

February 2022 Med Tips

Don't miss out on our upcoming Virtual Service Schools!

CAIRE Service School Training Webinars 2022

CAIRE offers Virtual Service Schools covering both LOX and Concentrator lines.

Each class is a comprehensive program that focuses on the technical and service aspects of the CAIRE family products. Class time is divided between lecture and hands-on workshops. The seminars will help the student develop a better understanding of how liquid oxygen equipment or concentrators work, how to identify the symptoms and causes of potential problems and how to use the technical information that is available in the Technical Manuals. Registration for CAIRE's Service Schools is mandatory. Registration forms must be received two weeks prior to the start of the class in order to guarantee availability and materials.

Table 1 - Details of upcoming training.

Type	Language	Location	Training Dates	Registration by
CONC	English	Ball Ground, GA USA	February 7-8-9	January 25
LOX	English	Ball Ground, GA USA	February 10	January 25
LOX	English	Langenfeld, Germany	February 23	February 7
LOX	Spanish	Latin America (Remote)	March 8	February 26
CONC	Spanish	Latin America (Remote)	March 9-10-11	February 26
LOX	Italian	Padova, Italy	March 17	March 2
LOX	German	Langenfeld, Germany	March 23	March 7
LOX	French	Toulouse, France	March 29	March 14
LOX	Spanish	Toulouse, France	April 5	March 20
CONC	Spanish	Toulouse, France	April 6-7-8	April 20
CONC	German	Langenfeld, Germany	April 26-27-28	April 12
CONC	French	Toulouse, France	May 3-4-5	April 20
CONC	English	Wokingham, UK	May 10-11-12	April 25
CONC	English	Ball Ground, GA USA	May 16-17-18	May 2
LOX	English	Ball Ground, GA USA	May 19	May 2
CONC	Italian	Padova, Italy	June 7-8-9	May 26
CONC	English	Ball Ground, GA USA	August 15-16-17	August 1
LOX	English	Ball Ground, GA USA	August 18	August 1
LOX	German	Langenfeld, Germany	September 14	September 1
LOX	Spanish	Latin America (Remote)	September 20	September 6
CONC	Spanish	Latin America (Remote)	September 21-22-23	September 6
LOX	Italian	Padova, Italy	October 18	October 4
CONC	German	Langenfeld, Germany	October 25-26-27	October 11
CONC	English	Ball Ground, GA USA	November 7-8-9	October 25
LOX	English	Ball Ground, GA USA	November 10	October 25

*We reserve the right to cancel training seminars at short notice. Customers should ensure that they take necessary precautions to ensure costs are covered in case of cancellation.

** Training will be in the form of a Webinar.

Concentrator Service School Topics include:

- Concentrator hazards and safety precautions
- Principles of pressure, flow and saturation
- Functions of the major components of a portable/stationary concentrator
- Theory of operation
- Set up and use of test equipment
- Troubleshooting, repair and performance verification/testing procedures

LOX Service School Topics include:

- Liquid oxygen (LOX) hazards and safety precautions
- Principles of pressure, flow and liquid oxygen saturation
- Functions of the major components of a liquid oxygen system
- HELiOS™ system theory of operation
- Reservoir and portable filling procedures
- Set up and use of test equipment

Please submit your registrations forms no later than the dates in Table 1 above. If you are interested in the service schools mentioned above, and it is past the registration date, please reach out to the registration emails below. Please note that as travel restrictions and Covid-related guidelines evolve, we intend to restore CAIRE Service School to in person.

To register for Service School, please email:

Techservice.global@caireinc.com for USA Training or jim.gibson@caireinc.com for European Training.

PRODUCT UPDATES

Availability of Spare Flow Control Valves, Secondary Relief Valves, Manifolds, and Economizers

This bulletin is meant to clarify the service part usage for previous design and current design liquid oxygen portables and reservoirs. Refer to the tables below for the appropriate service part for a given device, and the example figures (in referenced service bulletin) for previous vs. current parts.

Table 1: Portables

Current Design (manufactured after 1/27/2020) Beginning S/N CBB3120041085	Previous Design (manufactured before 1/27/2020)	Type Valve	Model	Notes
Flow Control Valves				
11014539TS	11014521T	FCV 20 PSI - 6 LPM	Sprint/Stroller W/Meter	
14812860TS	14034703T	FCV 20 PSI - 15 LPM	Hi Flow Stroller W/Meter	
21366017S	14700235T	FCV 20 PSI - 2 LPM	Sprint/Stroller W/Meter	Pediatric
11014539TS	11014539TS	FCV 20 PSI - 6LPM	Sprint/Stroller W/Scale	
14812860TS	14812860TS	FCV 20 PSI - 15 LPM	Hi Flow Stroller W/Scale	
14700235T	14700235T	FCV 20 PSI - 2 LPM	Sprint/Stroller W/Scale	Pediatric
Secondary Relief Valves				
10491253T	13110225	SRV 30 psi new/ 65 psi old	Hi Flow Stroller	
Manifolds				
10564619S	21495020S	Manifold Assy 1.2L SF SVCE	Stroller/Hi Flow Stroller	
10812918S	21495021S	Manifold Assy 1.2L W/Auto Close VV, SVCE	Stroller/Hi Flow Stroller	
10812900S	21495022S	Manifold Assy 1.2L, Germany, SVCE	Stroller/Hi Flow Stroller	
10597787S	21495026S	Manifold Assy 1.2L TF, SVCE	Stroller/Hi Flow Stroller	

Table 2: Liberator

Current Design (manufactured after 4/1/2020) Beginning S/N CBB302014001	Previous Design (manufactured before 4/1/2020)	Type Valve	Model	Notes
Flow Control Valves				
21449808S	13110145	FCV 20 PSI - 15 LPM	Liberator - 20 PSI	16 Pos. Gen 4
21449806S	13110153	FCV 50 PSI - 15 LPM	Liberator - 50 PSI	16 Pos. Gen 4
21494787S	14700243T	FCV 20 PSI - 2 LPM	Liberator - 20 PSI	Pediatric
N/A	10480511T	FCV 20 PSI - 6 LPM	Liberator - 20 PSI	12 Pos. Gen 3
N/A	11018986T	FCV 20 PSI - 15 LPM	Liberator - 20 PSI	12 Pos. Gen 3
Secondary Relief Valves				
21215214	13110217	SRV 30 PSI	Liberator - 20 PSI	
21215227	*13110225	SRV 65 PSIG	Liberator - 50 PSI	*Also used on Hi Flow Strollers (manufactured until 1/27/2020)
Economizer Regulators				
21341644	10531833LAN	Econ. Regulator 20 psi	Liberator - 20 PSI	
21341648	10670260	Econ. Regulator 50 PSI	Liberator - 50 PSI	
21341652	10670251	Econ. Regulator 20 PSI Japan	Liberator - 20 PSI	

Please refer to Service Bulletin PN 21495031.

Helpful Hints & FAQs

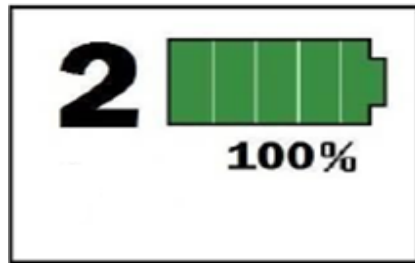
FreeStyle Comfort Troubleshooting Guide

1) Customer Complaint: Unit not powering on.

Instruct the patient to follow the steps below to verify device operation before scheduling a driver to pick up the equipment or requesting the patient send the device back to you:

1. Connect the battery (whether charged or not).
2. Plug the unit into AC power.
3. Turn on the unit to ensure that it operates on AC power normally.
4. If the unit does operate, turn it off and allow the battery to charge to 100%. (This can take approximately 3.5 hours for a single battery and 6 hours for the double battery.)
5. Next, remove AC power and start the unit up on battery power to ensure it operates on battery power.





2) Other alarms that can be cleared in the field:

- **Low Battery Warning or Shutdown (alarm codes 0x0100 or 0x0010):** Recharge battery
- **Breath Rate Exceeded (alarm code 0x0200):** Ensure user is breathing normally. Ensure fans or other airflow disturbances are not over-triggering the unit.
- **Battery or Case High or Low Temp (alarm codes 0x1000, 0x0001, 0x0002):** Allow unit to cool/warm to room temp. Ensure vents are free of blockages.

Note: These alarms should be tested thoroughly before returning to CAIRE for repairs, as they are related to environment and/or battery charge level.

3) Testing the Comfort

Whenever a unit is returned from a patient, perform the following steps to determine if the device is suitable to put back into the field or in need of further testing:

1. Attach battery
2. Plug into AC power
3. Allow battery to charge fully
4. Turn on and put unit into test mode (**to enter test mode press + +, - -, + -, + -, -**)
5. Attach calibrated O2 analyzer
6. Record O2 measurement after 5 mins.
7. Record any alarms displayed on the screen. See technical manual for addressing the various alarm codes.

Note: Alarm codes 0008, 0100, 0010, 0200, 0001, 1000 all indicate either abnormal running environment for the device or normal low battery.

The unit is considered acceptable for field service after the steps above have been completed and the unit meets specifications stated the User Manual (CAIRE PN: MN232), with no alarm codes present.

Service Bulletin PN 21438614.

Travel Power Adapter

Portable concentrators power supplies are rated for universal voltages but require various power cords depending on the location. Using the Travel Power Adapter will keep you from having to carry different cords for the country you're visiting.



Document Update

We advise our valued customers to monitor and check that they are using the most recent revision of any documents for the model of equipment they have.

The following documents have been updated during January 2022.

- ML-CONC0148-6 Eclipse 5 spec sheet – Portuguese Rev. C
- ML-CONC0221-6 Eclipse 5 Provider Benefits POR Rev. A
- MN236_D MNL, USER, SPRINT-STROLLER ENGLISH ONLY Rev. D
- MN236-C4_D MNL, USER, SPRINTSTROLLER MULTI-LANG Rev. D

Med Tips Distribution!

Spring is a great time to do a little distribution list clean-up. The CAIRE team is asking all current subscribers to CAIRE's Med Tips Newsletter to opt-in again in order to continue receiving this monthly communication. Please click this link - <http://go.pardot.com/l/710913/2022-01-17/2pgcj9> - and provide us with your current information. Thank you and we appreciate your support.

CONTACT:

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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: 21495031

RELEASE DATE: June 8, 2020
REVISION DATE: July 28, 2020 (Rev. B); May 01, 2021 (Rev. C)

MODEL: Liberator® Reservoir, Sprint™, Stroller®, and Hi Flow Stroller®

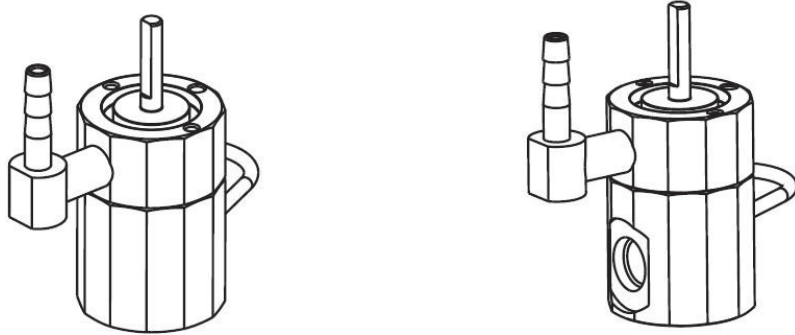
ISSUE: Availability of Spare Flow Control Valves, Secondary Relief Valves, Manifolds, and Economizers

NOTES: This bulletin is meant to clarify the service part usage for previous design and current design liquid oxygen portables and reservoirs. Refer to the tables below for the appropriate service part for a given device and the example figures for previous vs. current parts.

Table 1: Portables

Current Design (manufactured after 1/27/2020) Beginning S/N CBB3120041085	Previous Design (manufactured before 1/27/2020)	Type Valve	Model	Notes
Flow Control Valves				
11014539TS	11014521T	FCV 20 PSI - 6 LPM	Sprint/Stroller W/Meter	
14812860TS	14034703T	FCV 20 PSI - 15 LPM	Hi Flow Stroller W/Meter	
21366017S	14700235T	FCV 20 PSI - 2 LPM	Sprint/Stroller W/Meter	Pediatric
11014539TS	11014539TS	FCV 20 PSI - 6LPM	Sprint/Stroller W/Scale	
14812860TS	14812860TS	FCV 20 PSI - 15 LPM	Hi Flow Stroller W/Scale	
14700235T	14700235T	FCV 20 PSI - 2 LPM	Sprint/Stroller W/Scale	Pediatric
Secondary Relief Valves				
10491253T	13110225	SRV 30 psi new/ 65 psi old	Hi Flow Strollers	
Manifolds				
10564619S	21495020S	Manifold Assy 1.2L SF SVCE	Stroller/Hi Flow Stroller	
10812918S	21495021S	Manifold Assy 1.2L W/Auto Close VV, SVCE	Stroller/Hi Flow Stroller	
10812900S	21495022S	Manifold Assy 1.2L, Germany, SVCE	Stroller/Hi Flow Stroller	
10597787S	21495026S	Manifold Assy 1.2L TF, SVCE	Stroller/Hi Flow Stroller	

NOTE: Portable Scale units in Table 1 did not undergo the FCV change. Included for reference.



11014539T
FCV 20PSI 0-6 LPM G3 PORT TPED
14812860T
FCV 20PSI 0-15 LPM G4 PORT

11014521T
FCV 20PSI 0-6 LPM G3 PORT TPED
14034703T
FCV 20PSI 0-15 LPM G4 PORT

Figure 1: Portable Flow Control Valves

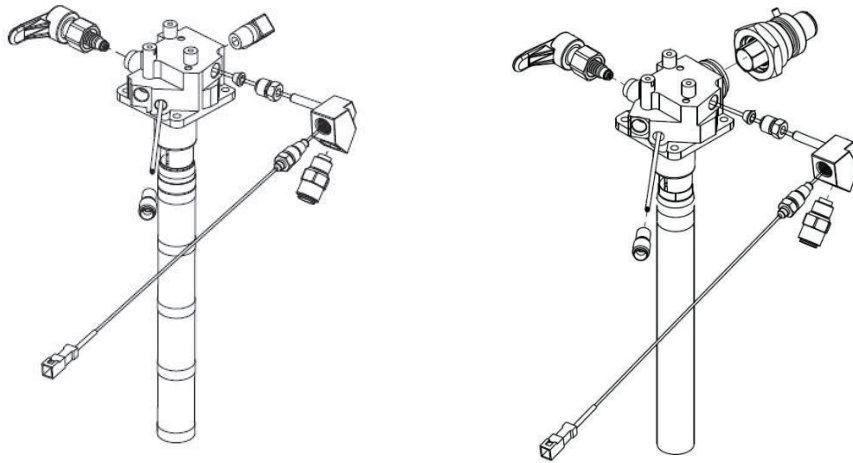


Figure 2: Manifold Assembly - Current version

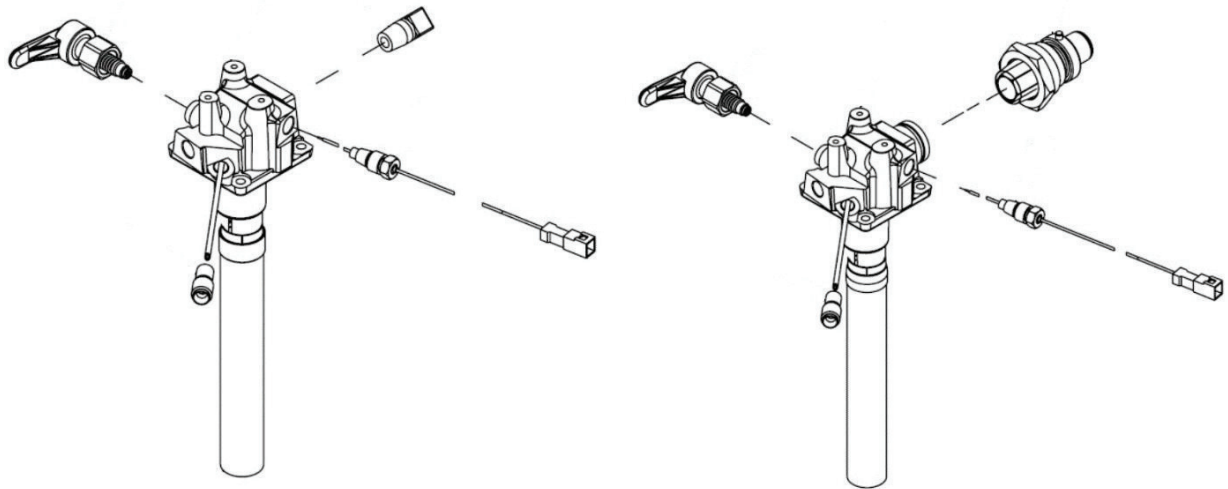


Figure 3: Manifold Assembly - Previous Version

Table 2: Liberator

Current Design (manufactured after 4/1/2020) Beginning S/N CBB3020140001	Previous Design (manufactured before 4/1/2020)	Type Valve	Model	Notes
Flow Control Valves				
21449808S	13110145	FCV 20 PSI - 15 LPM	Liberator - 20 PSI	16 Pos. Gen 4
21449806S	13110153	FCV 50 PSI - 15 LPM	Liberator - 50 PSI	16 Pos. Gen 4
21494787S	14700243T	FCV 20 PSI - 2 LPM	Liberator - 20 PSI	Pediatric
N/A	10480511T	FCV 20 PSI - 6 LPM	Liberator - 20 PSI	12 Pos. Gen 3
N/A	11018986T	FCV 20 PSI - 15 LPM	Liberator - 20 PSI	12 Pos. Gen 3
Secondary Relief Valves				
21215214	13110217	SRV 30 PSI	Liberator - 20 PSI	
21215227	*13110225	SRV 65 PSIG	Liberator - 50 PSI	*Was Used also on Hi Flow Strollers (manufactured until 1/27/2020)
Economizer Regulators				
21341644	10531833LAN	Econ. Regulator 20 psi	Liberator - 20 PSI	
21341648	10670260	Econ. Regulator 50 PSI	Liberator - 50 PSI	
21341652	10670251	Econ. Regulator 20 PSI Japan	Liberator - 20 PSI	
Bracket Assembly				
13307335S	21495392S	Bracket Lib S/A G4 Svce	Liberator	
Economizer Assembly				
13277851S	21495393S	Economizer S/A 20PSI Svce	Liberator - 20 PSI	

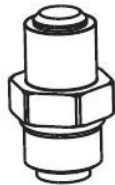


21449808
FCV 20PSI 0-15 LPM G4 BASE



13110145
FCV 20PSI 0-15 LPM G4 BASE

Figure 4: Liberator Flow Control Valves

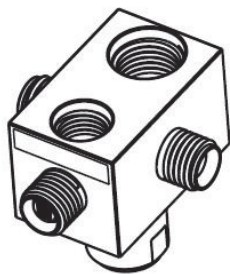


21215214
RV 9/16-20UNF 30PSI TPED

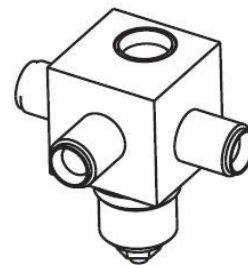


13110217
RV 7/16-20UNF 30PSI TPED

Figure 5: Liberator Secondary Relief Valves



21341644
REGULATOR 20PSI ECON W/PRV-SRV PORT



10531833LAN
REGULATOR 20PSI ECON W/PRV PORT

Figure 6: Liberator Economizer Regulators

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*SERVICE
BULLETIN*

PN: 21438614

RELEASE DATE: July 1, 2019

MODEL: FreeStyle® Comfort®

ISSUE: FreeStyle Comfort Troubleshooting Guide

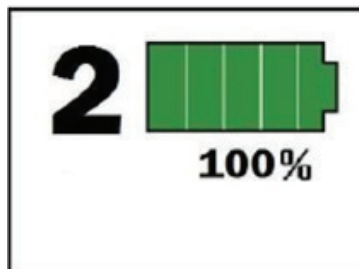
NOTES: This guide is meant to aid service technicians, delivery drivers, customer service representatives and those at medical equipment companies who interface directly with portable oxygen concentrator users using the CAIRE FreeStyle Comfort. Many device returns from patients are due to misunderstanding of device operation (such as returning a unit for low battery alarm). The following procedures and tips are meant to assist personnel and medical equipment companies with troubleshooting devices both in the field with patients and testing units in the service department.

The following procedures are meant to assist in field troubleshooting to determine if the FreeStyle Comfort unit needs to return to CAIRE for service repairs.

1) Customer Complaint: Unit not powering on.

Instruct the patient to follow the steps below to verify device operation before scheduling a driver to pick up the equipment or requesting the patient send the device back to you:

1. Connect the battery (whether charged or not)
2. Plug the unit into AC power
3. Turn on the unit to ensure that it operates on AC power normally.
4. If the unit does operate, turn it off and allow the battery to charge to 100%. (This can take approximately 3.5 hours for a single battery and 6 hours for the double battery.)
5. Next, remove AC power and start the unit up on battery power to ensure it operates on battery power also.



2) Other alarms that can be cleared in the field:

- **Low Battery Warning or Shutdown (alarm codes 0x0100 or 0x0010):** Recharge battery
- **Breath Rate Exceeded (alarm code 0x0200):** Ensure user is breathing normally. Ensure fans or other airflow disturbances are not over-tiggering the unit.
- **Battery or Case High or Low Temp (alarm codes 0x1000, 0x0001, 0x0002):** Allow unit to cool/warm to room temp. Ensure vents are free of blockages.

Note: These alarms should be tested thoroughly before returning to CAIRE for repairs as they are related to environment and/or battery charge level.

Testing the Comfort

Whenever a unit is returned from a patient, perform the following steps to determine if the device is suitable to put back into the field or in need of further testing:

1. Attach battery
2. Plug into AC power
3. Allow battery to charge fully
4. Turn on and put unit into test mode (**to enter test mode press + +, - -, +, -, +, -**)
5. Attach calibrated O2 analyzer
6. Record O2 measurement after 5 mins.
7. Record any alarms displayed on the screen. See technical manual for addressing the various alarm codes.

Note: Alarm codes 0008, 0100, 0010, 0200, 0001, 1000 all indicate either abnormal running environment for the device or normal low battery.

The unit is considered acceptable for field service after the steps above have been completed and meets specifications stated the User Manual (CAIRE PN: MN232), with no alarm codes present.

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