab up, over and to the left to remove the Lens Protective Cover off the Lens.



3. Align and snap one DLC Side Attachment Hole over the respective FCC Side Attachment Post.



4. Align and snap the DLC Front Alignment Hole over the Helmet Front Alignment Post.



5. Align and Snap the other DLC Side Attachment Hole over the other FCC Side Attachment Post.



6. Slide your fingers between the Cuff and face from each temple down and under your chin to pull the DLC Flappers away from the lens, and to properly position the cuff.



**WARNING**

After donning, if conditions 1 and 2 both are not achieved, switch to the other size DLC and repeat steps 1 through 6 above.



**Condition 1:** Ensure the DLC Flappers are away from the Lens, positioned perpendicular to your temples, and within ¼ inch of the temples on each side of the head.



**Condition 2:** Ensure slight tension on the cuff is felt continuously while sliding the index or first finger between the cuff and the face all along the chin and up to the temples, from the right side of the face to the left.

## Donning



### WARNING

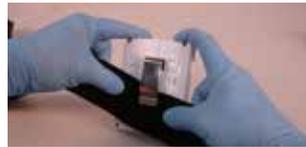
If there is any question about the disinfection status of the CAPR System due to a previous use, it is recommended to disinfect it before using.



1. Obtain a fully charged battery. (Charger LED should be green after battery is connected to charger for more than 10 seconds.)



4. Connect the Helmet Power Cord to the Battery. Push the Power Cord Connector into the Battery Receptacle until the Secure Connection audibly clicks.



2. Assemble the Battery onto the Belt. Place the top edge of the Belt under the Battery Clip. Move the Belt fully under and up to the top of the Clip. Place the belt comfortably around the waist with the battery near the side-back of the right hip.



5. Loosen the ratchet adjustment knob counter-clockwise to ensure the Helmet will easily fit over the head.



3. Remove a DLC from the DLC dispensing box and attach the DLC Lens, with the DLC cuff facing the inside to the helmet. Remove the DLC Protective film.



6. Hold the Helmet by the rear headband in one hand, pull the front top edge of the DLC Cuff down, and place your chin into the DLC Cuff. Then, pull the Helmet over and down on to your head.



7. Slide your fingers between the Cuff and face from each temple down and under your chin to pull the DLC Flappers away from the lens, and to properly position the cuff.



**WARNING**

If conditions 1 and 2 below both are not achieved, switch to the other size DLC before proceeding.



**Condition 1:** Ensure the DLC Flappers are away from the Lens, positioned perpendicular to your temples, and within ¼ inch of the temples on each side of the head.

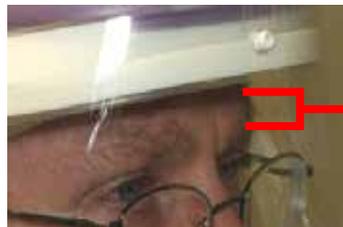


**Condition 2:** Ensure slight tension on the cuff is felt continuously while sliding the index or first finger between the cuff and the face all along the chin and up to the temples, from the right side of the face to the left.



**CAUTION**

If the Helmet is not secure and comfortable on the head, it may be necessary to change the Height Adjustment. The Height Adjustment raises and lowers the rear headband and the angle of the helmet with respect to the head, and properly positions the DLC Lens from the chin. This optimizes a secure and comfortable fit in conjunction with the Adjustment Knob for optimizing the circumference of the Headband. It also aids in proper positioning for easy visualization of the LED Safety Status Indicators. If necessary, unsnap the Height Adjustment tabs on each side of the Helmet Liner and reposition upward or downward, until the optimum fit for comfort and security is determined.



≤ 1/2  
Inch  
(~1.25 cm)



**CAUTION**

Optimum setting is achieved when the helmet is secure on the head for all movements required and the front headband is within 1/2 inch of the eyebrows to allow good visualization of the LED Safety Status Indicators in the upper peripheral vision. Be sure to have both Height Adjustment tabs in the same position.

8. Position the Helmet so that the front headband is within ½ inch of the eyebrows and the rear headband is resting under the occipital bone above the vertebrae on the neck, and then tighten the Adjustment Knob clockwise to ensure the most secure fit of the helmet on the head for all activities. Do not over tighten to cause discomfort.

**There are two alternative protocols for doffing the CAPR Helmet:**

- Alternative A is doffing the Helmet leaving the DLC attached for the next use.
- Alternative B is for removing the DLC for disposal and then doffing the Helmet.

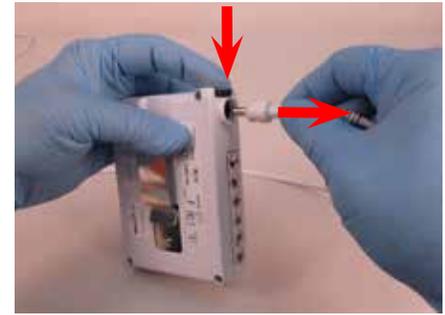
**Doffing the System: Alternative A**



1. Loosen the rear Headband Adjustment Knob (turn counterclockwise).



2. Hold the front top of the Helmet in one hand and with the other hand on the Adjustment Knob; lift the Helmet up and off the head



3. Disconnect the Helmet Power Cord from the Battery - push the Secure Connection Button down, pull Cord Connector out, release the Button.



4. Disconnect the Battery Belt from around the waist by un-snapping the buckle.



5. With the Charger connected to the mains wall power, connect the Charger Cord to the Battery. Push the Charger Cord Connector into the Battery Receptacle until it is fully seated.



6. The entire CAPR System may be decontaminated, cleaned and/or stored at this time.

7. If desired, all components of the CAPR System may be disassembled and each component decontaminated, cleaned and/or stored at this time.

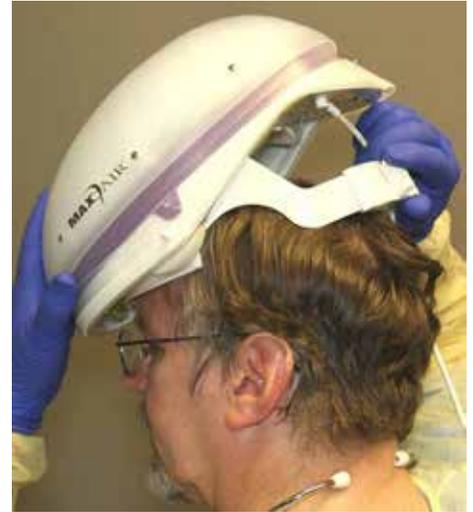
**Doffing the System: Alternative B**



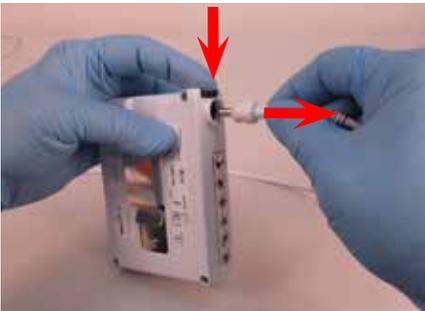
1. With the System mounted on head, remove the DLC from the Helmet. Dispose the DLC according to your institution's protocol for contaminated waste.



2. Loosen the rear Headband Adjustment Knob by turning it counterclockwise



3. Hold the front top of the Helmet in one hand and with the other hand on the Adjustment Knob; lift the Helmet up and off the head.



4. Disconnect the Helmet Power Cord from the Battery - push the Secure Connection Button down, pull Cord Connector out, release the Button.



5. Disconnect the Battery Belt from around the waist by un-snapping the buckle.



6. With the Charger connected to the mains wall power, connect the Charger Cord to the Battery. Push the Charger Cord Connector into the Battery Receptacle until it is fully seated.



7. The entire CAPR System may be decontaminated, cleaned and/or stored at this time.

8. If desired, all components of the CAPR System may be disassembled and each component decontaminated, cleaned and/or stored at this time.

# 15. Instructions For Use: 2260-05 DLC Shroud



**O.N. 2260-05SM**  
**Small-Medium**  
**PN 01031345**

**O.N. 2260-05ML**  
**Medium-Large**  
**PN 01031434**



## WARNING

Use only if package is received unopened and contents are undamaged. If damage is noted, contact the shipper for replacement or repair.

Prior to using any MAXAIR® System or component, be sure to be familiar with the system's NIOSH approved configuration.

Read and understand the User's Instructions Manual.

Failure to follow the User's Instructions Manual may be hazardous to the user's health.

The institution using this product in any application is responsible for determining the appropriateness of this equipment relative to regulatory requirements. Bio-Medical Devices Intl, Inc. does not recommend the appropriate systems for a particular institution or facility.

DO NOT use if any component is damaged. If any components are damaged or contaminated and therefore unfit for safe and effective use, they should be replaced immediately.

Use only MAXAIR Systems/ NIOSH approved compatible components.

The DLCs are not intended for use against oily particulates such as paint mist, oil mist or detergents.

NOT for use in atmospheres immediately dangerous to life or health (IDLH), and atmospheres containing less than 19.5% oxygen.

Follow current local regulations governing biohazard waste to safely dispose of used shrouds.

If you need more information, contact your BMDI Sales Representative, or call BMDI customer service at 1-800-443-3842.

## Intended Use

The MAXAIR® CAPR® Shroud Systems are intended to filter aerosolized and droplet particulates.

Shrouds are designed for single use applications.

## For Use With

The MAXAIR 2260-05 DLC-Shroud is a component of the MAXAIR CAPR Shroud Systems and is intended to be donned with a MAXAIR CAPR Powered Air Purifying Respirator (PAPR) 2070-03 Helmet and a 2164-10 Filter Cartridge.

## Standard CAPR 2260-05 DLC Shroud System



1. 2070-03 Helmet and Power Cord	5. 2500-36TSC Battery, Small
2. 2164-10 Filter Cartridge	6. 2600-01 Battery Charger
3. 2061-03 Filter Cover Cap	7. 2260-05 DLC Shroud
4. 2000-76 Battery Belt	

## Materials

5DLC Lens is PETG  
 DLC Cuff is Polyurethane  
 Shroud body is Polypropylene

## Specifications

Temperature Limits: 49°C  
 Efficiency Rating: HE

## Regulatory

NIOSH

## Prepare Shroud and Helmet for assembly



### NOTE

Read Sections 1 through 13 before proceeding.

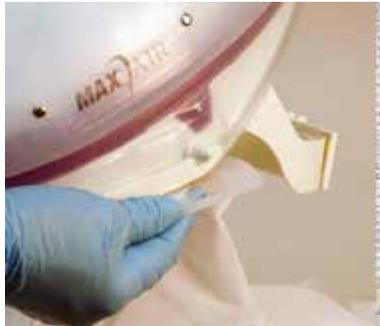


1. Remove Shroud from packaging and lay shroud on the counter with lens/snaps facing up.

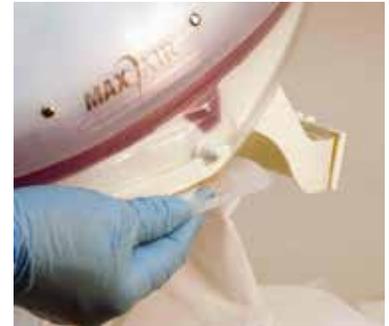
## Assembly



2. Attach one side of the DLC alignment hole to the Helmet side attachment post (Cuff facing inward).



3. Secure the center DLC alignment hole over the FCC front alignment post.



4. Attach the other side of DLC to the other Helmet side attachment post.



5. Hold helmet securely, grasp shroud's rear pull tab and pull shroud up and over helmet.



6. Pull Shroud down over back of helmet and fasten rear snap to FCC T-Tab snap.



7. Pull shroud down around Helmet and secure rear side snaps to each FCC rear side snap (Both sides).

### Dis-assembly:

Reverse steps 2 through 7 to remove Shroud from Helmet.



### WARNING

Dispose of contaminated Shrouds according to your Institution's protocols.

## Donning



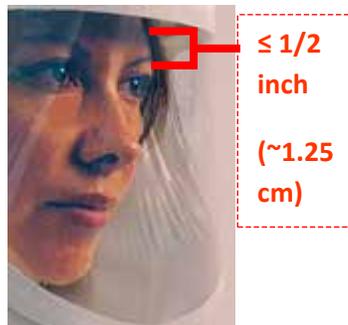
8. Connect the Helmet Power Cord to the Battery. Push the Power Cord Connector into the Battery Receptacle until the Secure Connection audibly clicks.



9. Loosen headband Ratchet Knob (counterclockwise).



10. Hold Helmet in one hand and pull Cuff down with other hand. Place chin inside cuff and pull helmet down onto head.



11. Secure Helmet by tightening Ratchet Knob as tight as comfortably possible, while ensuring stability. The front headband should sit within 1/2 inch of eyebrows for good visualization of the Safety LEDs.



12. Pull back of shroud up, over, and down behind helmet. Slide fingers between face and cuff on both sides from chin to temples to ensure a slight Cuff-to-Face tension.\*



### WARNING

\* If there is a lack of tension, switch to 2260-05SM, and repeat beginning with step 3.



13. Secure shroud by pulling ties around the waist and tying in the front. Pull neck ties around to the front and tie securely. Leaving about a 1/2 inch gap between neck and Shroud.



14. Optionally, tuck Shroud inside body cover.

## Doffing

Reverse steps 8 thru 14 to doff Helmet and remove Shroud.

After disconnecting the Battery from the Helmet, connect it to the Charger (refer to page 38, 12.1 Routine Infection Control use in med/surg and ED areas, and page 51, 17. Instructions For Use: Charger, for details).

## 16. Instructions For Use: 2261-01 DLC Double Shroud



**O.N. 2261-01SM  
Small-Medium  
PN 01031394**

**O.N. 2261-01ML  
(Medium-Large)  
PN 01031396**



### WARNING

Use only if package is received unopened and contents are undamaged. If damage is noted, contact the shipper for replacement or repair.

Prior to using any MAXAIR® System or component, be sure to be familiar with the system's NIOSH approved configuration.

Read and understand the User's Instructions Manual.

Failure to follow the User's Instructions Manual may be hazardous to the user's health.

The institution using this product in any application is responsible for determining the appropriateness of this equipment relative to regulatory requirements. Bio-Medical Devices Intl, Inc. does not recommend the appropriate systems for a particular institution or facility.

DO NOT use if any component is damaged. If any components are damaged or contaminated and therefore unfit for safe and effective use, they should be replaced immediately.

Use only MAXAIR Systems/ NIOSH approved compatible components.

The shrouds are not intended for use against oily particulates such as paint mist, oil mist or detergents.

NOT for use in atmospheres immediately dangerous to life or health (IDLH), and atmospheres containing less than 19.5% oxygen.

Follow current local regulations governing biohazard waste to safely dispose of used shrouds.

If you need more information, contact your BMDI Sales Representative, or call BMDI customer service at 1-800-443-3842.

### Intended Use

The MAXAIR® CAPR® Double Shroud Systems are intended to filter aerosolized and droplet particulates.

Double Shrouds are designed for single use applications.

### For Use With

The MAXAIR 2261-01 DLC-Double Shroud is a component of the MAXAIR CAPR Double Shroud Systems and is intended to be donned with a MAXAIR CAPR Powered Air Purifying Respirator (PAPR) 2070-03 Helmet and 2164-10 Filter Cartridge.

### Standard CAPR 2261-01 DLC Double Shroud System



1. 2070-03 Helmet and Power Cord	5. 2500-36TSC Battery, Small
2. 2164-10 Filter Cartridge	6. 2600-01 Battery Charger
3. 2061-03 Filter Cover Cap	7. 2261-01 Double Shroud
4. 2000-76 Battery Belt	

### Materials

DLC Lens is PETG  
DLC Cuff is Polyurethane  
Shroud outer body is plastic coated fabric  
Shroud inner body is electrostatic filter media

### Specifications

Temperature Limits: 49°C  
Efficiency Rating: HE

### Regulatory

NIOSH

## Prepare Double Shroud and Helmet for Assembly:



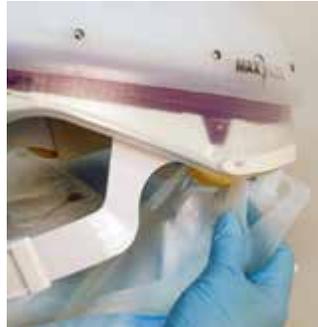
### NOTE

Read Sections 1 through 13 before proceeding.

## Assembly



1. Remove Double Shroud from packaging and lay shroud on the counter with lens/snaps facing up.



2. Attach one side of the DLC alignment hole to the Helmet side attachment post (Cuff facing inward)



3. Secure the center DLC alignment hole over the FCC front alignment post.



4. Attach the other side of the DLC to the other Helmet side attachment post.



5. Hold helmet securely, grasp the shroud's rear pull tab and pull shroud up and over helmet.



6. Pull Shroud down over back of helmet and fasten rear snap to FCC T-Tab snap.



7. Pull shroud down around Helmet and secure rear side snaps to each FCC rear side snaps (Both sides).

## Dis-assembly

Reverse steps 2 through 7 to remove Shroud from Helmet.



## WARNING

Dispose of contaminated Shrouds according to your Institution's protocols.

**Donning**



9. Connect the Helmet Power Cord to the Battery. Push the Power Cord Connector into the Battery Receptacle until the Secure Connection audibly clicks.



10. Loosen headband Ratchet Knob (counterclockwise).



11. Hold Helmet in one hand and pull Cuff down with other hand. Place chin inside cuff and pull helmet down onto head.



≤ 1/2  
inch  
(~1.25  
cm)

12. Secure Helmet by tightening Ratchet Knob as tight as comfortably possible, while ensuring stability. The front headband should sit within a 1/2 inch of eyebrows for good visualization of the Safety LEDs.



13. Pull back of shroud up, over, and down behind helmet. Slide fingers between face and cuff on both sides from chin to temples to ensure a slight Cuff-to-Face tension.\*



14. Pull neck ties around to the front and tie securely. Leaving about a 1/2 inch gap between neck and Shroud. Tuck inner shroud inside body cover.



15. Pull outer shroud down around all sides.

**Doffing**

Reverse steps 9 thru 15 to doff Helmet and remove Shroud.

After disconnecting the Battery from the Helmet, connect it to the Charger (refer to page 38, 12.1 Routine Infection Control use in med/surg and ED areas, and page 51, 17. Instructions For Use: Charger, for details).

# 17. Instructions For Use: 2270-01 DLC Pre-Filter Hood



O.N. 2270-01SM  
Small-Medium  
PN 01031417

O.N. 2270-01ML  
(Medium-Large)  
PN 01031425



## WARNING

Use only if package is received unopened and contents are undamaged. If damage is noted, contact the shipper for replacement or repair.

Prior to using any MAXAIR® System or component, be sure to be familiar with the system's NIOSH approved configuration.

Read and understand the User's Instructions Manual.

Failure to follow the User's Instructions Manual may be hazardous to the user's health.

The institution using this product in any application is responsible for determining the appropriateness of this equipment relative to regulatory requirements. Bio-Medical Devices Intl, Inc. does not recommend the appropriate systems for a particular institution or facility.

DO NOT use if any component is damaged. If any components are damaged or contaminated and therefore unfit for safe and effective use, they should be replaced immediately.

Use only MAXAIR Systems/ NIOSH approved compatible components.

The shrouds are not intended for use against oily particulates such as paint mist, oil mist or detergents.

NOT for use in atmospheres immediately dangerous to life or health (IDLH), and atmospheres containing less than 19.5% oxygen.

Follow current local regulations governing biohazard waste to safely dispose of used shrouds.

If you need more information, contact your BMDI Sales Representative, or call BMDI customer service at 1-800-443-3842.

## Intended Use

The MAXAIR® CAPR® DLC Pre-Filter Hood Systems are intended to filter aerosolized and droplet particulates. Hoods are designed for single use applications.

## For Use With

The MAXAIR 2270-01DLC Pre-Filter Hood is a component of the MAXAIR CAPR Hood Systems and is intended to be donned with a MAXAIR CAPR Powered Air Purifying Respirator (PAPR) 2070-03 Helmet and a 2165-10 Filter Cartridge.

## Standard CAPR 2270-01 DLC Pre-Filter Hood System



1. 2070-03 Helmet and Power Cord	4. 2000-76 Battery Belt
2. 2165-10 Post Filter Cartridge	5. 2600-01 Battery Charger
3. 2500-36TSC Battery, Small	6. 2270-01 DLC Pre-Filter Hood

## Materials

DLC Lens is PETG  
DLC Cuff is Polyurethane  
Hood body is plastic coated fabric  
Filter is electrostatic filter material

## Specifications

Temperature Limits: 49°C  
Efficiency Rating: HE

## Regulatory

NIOSH



**NOTE**

Read Sections 1 through 13 before proceeding. If one is attached, remove the Filter Cover Cap (**Section 13**).  
**Assemble the 2165-10 Filter Cartridge per Section 12.**

**Prepare Hood and Helmet for Assembly**



1. Remove hood from packaging and lay it on counter with lens/snaps facing up.



2. If necessary use a thin, flat blade to gently remove Front and Rear Adapter Posts.

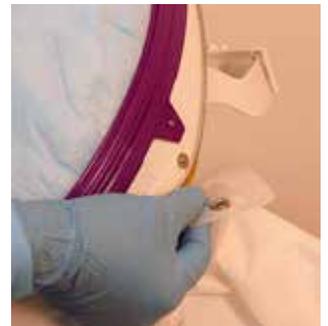
**Assembly**



3. Snap one side of Hood DLC to one side snap of Helmet (DLC Cuff facing in).



4. Snap front of Hood DLC to center Helmet snap.



5. Snap other side of Hood DLC to other side snap of Helmet.



6. Grasp Hood Snap Tab and begin pulling hood up and over helmet.



7. Continue pulling over and down the back of the helmet.



8. Secure the Hood Snap Tab on the lower rear Helmet snap.

**Dis-Assembly**

Reverse steps 3 through 8 to remove Hood from Helmet.



**WARNING**

Dispose of contaminated Hoods according to your Institution's protocols.

## Donning



9. Connect the Helmet Power Cord to the Battery. Push the Power Cord Connector into the Battery Receptacle until the Secure Connection audibly clicks.



10. Loosen rear Ratchet Knob (counterclockwise).



11. Hold Helmet in one hand; pull Cuff down with other hand, and place chin into Cuff.



12. Pull Helmet over and down onto head.



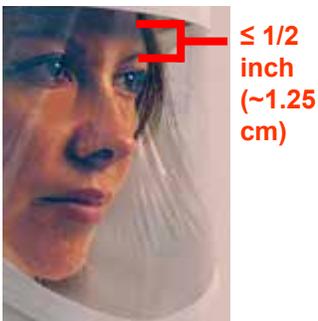
13. Secure Helmet by tightening Ratchet Knob as tight as comfortably possible, while ensuring stability.



14. Pull back of Hood over, and down behind Helmet.



15. Slide fingers between face and Cuff on both sides from chin to temples to ensure slight Cuff-to-face tension\*.



16. Ensure that the front Headband is within 1/2 inch of eyebrows for good visualization of the Safety LEDs



17. Pull lower ties around from back and place through tie slits in hood bottom. Tie securely.



18. Pull upper ties around and to front and tie securely under Lens. Ties should be within about 1/2 inch from neck.



19. Suitable body cover gown is recommended. Tuck Hood Shroud under body cover gown for optimum protection.

## Doffing

Reverse steps 9 thru 19 to doff Helmet and remove Hood.

After disconnecting the Battery from the Helmet, connect it to the Charger (refer to page 38, 12.1 Routine Infection Control use in med/surg and ED areas, and page 51, 17. Instructions For Use: Charger, for details).

## 18. Instructions For Use: 2270-03 XP DLC Pre-Filter Hood



**O.N. 2270-03SM**  
**Small-Medium**  
**PN 01031315**

**O.N. 2270-03ML**  
**Medium-Large**  
**PN 01031521**



### WARNING

Use only if package is received unopened and contents are undamaged. If damage is noted, contact the shipper for replacement or repair.

Prior to using any MAXAIR® System or component, be sure to be familiar with the system's NIOSH approved configuration.

Read and understand the User's Instructions Manual.

Failure to follow the User's Instructions Manual may be hazardous to the user's health.

The institution using this product in any application is responsible for determining the appropriateness of this equipment relative to regulatory requirements. Bio-Medical Devices Intl, Inc. does not recommend the appropriate systems for a particular institution or facility.

DO NOT use if any component is damaged. If any components are damaged or contaminated and therefore unfit for safe and effective use, they should be replaced immediately.

Use only MAXAIR Systems/ NIOSH approved compatible components.

The shrouds are not intended for use against oily particulates such as paint mist, oil mist or detergents.

NOT for use in atmospheres immediately dangerous to life or health (IDLH), and atmospheres containing less than 19.5% oxygen.

Follow current local regulations governing biohazard waste to safely dispose of used shrouds.

If you need more information, contact your BMDI Sales Representative, or call BMDI customer service at 1-800-443-3842.

### Intended Use

The MAXAIR® CAPR® XP DLC Hood Systems are intended to filter aerosolized and droplet particulates. Hoods are designed for single use applications.

### For Use With

The MAXAIR 2270-03 XP DLC Pre-Filter Hood is a component of the MAXAIR CAPR Hood Systems and is intended to be donned with a MAXAIR CAPR Powered Air Purifying Respirator (PAPR) 2070-03 Helmet and a 2165-10 Filter Cartridge.

### Standard CAPR 2270-01 DLC Pre-Filter Hood System



1. 2070-03 Helmet with Power Cord	4. 2000-76 Battery Belt
2. 2165-10 Filter Cartridge	5. 2600-01 Battery Charger
3. 2500-30TSC Battery, large	6. 2270-03 XP Hood

### Materials

DLC Lens is PETG  
 DLC Cuff is Polyurethane  
 Hood body is plastic coated fabric  
 Filter is electrostatic filter material

### Specifications

Temperature Limits: 49°C  
 Efficiency Rating: APF = 1,000

### Regulatory

NIOSH



**NOTE**

Read Sections 1 through 13 before proceeding. If one is attached, remove the Filter Cover Cap (**Section 13**).  
**Assemble the 2165-10 Filter Cartridge per Section 12.**

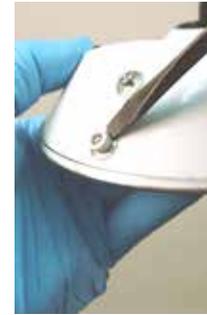
**Prepare Hood and Helmet for Assembly**



1. Remove hood from packaging and lay hood on counter with lens/snaps facing up.



2. If necessary use a thin, flat blade to gently remove Front and Rear Adapter Posts.



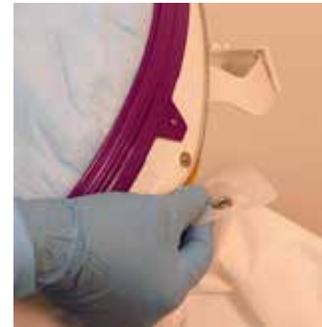
**Assembly**



3. Snap one side of Hood DLC to one side snap of Helmet (DLC Cuff facing in).



4. Snap front of Hood DLC to center Helmet snap.



5. Snap other side of Hood DLC to other side snap of Helmet.



6. Grasp Hood Snap Tab and begin pulling hood up and over helmet.



7. Continue pulling over and down the back of the helmet.



8. Secure the Hood Snap Tab on the lower rear Helmet snap.

**Dis-Assembly**

Reverse steps 3 through 8 to remove Hood from Helmet.



**WARNING**

Dispose of contaminated Hoods according to your Institution's protocols.

## Donning



9. Connect the Helmet Power Cord to the Battery. Push the Power Cord Connector into the Battery Receptacle until the Secure Connection audibly clicks.



10. Loosen rear Ratchet Knob (counterclockwise).



11. Hold Helmet in one hand; pull Cuff down with other hand, and place chin into Cuff.



12. Pull Helmet over and down onto head.



13. Secure Helmet by tightening Ratchet Knob as tight as comfortably possible, while ensuring stability.



14. Pull back of Hood over, and down behind Helmet.



15. Slide fingers between face and Cuff on both sides from chin to temples to ensure slight Cuff-to-face tension\*.



≤ 1/2 inch  
(~1.25 cm)

16. Ensure that the front Headband is within 1/2 inch of eyebrows for good visualization of the Safety LEDs



17. Pull lower ties around from back and place through tie slits in hood bottom. Tie securely.



18. Pull upper ties around and to front and tie securely under Lens. Ties should be within about 1/2 inch from neck.



19. Suitable body cover gown is recommended. Tuck Hood Shroud under body cover gown for optimum protection.

## Doffing

Reverse steps 9 thru 19 to doff Helmet and remove Hood.

After disconnecting the Battery from the Helmet, connect it to the Charger (refer to page 38, 12.1 Routine Infection Control use in med/surg and ED areas, and page 51, 17. Instructions For Use: Charger, for details).

# 19. Instructions For Use: 2270-04 HE DLC Hood with Heavy Loading Filter (HLF)



### O.N. 2270-04SM

Small-Medium  
PN 07831036

### O.N. 2270-04ML

Medium-Large  
PN 07831037

### Intended Use

The MAXAIR® CAPR® Hood Systems are intended to filter aerosolized and droplet particulates and provide high level fluid resistance.

Hoods are designed for single use applications.

### For Use With

The MAXAIR 2270-04 HE DLC Hood is a component of the MAXAIR CAPR Hood Systems and provides optimum performance when donned with a MAXAIR CAPR Powered Air Purifying Respirator (PAPR) 2075-03 Helmet (optionally with 2076-03 Helmet w/chin bar).

### Symbol Definitions



Warning, Caution, or Note



Fluid Resistance



Order Number



Part Number



### WARNING

Use only if package is received unopened and contents are undamaged. If damage is noted, contact the shipper for replacement or repair.

Prior to using any MAXAIR® System or component, be sure to be familiar with the system's NIOSH approved configuration.

DO NOT use if any component is damaged. If any components are damaged or contaminated and therefore unfit for safe and effective use, they should be replaced immediately.

Only trained and experienced personnel who have read and understand the User's Instructions should use this product.

Failure to follow the User's Instructions, these and in the MAXAIR Systems User's Instructions, P/N 03521015, may be hazardous to the user's health.

The institution using this product in any application is responsible for determining the appropriateness of this equipment relative to regulatory requirements. Bio-Medical Devices Intl, Inc. does not recommend the appropriate systems for a particular institution or facility.

Use only MAXAIR Systems/ NIOSH approved compatible components.

NOT for use in atmospheres immediately dangerous to life or health (IDLH), and atmospheres containing less than 19.5% oxygen, or more than 25% oxygen.

Flammability Level I: fabric may burn if exposed to open flame.

Follow current local regulations governing biohazard waste to safely dispose of used shrouds.

If you need more information, contact your BMDI Sales Representative, or call BMDI customer service at 1-800-443-3842.

### CAPR 2270-04 HE DLC Hood Standard System Configuration



1. 2075-03 Helmet w/ Power Cord	4. 2270-04 HE DLC Hood
2. 2500-36TSC Battery	5. 2170-26 Heavy Loading Filter
3. 2000-76 Battery Belt	6. 2600-01 Battery Charger

### Materials

Hood Lens is polycarbonate  
Hood Filter is polypropylene  
Hood Shroud is polypropylene coating on polypropylene scrim  
Heavy Loading Filter is polypropylene/modacrylic blend

### Specifications

Temperature Limits: 49°C  
APF = 25

### Regulatory



All areas except filter pass ASTM F1671  
Filter passes AATCC TM 127 @>50 cm H2O



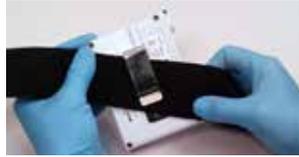
**NOTE**

Read Sections 1 through 11 before proceeding.

**Don:**



1. Remove Hood and Heavy Loading Filter (HLF) from packaging and lay on the counter with labels facing up.



2. Connect the Battery to the Belt and place the Belt around the waist, typically with the Battery towards the rear of the right hip. To begin air flow, insert the Helmet Power Cord Connector into Battery Connector receptacle until the Secure Lock audibly clicks.



**NOTE**

The outer gown may be donned up to about the waist before donning the battery, and then completed, or fully after the battery is donned and connected.

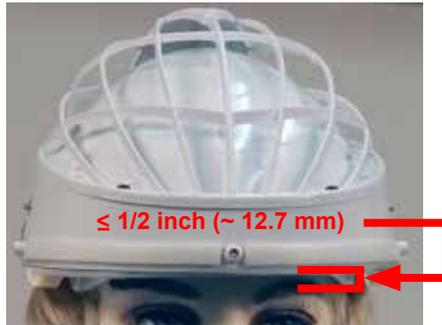


**NOTE**

Depending on the anticipated comfort level when fully gowned, the Helmet Air-Flow Level may be set to Med or High.



3. Turn Headband Ratchet Knob counterclockwise to loosen headband for ease of donning Helmet.



4. Position Helmet on head with front Headband within 1/2 inch of eyebrows.



5. Turn Ratchet Knob clockwise to tighten Headband as tight as comfortable to secure Helmet to Head for all anticipated activities.



6. Hold Hood in one hand with lens towards helmet. Attach one side Hood-Lens attachment hole to respective Helmet side attachment post.



7. Attach center Hood-Lens alignment hole over Helmet center alignment post.



8. Attach other Hood-Lens attachment hole to other Helmet side attachment post.



**NOTE**

An audible click will occur when the side attachments are made properly.



9. Ensure the DLC Cuff Flappers are out against the temples by inserting fingers between face and Cuff and gently pulling Cuff and Flapper out and then back to temple (both sides).



10. Ensure slight tension is felt continuously while sliding the index or first finger between cuff and face all along the chin up to the temples, from right to left side of face.



**CAUTION**

If conditions in 9. and 10. are not achieved, switch to the other size Hood before proceeding.



11. Holding the Helmet securely on head, grasp back bottom of Hood Skirt and pull up, over, and down below Helmet in back.



12. Continuing process of 11, pull Hood all the way down so that Hood Filter (blue) is fully down on Helmet.



13. Ensure all Filter (blue) wrinkles above front of Lens are removed by holding shroud in front below lens and in back below filter and pulling down firmly.



14. Initiate donning of Heavy Loading Filter (HLF) by tucking back bottom up under back bottom of Helmet



15. Complete donning of HLF by pulling down rear-to-front and securing front bottom on Hood front velcro strips (both sides in front).



16. Ensure Hood Skirt is fully down on all sides. Secure Neck ties to within about 1/2 inch of neck. Secure body ties around waist area.

**Doff:**



17. Untie both Neck and Body Ties. Either retie Neck ties very loosely or cut them off Hood to ensure Neck Ties do not contaminate Helmet, gown, or wearer.



18. Grasp both Body Ties and pull up to bring back bottom of Hood up and over Helmet.



19. Continue pulling Hood inside-out up and over Hood and HLF to ensure contaminated outside is folded up inside.



20. Continue pulling Hood off front of Helmet releasing the Lens from its Helmet attachment points.



21. Discard Hood and HLF per institutional protocol for contaminated waste.

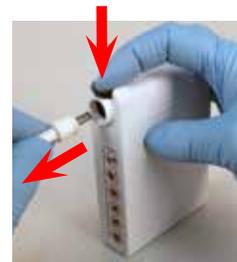
23. Doff and discard gown per gown supplier protocol.



24. Loosen Headband by turning Ratchet Know fully counterclockwise.



25. Lift Helmet up and off Head



26. Disconnect the Helmet Power Cord from the Battery - push the Secure Connection Button down, pull Cord Connector out, release the Button.

## 20. Instructions For Use: 2367-02 Quick Cuff



2076-03 Helmet



2026-03 Helmet

**O.N. 2367-02**  
PN 07631022

### Symbol Definitions



Warning, Caution, or Note



Order Number



Part Number



### WARNING

Use only if package is received unopened and contents are undamaged. If damage is noted, contact the shipper for replacement or repair.

Prior to using any MAXAIR® System or component, be sure to be familiar with the system's NIOSH approved configuration.

DO NOT use if any component is damaged. If any components are damaged or contaminated and therefore unfit for safe and effective use, they should be replaced immediately.

Only trained and experienced personnel who have read and understand the User's Instructions should use this product.

Failure to follow the User's Instructions, these and in the MAXAIR Systems User's Instructions, P/N 03521015, may be hazardous to the user's health.

The institution using this product in any application is responsible for determining the appropriateness of this equipment relative to regulatory requirements. Bio-Medical Devices Intl, Inc. does not recommend the appropriate systems for a particular institution or facility.

Use only MAXAIR Systems/ NIOSH approved compatible components.

NOT for use in atmospheres immediately dangerous to life or health (IDLH), and atmospheres containing less than 19.5% oxygen, or more than 25% oxygen.

Flammability Level I: fabric may burn if exposed to open flame.

Follow current local regulations governing biohazard waste to safely dispose of used shrouds.

If you need more information, contact your BMDI Sales Representative, or call BMDI customer service at 1-800-443-3842.



### NOTE

The Quick Cuff is used alternately with the 2076-03 and the 2026-03 Helmets.

### For Use With

The MAXAIR 2367-02 Quick Cuff is a component of the MAXAIR Hood Systems used with the 2076-03 and 2026-03 Helmets.

### MAXAIR 2367-02 Quick



Front View



Inside View

### Materials

Cuff is polypropylene/polypropylene spunbonded & latex free elastic

### Specifications

Temperature Limits: 49°C

### Regulatory





**CAUTION:**

Read Sections 1 through 11 before proceeding.



**NOTE**

The Quick Cuff is used alternately with the 2076-03 and the 2026-03 Helmets. Assembly is nearly identical and is, therefore, shown only on the 2076-03 except where different and appropriately noted.

**Assembly:**



1. Remove Quick Cuff from packaging and lay on the counter with label facing up.



2. Ensure proper orientation of Quick Cuff Snaps by holding up in front of ChinBar with label facing you.



3. With Helmet turned upside down, snap one side of Quick Cuff to an appropriate Helmet Headband Snap Hole.



4. Snap other side of Quick Cuff to a same positioned Helmet Headband Snap Hole on the other side of Helmet.



5. Gently pull top of one side of Quick Cuff up and over bottom of Velcro on ChinBar.



6. Gently pull top of other side of Quick Cuff up and over bottom of Velcro on ChinBar on other side.



7a. For 2076-03 Helmet, with bottom of ChinBar pointed up, pull bottom of Quick Cuff around T-Tab.



7b. For 2026-03 Helmet, with bottom of ChinBar pointed up, pull bottom of Quick Cuff down and mate the bottom inside Quick Cuff stitching to the velcro strip on the ChinBar.



8. Finished assembly should appear as shown.

**Disassembly:**

To disassemble Quick Cuff from the Helmet reverse steps 2-7 and discard per institutional protocol for contaminated waste.

# 21. Instructions For Use: 2270-06 HE Hood with Heavy Loading Filter (HLF)



**O.N. 2270-06SM**  
Small-Medium  
PN07831038

**O.N. 2270-06ML**  
Medium-Large  
PN 07831039



### NOTE

The 2270-06 Hoods are used alternately with the 2076-03 or 2026-03 Helmet.

### Intended Use

The MAXAIR® Hood Systems are intended to filter aerosolized and droplet particulates and provide high level fluid resistance.

Hoods are designed for single use applications.

### Symbol Definitions



Warning, Caution, or Note



Fluid Resistance



Order Number



Part Number



### WARNING

Use only if package is received unopened and contents are undamaged. If damage is noted, contact the shipper for replacement or repair.

Prior to using any MAXAIR® System or component, be sure to be familiar with the system's NIOSH approved configuration.

DO NOT use if any component is damaged. If any components are damaged or contaminated and therefore unfit for safe and effective use, they should be replaced immediately.

Only trained and experienced personnel who have read and understand the User's Instructions should use this product.

Failure to follow the User's Instructions, these and in the MAXAIR Systems User's Instructions, P/N 03521015, may be hazardous to the user's health.

The institution using this product in any application is responsible for determining the appropriateness of this equipment relative to regulatory requirements. Bio-Medical Devices Intl, Inc. does not recommend the appropriate systems for a particular institution or facility.

Use only MAXAIR Systems/ NIOSH approved compatible components.

NOT for use in atmospheres immediately dangerous to life or health (IDLH), and atmospheres containing less than 19.5% oxygen, or more than 25% oxygen.

Flammability Level I: fabric may burn if exposed to open flame.

Follow current local regulations governing biohazard waste to safely dispose of used shrouds.

If you need more information, contact your BMDI Sales Representative, or call BMDI customer service at 1-800-443-3842.

### For Use With

The MAXAIR 2270-06 HE Hood is a component of the MAXAIR Hood Systems and provides optimum performance when donned with a MAXAIR Systems CAPR 2076-03 Helmet or, alternatively, with a MAXAIR Systems 2026-03 Helmet.

### CAPR 2270-06 HE Hood Standard System Configuration (showing alternate Helmets, 1 or 2)



1. 2076-03 Helmet w/ Power Cord and Chin Bar	5. 2500-36TSC Battery
2. 2026-03 Helmet w/Power Cord and ChinBar	6. 2600-01 Charger
3. 2367-02 Quick Cuff	7. 2270-06 HE Hood
4. 2000-76 Battery Belt	8. 2170-26 Heavy Loading Filter

### Materials

Hood Lens is polycarbonate  
Hood Filter is polypropylene  
Hood Shroud is polypropylene coating on polypropylene scrim  
Heavy Loading Filter is polypropylene/modacrylic blend

### Specifications

Temperature Limits: 49°C  
APF = 25

### Regulatory



All areas except filter pass ASTM F1671  
Filter passes AATCC TM 127 @>50 cm H2O



**NOTE**

Read Sections 1 through 11 before proceeding.



**NOTE**

The 2270-06 HE Hood may be used alternatively with the 2076-03 Helmet or the 2026-03 Helmet. Due to the extreme between the Helmets, photos are of the 2076-03 unless 2026-03 photos are needed for clarity.

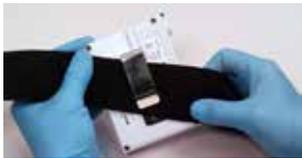
**Prep for Donning:**



1. Remove Hood and Heavy Loading Filter from packaging and lay on a counter with labels facing up.



2. Refer to the 2367-02 Quick Cuff IFU for Quick Cuff to Helmet assembly instructions.



**NOTE**

The outer gown may be donned up to about the waist before donning the battery, and then completed, or fully after the battery is donned and connected.



3. Connect the Battery to the Belt and place the Belt around the waist, typically with the Battery towards the rear of the right hip. To begin air flow, insert the Helmet Power Cord Connector into Battery Connector receptacle until the Secure Lock audibly clicks.



**NOTE**

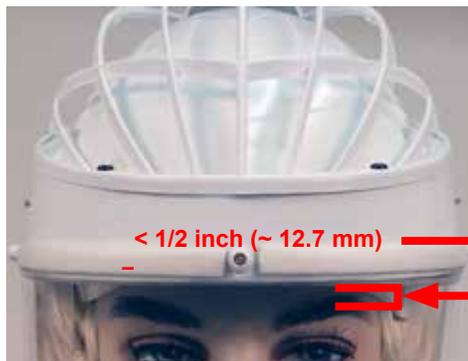
Depending on the anticipated comfort level when fully gowned, the Helmet Air-Flow Level may be set to Med or High.



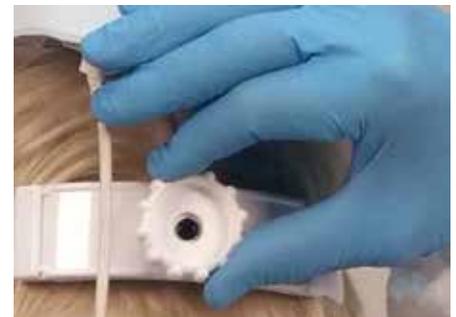
**Don:**



4. Turn Headband Ratchet Knob counterclockwise to loosen headband for ease of donning Helmet.



5. Position Helmet on head with front Headband within 1/2 inch of eyebrows.



6. Turn Ratchet Knob clockwise to tighten Headband as tight as comfortable to secure Helmet to Head for all anticipated activities.



7. Hold Hood in one hand with lens towards helmet. Attach one side Hood-Lens attachment hole to respective Helmet side attachment post.



8. Attach center Hood-Lens alignment hole over Helmet center alignment post.



9. Attach other Hood-Lens attachment hole to other Helmet side attachment post.

**NOTE**  
 An audible click will occur when the side attachments are made properly.



12. Holding the Helmet securely on head, grasp back bottom of Hood Skirt and pull up, over, and down below Helmet in back.



13. Continuing process of 11, pull Hood all the way down so that Hood Filter (blue) is fully down on Helmet.



14. Ensure all Filter (blue) wrinkles above front of Lens are removed by holding shroud in front below lens and in back below filter and pulling down firmly.

**CAUTION**  
 For very small stature wearers the Hood Shroud may fit too loosely, and the 2270-06SM may be more appropriate.



15. Initiate donning of Heavy Loading Filter (HLF) by tucking back bottom up under back bottom of Helmet



16. Complete donning of HLF by pulling down rear-to-front and securing front bottom on Hood front velcro strips (both sides in front).



17. Ensure Hood Skirt is fully down on all sides.  
 Secure Neck ties to within about 1/2 inch of neck.  
 Secure body ties around waist area.



18. Initiate donning of Heavy Loading Filter (HLF) by tucking back bottom up under back bottom of Helmet



19. Complete donning of HLF by pulling down rear-to-front and securing front bottom on Hood front velcro strips (both sides in front).



20. Ensure Hood Skirt is fully down on all sides. Secure Neck ties to within about 1/2 inch of neck. Secure body ties around waist area.

**Doff:**



21. Untie both Neck and Body Ties. Either retie Neck ties very loosely or cut them off Hood to ensure Neck Ties do not contaminate Helmet, gown, or wearer.



22. Grasp both Body Ties and pull up to bring back bottom of Hood up and over Helmet.



23. Continue pulling Hood inside-out up and over Hood and HLF to ensure contaminated outside is folded up inside.



24. Continue pulling Hood off front of Helmet releasing the Lens from its Helmet attachment points.



25. Discard Hood and HLF per institutional protocol for contaminated waste.

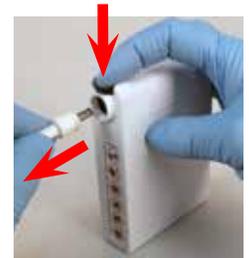
26. Doff and discard gown per gown supplier protocol.



27. Loosen Headband by turning Ratchet Know fully counter-clockwise.



28. Lift Helmet up and off Head



29. Disconnect the Helmet Power Cord from the Battery - push the Secure Connection Button down, pull Cord Connector out, release the Button.

## 22. Decontamination / Cleaning



### CAUTION

Do not immerse the battery, helmet and fan module into water or other liquid. This will cause irreparable damage to the helmet.

Do not use solvent or alcohol to clean the helmet. Isopropyl alcohol may be used to clean the Helmet. However, repeated long term use of isopropyl alcohol may deface the Helmet.

Do not subject helmet to any sterilization cycles.

Do not use organic solvents or strong oxidizing agents to clean the helmet.

The air channels should never need cleaning. If they do, the Filters are not being maintained properly or replaced at the appropriate intervals.

If other cleaning agents are to be used, it is recommended to test their use on a small section of one DLC Lens and/or a small section of the Helmet Liner to determine short and long term side effects.

It is not recommended to disconnect the Power Cord from the Helmet. The Power Cord should be decontaminated and cleaned as part of the Helmet.

### Decontaminating

Supplies Needed:	Frequency:	Accomplishes:
<ul style="list-style-type: none"> <li>Decontaminating wipe</li> <li>Decontaminating Agent: Alcohol, bleach, or quaternary ammonia.</li> </ul>	<ul style="list-style-type: none"> <li>Wipe between uses and between different users wearing the system.</li> </ul>	<ul style="list-style-type: none"> <li>Reduces cross contamination.</li> <li>Extends useful life.</li> <li>Improves hygiene.</li> </ul>
Procedure:		
1. Inspect the system and perform any assembly/dis-assembly instructions necessary for disposable items and for all components that have become worn or damaged.	2. Apply a suitable wipe with a decontaminating agent over all outside reachable surfaces, and then over all inside surfaces.	3. Let air dry and re-assemble or place in storage.



### NOTE

If desired, replace the DLC, Helmet Liner, Filter Cartridge, or Filter Cover Cap by following their assembly and dis-assembly procedures.

Replace the Front Headband Comfort Strip with a new one.

The rear Closed Cell Foam comfort pad may be cleaned for reuse by wiping down the outer surfaces with a decontaminating wipe.

### Cleaning

Supplies Needed:	Frequency:	Accomplishes:
<ul style="list-style-type: none"> <li>Clean Damp Cloth</li> <li>Cleaning Agent: Mild application of skin friendly soap.</li> </ul>	<ul style="list-style-type: none"> <li>Wipe between uses and between different users wearing the system.</li> </ul>	<ul style="list-style-type: none"> <li>Reduces cross contamination.</li> <li>Extends useful life.</li> <li>Improves hygiene.</li> </ul>
Procedure:		
1. Use a damp cloth with cleaning agent to clean all outer and inner exposed surfaces.	2. Let air dry.	



### NOTE

If desirable, replace the damaged or soiled Front Headband Comfort Strip.

The rear Closed Cell Foam comfort strip may be cleaned for reuse.

## 23. General System Maintenance and Storage



### CAUTION

Prior to each use, if any of the following issues are discovered for any system component(s), replace the particular item(s) by following the assembly/dis-assembly procedures for the particular item(s).

- Tears or Breaks.
- Contamination from blood or other bodily fluids not safely removed by following approved disinfection procedures.
- Compromise between the DLC and FCC seal.
- Damage or distortion to the filter cartridge gasket.
- Filter is soiled or challenged with particulates such as to compromise its performance or cause the yellow LED to be lighted.
- Compromise between the filter cartridge and helmet seal.
- Any other damage and threat to proper function.



### NOTE

The complete MAXAIR CAPR System and all components and accessories should be stored indoors in a safe, clean and secure environment at all times, protected from adverse environmental conditions, i.e. conditions that would be considered incompatible with normal human working conditions without special equipment.

## General System and Component Storage Environment

### Temperature/ Humidity

Temperature: -20° C to +40° C

Maximum Humidity: 80% Relative Humidity.

### Helmet Liner

- If the Helmet Liner is loosened after repeated assembly/dis-assembly so as to compromise its attachment mechanism or causes the Helmet mounting to be unstable and if there are any tears or breaks in the Liner, the Helmet Liner should be replaced by following its assembly and disassembly procedure.
- The Liner Power Cord Slot allows removal and attachment of the Liner without removal of the Power Cord.

### Helmet

- If the Helmet is damaged or operating improperly, do not attempt repair. Contact Customer Service, 1-800-443-3842 for the return procedure for evaluation and possible repair or replacement.

### Helmet Power Cord

- If the Helmet Power Cord connectors and cord insulation appear damaged in any manner, and if any cord wire is exposed, replace with a cord in good working condition. With a small pair of pliers, grasp the cord connector gently but firmly at its indented sides just above the connection to the helmet. Firmly pull straight up and away from the helmet. Replace with a new cord by grasping the same connector at the same indented sides with the thumb and first finger and press the connector firmly straight into the Helmet Connector. The Cord Connector will “click” when fully seated in the Helmet Connector.

### Filter Cartridge

- If the Filter is soiled or loaded (clogged) with particulate such as to compromise its performance or cause the Yellow LED to be lighted, or if there are tears or breaks, or if there are compromises between the seal and the Helmet, or any other damage, the Filter Cartridge should be replaced by following the assembly and disassembly procedures for the FCC and the Filter Cartridge.

- Particular attention must be made to inspection of the Filter Cartridge (black) Gasket for any damage that could adversely affect its seal with the Helmet. If there is any damage or doubt regarding the seal, replace the Filter Cartridge.

### Filter Cover Cap (FCC)

- The FCC must be inspected before each use. If the FCC is loosened after repeated assembly/dis-assembly such as to compromise its attachment mechanism or causes the Helmet mounting to be unstable, or if it has tears or breaks, the FCC should be replaced by following its assembly and disassembly procedures.

### Disposable Face and Head Covers: DLC Cuffs, Shrouds, Double Shrouds, and Hoods

- The DLC Line of Face and Head Covers is designed for single use, once on/once off the Helmet. Repeated assembly and dis-assembly will compromise the attachment mechanism or cause the Helmet mounting to be unstable. The DLC items should be discarded as contaminated waste after removal from the system and replaced by following the appropriate item assembly and disassembly procedures in this User's Instructions and the individual Instructions For Use.
- If there are any tears or breaks or fluid penetration in the DLC items, or any issues with the visual clarity of the Lenses, the DLC item should be replaced by following the appropriate assembly and disassembly procedures.

### Battery

- MAXAIR Systems Li-Ion Batteries are designed to be maintenance free. If a battery has any damage or malfunction, contact Customer Service at 1-800-443-3842, for an RMA (Return Material Authorization) for evaluation and possible replacement.
- Also refer to the next section, Battery Use and Maintenance, for additional instructions regarding Batteries.



Do not drop



Do not puncture.



Do not immerse in liquid.



Do not attempt to disassemble, open, or service.



Do not place near or in a flame.

### Battery Charger

- MAXAIR Systems Battery Chargers are designed to be maintenance free. If a charger has any damage or malfunction, contact Customer Service at 1-800-443-3842, for an RMA (Return Material Authorization) for evaluation and possible replacement.



Do not drop



Do not puncture.



Do not immerse in liquid.



Do not attempt to disassemble, open, or service.



Do not place near or in a flame.

## 24. Battery Use, Maintenance and Storage



### CAUTION

Do not store batteries for more than three months without subjecting them to normal discharge and recharge cycling. Ideally, batteries not being used routinely on a less than monthly frequency should be charge-cycled every three months, minimum.  
Optimal storage for Lithium Ion batteries is at 50% charge and approximately 0°C-10°C.



### CAUTION

MAXAIR Systems Lithium Ion (Li-Ion) batteries (LIBs) are secondary (rechargeable) batteries, not primary (storage) batteries.

MAXAIR Systems Li-Ion Batteries (LIBs) hold much of their charge for a year or longer. However, as with all rechargeable batteries, the amount of charge will decline slowly in use or storage (*self-discharge rate*), depending on time and temperature, and the maximum *recoverable charge* level diminishes gradually over the life of the battery.

### 24.1 Routine Infection Control use in med/surg and ED areas

- If LIBs are being used more than once per month, they should be connected to chargers in between uses.
- Before each use, physically inspect the LIB. If you perceive physical damage or tampering, use a different MAXAIR LIB and replace the damaged LIB as soon as possible.
- Routinely, every 3-6 months, perform the “LIB Check Procedure” (see Section 12.3.6). If this procedure results in a “Suspect LIB”, use a different MAXAIR LIB and replace the Suspect LIB as soon as possible.
- Check LIBs that are connected to MAXAIR chargers on a daily basis. If the charger LED is green, the LIB is ready for use and should be disconnected from the charger.



### CAUTION

#### Check LIBs connected to chargers on a daily basis.

If a LIB is warm-to-hot to the touch, disconnect the LIB from the charger and replace it immediately. If this condition is ever observed, please mark the specific battery and the specific charger it was connected to when the heating was noted, and contact us for replacement. Call Customer Service, 1-800-443-3842, for return and replacement instructions.

If the charger LED is Green, the LIB is fully charged and ready for use, therefore disconnect if from the charger. DO NOT leave the LIBs on the chargers after the charger LED turns Green.

### 24.2 Emergency Preparedness (EP) and In-Frequent Use

- MAXAIR batteries are shipped to customers at the 50% charge level (approximately 14.6v output level). This is the approximate level recommended for long term storage of a Li-Ion batteries, and therefore what we recommend for EP use to achieve the longest overall useful life of the batteries.
  - For a new 2500-30TSC battery this represents up to 8 hours of use before recharging to a fully charged level.
  - For a new 2500-36TSC battery this represents up to 4 hours of use before recharging to a fully charged level
- For systems that may be in storage and not used for longer than a year, the battery charge should be revalidated every 3-6 months, minimum.

## 24.3 General Use, Maintenance, and Storage



### WARNING

Failure to read and follow these instructions and guidelines may result in fire, personal injury and damage to property. Your MAXAIR LIBs need to be handled/transported, used/discharged, charged, and stored properly. Follow the safety rules listed below.

Follow these instructions and the Instructions For Use (IFU), and use MAXAIR LIBs in accordance to the warning labels on the MAXAIR LIBs to properly manage and control charging and discharging of all MAXAIR LIBs.

1. Keep MAXAIR LIBs and Chargers away from children.
2. Test MAXAIR LIBs before using to ensure they are operating properly and safely with the MAXAIR Helmet or on the MAXAIR Charger. (see Section 12.3.6).
3. As with all Li-Ion battery packs, misused and defective Li-Ion cells may explode and cause fire. If at any time a LIB starts to balloon, swell up, smoke or get hot, emit an unusual smell, change color, or appear abnormal in any other way, discontinue its use immediately, disconnect the LIB from the Helmet or Charger, and observe it in a safe place for approximately 15 minutes. If any of these conditions occur, the LIB should be replaced.



### CAUTION

These conditions may result in LIB cell leakage. Since delayed chemical reaction can occur, it is best to observe the LIB as a safety precaution in a safe area outside of any building or vehicle and away from any combustible material. In the event of coming in contact with any leakage from a LIB, do not rub or touch the eyes, immediately rinse all contacted areas thoroughly with water, and immediately seek medical care. If left untreated, the LIB leakage could cause eye and other serious injury.

4. In the event of any damage or perceived damage to a LIB due to bad shipment or other reason, remove the LIB to a safe location for observation and place it in a safe open area away from any combustible material for approximately 15 minutes.
5. Do not place LIBs in direct sunshine, or use or store LIBs inside relatively closed environments (cars, etc.) in hot weather and anywhere extreme temperatures may exist. Doing so may cause the LIB to generate heat, rupture, or ignite. Using the LIB in this manner may also result in a loss of performance and a shortened life expectancy.
6. Do not use, charge or store LIBs in or near microwave ovens, high pressure containers, or conduction cookware.
7. Do not expose a LIB to water, salt water, any other liquid, or moisture, beyond air with a relative humidity between 10%-90%.
8. Do not connect the connection terminals together, even momentarily, with any material including touching with the human body.
9. Do not allow a LIB to make contact with a hard object (dropping, throwing, striking, piercing, etc.) so as to subject it to strong impact, shock, or other mechanical stress.
10. Do not open, penetrate, or attempt to dis-assemble or modify a LIB case in any manner without contacting the manufacturer. The LIB contains safety and protection devices which, if damaged, may cause the LIB to generate heat, rupture, or ignite.
11. Do not submit to static electricity.

### 24.3.1 Recommended Temperature Ranges

Degrees Centigrade		Degrees Fahrenheit		Activity
min.	max.	min.	max.	
0	54	32	129	Handling & Transporting
0	54	32	129	Use/Discharging
0	45	32	113	Charging
0	35	32	95	Storage

If recommended temperature range is exceeded, let batteries cool down or warm up, as appropriate, to ambient temperature, and ensure all condensation, if any, has evaporated before charging or use.

### 24.3.2 Use/Discharge



#### **WARNING**

Do not discharge a LIB by using any device except a MAXAIR Helmet.  
The temperature range over which a LIB is to be discharged is 0° C-54° C (32° F-129° F). Use outside of this temperature range may damage the performance and reduce the life expectancy of the LIB.



#### **CAUTION**

When the LIB has reached its usual and customary useful life (See 12.3.5) -  
Immediately discontinue use of the LIB and replace it.  
Insulate the connection terminals with adhesive tape or similar material before disposal.

### 24.3.3 Charge



#### **WARNING**

Always use a MAXAIR charger when charging a LIB; never use any other type of charger for a MAXAIR LIB.  
Never connect a LIB to any device other than a MAXAIR helmet or a MAXAIR charger.  
Never charge a LIB outside the temperature range of 0° C to 45° C (32° F to 113° F). Charging the LIB at temperatures outside of this range may cause the battery to become hot or damaged. Charging the LIB outside of this temperature range may also harm the performance of the LIB or reduce the LIBs life expectancy. When the LIB becomes hot, the built-in safety equipment is activated, preventing charging further. Additional heating can destroy the safety equipment and can cause accelerated temperature increases, ignition, or other damage to the LIB.  
Do not continue charging the LIB if it does not recharge within the maxamin charging time. (See 12.3.7) Doing so may cause the LIB to become hot, rupture, or ignite.  
Always charge in an isolated area, away from flammable materials.  
When charging LIBs, always monitor the charging process and react to potential problems that may occur.

### 24.3.4 Store



#### **WARNING**

Store in closed containers and packaging that prevent short circuits and damage during storage or transportation.  
In case of mixed storage of goods and articles, organize separate storage areas for LIBs, for example, by maintaining a distance of 2.5 meters between the LIB storage area and other goods.  
Store in limited quantities and in isolated area with frequent surveillance.  
Keep in a dry, cool and well-ventilated place, within the recommended storage temperature range of 0° C-35° C (32° F-95° F). Cooler and dryer environments of storage are safer and extend useful life.  
The temperature range of 19° C-25° C (66° F-77° F) at 30%-50% full charge will optimize battery useful life.  
Perform a boost charge and LIB Check Procedure (Appendix B.) every 3 to 6 months; this will help prevent the potential of an over-discharge.

### 24.3.5 Handling and Transport

Lithium-Ion batteries are classified as Dangerous Goods for the Transport by Road/Rail, Sea and Air. When considering transporting LIBs to other locations, conform to the requirements of the UN Regulation on the Transport of Dangerous Goods.

Internal transfer of Lithium-Ion batteries should follow the minimum safety rules imposed by the local legislation/regulation regarding the handling of Dangerous Goods.

When handling LIBs, use caution, specifically to avoid shorting the connector terminals.



#### **WARNING**

Do not exceed the temperature range of 0° C-54° C (32° F-129° F) when handling and transporting LIBs.  
Do not expose battery packs to direct sunlight and/or heat for extended periods.

### 24.3.6 Useful Life

Li-Ion batteries begin aging when they are manufactured - not when you begin using the battery. Lithium-Ion batteries are prone to aging somewhat rapidly. The useful capacity (Recoverable Capacity) of a Lithium-Ion battery decreases about 10% to 20% each year. Therefore, Lithium-Ion batteries have a useful aging-service life of approximately four years.

Li-Ion batteries have a useful capacity-service life of 300-500 cycles (one cycle being the time of one full use from a full charge).

Therefore, the recommended useful life expectancy, or replacement schedule, for a Li-Ion battery is after four years or 300-500 discharge cycles, whichever occurs first.

### 24.3.7 LIB Check Procedure - MAXAIR LIB Test for Diminishing Battery Capacity



#### NOTE

A MAXAIR helmet and MAXAIR charger are required to perform this basic battery test. The helmet and power cord must be in good working order. Set the helmet Air Flow Switch to Low for the test.



#### CAUTION

If the LIB performs in one of the "Suspect LIB" categories below, discontinue using it and replace that LIB as soon as possible.

#### **Case 1: The LIB has been connected to a charger and the charger green LED is on.**

Procedure: Unplug the LIB from the charger and plug the helmet power cord to the LIB. Allow the helmet to settle for about 10 seconds.

Good LIB: The helmet runs with 3 or 2 green indicator lights on.

Suspect LIB: The helmet runs with only 1 green indicator light on.

Suspect LIB: The helmet runs with the red indicator light on.

Suspect LIB: The helmet doesn't run.

#### **Case 2: The LIB has been in storage.**

Procedure: Plug the helmet power cord to the LIB to be tested. Allow the helmet to settle for about 10 seconds.

Good LIB: The helmet runs with 3, 2 or 1 green indicator light on.

Suspect LIB: The helmet runs with the red indicator light on.

Suspect LIB: The helmet doesn't run.

#### **Case 3: The LIB is connected to the MAXAIR Charger.**

Good LIB: the LIB is felt to be about room temperature.

Suspect LIB: the LIB is warm or hot to the touch.

### 24.3.8 Reference Information

#### Typical Charging Time Specifications:

Time to fully charge a fully discharged MAXAIR LIB

CHARGING TIME				
BATTERY	2600-01 Charger		2610-01 Charger	
	Typical	Maximum	Typical	Maximum
2500-30TSC	5 hrs	10 hrs	7.5 hrs	15.0 hrs
2500-36TSC	2.5 hrs	5.0 hrs	4.0 hrs	7.5 hrs

#### Lithium-ion Battery main components:

MSDS for Li-Ion Battery Cells available upon request. Call Customer Service, 1-800-443-3842.

### 24.3.9 Glossary

#### LIB

Lithium Ion Battery, Li-Ion Battery

#### Self Discharge

The rate at which the battery charge level declines while it is just sitting in storage, usually quoted as a decline in %-per-month.

Self-discharge increases with age, cycling and elevated temperature.

Discard a battery if the self-discharge reaches 30 percent in 24 hours.

#### Recoverable Capacity

The amount that a battery can be “fully charged back to” over time, usually quoted as a certain % of the full charge level when the battery was initially manufactured.

### 24.3.10 Projected LIB Level Available As A % At Initial Manufacture Verses Temperature

Year(s) Elapsed from Manufacture Date	Storage Condition: 50% charged				Storage Condition: 100% charged			
	Residual Capacity (due to Self- Discharge)		Recoverable Capacity		Residual Capacity (due to Self- Discharge)		Recoverable Capacity	
	23°C	60°C	23°C	60°C	23°C	60°C	23°C	60°C
1	96%	76%	99%	92%	90%	60%	94%	80%
2	92%	52%	98%	84%	80%	20%	88%	60%
3	88%	28%	97%	76%	70%	0%	82%	40%
4	84%	4%	96%	68%	60%	0%	76%	20%
5	80%	0%	95%	60%	50%	0%	70%	0%
Year(s) Elapsed from Manufacture Date	Self-Discharge Loss		Permanent Capacity Loss		Self-Discharge Loss		Permanent Capacity Loss	
	23°C	60°C	23°C	60°C	23°C	60°C	23°C	60°C
	1	4%	24%	1%	8%	10%	40%	6%
2	8%	48%	2%	16%	20%	80%	12%	40%
3	12%	72%	3%	24%	30%	100%	18%	60%
4	16%	96%	4%	32%	40%	100%	24%	80%
5	20%	100%	5%	40%	50%	100%	30%	100%

## 25. Disposal



### WARNING

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Dispose of potentially contaminated disposable components, DLCs, DLC-Shrouds, DLC-Hoods, Filter Cartridges, etc., in accordance with approved institutional protocol for medical waste and current local regulations.



Lithium-Ion Rechargeable Batteries contain toxic chemicals and must be disposed of following current local regulations, and your local recycling program. Additional information may be found at [earth911.com](http://earth911.com) and [ecyclingcentral.com](http://ecyclingcentral.com).



Helmets and Battery Chargers contain electronic components and must be disposed of following current local regulations, and your local recycling program. Additional information may be found at [earth911.com](http://earth911.com) and [ecyclingcentral.com](http://ecyclingcentral.com).



## 26. Accessories and Alternate/Replacement Parts

### Accessories

#	O.N. (PN)	Description	QTY	
1	2000-204	Helmet Hooks	6/pkg	
2	2000-206	Liner Foam Kit <ul style="list-style-type: none"> <li>• Front and Rear Liner Pads</li> <li>• Back Headband Comfort Pad</li> </ul>	5/box	
3	2000-SB	System (Carry) Bag	1/Box	

### Helmets and Helmet Accessories

#	O.N. (PN)	Description	QTY	
1	2070-03 (03531001)	Helmet –CH Universal	1/Box	
2	2071-01 (03531021)	Helmet Liner for 2070-03	1/Box	
3	2061-03 (01031284)	Filter Cover Cap (FCC) for 2070-03	3/box	
4	2075-03 (03531001 01031269 2590-01)	Helmet –CH Universal with Filter Frame	1/Box	
5	2076-03 (03531001 01031269 03531104 3590-01)	Helmet –CH Universal with Filter Frame and ChinBar	1/box	

### Helmets and Helmet Accessories

#	O.N. (PN)	Description	QTY	
6	2071-02 (03531104)	Helmet Liner with ChinBar for 2076-03	3/Box	
7	2000-201 (P900072)	Comfort Strips (Front Headband)	36/box	
8	2590-01	Long Power Cord (59")	1ea	
9	2590-03	Long Power Cord (59") with Quick Connect	1 ea	

**NOTE**

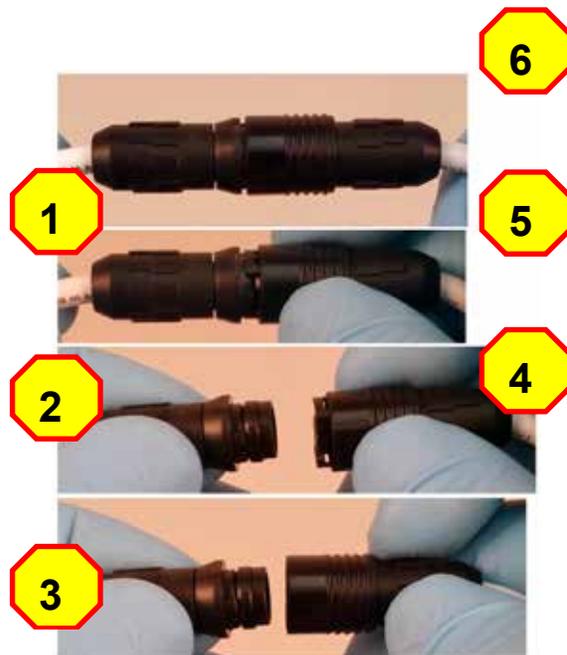
To disconnect the 2590-03:

1. Pull the spring loaded locking sleeve fully outward.
2. Pull connectors apart.
3. Release the locking sleeve.

To re-connect the 2590-03:

1. Pull the spring loaded locking sleeve fully outward.
2. Gently push the connectors together while turning one until the parts mate and the male connector fully seats into the female connector.

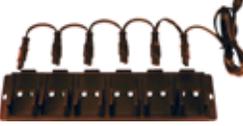
Release the locking sleeve.



## Filter Cartridges

#	O.N. (PN)	Description	QTY	Filter Cartridge	Battery/Batteries to Use With	
	2164-10 (01031327)	HE Filter Cartridge	3/Box		2500-30TSC 	2500-36TSC 
2	2165-10 (01031254)	Post Filter Cartridge	3/Box		2500-30TSC 	2500-36TSC 
3	2163-10 (01031279)	XP Filter Cartridge	3/Box		2500-30TSC 	

## Chargers

#	O.N. (PN)	Description	QTY	
1	2600-01 (01432089)	Battery Charger	1/box	
2	2601-06  Gang Charger includes six 2600-01 Chargers	6 Gang Charger	1/box	
3	2601-06B  Gang Charger Bracket accommodates up to six 2600-01 Chargers, purchased separately	6 Gang Charger Bracket	1/box	

## Batteries and Belts

#	O.N. (PN)	Description	QTY	
1	2500-36TSC (01532104)	Li-Ion Battery 4 Cell	1/Box	
2	2500-30TSC (01532116)	Li-Ion Battery 8 Cell	1/Box	
3	2000-76	Battery Belt	1/Bag	

## Face Seals and Head Covers

#	O.N.	Description	QTY	
1	2365-02SM (01031316)	DLC – Small/Medium	40/Box	
	2365-02ML (01031291)	DLC – Medium/Large	40/Box	
2	2260-05SM (01031435)	DLC Shroud – Small/ Medium	20/Box	
	2260-05ML (01031434)	DLC Shroud – Medium/Large	20/Box	
3	2261-01SM (01031394)	DLC Double Shroud – Small/Medium	20/Box	
	2261-01SM (01031396)	DLC Double Shroud – Small/Medium	20/Box	
4	2270-01SM (01031417)	DLC Pre Filter Hood – Small/Medium	20/Box	
	2270-01ML (01031425)	DLC Pre Filter Hood – Small/Medium	20/Box	
5	2270-03SM (01031513)	XP DLC Pre Filter Hood – Small/Medium	20/Box	
	2270-03ML (01031521))	XP DLC Pre Filter Hood – Small/Medium	20/Box	

**Face Seals and Head Covers**

#	O.N.	Description	QTY	
6	2270-04SM (07831036)		20/Box	
	2270-04ML (07831037)		20/Box	
7	2270-06SM (07831038)		20/Box	
	2270-06ML (07831039)		20/Box	

## 27. Specification

Specifications listed are approximate and may vary slightly from unit to unit or by power supply fluctuations and/or tolerance of the controller.

710-DLC CAPR SYSTEM			
#	PROPERTY	SPECIFICATIONS (CE)	SPECIFICATIONS (NIOSH)
1	Complete Device Classification	PAPR, Loose Fitting	PAPR, Loose Fitting
2	89/686/EEC Complete Device Category	III	N/A
3	93/42/EEC Complete Device Class	I	N/A
4	EMC Classification (IEC 60601-1-2:2007; EN 60601-1-2:2007)	Class A for Emissions; Immunity for Not Life-Supporting Equipment	N/A
5	Storage Temperature Range	-20 to 40°C	-
6	Storage Maximum Humidity	80% RH	-
7	Effective field of vision versus natural field of vision	97%	N/A
8	Overlapped Field of vision versus natural field of vision	99%	N/A
9	Maximum Inward Leakage	2% @ Minimum Airflow 175 LPM	N/A
10	Fit Factor	N/A	Minimum 500
11	Maximum allowable Percent Leakage: Dioctyle-Phthalate Test	N/A	0.03% @ 107 LPM
12	Minimum allowable NaCl efficiency	N/A	99.97% @ 125 lpm
13	Maximum Breathing Resistance	5 mbar	N/A
14	Minimum Airflow	175 LPM	170 LPM
15	Battery	Lithium-Ion	-
16	Noise Level	75 dBA limit	80 dBA limit
17	Total Mass/ Total Mass on Head	1.25 kg/ 0.75Kg	-
18	2164-10 Filter Classification	TH2 P R S	HE*

\*=Equivalent

\*\*= NIOSH approved HE protection filters can be used for protection against particulate aerosols containing oil. However, for reliable operation and desirable useful run time, Bio-Medical Devices Intl does not recommend Filter Cartridge use against particulate aerosols containing oil.

2500-30TSC/ 2500-36TSC Battery Specification		
IPXO Ordinary Equipment		
Duty Cycle: Continuous Operation.		
#	PROPERTY	SPECIFICATIONS
1	Minimum Continuous Operating Time: 2500-36TSC	4 Hrs. (Typical 8-10 hr./Charge)
2	Minimum Continuous Operating Time: 2500-30TSC	8 Hrs. (Typical 16-20 hr./ Charge)
3	Charge Input	16.8V; 1A
4	Electrical Output: 2500-36TSC	14.8V; 2.2Ah
5	Electrical Output: 2500-30TSC	14.8V; 4.4Ah
2600-01 Charger Specification		
#	PROPERTY	SPECIFICATIONS
1	Complete Charge for 2500-36TSC or 2500-30TSC	4-6 Hours for a Fully Drained Battery
2	Electrical Output	Up to 16.8V; Up to 0.9A
3	Electrical Input	100-240 VAC; 50-60Hz; 0.3A

**NOTES PAGE**

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**NOTES PAGE**

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***Bio-Medical Devices Intl***

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17171 Daimler Street  
Irvine CA 92614  
800-443-3842  
[www.maxair-systems.com](http://www.maxair-systems.com)

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