

# LIQUID OXYGEN EQUIPMENT

Military & Commercial



**ESSEX**<sup>TM</sup>  
INDUSTRIES

## ESSEX INDUSTRIES

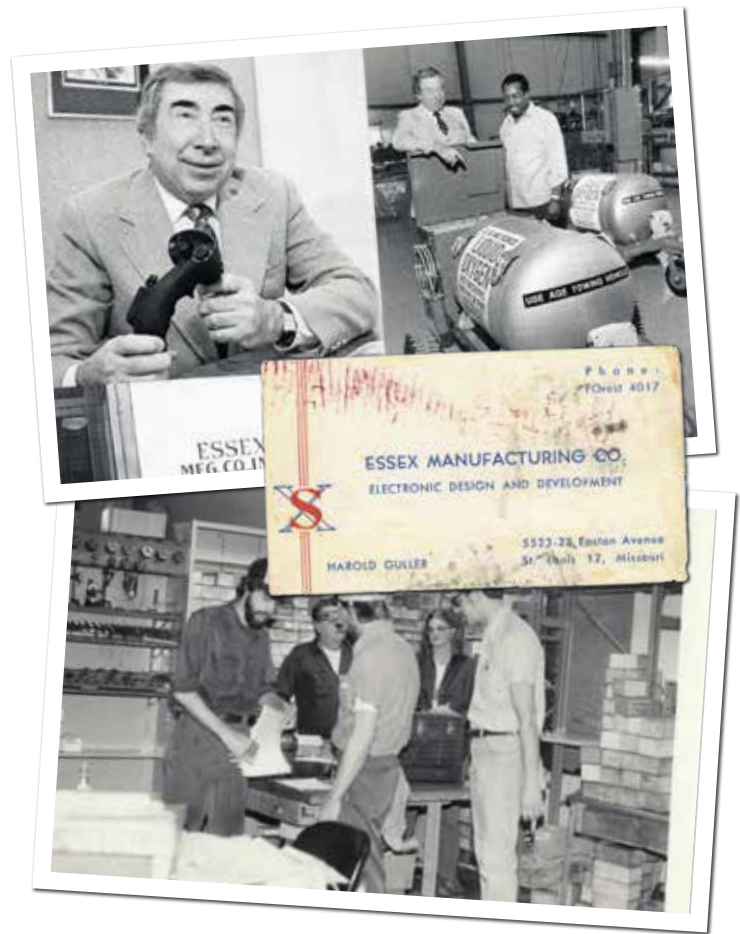
Essex Industries began as a family affair over 75 years ago in Saint Louis. Returning home from his service in World War II, Harold Guller recognized a business opportunity in jet aircraft—a new mode of transportation back in 1947. In his father's basement, he developed and sold a Radio Noise Filter for the F-214. Harold's brother Sidney did accounting for the business while earning his degree and then joined the company.

Now, Essex is a leading aerospace and defense manufacturer. Product lines include grips, control panels, complex components, and sub-assemblies for aircraft fuel, hydraulic, pneumatic, and air/oxygen systems. Essex also leads in the design, development, production, and support of ground-based and airborne liquid oxygen (LOX) equipment and emergency portable breathing systems.

Essex entered the cryogenics market in 1963 with designs and the capability to manufacture LOX converters, a highly efficient oxygen storage and delivery method. LOX systems provide several advantages over gaseous systems in these military applications because LOX increases volume 860 times as it converts from a liquid to a gas. This saves both weight and space on the aircraft and results in portable units that are easier to carry without sacrificing capability. They also have low operating pressures, less than 100 psi, which increases their safety factor, especially in battlefield situations.

The technology developed for military LOX systems has led Essex to similar advancements in the commercial medevac marketplace. Essex LOX systems are currently on 80% of the winged and rotary platforms that provide aeromedical transport from an accident scene to the medical center. Essex has provided over 100,000 new LOX systems for military and commercial applications, ranging from a 5 Liter Converter to 500 Gallon LOX Trailers.

Experience is one of Essex's greatest assets. The company has robust manufacturing capabilities that allow us to be agile and flexible and be able to adapt to new requirements. Essex will continue to learn and grow as we move forward. [www.essexindustries.com](http://www.essexindustries.com)



## OVER 230,000 ft<sup>2</sup> OF MANUFACTURING SPACE

Essex employs over 450 people in Saint Louis, Missouri, Huntington Beach, California, and Milford, Connecticut, serving local, national, and international customers, both military and commercial.



# LIQUID OXYGEN Filling Diagram

**50 Gallon**  
Liquid Oxygen Cart



**500 Gallon**  
Liquid Oxygen Trailer



GROUND SUPPORT

AIRCRAFT LIFE SUPPORT



**BMOS-FS**  
Backpack Medical  
Oxygen Filling Station



**BMOS-FS Hose Kit**  
Backpack Medical Oxygen  
Filling Station Hose Kit



**NPTLOX**  
Next Generation Portable  
Therapeutic Liquid Oxygen System



**5 LITER LOX** *REMOVABLE*



**5 LITER LOX** *FIXED*



**7 LITER LOX CONVERTER** *REMOVABLE*



**10 LITER LOX  
CONVERTER**  
*REMOVABLE*



**10 LITER LOX  
CONVERTER**  
*FIXED*



**25 LITER LOX  
CONVERTER**  
*FIXED*



**75 LITER LOX  
CONVERTER**  
*FIXED*



**MMOS**  
Mounted Medical Oxygen System



**BMOS**  
Backpack Medical Oxygen System

# MEDICAL LIQUID OXYGEN SYSTEMS

ISO 9001 & AS9100 Certified  
MIL-STD-810 Qualified  
CAGE CODE 19062



# MEDICAL LIQUID OXYGEN SYSTEMS

## NEXT GENERATION PORTABLE THERAPEUTIC LIQUID OXYGEN SYSTEM (NPTLOX)

P/N 50C-0083-1 | NSN 6530-01-585-4676  
SHOWN WITH INCLUDED ACCESSORY KIT  
P/N 50C-0021-0001-1 (ACCESSORY KIT ONLY)

The NPTLOX is a low pressure portable 20 liter liquid oxygen storage and gaseous delivery system. It has been successfully tested to work in tandem with commonly used ventilators. FDA Life Support device 510(k) number K033000.

### APPLICATIONS

Can be carried by ground support personnel and can also be mounted in an aircraft or ground vehicle.

<b>CAPACITY</b>	20 LITERS
<b>W"x L"x H"</b>	22 x 24 x 32
<b>WEIGHT, FULL</b>	155 LBS
<b>WEIGHT, EMPTY</b>	105 LBS
<b>TOTAL GASEOUS VOLUME</b>	17,200 LITERS
<b>SYSTEM INTERNAL PRESSURE</b>	85-120 PSIG
<b>MAX FLOW RATE</b>	66 LPM
<b>DELIVERY/OUTLET PRESSURE</b>	50 ± 5 PSIG
<b>OPERATING TEMPERATURE</b>	32° F TO 110° F
<b>INDICATOR POWER</b>	TWO (2) 9-VOLT LITHIUM BATTERIES
<b>OUTLET CONNECTION</b>	SIX (6) SCHRADER QUICK DISCONNECT PORTS
<b>FILL CONNECTION</b>	CRU-50/A FILL VALVE
<b>ACCESSORY KIT INCLUDES</b>	THREE (3) 20' MEDICAL GRADE HOSES
<i>P/N 50C-0021-0001-1</i>	THREE (3) FLOW CONTROL VALVES: 0 TO 15 LPM WITH 11 SETTINGS (0.5, 1, 2, 3, 4, 5, 6, 8, 10, 12, 15 LPM)
	THREE (3) HUMIDIFIER BOTTLES
	THREE (3) SCHRADER QUICK DISCONNECT ADAPTERS



### DURATION OF REMAINING OXYGEN SUPPLY (flow rate/minute)

LITERS OF LOX	LITERS OF GAS	60 L/MIN	45 L/MIN	30 L/MIN	15 L/MIN
20	17,200	287	382	573	1,147
19	16,340	272	363	545	1,089
18	15,480	258	344	516	1,032
17	14,620	244	325	487	975
16	13,760	229	306	459	917
15	12,900	215	287	430	860
14	12,040	201	268	401	803
13	11,180	186	248	373	745
12	10,320	172	229	344	688
11	9,460	158	210	315	631
10	8,600	143	191	287	573
9	7,740	129	172	258	516
8	6,880	115	153	229	459
7	6,020	100	134	201	401
6	5,160	86	115	172	344
5	4,300	72	96	143	287
4	3,440	57	76	115	229
3	2,580	43	57	86	172
2	1,720	29	38	57	115
1	860	14	19	29	57

# MEDICAL LIQUID OXYGEN SYSTEMS

## BACKPACK MEDICAL OXYGEN SYSTEM (BMOS)

P/N 50C-0089-4 | NSN 3655-01-628-1034

The Backpack Medical Oxygen System (BMOS) is a low pressure, portable 2 liter liquid oxygen storage and gaseous delivery system that has been tested to MIL-STD-810 and requires no external power. It has also been successfully tested to work in tandem with commonly used ventilators. FDA Life Support device 510(k) 071581.

### APPLICATIONS

Can be carried or worn by parachutists and ground support personnel.



<b>CAPACITY</b>	2 LITERS
<b>W"x L"x H"</b>	7.5 x 17.5 x 6.5
<b>WEIGHT, FULL</b>	19 LBS
<b>WEIGHT, EMPTY</b>	14 LBS
<b>TOTAL GASEOUS VOLUME</b>	1,720 LITERS
<b>SYSTEM INTERNAL PRESSURE</b>	45-65 PSIG
<b>MAX FLOW RATE</b>	15 LPM
<b>DELIVERY/OUTLET PRESSURE</b>	50 ± 5 PSIG
<b>OPERATING TEMPERATURE</b>	32° F TO 120° F
<b>INDICATOR POWER</b>	SIX (6) AA BATTERIES
<b>FLOW CONTROL VALVE</b>	BUILT-IN , 0 TO 15 LPM WITH 11 SETTINGS (0.5, 1, 2, 3, 4, 5, 6, 8, 10, 12, 15 LPM)
<b>FILL CONNECTION</b>	CRU-50/A FILL VALVE

## MOUNTED MEDICAL OXYGEN SYSTEM (MMOS)

P/N 50C-0105-1

The Mounted Medical Oxygen System (MMOS) is a low pressure, portable 4 liter liquid oxygen storage and gaseous delivery system that has been tested to MIL-STD-810 and requires no external power. It has also been successfully tested to work in tandem with commonly used ventilators. The BMOS-FS Hose Kit connects the MMOS to the BMOS-FS for refilling. FDA Life Support device 510(k) number K113767.

### APPLICATIONS

Can be carried by ground support personnel and can also be mounted in an aircraft, helicopter or ground vehicle.



<b>CAPACITY</b>	4 LITERS
<b>W"x L"x H"</b>	11.2 x 17 x 9
<b>WEIGHT, FULL</b>	35 LBS
<b>WEIGHT, EMPTY</b>	25 LBS
<b>TOTAL GASEOUS VOLUME</b>	3,440 LITERS
<b>SYSTEM INTERNAL PRESSURE</b>	85-120 PSIG
<b>MAX FLOW RATE</b>	30 LPM
<b>DELIVERY/OUTLET PRESSURE</b>	50 ± 5 PSIG
<b>OPERATING TEMPERATURE</b>	-40° F TO 130° F
<b>INDICATOR POWER</b>	ONE (1) 9-VOLT BATTERY
<b>FLOW CONTROL VALVE</b>	BUILT-IN , 0 TO 15 LPM WITH 11 SETTINGS (0.5, 1, 2, 3, 4, 5, 6, 8, 10, 12, 15 LPM)
<b>OUTLET CONNECTION</b>	TWO (2) DISS 1240 PORTS AND TWO (2) FLOW CONTROL VALVES WITH 1/8" BARB PORTS
<b>FILL CONNECTION</b>	CRU-50/A FILL VALVE





## BACKPACK MEDICAL OXYGEN SYSTEM FILLING STATION (BMOS-FS)

P/N 50C-0083-3 (GREEN) | NSN 3655-01-601-2275,  
P/N 50C-0083-4 (DARK GREEN)

The BMOS Filling Station (BMOS-FS) is a low pressure, portable 20 liter liquid oxygen storage device designed to fill multiple BMOS or MMOS systems prior to use. Average filling time is approximately three minutes to fill either system. Requires no external power and has a built-in flow control valve. Tested to MIL-STD-810.

The BMOS-FS Hose Kit, P/N 50C-0116-1, is used to connect the MMOS for refilling. See page 16.

### APPLICATIONS

Can be carried by two ground support personnel and can also be mounted in an aircraft, helicopter or ground vehicle.

<b>CAPACITY</b>	20 LITERS
<b>W"x L"x H"</b>	22 x 24 x 30
<b>WEIGHT, FULL</b>	125 LBS
<b>WEIGHT, EMPTY</b>	75 LBS
<b>TOTAL GASEOUS VOLUME</b>	17,200 LITERS
<b>SYSTEM INTERNAL PRESSURE</b>	28-55 PSIG
<b>DELIVERY/OUTLET PRESSURE</b>	28-55 PSIG
<b>OPERATING TEMPERATURE</b>	32° F TO 120° F
<b>INDICATOR POWER</b>	TWO (2) 9-VOLT LITHIUM BATTERIES

# AIRCRAFT LIFE SUPPORT

ISO 9001 & AS9100 Certified  
MIL-STD-883C Qualified  
CAGE CODE 19062



# AIRCRAFT LIFE SUPPORT LOX CONVERTERS

## LOX CONVERTERS

LOX Converters are currently being or have been used on many of the Department of Defense aircraft, including the A-7, A-10, F-4, F-5, F-15, F-16, F-18, F-111, F-117, T-2, T-38, A-6, EA-6B, E-2C, S3, C-5, C-17, C-130, C-141, KC-135, HC-130 and the B-52 aircraft.

- Safe, lightweight and compact
- Internally mounted capacitance probe
- Stainless steel construction
- High vacuum insulation



### 5 LITER LOX REMOVABLE

P/N 10C-0020-9 (MB-5A)  
NSN 1660-00-327-7048  
MIL-DTL-19328



### 5 LITER LOX FIXED

P/N 10C-0021-5  
(GCU-12A/A)  
NSN 1660-00-148-9239  
MIL-DTL-25666/4



### 7 LITER LOX CONVERTER REMOVABLE

P/N 10C-0059-7



### 10 LITER LOX CONVERTER REMOVABLE

P/N 10C-0016-16 (GCU-24A/A)  
NSN 1660-01-179-4064  
MIL-DTL-19803



### 10 LITER LOX CONVERTER FIXED

P/N 10C-0005-11 (GCU-2 A/A)  
NSN 1660-00-078-8227  
MIL-DTL-25666/1



### 10 LITER LOX READY TO INSTALL (RTI) REMOVABLE

P/N 10C-0045-10, -11, -12

P/N	10C-0020-9	10C-0021-5	10C-0059-7	10C-0016-16	10C-0005-11	10C-0045-10, -11, -12
CAPACITY	5 LITERS (REMOVABLE)	5 LITERS (FIXED)	7 LITERS (REMOVABLE)	10 LITERS (REMOVABLE)	10 LITERS (FIXED)	RTI (REMOVABLE)
W"x L"x H"	12.4 x 15 x 9.5	11.7 x 12.8 x 9.3	7.3 x 29	12.4 x 15 x 12.5	12.8 x 12.9 x 12.7	16 x 18.5 x 18.5
WEIGHT, FULL	28 LBS	25 LBS	39 LBS	45 LBS	38 LBS	75 LBS
WEIGHT, EMPTY	15 LBS MAX	12 LBS MAX	21 LBS	20 LBS MAX	20 LBS MAX	50 LBS
TOTAL GASEOUS VOLUME	4,300 LITERS	4,300 LITERS	6,020 LITERS	8,600 LITERS	8,600 LITERS	8,600 LITERS
OPERATING PRESSURE	75-120 PSIG	75-120 PSIG	75-120 PSIG	75-120 PSIG	75-120 PSIG	75-120 PSIG
MAX FLOW RATE	72 LPM	72 LPM	50 LPM	72 LPM	72 LPM	100 LPM
OPERATING TEMPERATURE	-65° F TO 260° F	-65° F TO 260° F	-20° F TO 120° F	-65° F TO 260° F	-65° F TO 260° F	-65° F TO 260° F
MOUNTING	BASE PLATE WITH A SINGLE WING NUT FOR EASY REMOVAL	FOUR (4) MOUNTING BOLTS	TWO (2) QUICK RELEASE BAND CLAMPS	BASE PLATE WITH A SINGLE WING NUT FOR EASY REMOVAL	FOUR (4) MOUNTING BOLTS	ENCLOSURE: FOUR (4) AIRCRAFT SEAT TRACK FITTINGS, 10 LITER: BASE PLATE WITH A SINGLE WING NUT
REQUIRED POWER INDICATOR	—	—	5 TO 28 VDC, 200MA REMOTE MOUNTED INDICATOR	—	—	—
FILL CONNECTION	CRU-50/A MIL-PRF-25961 COMBO VALVE	M533656-6	CRU-50/A FILL VALVE	CRU-50/A FILL VALVE	3/8" ANPT INTERNAL	CRU-50/A FILL VALVE
PLUMBING CONNECTIONS	TWO (2) QUICK DISCONNECT	FIVE (5)	ONE (1) QUICK DISCONNECT	TWO (2) QUICK DISCONNECT	FIVE (5)	TWO (2)
ELECTRICAL CONNECTIONS	TWO (2) QUICK DISCONNECT	TWO (2) QUICK DISCONNECT	ONE (1) QUICK DISCONNECT	TWO (2) QUICK DISCONNECT	TWO (2) QUICK DISCONNECT	TWO (2) QUICK DISCONNECT PLUS POWER CONNECTION

# AIRCRAFT LIFE SUPPORT LOX CONVERTERS



## 25 LITER LOX CONVERTER FIXED

P/N 10C-0001-26 (GCU-17/A)  
NSN 1660-00-122-8101  
MIL-DTL-25666/5

P/N 10C-0002-25 (ME-3)  
NSN 1660-00-915-9673  
MIL-DTL-25666/7



## 75 LITER LOX CONVERTER FIXED

P/N 10C-0012-75 (GCU-20/A)  
NSN 1660-00-079-4359  
MIL-DTL-25666/6

P/N	10C-0001-26	10C-0012-75
CAPACITY	25 LITERS (FIXED)	75 LITERS (FIXED)
W"x L"x H"	19.8 x 19.3 x 17.5	23.5 x 23.5 x 24
WEIGHT, FULL	96 LBS	275 LBS
WEIGHT, EMPTY	33 LBS	85 LBS
TOTAL GASEOUS VOLUME	21,500 LITERS	64,500 LITERS
OPERATING PRESSURE	300-380 PSIG	300-380 PSIG
MAX FLOW RATE	150 LPM	400 LPM
OPERATING TEMPERATURE	-65° F TO 260° F	-65° F TO 260° F
MOUNTING	THREE (3) MOUNTING BOLTS	FOUR (4) MOUNTING BOLTS
PLUMBING CONNECTIONS	FIVE (5)	FIVE (5)
ELECTRICAL CONNECTIONS	TWO (2) QUICK DISCONNECT	TWO (2) QUICK DISCONNECT



# AIRCRAFT LIFE SUPPORT GAS CYLINDERS



## LOW PRESSURE CYLINDERS

P/N 80C-0008 SERIES

Low Pressure Cylinders operate at pressures of 500 PSIG or less and can be used as oxygen reserve tanks, walk-around bottles, plenum tanks or in a variety of other applications.

- Fabricated of stainless steel
- Available in other sizes and pressures
- Single or Double port cylinders available
- Constructed per MIL-DTL-5886



## HIGH PRESSURE CYLINDERS

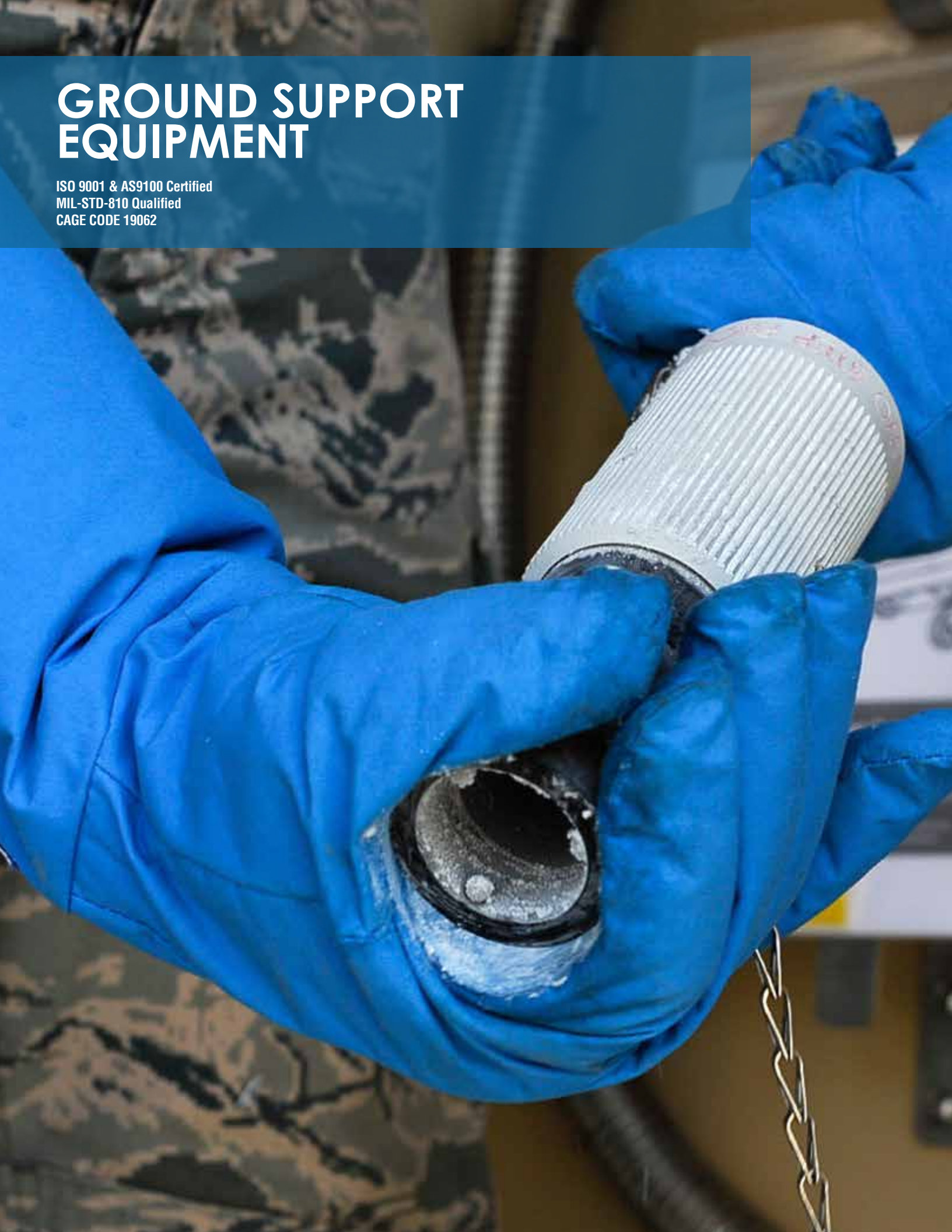
P/N 80C-0002, P/N 80C-0003, P/N 80C-0006 SERIES

High Pressure Cylinders operate at pressures ranging from 1800 to 2100 PSIG. A range of sizes and configurations are available, some designed and tested to Military Specifications.

	ESSEX PART NUMBER	MIL PART NUMBER	MIN. INTERNAL VOLUME (CUBIC INCHES)	NOMINAL OPERATING PRESSURE (PSIG)	MAX. WEIGHT (POUNDS)	MAX. LENGTH (INCHES)	MAX. DIAMETER (INCHES)	PORTS PER SAE AS71051
LOW PRESSURE	80C-0008-1	M5886-1	280	450	3.75	14.50	5.750	ONE 1/4" ANPT
	80C-0008-2	M5886-2	280	450	3.75	15.00	5.750	TWO 1/4" ANPT
	80C-0008-3	M5886-3	500	450	5.75	23.00	5.750	TWO 1/4" ANPT
	80C-0008-4	M5886-4	1000	450	10.00	18.00	10.125	TWO 1/4" ANPT
	80C-0008-6	M5886-6	2100	450	18.00	24.50	12.562	TWO 1/4" ANPT
HIGH PRESSURE	80C-0002-1	MS26545A4C205AW	205	2100	10.17	24.250	3.703	ONE 1/2" ANPT
	80C-0003-1	MS2654A3X0096W	96	1800	5.90	13.375	3.703	ONE 1/2" ANPT
	80C-0003-2	MS26545A4X0096W	96	2100	5.90	13.375	3.703	ONE 1/2" ANPT

# GROUND SUPPORT EQUIPMENT

ISO 9001 & AS9100 Certified  
MIL-STD-810 Qualified  
CAGE CODE 19062



# GROUND SUPPORT EQUIPMENT LOX VALVES



## LOX FILL, BUILDUP AND VENT VALVE

P/N 0580560100-1

NSN 1660-01-092-5376

The Fill, Buildup and Vent Valve is an automatic-acting type valve that provides a safe, rapid method to control liquid and gaseous oxygen flow during the fill-up and operation of cryogenic converters.

- Meets and/or exceeds functional and environmental requirements of MIL-PRF-25961
- Designed to mate with the standard liquid oxygen filler valve per MIL-PRF-38201
- Check valve in the fill port prevents reverse flow of liquid gases
- Constructed of aluminum with stainless steel poppets and Teflon seals
- CRU-50/A connection



## LIN FILLER VALVE

P/N 20C-0021-4  
NSN 4820-01-207-3166



## LOX FILLER VALVE

P/N 20C-0021-2  
NSN 4820-00-796-9680

Liquid Oxygen and Nitrogen Filler Valves are specifically designed to service liquid oxygen and nitrogen systems for military aircraft.

- Perform in accordance with MIL-PRF-38201
- Automatically open and close when activated by the mating component
- Pin quantity and size variations provided for proper coupling
- CRU-59/E connection

# GROUND SUPPORT EQUIPMENT LOX CARTS

## 50 GALLON LOX CART

P/N 50C-0014-1 (DARK GREEN) | NSN 3655-01-066-6214 | TMU-27/M  
P/N 50C-0014-5 (WHITE) | NSN 3655-01-456-0123

The 50 Gallon LOX Cart is a mobile liquid oxygen storage tank assembly that allows for maximum reliability and portability with minimal maintenance. The 50 Gallon LOX Cart can be used with any LOX converter that uses a CRU-50/A fill connection, including all Essex LOX Converters, BMOS, BMOS-FS, MMOS, NPTLOX and PTLOX. Meets and/or exceeds functional and environmental requirements of MIL-PRF-38170. Tested to MIL-STD-810 and conforms to mobility requirements of SAE-A58090 (MIL-M-8090, Type II, Group A equipment).

<b>CAPACITY</b>	50 GALLONS
<b>W"x L"x H"</b>	54 x 85 x 39
<b>WEIGHT, FULL</b>	1160 LBS
<b>WEIGHT, EMPTY</b>	685 LBS
<b>SYSTEM INTERNAL PRESSURE</b>	0-65 PSIG
<b>DELIVERY/OUTLET PRESSURE</b>	20-65 PSIG
<b>OPERATING TEMPERATURE</b>	-65° F TO 125° F
<b>FILL CONNECTION</b>	INSULATED TRANSFER HOSE (WILL WORK WITH ANY PORTABLE LOX DEVICE HAVING A STANDARD CRU-50 FILL CONNECTION)
<b>OUTLET PORT</b>	CRU-59/E FILL VALVE ON TEN (10) FOOT HOSE
<b>TRANSPORTATION</b>	STANDARD LUNETTE EYE WITH THREE (3) WHEELS (RETRACTABLE FRONT WHEEL), MANUAL PARKING BRAKE, LIFT/TIE DOWN RINGS





# 500 GALLON LOX TRAILER

P/N 50C-0115-1 (LOX) | NSN 3655-01-626-3554

P/N 50C-0115-2 (LIN) | NSN 3655-01-626-3553

The 500 Gallon LOX Trailer is a mobile liquid oxygen storage tank assembly.

The 500 Gallon LOX Trailer can be used with all Essex LOX Converters, BMOS, BMOS-FS, MMOS, NPTLOX, PTLOX and 50 Gallon LOX Carts.

A 500 Gallon LIN Trailer for the transport and storage of liquid nitrogen is also available.

- ASME certified tank builder
- Trailer Mounted and Forklift Compatible
- Unit is Qualified to Air Force PD13WRGRVEA05
- Tested to MIL-STD-810

<b>CAPACITY</b>	500 GALLONS
<b>DIMENSIONS (W" x L" x H")</b>	84 x 136 x 96
<b>OVERALL CUBE</b>	633 FT³
<b>FULL WEIGHT</b>	9500 LBS w/ LOX   8000 LBS w/ LIN
<b>EMPTY WEIGHT</b>	4500 LBS
<b>SYSTEM INTERNAL PRESSURE</b>	0-65 PSIG
<b>LOX DELIVERY/OUTLET PRESSURE</b>	30-50 PSIG
<b>OPERATING TEMPERATURE</b>	-40°F TO +140°F
<b>STORAGE TEMPERATURE</b>	-60°F TO +160°F
<b>OUTLET PORTS</b>	10' SERVICING HOSE PER MIL-H-27301 WITH SERVICING COUPLING FOR LOX PER 8991174 OR LIN PER 8991172 ADDITIONAL 10' SERVICING HOSE PER MIL-PRF-83772 WITH THE MATING SERVICING COUPLING AND CRU-59/E FILL VALVE. TRAILER PER SAE AS8090, TYPE II, GROUP C WITH LUNETTE COUPLER PER A-A 52464, TYPE II
<b>TRANSPORTING</b>	TIE-DOWN PROVISIONS PER MIL-HDBK-1791 & USAF 48B7796 LIFTING RINGS FOR CRANE COMPATIBILITY FORKLIFT TUBES FOR FORKLIFT COMPATIBILITY



# GROUND SUPPORT EQUIPMENT ACCESSORIES



## LOX PERSONAL PROTECTION EQUIPMENT

P/N 50C-0107-0903-1, -2, -3, -4 (Kits include Gloves, Apron, & Face Shield)  
P/N 50C-0107-0900-1, -2, -3, -4 (Cryogenic Elbow Length Gloves)  
P/N 50C-0107-0902 (Cryogenic Apron 42" Long)  
P/N 50C-0107-0901 (Face Shield)

Personal Protection Equipment (PPE) must be worn when filling, draining or purging LOX or other cryogenic devices. The extreme cold of the liquid can freeze unprotected skin cause severe frostbite. Essex offers face shields, cryogenic aprons and cryogenic gloves available separately or in kits in various sizes.

*Actual items may vary slightly in appearance from those pictured.*

## LOX HEAT EXCHANGER

P/N 50C-0007 | NSN 1660-01-042-3234

LOX Heat Exchanger warms incoming gaseous or liquid oxygen within 20 degrees of the ambient temperature prior to delivery to a pilot, aircraft crew or medical patient for breathing. A variety of sizes and configurations are available.



## LOX FILL HARNESS KIT

P/N 50C-0097-10  
P/N 50C-0097-15

LOX Fill Harness Kit connects a Liquid Oxygen Cylinder (VGL) with a LOX converter or system for filling. The kit includes a relief valve, manual vent valve, CRU-59 LOX filler valve and hose assembly in either a 10' or 15' length.

<b>W"x L"x H"</b>	23 x 18.5 x 7
<b>WEIGHT</b>	15 LBS
<b>RELIEF VALVE SETTING</b>	400 PSIG
<b>SUPPLY CONNECTION</b>	CRU-59/E FILL VALVE

## PURGE KIT

P/N 50C-0068-2

The Purge Kit, coupled with an adequate supply of gas, removes moisture from cryogenic vessels, system lines, valves and their components. Can be used with pure gaseous nitrogen, oxygen or air. Adapters and hoses can be designed to fit specific applications upon request.

<b>W"x L"x H"</b>	18.5 x 14 x 7
<b>WEIGHT</b>	18 LBS
<b>SAFETY BURST DISC PRESSURE</b>	150 ± 10 PSIG
<b>INLET FLOW &amp; PRESSURE</b>	100 LPM AT 55 PSIG
<b>HEATER OUTLET TEMPERATURE</b>	250° F ± 20 ° F
<b>OPERATING POWER</b>	110 VOLTS AC, 60 HZ, SINGLE PHASE
<b>OUTLET CONNECTION</b>	CRU-59/E OR ALOX
<b>SUPPLY CONNECTION</b>	37 DEGREE FLARE FITTING





## HIGH PRESSURE FILL KIT

P/N 50C-0110-1 | NSN 3655-01-614-1496

High Pressure Fill Kit connects the OGL with a high pressure oxygen compressor to fill high pressure cylinders with 93% USP oxygen. The kit includes a 20' low pressure oxygen hose and a 4' high pressure braided hose with a relief valve, manual vent valve and pressure gauge. The high pressure oxygen compressor is not included. Items are packaged in a protective storage case.

<b>W"x L"x H"</b>	18.5 x 14 x 7
<b>WEIGHT</b>	12 LBS
<b>RELIEF VALVE SETTING</b>	75 PSIG
<b>SAFETY BURST DISC PRESSURE</b>	150 ± 10 PSIG
<b>INLET AND FLOW PRESSURE</b>	0 ± 25 PSIG
<b>ACCESSORIES INCLUDED</b>	ONE (1) 20' MEDICAL HOSE ONE (1) 4' HIGH PRESSURE HOSE ASSEMBLY ONE (1) CGA 540 CONNECTION ONE (1) CGA 870 YOKE CONNECTION

## BACKPACK MEDICAL OXYGEN SYSTEM FILLING STATION HOSE KIT

P/N 50C-0116-1

BMOS-FS Hose Kit connects the MMOS to the BMOS-FS for refilling. The kit includes a relief valve, burst disc, CRU-50 LOX filler valve and CRU-59 LOX filler valve attached to a 4' cryogenic transfer hose. Items are packaged in a protective storage case.

<b>W"x L"x H"</b>	18.5 x 14 x 7
<b>WEIGHT</b>	13 LBS
<b>RELIEF VALVE SETTING</b>	75 PSIG
<b>SAFETY BURST DISC PRESSURE</b>	150 ± 10 PSIG
<b>OUTLET CONNECTION</b>	CRU-59/E FILL VALVE ON 4' HOSE
<b>SUPPLY CONNECTION</b>	CRU-50/A FILL FITTING



## MISCELLANEOUS ACCESSORIES

<b>10' Cryogenic Hose</b> 50/500 Gallon LOX Carts	P/N 50C-0084-10 P/N 50C-0014-0170   MIL-PRF-83772
<b>15' Cryogenic Hose</b> 50/500 Gallon LOX Carts	P/N 50C-0084-15 P/N 50C-0014-0500   MIL-PRF-83772
<b>Drain Tank</b>	P/N 50C-0009-2
<b>Portable Efficiency Meter</b>	P/N 50C-0016-2
<b>Portable Quantity Gauging System</b>	P/N 50C-0022-1
<b>LOX Purge Fitting</b>	P/N 50C-0014-0111
<b>LIN Purge Fitting</b>	P/N 50C-0014-0250
<b>Supply Quick Disconnect</b>	P/N 528000-7
<b>Vent Quick Disconnect</b>	P/N 256000-7

# MAINTENANCE, REPAIR & OVERHAUL SERVICE

OUR WIDE ARRAY OF PRODUCTS AND DESIGN/BUILD EXPERTISE GIVES ESSEX  
A BROAD RANGE OF CAPABILITIES INCLUDING:

## MACHINING

Aluminum, Titanium, Plastic, Teflon, 515 & 177 Stainless Steel

## WELDING

Aluminum, Stainless Steel, Mild Steel, Titanium Certified to ASME, DOT & MIL-STD-1595A

## SYSTEM REPAIRS

Liquid Oxygen (LOX), Liquid Nitrogen (LIN)

## VALVE REPAIRS

Electro-mechanical, Liquid Oxygen (LOX)

## COMPONENT REPAIRS

Specialty Tanks, Liquid Oxygen (LOX) Tubing, Heat Exchangers, Purge Kits, Platform Controls

## TEST EQUIPMENT REPAIRS

NER Meters, Electrical Equipment

## CLEANING & PROCESSING

Degreasing, Descaling, Passivation, Alodine, Anodize, O<sub>2</sub> Cleaning

## FINISHING

Painting, Plating

## TESTING

High Pressure Oxygen (to 6000 PSIG), High Pressure Nitrogen (to 3000 PSIG), Electrical, Fuel, Hydraulic (MIL-H-56066, Skydrol, MIL-H-7808)

Essex is known worldwide for our maintenance, repair and overhaul service. Converters still operating on NATO aircraft are returned to the factory every few years to be checked or repaired as needed. Essex also can repair virtually any model LOX Cart and will provide a full warranty on the overhauled unit.





## ROTARY POOL SERVICE FOR LOX CONVERTERS

Essex offers a rotary pool service to ensure fast turnaround and minimum downtime when a LOX converter needs repair.

The process for this program is very simple:

- Ship the LOX converter needing repair back to Essex and provide us with the tracking number.
- Once we have that information, we will ship out a refurbished unit to you as a replacement. We typically ship the same day, and there is no charge to you at that time.
- When we receive the returned converter, Essex will perform any necessary repairs and invoice you for the work performed.
- The refurbished LOX converter then goes into our rotary pool for the next customer.

It's an easy and efficient process that enables your aircraft to have LOX available when needed.

*Rotary Pool Service available for 7 and 10 Liter LOX Converters.*

Contact Essex for more information regarding our rotary pool service or your maintenance, repair and overhaul requirements.

