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Sent: Thursday, January 16, 2020 1:42 PM
To: Wade, Brendon
Subject: January 2020 Med Tips from CAIRE Inc.

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Your latest edition of Med Tips from CAIRE Inc. has arrived. Important product updates geared for the home medical equipment provider and their technical service team.

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Med Tips

January 2020



Liquid - Stationary - Portable - Telehealth

Med Tips

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Service Bulletins

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Upcoming Training Dates

Training Dates	Type	Language	Location
Feb 19-20	LOX	English	Wokingham, UK

Mar 4-5	LOX	Italian	Padova, Italy
Mar 9-10	LOX	French	Toulouse, France
Mar 11-13	CONC	French	Toulouse, France
Mar 25-26	LOX	German	Langenfeld, Germany
Jun 8-9	LOX	Spanish	Barcelona, Spain
Jun 10-12	CONC	Spanish	Barcelona, Spain
Jun 16-18	CONC	Italian	Padova, Italy
July 14-16	CONC	German	Langenfeld, Germany
Oct 5-7	CONC	English	Ball Ground, GA USA
Oct 8-9	LOX	English	Ball Ground, GA USA
Oct 14-15	LOX	German	Langenfeld, Germany
Oct 20-21	LOX	Italian	Padova, Italy
Nov 3-4	LOX	French	Toulouse, France

CAIRE NEWS

Last month the CAIRE team, led by Heidi Kewitz, made the move from Wuppertal, Germany, to our new location in Langenfeld, and celebrated the 10th anniversary of doing business in Germany. The Langenfeld location provides customer and technical service, and distribution of CAIRE oxygen products and commercial solutions to customers throughout Europe. Special thanks to RP Online (Rheinische Post) for putting the spotlight on our portfolio, including the FreeStyle Comfort portable oxygen concentrator, pictured, and for celebrating with us the opening of our new location in this wonderful community.

[Click here for Article](#)

Special thanks to [Medtrade](#) for helping us spread the word about the FreeStyle Comfort portable oxygen concentrator winning an Honorable Mention this fall in the Retail Product Awards, sponsored by VGM Retail. Read [Barry Hassett](#)'s interview and learn more about how technology is improving the quality of life for those suffering from respiratory conditions.

[Click here for Article](#)

Periodic Inspections for European CAIRE Liquid Oxygen Reservoirs and Portables

The ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road) and regulation EN1251-3 (Cryogenic vessels – Transportable vacuum insulated vessels of not more than 1000 litres) require that periodic inspections are performed on closed cryogenic vessels every 5 and 10 years. All CAIRE Liquid Oxygen Reservoirs and Portables fall under these requirements.

CAIRE European facilities in UK, Germany and Italy are fully accredited to perform the required inspections and also offer a further TPED accreditation service. Please contact

customer service for further information.

CAIRE Liquid Oxygen Reservoirs and Portables manufactured since **January 2015 (5 year test) and January 2010 (10 year test)** are due for inspections. The manufacture date of your equipment can be identified on the vessel's data plate.

All CAIRE Liquid Oxygen Reservoirs and Portables located within the European Union fall under these requirements.

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January 2020 Med Tips

PRODUCT UPDATES

LOX Transfill Adapter Quick Disconnect Valve (QDV) Service Replacement

When replacing the posi-lock QDV (part number 10679176) on a Liquid Oxygen (LOX) Trans Fill Adapter, there is a seal to avoid leaks inside of the threaded end. This seal can be discarded as the new QDV service replacement (part number 20803813) comes with a replacement seal. The new QDV should be tightened to 40 ft-lb. and the Transfill Adapter should be tested for leaks after installation. The QDV uses the Lip Seal, part number B-775260-00, detailed on the previous Med Tips edition from December 2019.



Figure 1. Posi-lock QDV and seal.

Liberators 30 and 60 outer shell thickness

The thickness of the outer shell has increased on the Liberator 30 and Liberator 60 LOX models manufactured on or after June 10, 2017 to make them more robust and to increase the longevity of the reservoirs. Empty weights will increase from 45lb to 48.6lb for the Liberator 30, and from 66lb to 75.4lb for the Liberator 60.

In addition, full weights will increase from 120lb to 123.32lb for Liberator 30, and from 210lb to 220.68lb for the Liberator 60. Below are the new specifications of the Liberators 30 and 60 reservoirs:

Models	Weight Empty		Weight Full	
	Pounds	Kilograms	Pounds	Kilograms
Liberator 30	48.6	22.04	123.32	55.94
Liberator 60	75.4	34.19	220.68	100.1

For more details, please refer to Service Bulletin PN 21136744.

Companion 5 Intake Filter Change

As a part of CAIRE's commitment to the continuous improvement of our products based on feedback from our customers, Companion 5 concentrators built after December 2019 will no longer be manufactured with the optional secondary intake filter inside of the carry handle on top of the unit. The removal of this optional filter is designed to allow better access to the carry handle for maneuverability of the Companion 5. Refer to Companion 5 Technical Manual, PN 14940837, for complete preventative maintenance procedures and operating specifications.



Figure 2. Companion 5 Top Intake Filter

For more details, please refer to Service Bulletin PN 21145161.

Helpful Hints & FAQs

Companion 5 Low Oxygen Levels

For optimal performance of the Companion 5 stationary oxygen concentrator, please remember to clean the bottom gross particle filter. If you are receiving low oxygen concentration, about 80-87%, replace the air intake cartridge and/or clean the bottom gross particle filter to see if that resolves the issue. Please review the steps below for air intake filter (cartridge) replacement.

1. Air Intake Filter (Cartridge)

Replace every 2 years, as needed, or if concentration is about 80-87%. There is no change from the previous maintenance schedule.



Figure 3. Air Intake Filter (Cartridge) located under filter cover.

Customers may follow this procedure if experiencing oxygen (O₂) concentration between 80-87%, particularly when the bottom filters are visibly occluded:

1. Turn on device and allow 15 minutes to warm-up.
2. Measure O₂ concentration with a calibrated O₂ analyzer.
3. If unit is producing O₂ concentration below 87%, replace intake filter cartridge with clean filter. A device producing below ~80% O₂ likely will not be improved by a filter change. For units producing <80%, contact CAIRE for an RMA to return the device for service at an authorized repair facility.
4. Allow another several minutes to see if O₂ improves.
5. If the O₂ does improve, the intake filter cartridge was the cause.
6. If the O₂ does not improve, contact CAIRE for an RMA to return the device for service at an authorized repair facility.

Note: It is recommended to replace the bottom Gross Particle Filter when replacing the Air Intake Filter Cartridge.

Refer to the Companion 5 Technical Manual, PN 14940837, for complete preventative maintenance procedures and operating specifications.

Eclipse 5 Provider Menu

Providers can access provider-mode software functions using the Control Panel. All provider mode information is displayed on the LCD. The software shall advance the following Eclipse 5 **display mode** when the "No Smoking" icon is pressed:

- Alarm Code (ALRM) - Displays most recent alarm code. Additional alarm codes will also be displayed, if present, by continuing to press the + key.
- Pulse Sensitivity (PS)
- Hours of Operation (HRS)
- 9-volt Battery Status (9V)
- Rise Time (BOL)
- Control Board Software Revision (CS)
- Power Manager Software Revision (PM)

Note: Compatible with Eclipse 3, Eclipse 5 (3 LED) and Eclipse 5 (2 LED). For more details, refer to the Eclipse Service Manual PN 20631679

Alarms Table

2 LED units

Alarm	LCD Text	Green	Yellow	Audio	Code
All OK, warm-up done	NO ALARM	ON	OFF	OFF	000
Warm-up O ₂ < 85%	O ₂ LOW	ON	ON	No Beeps	008
No breath detected (less than 45 seconds)	NO ALARM	ON	OFF	OFF	000
No breath detected (exceeding 45 seconds)	P <--> C	ON	ON	1 alarm beep, repeat every 20 seconds	200
One wire communication loss	ONE WIRE	ON OR OFF	ON	1 alarm beep, repeat every 20 seconds	100
Cannot charge battery	CHARGER	ON OR OFF	ON	1 alarm beep, repeat every 20 seconds	001
Ambient pressure fail	AMB PRESS	ON OR OFF	ON	1 alarm beep, repeat every 20 seconds	004
O ₂ < 85% (After warm-up)	O ₂ LOW	OFF	ON	1 alarm beep, repeat every 20 seconds	008
Flow rate error > +/-10%	FLOWRATE	OFF	ON	1 alarm beep, repeat every 20 seconds	020
Warm battery > 60°C	WARM BAT	ON	ON	1 alarm beep, repeat every 20 seconds	002
Low battery	LOW BAT	ON	ON	1 alarm beep, repeat every 20 seconds	010
Loss of power	*****	OFF	ON	1 alarm beep, repeat every 20 seconds for 200 seconds	040
Malfunction	FAIL XX	OFF	ON	1 alarm beep, repeat every 20 seconds for 200 seconds	080

For ordering information or general inquiries, contact Customer Service:

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Please consult the applicable product instructions for use for product indications, contraindications, warnings, precautions, and detailed safety information.



SERVICE BULLETIN

PN: 21136744

RELEASE DATE: February 22, 2017

REVISION DATE(S): March 20, 2019 (Rev B)

MODEL: Liberators 30 & 60 Reservoirs

ISSUE: Empty and full weight changes

NOTES: Effective 6/10/17 the thickness of the outer shell will be increased on all new manufactured CAIRE Liberators 30's & 60's Reservoirs. This was implemented to make them more robust and to increase the longevity of the Reservoirs. Empty weights will increase from 45 lbs to 48.6 lbs for the Lib 30 and from 66 lbs to 75.4 lbs for the Lib 60. Also, full weights will increase from 120 lbs. to 123.32 lbs for Lib 30 and from 210 lbs to 220.68 lbs for the Lib 60. Below are the new specifications of the Liberators 30 and 60 Reservoirs:

Models	Weight Empty		Weight Full	
	Pounds	Kg	Pounds	Kg
Liberator 30	48.6	22.04	123.32	55.94
Liberator 60	75.4	34.19	220.68	100.10

CONTACT: For technical questions or concerns, contact Technical Service:

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SERVICE BULLETIN

PN: 21145161

**RELEASE
DATE:** May 1, 2017

**REVISION
DATE(S):** January 21, 2019 Rev B
November 22, 2019 Rev C

MODEL: Companion 5™

ISSUE: Intake Filter Change

NOTES: May 2017 – December 2019 newly manufactured Companion 5 oxygen concentrators feature a multi-position airflow system as shown below. Companion 5 concentrators after December 2019 will only have the bottom air intake filter (cartridge).



Figure 1. Companion 5 Air Flow.

The cooling air will continue to enter through the vents on the back, and the compressor air will now enter in 2 locations - the bottom of the concentrator adjacent to the filter door, and the top of the concentrator through the handle. This airflow with multiple intake locations and levels of filtration minimizes the airflow into any single location on the concentrator. This further helps to reduce the risk of clogging the intake or damaging the major components. In addition to the airflow change, to further improve the efficiency of the Companion 5 airflow, gross particle filters have also been added to the 2 compressor intake locations.

The new handle filter is **optional**. You may remove and discard it upon receipt. A screen within the handle serves as an additional level of filtration that is sufficient if the gross particle filter is removed. The gross particle filter is simply an optional added layer of protection you may choose to utilize for harsh environments.



Figure 2: Handle Gross Particle Filter (left) and Bottom Gross Particle Filter (right).

Previous Companion 5 units manufactured prior to this update do not require the new filters be installed. Refer to Companion 5 Technical Manual, PN 14940837, for complete preventative maintenance procedures and operating specifications.

Below are the new maintenance requirements for the Companion 5 with these updates:

- **Air Intake Filter (Cartridge):** Replace every 2 years or as needed (no change from the previous maintenance schedule).
- **Handle Gross Particle Filter (Optional):** Clean weekly by patient if installed.
- **Bottom Gross Particle Filter:** Replace every 2 years or as needed.

Preventative Maintenance Procedures for Companion 5 Filters

1. Air Intake Filter (Cartridge)

Replace every 2 years, as needed or if concentration is ~80 - 87%.
There is no change from the previous maintenance schedule.



Figure 3. Air Intake Filter (cartridge). Located under filter cover.

Customers may follow this procedure if experiencing O₂ concentration between 80-87%, particularly when the bottom filters are visibly occluded:

1. Turn on device and allow 15 minutes to warm-up.
2. Measure O₂ concentration with a calibrated O₂ analyzer.
3. If unit is producing O₂ concentration below 87%, replace intake filter cartridge with clean filter. A device producing below ~80% O₂ likely will not be improved by a filter change. For units producing <80%, contact CAIRE for an RMA to return the device for service at an authorized repair facility.
4. Allow another several minutes to see if O₂ improves.
5. If the O₂ does improve, the intake filter cartridge was the cause.
6. If the O₂ does not improve, contact CAIRE for an RMA to return the device for service at an authorized repair facility.

Note : It is recommended to replace filter the Bottom Gross Particle Filter when replacing the Air Intake Filter Cartridge.

2. Handle Gross Particle Filter (Optional)

The patient should clean the handle gross particle filter weekly if installed. Replace filter as needed. The filter may require more frequent cleaning in harsh environments. This filter can be equipped on units produced May 2017 and later.



Figure 4. Optional Gross Particle Filter. Located in the top handle.

Maintenance Procedure (for user):

1. Remove dirty filter from inside unit handle.
2. Wash dirty filter in warm soapy water and rinse thoroughly.
3. Use a soft, absorbent towel to remove excess water.
4. Ensure filter is completely dry before reinstalling in the unit.
5. Reinstall clean filter in handle. Replace with new filter as needed.

3. Bottom Gross Particle Filter

The bottom gross particle filter should be replaced at least every 2 years or as needed. The frequency of the maintenance should be based on the environment in which the Companion 5 is used. Harsh environments may require air intake filter replacement more frequently than every 2 years. This filter is equipped on units produced May 2017 and later.

Maintenance Procedure (for provider only):

1. Remove dirty gross particle filter from bottom of unit.
2. Install new, clean filter.



Figure 5. Required Bottom Gross Particle Filter. Located in front of compressor intake on bottom of unit.

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