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## Med Tips

July 2012

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**NEW!!**  
Patient Spotlight

**The Eclipse HCPCS billing code had an error; highlighted in red below. Please find the correction attached.**

### PDF Version

To view Med Tips in PDF, [click here.](#)

### Bruce's Eclipse Story

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Bruce in 2007 with his Eclipse





**Bruce in 2012 with his Eclipse**

**I'm the announcer at the Toyota Grand Prix of Long Beach. I have severe COPD and require 2 liters of O2 24/7 and have for over 5 years.**

**[The photo above] is a photo from victory circle this year.**

**I'm 5 years older. My Eclipse is 5 years older. The race queen and her court are probably about the same age in both photos.**

**I just want to say thanks. You make an excellent product.**

**Best regards,**

**Bruce**

*Thank you Bruce for sharing your story!*

*\*\*If you know of a patient who would like to be in one of our spotlights, please reply to this email!*

### **Clinical Application**

As Bruce mentioned above, the Eclipse Portable Oxygen Concentrator is approved for use as both a stationary and

concentrator is approved for use as both a stationary and portable oxygen concentrator. The Eclipse 3 delivers 0.5-3.0 LPM continuous flow and up to 192 mL per bolus in pulse dose, the largest pulse dose bolus of oxygen on the market!

As an added bonus, if an inspiratory effort is not detected, the Eclipse will deliver a continuous flow of oxygen and search for a breath every 15 seconds. If no breath is detected, the Eclipse will continue to deliver a continuous flow of oxygen and search for a breath every 15 seconds.

Once an inspiratory effort is detected, the Eclipse will flip back into pulse dose mode and function as it did prior to the lack of breath. This is important because this means that whether your patient is sleeping, at rest, or at the Grand Prix with Bruce, they are receiving their prescription no matter what.

Also, because the Eclipse is approved as a 24/7 device, through Medicare in the USA you can bill under two different HCPCS billing codes. These codes are listed below:

- E1390 (stationary)
- E1392 (portable)

Many of our Eclipse accessories are also reimbursable through HCPCS billing codes. The most commonly requested accessory codes are listed below:

- AC Battery Charger: E1357
- DC Power Adaptor: E1358
- Desktop Charger: E1357
- Battery Pack/Charger: E1356

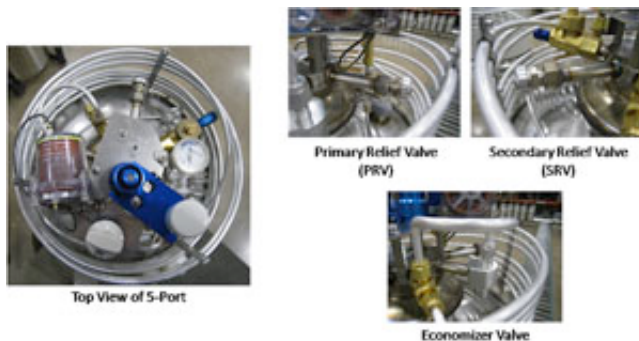
If you have any questions regarding HCPCS billing codes for our any of our products, please contact our US Technical Support Team or your local Sales Representative.

## PRODUCT INFORMATION

### Companion Reservoir Manifolds

Replacement manifolds are available for all styles of the Companion reservoirs. Use the information below as a guideline to ensure that the correct manifold is ordered for your style of Companion reservoir.

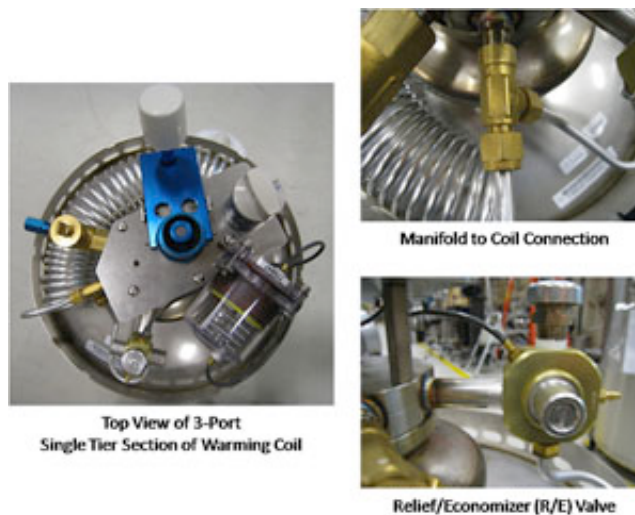
5-Port Manifold: These tanks have separate extensions off of the manifold for the primary relief valve (PRV), secondary relief valve (SRV), and economizer valve.



### 5-Port Manifolds

Reservoir Size	Manifold Part Number
Companion C21	B-701927-SV
Companion C31	B-701928-SV
Companion C41	B-701929-SV

3-Port Manifold (USA ONLY - Gen 1): These tanks have a combination relief/economizer (R/E) valve. The SRV is mounted on top of the R/E valve. The outlet from the manifold to the coils is a tee fitting as shown below. These models have a single-tiered section of warming coils. Reservoirs with this style of manifold were only sold in the USA between 2005 and 2011.



### 3-Port Manifolds (USA ONLY - Gen 1)

Reservoir Size	Manifold Part Number
Companion C21	10003453-SV
Companion C31	10003454-SV

Companion C41

10003455-SV

**3-Port Manifold:** This is the model used in current production. These tanks have a combination R/E valve and the SRV is mounted on top of the R/E valve. The outlet from the manifold to the coils is a direct compression fitting with a nut and ferrule. These models have two tiers of tightly-wound warming coils: the vaporizing coil and the breathing coil. All reservoirs produced after July 2011 have this style of manifold.



Side View of 3-Port Vaporizing and Breathing Coils



Manifold to Coil Connection



Relief/Economizer (R/E) Valve

### 3-Port Manifolds

<u>Reservoir Size</u>	<u>Manifold Part Number</u>
Companion C21	15092374-SV
Companion C31	15092382-SV
Companion C41	15092391-SV

### Companion 1000 New FCV Part Numbers

The part numbers for ordering replacement flow control valves for the Companion 1000 and Companion 1000T portables have changed. Please see the [attached](#) technical bulletin for information on this product change.

### HELPFUL HINTS / FAQs

This month, the FAQ's and Helpful Hints Section will be completely dedicated to the proper care and operation of the Eclipse power cartridge (battery).





## Frequent Eclipse Battery Questions

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

A: The Eclipse power cartridge contains 2 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)?

A: Yes

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

A: Between 3-5 hours. The battery will charge while the Eclipse is connected to AC power whether or not 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 full or empty?

A. The best way to care for a lithium ion battery is to store it fully charged.

Q. How long will the Eclipse battery maintain full charge 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 before giving to a patient.

Q. How do you tell the age of the Eclipse battery?

A. On the top of the battery there is a white sticker with a

barcode. The serial number or lot number of the battery is given on this sticker. The first two digits of the lot or serial number is the year the battery was manufactured.



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

A. When it will no longer maintain 80% of its full capacity. It has been shown that after batteries reach 80% of their capacity, lithium ion batteries begin to decrease in capacity quickly and unpredictably. Once they decline past this level, the performance would not be considered reliable.

### Eclipse Battery Capacity Test

Use the below procedure 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 it 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 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	New Battery	Minimum Operating
Flow Setting	Full Capacity Operating Time	Time (80% 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 SeQual recommends that the Eclipse power cartridge will 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. It will not only help to maximize the life of the battery cartridge, but it 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.).

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 when no battery power is remaining.
4. Reattach 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) 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 run 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 SeQual 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:**

Anytime 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

### LOX Fill Head Adaptors

CAIRE sells fill adaptors that will attach to a transfer line to fill reservoir units. The most common fill adaptor styles are those that fill the CAIRE top fill and side fill reservoirs.

Pictures and part numbers for these are below.



CAIRE Side Fill Adaptor  
#97212023



CAIRE Dual Fill (Top & Side) Adaptor  
#10897958



CAIRE Top Fill Adaptor

#10678157

CAIRE also offers fill connectors for alternate styles of QDV's. If you have a different style of QDV from the ones pictured above, please contact Technical Support for the correct part number and availability of the appropriate fill adaptor for your reservoir.

## SERVICE SCHOOLS & TRADESHOWS

### Mark Your Calendars for our Upcoming 2012 Service Schools!

#### USA

##### Concentrator Technical Training in English

August 13-14

Ball Ground, GA

##### LOX Technical Training in English

August 15-16

Ball Ground, Georgia

##### Concentrator Technical Training in English

November 5-6

Ball Ground, GA

##### LOX Technical Training in English

November 7-8

Ball Ground, Georgia

To register for 2012 US LOX Training, [download this form](#).

To register for 2012 US Concentrator Training, [download this form](#).

#### Europe

##### LOX Technical Training in German

September 5 & 6

Wuppertal, Germany

##### LOX Technical Training in English

October 16 & 17

Wokingham, UK

##### LOX Technical Training in French

October 17 & 18

Fonsorbes, France

##### LOX Technical Training in Italian

November 14 & 15

Padova, Italy

For more information on the 2012 European trainings, please contact Jim Gibson at [jim.gibson@chart-ind.com](mailto:jim.gibson@chart-ind.com).

## Tradeshows

We'll also be present at the following tradeshows this month, so feel free to stop at our booth! To find out more about any of the following shows, please click on its title and you will be directed to the show site.

### Medigas Golf Tournament

July 14th

Canada

## CONTACT US

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