

TROUBLESHOOTING - Low Loss

The following table is intended to be a general guide to assist in troubleshooting some of the possible situations which may arise in use of the CAIRE Reservoir. Where more than one probable

cause is listed, the most likely is listed first. Follow repair procedures as found later in section X. If further difficulties are experienced, call CAIRE Technical Service Department for assistance.

SITUATION	PROBABLE CAUSE	REMEDY
Liquid oxygen leaks from the fill connector during filling.	Female fill connector is damaged.	Inspect female fill connector, replacing lip seal or other worn or damaged parts.
	Male fill connector is damaged.	Inspect male fill connector, replacing any worn or damaged parts.
Liquid oxygen leaks from the fill connector after completion of fill.	Ice crystal is lodged in the fill connector poppet.	Engage fill connector or Stroller to fill connector and allow to warm up, then disconnect.
	Damaged QDV poppet.	Inspect and replace any worn or damaged components.
Unable to disengage transfer hose fill connector from fill connector on the CAIRE Reservoir.	Fill connectors are frozen together, due to moisture during the fill process.	Close the liquid valve on fill source and let connectors warm until disengagement is possible without using excessive force.
Fill time is excessively long.	CAIRE Reservoir vent valve is not fully open.	Rotate vent key until it is fully opened.
	Fill source contains undersaturated/ underpressurized liquid oxygen.	Let source vessel sit until proper saturation/head pressure is reached or fill from another source.
	Transfer line filter is plugged.	Clean or replace filter.
	Fill connector poppet valve is not opening properly.	<ol style="list-style-type: none"> 1. Check poppet for damage, replacing any worn or defective parts. 2. Ensure male/female fill connectors are coupled completely.
Excessive venting from the PRV following fill completion.	Fill source pressure too high.	Open CAIRE Reservoir vent valve to relieve excess pressure. Open fill source vent valve to lower saturation pressure prior to next fill.
	Defective or non-functional PRV.	Check performance by conducting PRV test, replacing if defective.
	High NER.	Conduct NER test, service dewar if vacuum needs repair.

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SITUATION	PROBABLE CAUSE	REMEDY
Excessive loss of product.	CAIRE Reservoir vacuum failure.	Conduct NER test, service dewar if vacuum needs repair.
	Fill connector leaks.	Check fill connector, replacing if defective.
	Plumbing leak.	Conduct leak test, repair leaking connections or defective components.
Low pressure.	Plumbing leak.	Conduct leak test, repair leaking connections or defective components.
	Vent valve is not completely closed.	Using vent key, close the vent valve completely.
	Contains undersaturated liquid oxygen.	Let CAIRE Reservoir sit to build pressure. Check fill source pressure, allowing it to build saturation pressure prior to filling any further Reservoirs.
	Pressure gauge is defective.	Replace defective part.
Sur-Cal 3 not functioning properly:		
No LED's.	Battery is dead.	Replace battery.
	Wiring harness is broken.	Replace defective harness.
	Improper probe capacitance (above 375 pF).	1) Moisture (ice) in probe, warm and dry dewar. 2) Defective probe; replace. 3) Defective harness; replace.
	Meter is out of calibration.	Recalibrate meter.
	Meter is defective.	Replace meter.
Low Bat LED lit.	Battery voltage is low.	Replace battery.
Weight of liquid oxygen is not per table in Section IX.	Meter is out of calibration.	Recalibrate meter.
9th LED not lit after unit is filled.	Meter is out of calibration.	Recalibrate meter.
	Reservoir is not full.	Fill Reservoir per specifications.
Gen 3.1 Meter flashes all 9 LED's and then goes off.	Moisture contamination	Dry out dewar and/or black connector.