



# January 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 Covid-related guidelines evolve, we intend to restore the CAIRE Service School to in person.**

To register for Service School, please email:

[Techservice.global@caireinc.com](mailto:Techservice.global@caireinc.com) for USA Training or [jim.gibson@caireinc.com](mailto:jim.gibson@caireinc.com) for European Training.

## **PRODUCT UPDATES**

### **Eclipse 5 Power Supply**

Eclipse power supply (CAIRE PN:21334759) replaces the previous version (CAIRE PN: 20852326) on all newly manufactured 2-LED Eclipse 5 devices as well as all spare power supply part kit numbers in Table 1 below. Power supply 21334759 is backwards compatible with all previously manufactured 2-LED and 3-LED Eclipse 5 units.

*Note: Please reference Service Bulletin 21220048 when using the 3-LED power supply (PN 5941-SEQ (US), 20553100 (EU), and 20553098 (UK)) with 2-LED units as this will require label changes on the device.*

**Table 1: Spare Power Supply Kit PNs**

20852326S	Kit, Power Supply US Cord
20852325S	Kit, Power Supply EU Cord
20852324S	Kit, Power Supply UK Cord

Figures 1 and 2 display the different power connections between the new part number 21334759 and the previous part number 20852326. The 21334759 new style power supplies will require different power cable – see Table 2 for details of different cord part numbers.

**Figure 1: Current Eclipse 5 power supply (PN 21334759)****Figure 2: Previous Eclipse 5 power supply (PN 20852326)****Figure 3: Eclipse 3-LED Power Supply (PN 5940-SEQ)**

**Table 2: – Power Cord part numbers**

Power Supply PN	Region	Cord only PN	Spare Power Supply Plus Cord
5940-SEQ	USA	3588-SEQ	20852326S
5940-SEQ	UK	3590-SEQ	20852324S
5940-SEQ	EU	3589-SEQ	20852325S
5940-SEQ	AUS	20669418	21334759 + 21463776
20852326	USA	4997-SEQ	20852326S
	UK	4999-SEQ	20852324S
	EU	4998-SEQ	20852325S
	AUS	21347183	21334759 + 21463776
21334759	USA	21336129	20852326S
	UK	21475874	20852324S
	EU	21336073-C4	20852325S
	AUS	21463776	21334759 + 21463776

\*Use above table in conjunction with Figure 1-3 to identify cable only part number required.

Please refer to Service Bulletin PN 21464617 for more details.

## Helpful Hints & FAQs

### **Aluminum Outlet Barb for the Spirit**

As of October 2018, the OCD Assembly will have an aluminum barb. The change is to meet an IEC 60601 3rd edition requirement. It also will stop a cannula fire at this fitting, to avoid progression to the Spirit. Aluminum barb Part number: 21328868 FITTING BARB, SPIRIT O2 OUTLET.



Figure 1. Spirit POC Plastic Barb

## 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 subjected to an update during December 2021.

- ML-LOX0013 SPIRIT CUTSHEET US ENGLISH
- ML-LOX0013-1 SPIRIT FAMILY CUTSHEET FRENCH
- ML-LOX0013-2 SPIRIT FAMILY CUTSHEET GERMAN
- ML-LOX0013-3 SPIRIT FAMILY CUTSHEET SPANISH
- ML-LOX0013-5 SPIRIT FAMILY CUTSHEET ITALIAN

## Med Tips Distribution!

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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: 21220048

**RELEASE DATE:** October 31, 2017

**REVISION DATES:** July 30, 2018 (Rev B), March 05, 2019 (Rev C)

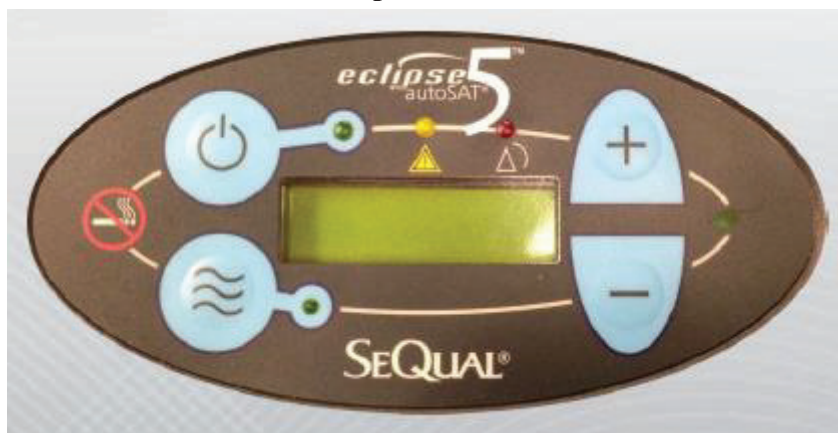
**MODEL:** Eclipse 5 Oxygen Concentrators

**ISSUE:** IEC 80601-2-69 Oxygen Concentrator Particular Standard Compliance

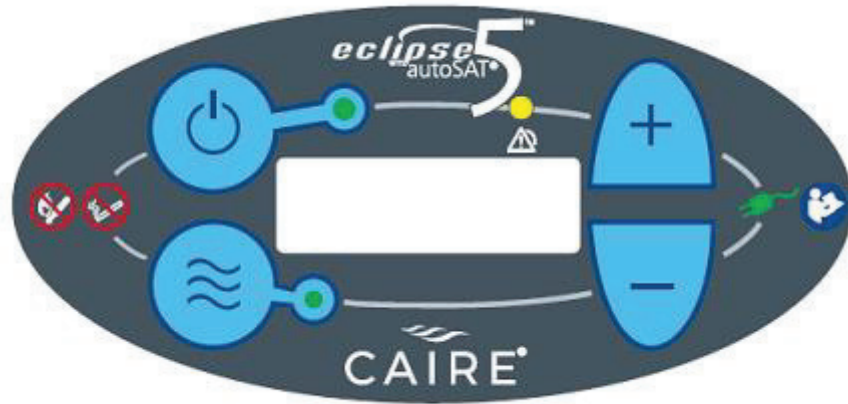
**NOTES:** To ensure Eclipse devices are compliant with the IEC 80601-2-69 (including IEC 60601-1 edition 3.1 and EMC IEC 60601-1-2 4th edition), coming in 2018 the Eclipse 5 will no longer have a red alarm indication. This change will be accompanied by a revised touch panel, new circuit board part number, and an updated alarm code troubleshooting tables.

The Eclipse 5, including the AC power supply, will be IEC 60529 IP22 compliant rather than IPX1. The AC power supply will be changed to a two pronged cord type, Type II power supply. IEC 60601-1 applied part classification for the device changes from Type B to Type BF. The older Eclipse 5 units can use the new power supply. In order for the new Eclipse 5 to be used with the old power supply, the CSA labeling would need be removed from the unit. The applied part would then change from type BF to type B.

**Previous Eclipse 5 Touch Panel**



## Updated Eclipse 5 Touch Panel



### New Alarm Specification Changes

With the new display panel, there will no longer be a red indication for an alarm code. The new panel will display a yellow LED, audible alarm, and an associated fault code.

This is an example of the previous alarm tables (prior to IEC 60601-1 edition 3.1 and EMC IEC 60601-1-2 4th edition compliance) with the Red Light Indicator.

CONDITION	ALARM CODE	ALARM DISPLAY	GREEN INDICATOR	YELLOW INDICATOR	RED INDICATOR	AUDIBLE ALARM
“Warming Up. Please Wait.”	4	O2 < 70%	ON	ON	ON	OFF
“Warming Up. Please Wait.”	8	O2 < 85%	ON	ON	OFF	OFF
“3.0”(or flow setting)	0	NO ALARM	ON	OFF	OFF	OFF
“Low Power Cartridge”	10	LOW BAT	ON	Flashing	OFF	2 Beeps
“Warm Power Cartridge”	2	WARM BAT	ON	Flashing	OFF	1 Beep
“Low 9V Battery”	-	-	OFF	OFF	OFF	3 Beeps on POST
“O2 Concentration < 85%”	8	O2 < 85%	OFF	Flashing	OFF	OFF
“O2 Concentration < 70%”	4	O2 < 70%	OFF	OFF	Flashing	3 Beeps
“Flow Rate Error / Blocked Flow”	20	FLOWRATE	OFF	Flashing	OFF	1 Beep
“Cannot Charge Power Cartridge”	1	CHARGER	N/A	ON	OFF	OFF
“One Wire Communication Loss”	100	ONEWIRE	N/A	Flashing	OFF	1 Beep

“No Inspiration Detected” (in Pulse Mode only)	200	P <--> C	ON	OFF	OFF	OFF
“Loss of External Power” (without charged Power Cartridge installed)	40	***** (flashing)	OFF	OFF	Flashing	ON for 5 min
“System Fault”	80	FAIL XX	OFF	OFF	ON	ON 10 seconds then silent

Updated Alarm tables (IEC 60601-1 edition 3.1 and EMC IEC 60601-1-2 4th edition compliant model).

Alarm	LCD Text	Yellow	Audio	Code
All OK, warm-up done	NO ALARM	OFF	OFF	0
No breath for 15 seconds	P <--> C	ON	1 beep 200ms, repeat after 20 seconds	200
Warm-up period (0-120 seconds after power on):	O <sub>2</sub> < 85%	ON	OFF	8
One wire communication loss	ONE WIRE	ON	1 beep 200ms, repeat after 20 seconds	100
Cannot Charge Battery	CHARGER	ON	1 beep 200ms, repeat after 20 seconds	1
%O <sub>2</sub> < 85%	O <sub>2</sub> < 85%	ON	1 beep 200ms, repeat after 20 seconds	8
Flow rate error	FLOWRATE	ON	1 beep 200ms, repeat after 20 seconds	20
Warm battery	WARM BAT	ON	1 beep 200ms, repeat after 20 seconds	2
Low battery	LOW BAT	ON	1 beep 200ms, repeat after 20 seconds	10
Loss of power (No Battery, no external power)	*****	ON	1 beep 200ms, repeat after 20 seconds for 200 seconds	40
Malfunction	FAIL XX	ON	1 beep 200ms, repeat after 20 seconds for 200 seconds	80

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

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# *SERVICE BULLETIN*

PN: 21464617

**RELEASE DATE:** September 3, 2019

**REVISION DATE(S):** September 23, 2019 (Rev B)  
February 01, 2020 (Rev C)

**MODEL:** SeQual<sup>®</sup> Eclipse 5<sup>®</sup>

**ISSUE:** New Release Eclipse 5 Power Supply

**NOTES:** Effective September 2019 Eclipse power supply (CAIRE PN:21334759) will replace the previous version (CAIRE PN: 20852326) on all newly manufactured 2-LED Eclipse 5 devices as well as all spare power supply part kit numbers in Table 1 below.

**Table 1: Spare Power Supply Kit PNs**

20852326S	Kit, Power Supply US Cord
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Power supply 21334759 is backwards compatible with all previously manufactured 2-LED and 3-LED Eclipse 5 units.

*Note: Please reference Service Bulletin [21220048](#) when using the 3-LED power supply kit PN 5941-SEQ (US), 20553100 (EU), and 20553098 (UK)) with 2-LED units as this will require label changes on the device.*

Figures 1 and 2 display the different power connections between the new part number 21334759 and the previous part number 20852326. The 21334759 new style power supplies will require different power cable – see Table 2 for details of different cord part numbers.



**Figure 1: Current Eclipse 5 power supply (PN 21334759)**



**Figure 2: Previous Eclipse 5 power supply (PN 20852326)**

Figure 3 displays the power supply connection for use on the 3-LED version Eclipse models. These part numbers are obsolete, replaced by the power supply kits listed above.



**Figure 3: Eclipse 3-LED Power Supply (PN 5940-SEQ)**

**Table 2: – Power Cord part numbers**

Power Supply PN	Region	Cord only PN	Spare Power Supply Plus Cord
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