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Med Tips

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PRODUCT INFORMATION

HELiOS LOX Reservoir Lower Shroud Design Change

A design change to the lower shroud of the HELiOS LOX Reservoir will be effective February 2015. The new scalloped design change will allow for better ventilation for reduction in frosting of the plumbing assembly of the reservoir. The new design can be used as a replacement part to service all older HELiOS units. This is a rolling design change that will not affect the overall operation of the unit. The new part number is 20863012.



New Design



Previous Design

HELPFUL HINTS / FAQs

Gen 3 to Gen 4 Contents Indicator

Q: When replacing a liquid level meter on a LOX unit with a Gen4 meter I only get the meter, but when replacing an older Gen3 meter with a Gen4 I get different components. Why?

A: The replacement Gen4 meter will simply plug into the existing connector of a reservoir with a Gen4 meter. When replacing a Gen3 meter you will need to order the retrofit kit. An older reservoir with a Gen3 meter has a different type of connector, and requires an adapter to complete the installation.

When ordering a retrofit kit for your specific unit, please contact Technical Service at the number below for the correct part number.



Frequently Asked Eclipse Battery Questions

Q: What type of battery is used in the Eclipse concentrator?

A: The Eclipse power cartridge contains two lithium ion batteries. Each of the batteries contains 7.92 grams of lithium ion content.

Q: Can the same battery be used in all models of the Eclipse (1, 2, 3, & 5)?

A: Yes, the same battery may be used in all models of the Eclipse. The face-plate of the Eclipse 5 battery is a slightly darker color than previous Eclipse battery models, but is still compatible.

Q: How long does it take a battery to fully charge when charging

Q: How long does it take a battery to fully charge when charging from inside of the Eclipse on AC power?

A: The Eclipse battery can take 3-5 hours to charge under these conditions. The battery will charge while the Eclipse is connected to AC power whether the Eclipse is on or off.

Q: Is it harmful to the battery to leave it installed in the Eclipse for an extended period of time after it has fully charged?

A: No. The Eclipse battery can be left inside of the machine at all times without causing damage to the power cartridge.

Q: Is it best to store the battery fully charged or empty?

A: The best way to care for a lithium ion battery is to store it at approximately 40-50%. It can be stored fully charged if being stored in a climate controlled area that is within the charging environment specifications of 41 degrees fahrenheit - 113 degrees fahrenheit.

Q: How long will the Eclipse battery maintain a full charge while sitting in storage?

A: When properly stored in a cool, dry location, the battery can sit unused for up to 12 months without appreciable self-discharge.

Q: What is the estimated life-span of a battery?

A: The battery will maintain 80% of its capacity for 500 full charge and discharge cycles. This is difficult to directly equate to a number of years or months. As a general rule, CAIRE recommends that all batteries older than 2 years be tested for their capacity prior to being given to a patient.

Q: How can you determine the age of an Eclipse battery?

A: A white sticker containing a barcode can be found on the top of the battery. The serial number, or lot number, of the battery is given on this sticker. The first two digits of the lot/serial number represent the year that the battery was manufactured. For example, if the first two digits displayed are "10", as seen below, then the battery was manufactured in 2010:



Q: When does CAIRE recommend that a battery be taken out of service?

A: The battery should be taken out of service when the battery will no longer maintain 80% of its full capacity. It has been shown that after batteries reach 80% of their capacity the capacity will begin to decrease quickly and unpredictably. Once battery capacities have declined past this 80% level, their performance would not be considered reliable.

Eclipse Battery Capacity Test

The below procedure should be used to test the full capacity of the Eclipse power cartridge.

1. Install the power cartridge in the Eclipse and remove any AC or DC power cords.
2. Turn the Eclipse on and let it run on a continuous flow setting.
3. Allow the Eclipse to run until the unit completely shuts down. Do not turn the Eclipse off when it begins to alarm for a low battery. Let it continue to run until the battery is completely drained.
4. Remove the power cartridge (battery) from the Eclipse and allow it to cool for approximately 2 hours.
5. Fully recharge the battery using either an Eclipse connected to AC power or a desktop charger.
6. Install the fully charged power cartridge into an Eclipse and remove any external power cords.
7. Turn the Eclipse on and let it run at the desired continuous (LPM) flow rate for testing.
8. Using a stopwatch or timer, record the time it takes for the Eclipse to completely shut down.
9. Take this time recorded in Step 8 and compare it to the full capacity operating time of a new power cartridge in the table below. If this time is less than 80% of the full capacity of a new power cartridge, it is recommended that the battery be taken out of service.

Continuous Flow Setting	New Battery Full Capacity Operating Time	Minimum Operating Time (80% of New)
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	Operating Time	100% of New
0.5 LPM	4.4 Hours (4:24)	3.5 Hours (3:30)
1.0 LPM	3.7 Hours (3:42)	3.0 Hours (3:00)
2.0 LPM	2.0 Hours (2:00)	1.6 Hours (1:36)
3.0 LPM	1.3 Hours (1:18)	1.0 Hours (1:00)

Eclipse Battery Calibration

CAIRE recommends that the Eclipse power cartridge (battery) be calibrated once monthly.

Calibration consists of completely draining and recharging the battery cartridge. This procedure is part of proper care for the lithium ion battery. Battery calibration will not only help to maximize the life of the battery cartridge, but will also ensure that a full charge lasts as long as it should when the patient is using the Eclipse. Patients can perform this procedure once monthly as part of their regular use of the Eclipse. The best recommendation for providers is to perform this procedure every time the Eclipse returns to their shop (between patients, maintenance, etc.). Please see the battery calibration procedure below:

1. Install the power cartridge in the Eclipse.
2. Remove external power cords and operate the Eclipse from the power cartridge.
3. Allow the Eclipse to completely discharge the power cartridge. Do not connect to AC power or turn off the Eclipse when it begins to alarm for low battery. Allow the Eclipse to run until it shuts off and no battery power is remaining.
4. Re-attach the external AC power source. Verify that the external power indicator is lit on the front panel of the Eclipse. Leave the power cartridge installed. Charging should begin automatically when the battery reaches proper temperature.
5. Allow the power cartridge to completely charge, as indicated by the meter on the front display panel.

Eclipse Battery Troubleshooting

Symptom:

Eclipse has a FAIL 95 error message displayed on the screen.

The FAIL 95 indicates that the Eclipse has shut off due to a "Battery Communication Error." -or- The Eclipse is alarming with a yellow light. The battery display is not showing that the battery is

charging. It is giving an alarm code of 01 (Eclipse 1 & 2) or 001 (Eclipse 3 & 5) when the "no-smoking" icon is pressed. This error code indicates that the Eclipse "Cannot Charge the Battery Cartridge."

Troubleshooting:

The first step is to reset the Eclipse to see if the failure or error code reoccurs. The Eclipse will not turn back on or deliver air until it is reset once the FAIL 95 error has occurred. The Eclipse is reset by first removing the power cartridge and any external power cords. This will cause the code to disappear from the screen and the red light to go off. Reconnect the power sources approximately 20 seconds later and the Eclipse should power back on as normal. If the fail or error code does not return after the warm-up time, then you can continue to use the Eclipse normally. If the FAIL 95 or alarm code occurs again, then there is a malfunction causing this error. This error can either be caused by a problem with the Eclipse, or simply with a faulty battery. The easiest way to determine if the repeating error is caused by a fault with the Eclipse or the power cartridge is to try running the Eclipse with a second, or spare, battery cartridge.

If the FAIL 95 or error code occurs again with the second battery, then the Eclipse itself will need to be serviced. Contact CAIRE Technical Support (contact information at the bottom of this email) for more information. If the alarm condition does not occur with the second battery, then you have diagnosed the original battery as the faulty component. In this case, the faulty battery would simply need to be replaced.

Symptom:

The Eclipse battery is not holding a charge. The battery is showing as being fully charged, but it is not lasting as long as it should.

Troubleshooting:

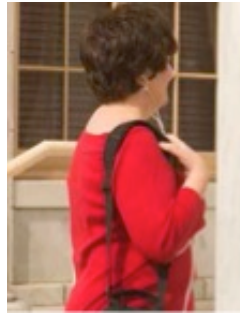
Any time battery duration is suspected to be low the first step is to attempt to calibrate the battery cartridge. Often times, doing this can increase the capacity of a full charge and maximize the time that a full charge will last. You may want to reference the "Calibrate Battery" section in the corresponding procedure above. If the battery still does not last as long as it should after calibration, then the battery may be past its useful life. Perform the battery capacity test given above to determine if the battery needs to be replaced.

ACCESSORIES

Freestyle Carrying Strap & Backpack Harness

FreeStyle Carrying Strap:

Strap allows the FreeStyle 3 or 5 to be carried over the user's shoulder. It can be attached to either MI406-1 or MI407-1 Carrying Bags.



MI304-1

Backpack Harness:

Backpack is designed specifically for the FreeStyle 3 and FreeStyle 5 portable oxygen concentrators for easy transportation. MI284-1 includes solely the harness needed to convert either the FreeStyle or FreeStyle 5 carrying bag (MI406-1 or MI407-1) into a backpack.



MI284-1

SERVICE SCHOOLS & TRADE SHOWS

**2015 Service School dates will be announced soon!
Please continue to check our website for updates.**

USA

Service School Dates:

For additional details and registration information about these trainings, please visit the "[Service Schools](#)" page on our website.

**Ball Ground trainings include a tour of our CAIRE and SeQual manufacturing facility.*

Europe

For additional details and registration information about these trainings, please visit the ["Events & Service Schools"](#) tab of our website.

Trade Shows

We will be attending the following trade shows this month. We would love for you to stop by our booth!

HOMES

January 22
Nashua, NH

Arab Health

January 26-29
Dubai, UAE
Stand # 1D39

CPLF - French Conference

January 30 - February 1
Lille Grand Palais
Stand # 37

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