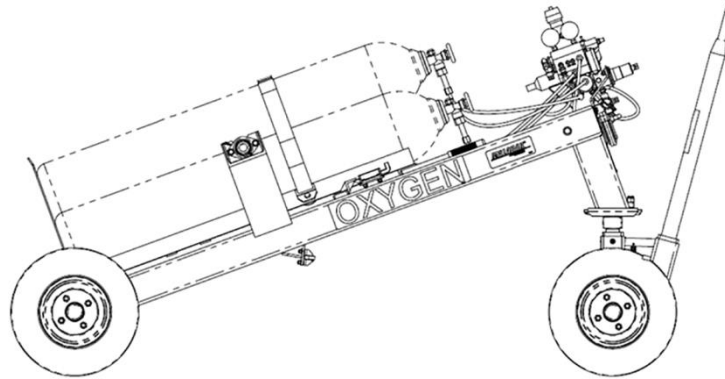




Model: 8943-O2
4 Bottle Oxygen Delivery Cart
S/N 15244 and Up

12/2018 – Rev. 01

For Spare Parts, Operations & Service Manuals or Service Needs
Scan the QR code or visit Tronair.com/aftermarket



The Tronair Group of Companies: Tronair | EBIS | Columbus Jack | Eagle | DAE | Malabar International

Malabar International

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REVISION	DATE	TEXT AFFECTED
01	12/2018	Original release
02	08/2024	Added section 6.4 Oxygen Booster Pump Recertification

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This product can not be modified without the written approval of Tronair, Inc. Any modifications done without written approval voids all warranties and releases Tronair, Inc., its suppliers, distributors, employees, or financial institutions from any liability from consequences that may occur. Only Tronair OEM replacement parts shall be used.



CAUTION!

Aircraft manufacturer's specifications and instructions must be followed. In the event of contradiction between aircraft manufacturer's specifications and Malabar's, aircraft manufacturer's will prevail.

1.0 PRODUCT INFORMATION

1.1 DESCRIPTION

The Malabar Model 8943 is a mobile unit designed to charge oxygen components. The unit is equipped with tow handle & front wheel parking brake, four 16 inch diameter wheels, 15 foot high pressure oxygen service hose with AN800-3 (3/8-24) aircraft connection, an oxygen manifold assembly with Victor regulator and an optional oxygen boost pump system. The cart is designed to handle US-DOT and other standard size oxygen bottles. The cart comes equipped with an interface fitting for 3/8-24 aircraft connections, separating threads outlet connection.

1.2 MODEL & SERIAL NUMBER

Reference nameplate on unit

1.3 MANUFACTURER

TRONAIR, Inc./Malabar International
1 Air Cargo Pkwy East
Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301
Fax: (419) 867-0634
E-mail: sales@tronair.com
Website: www.tronair.com

1.4 SPECIFICATIONS

Unit Weight (w/out oxygen bottles).....440 lbs (199.6 kg)
Unit Weight (with oxygen bottles).....1240 lbs (562.5 kg)
Oxygen Service Pressure.....200-3000 psig
Maximum Towing Speed.....20 mph
Standard FinishYellow skydrol resistant paint

1.5 OPTIONAL EQUIPMENT SPECIFICATIONS

Oxygen Boost Pump System:
Additional Boost Pump Weight.....50 lbs (23 kg)
Drive Inlet.....60 to 125 psig
Oxygen Inlet.....250-2200 psig
Oxygen Outlet2200 psig maximum

2.0 SAFETY INFORMATION

2.1 USAGE AND SAFETY INFORMATION

To insure safe operations please read the following statements and understand their meaning. Also refer to your equipment manufacturer's manual for other important safety information. This manual contains safety precautions which are explained below. Please read carefully.



WARNING!

Warning is used to indicate the presence of a hazard that can cause **severe personal injury, death, and/or substantial property damage** if the Warning Notice is ignored.



CAUTION!

Caution is used to indicate the presence of a hazard, which will or can cause **minor personal injury or property damage** if the Caution Notice is ignored.

3.0 PREPARATION PRIOR TO FIRST USE

The unit is shipped fully assembled and ready to use. Unit may require bottle valve fitting to connect oxygen bottles to hose end fittings.

4.0 TRAINING

4.1 TRAINING REQUIREMENTS

The employer of the operator is responsible for providing a training program sufficient for the safe operation of the unit.

4.2 TRAINING PROGRAM

The employer provided operator training program should cover safety procedures concerning use of the unit in and around the intended aircraft at the intended aircraft servicing location.

4.3 OPERATOR TRAINING

The operator training should provide the required training for safe operation of the unit.

NOTE: Maintenance and Trouble Shooting are to be performed by a skilled and trained technician.

5.0 OPERATION

5.1 PRE OPERATION INSPECTION

Each time the unit is to be used, inspect the following:

1. Check the frame structure for rigidity. Make sure all bolts are tightened.
2. Check for any gas leaks.
3. Check front wheel parking brake for proper operation by raising tow handle upright.
4. Check bottle rack assembly for proper operation.
5. Check manifold assembly components for proper operation

5.2 OPERATING INSTRUCTIONS

1. To load gas bottles:
 - a. Pull back upper Slide Latch and rotate bottle rack to vertical position. Ensure lower Slide Latch engages to lock rack into position.
 - b. Secure gas bottles to rack using the safety belt.
 - c. Disengage lower Slide Latch from bottle rack and rotate rack to engage upper Slide Latch in stowage position.



CAUTION!

Shutoff valves on gas bottles must be closed when not in use or when making hose connections.

- d. Attach tailpiece hose assemblies to bottles.



CAUTION!

DO NOT rotate bottle rack assembly with tailpiece hose assemblies connected.

2. To run oxygen boost pump from shop air:
 - a. Switch the "O2 SUPPLY" valve located on the front side to the "ON" position.
 - b. Connect shop air line to the boost pump.
 - c. Flip the power switch located on the back side of the boost pump to the "ON" position.
3. To dispense oxygen without the oxygen boost pump:
 - a. Flip the power switch located on the back side of the boost pump to the "OFF" position.
 - b. Switch the "O2 SUPPLY" valve located on the front side to the "OFF" position.

6.0 MAINTENANCE

6.1 SERVICING

Servicing the unit consists primarily of the following:

1. Grease wheel hubs and all pivot parts.
2. Inflate tires to proper pressure.

6.2 DISASSEMBLY INSTRUCTIONS

When necessary to disassemble the unit, carefully inspect the following:

1. Check for corrosion, wear and condition of bottle rack.
2. Inspect condition of all hoses.
3. Check frame structure for damage.
4. Check service hose tie-down straps for wear.

6.3 REPAIR AND REPLACEMENT

No definite time schedule can be established for the overhaul of the unit for replacement of the various moving parts. The number of times the unit is used materially affects the life of the working parts. Each time the unit is disassembled, carefully repair or replace the following:

1. Replace all defective parts and missing parts.
2. Clean metal parts with cleaning solvent and dry with compressed air.
3. Lubricate all threads and bearings.

6.4 OXYGEN BOOSTER PUMP RECERTIFICATION



WARNING!

Due to inherent risks associated with the use of pressurized oxygen systems, the booster requires recertification of the system once every two years or 1500 hours of service (whichever comes first). Failure to do so could result in severe property damage, serious injury and/or death.

If your oxygen booster meets either of the Warning requirements above, please call (203) 878-4648 prior to shipment to ensure recertification process can be scheduled promptly. The oxygen booster can be shipped to the following address for recertification:

230 Depot Road
Milford, CT 06460
USA

Your model number for reference: OB-30

7.0 PROVISION OF SPARES

7.1 SOURCE OF SPARE PARTS

Spare parts may be obtained from the manufacturer:

TRONAIR, Inc./Malabar International

1 Air Cargo Pkwy East
Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301

Fax: (419) 867-0634

E-mail: sales@tronair.com

Website: www.tronair.com



For Spare Parts, Operations & Service Manuals or Service Needs:

Scan the QR code or visit Tronair.com/aftermarket

7.2 RECOMMENDED SPARE PARTS LISTS

Reference the following page(s) for Replacement Parts and Kits available.

The following spare parts are recommended and available upon request.

Part Number	Description	Qty
893204	Tow handle	1
893205	Brake latch	1
495-052	Spring	1
893274	Front hub assembly	1
893275	Wheel hub assembly	4
492-252	Tire & wheel	4
410-020	Flange bearing	2
394-103	Shaft collar	2
491-098	Safety belt	1
390-116	Slide bolt	2
394-095	Holding Screw	2
494-006	Handle	1
837724	Hose strap	2
9-7035	Nameplate	1
55998	Sticker, Malabar	3
75939	Sticker, towing	1
473-107	O2 Regulator system	1
894341	O2 Placard, instruction	1
893246	O2 Sticker, max psi	1
893244	O2 Sticker	2
893259	O2 Sticker, O2 supply	1

8.0 IN SERVICE SUPPORT

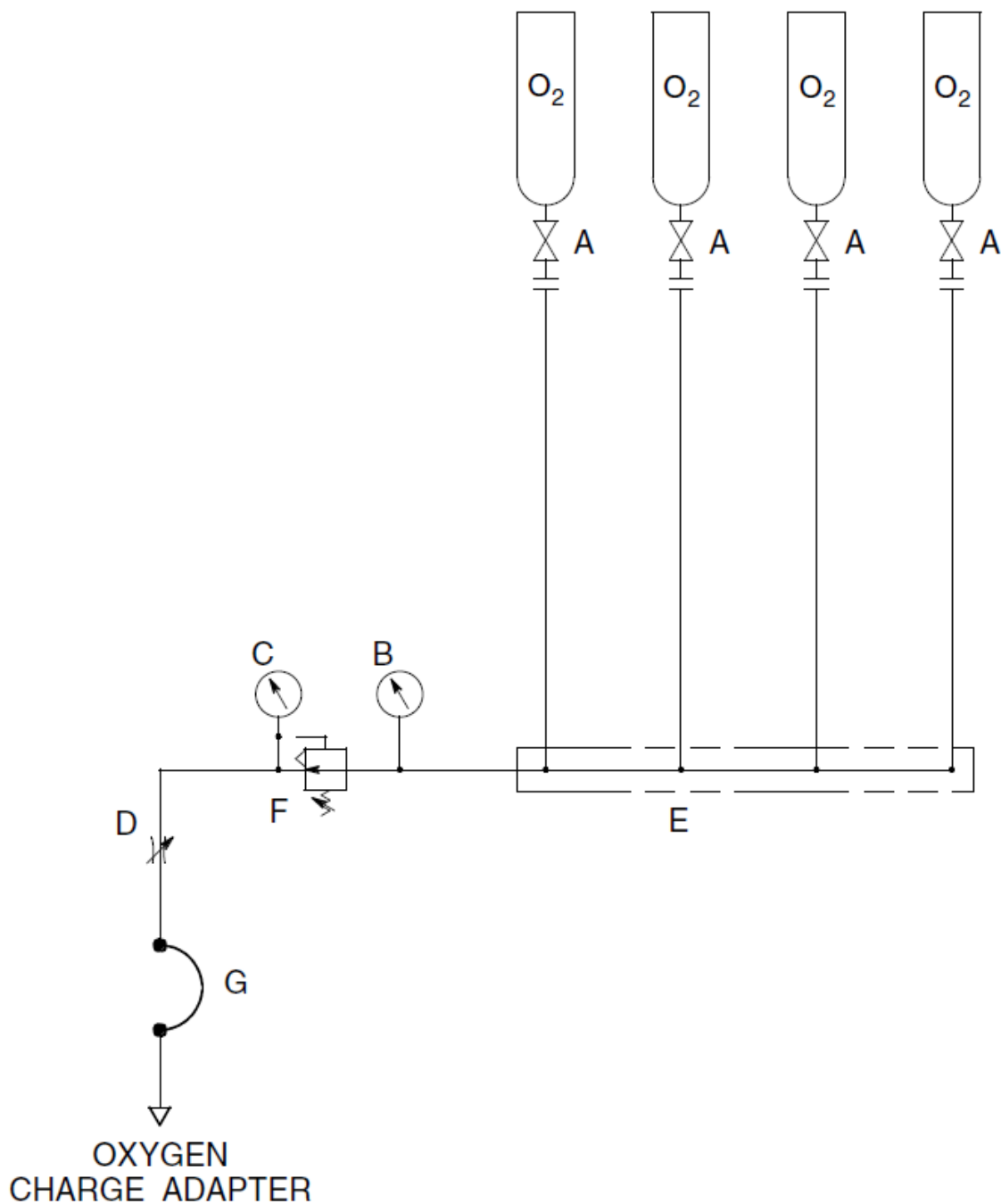
Contact Malabar, Inc. for technical services and information.

9.0 GUARANTEES/LIMITATION OF LIABILITY

- I. Seller warrants each new product of its manufacture to be free from defects in material or workmanship, under proper, reasonable, and normal use and service.
- II. The warranty period shall be as follows:
 - A. For Malabar equipment, with the exception of Tripod Jacks, the warranty period is one (1) year after date of shipment.
 - B. For Malabar Tripod Jacks, the warranty period is three (3) years after date of shipment.
- III. Where Buyer claims an alleged defect in material or workmanship and so advises Seller in writing within ten (10) days after discovery thereof, then and in such event, Buyer shall return said equipment, transportation prepaid, to the Seller, provided such return is timely and within the above-mentioned warranty period. This warranty and liability of the Seller is expressly limited solely to replacement or repair of defective parts or goods, and return at Buyer's expense to Buyer after finding by Seller the product was defective prior to original shipment or, at the option of Seller, to providing refund to Buyer of the purchase price for said product.
- IV. It is further expressly understood and agreed that:
 - A. THERE IS NO WARRANTY, REPRESENTATION OF CONDITION OF ANY KIND, EXPRESS OR IMPLIED, (INCLUDING NO WARRANTY OF MERCHANTABILITY OR OF FITNESS) EXCEPT THAT THE MATERIAL SHALL BE OF THE QUALITY SPECIFIED IN APPLICABLE SPECIFICATIONS, AND NONE SHALL BE IMPLIED BY LAW. Except as otherwise provided herein, quality shall be in accordance with Seller's specifications. Final determination of the material for the use contemplated by Buyer is the sole responsibility of Buyer and Seller shall have no responsibility in connection with such suitability, and
 - B. Buyer's sole and exclusive remedy shall be repair or replacement of defective parts or goods by the Seller. Should the goods, in the judgment of Seller, preclude the remedying of the warranted defects by repair or replacement, the Buyer's sole and exclusive remedy shall be the refund of the purchase price, and
 - C. Seller shall not be liable for prospective profits or special, indirect or consequential damages, nor shall any recovery of any kind against Seller be greater in amount than the purchase price of the specific material sold and causing the alleged loss, damage or injury. Buyer assumes all risk and liability for loss, damage or injury to persons or property of Buyer or others arising out of use or possession of any product or part sold hereunder, and
 - D. Seller shall in no way be deemed or held to be obligated, liable or accountable upon or for any guarantees or warranties, express or implied, or created by statute or by operation of law or otherwise, in any manner of form beyond its express agreement above set forth, and
 - E. No warranty herein shall apply to any product which shall have been repaired or altered, unless such alteration or repair has been made by Seller or if, after return to and inspection by Seller, the product is found by Seller to have been subject to misuse, negligence or accident, and
 - F. No warranty of any nature is made by Seller as to any component forming a part of the product sold and Buyer shall receive only such warranties offered by such other manufacturer of such component, and
 - G. Seller does not assume nor does Seller authorize any other person to assume for it any other liability or make any warranty in connection with the sale of its products.

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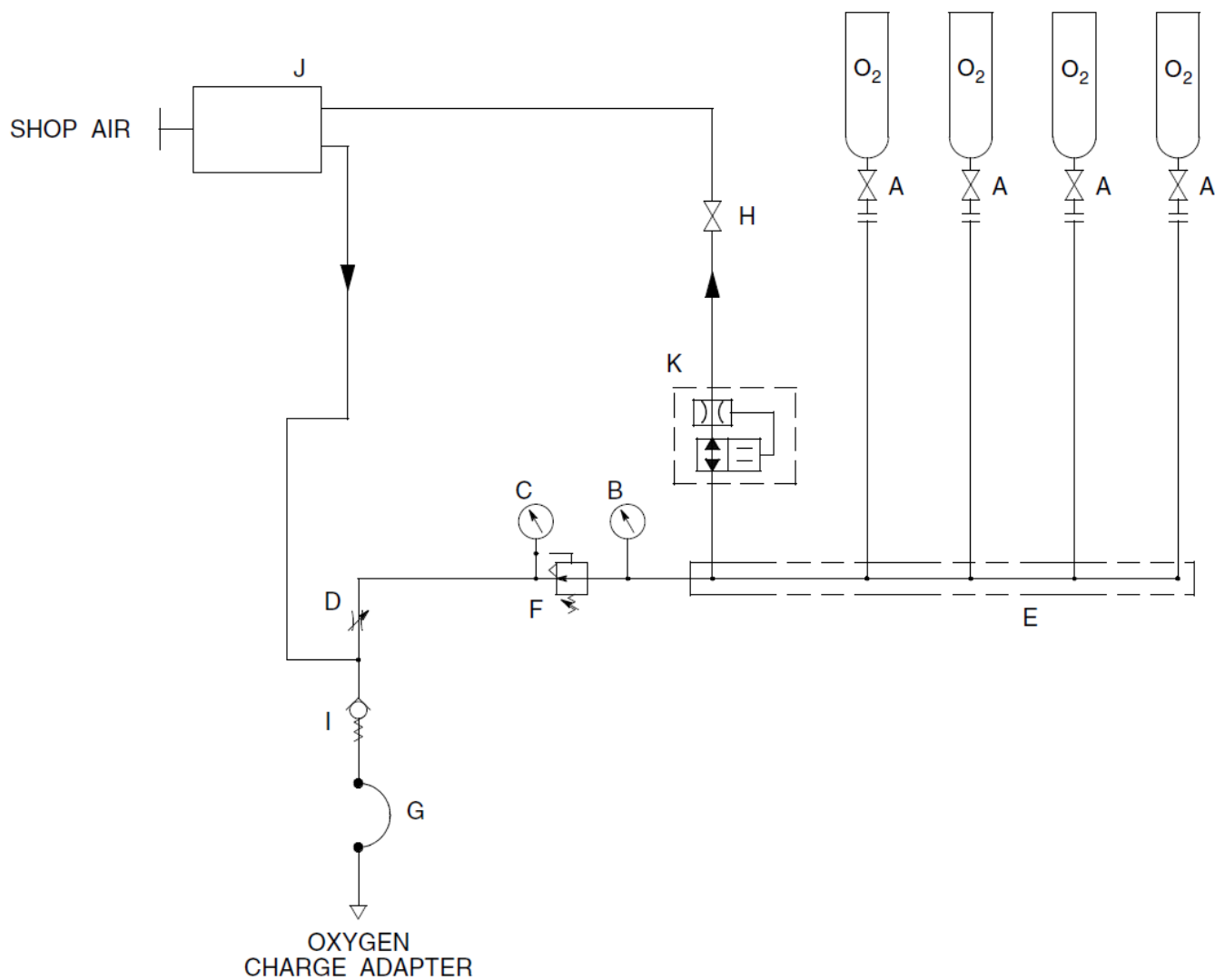
Oxygen Delivery Cart - Without Boost Pump Pneumatic / Hydraulic Diagram



A – SHUTOFF VALVE
B – TANK PRESSURE GAUGE
C – SUPPLY PRESSURE GAUGE
D – OXYGEN SUPPLY VALVE

E – OXYGEN MANIFOLD
F – HIGH PRESSURE OXYGEN REGULATOR
G – HIGH PRESSURE SERVICE HOSE

Oxygen Delivery Cart - With Boost Pump Pneumatic / Hydraulic Diagram

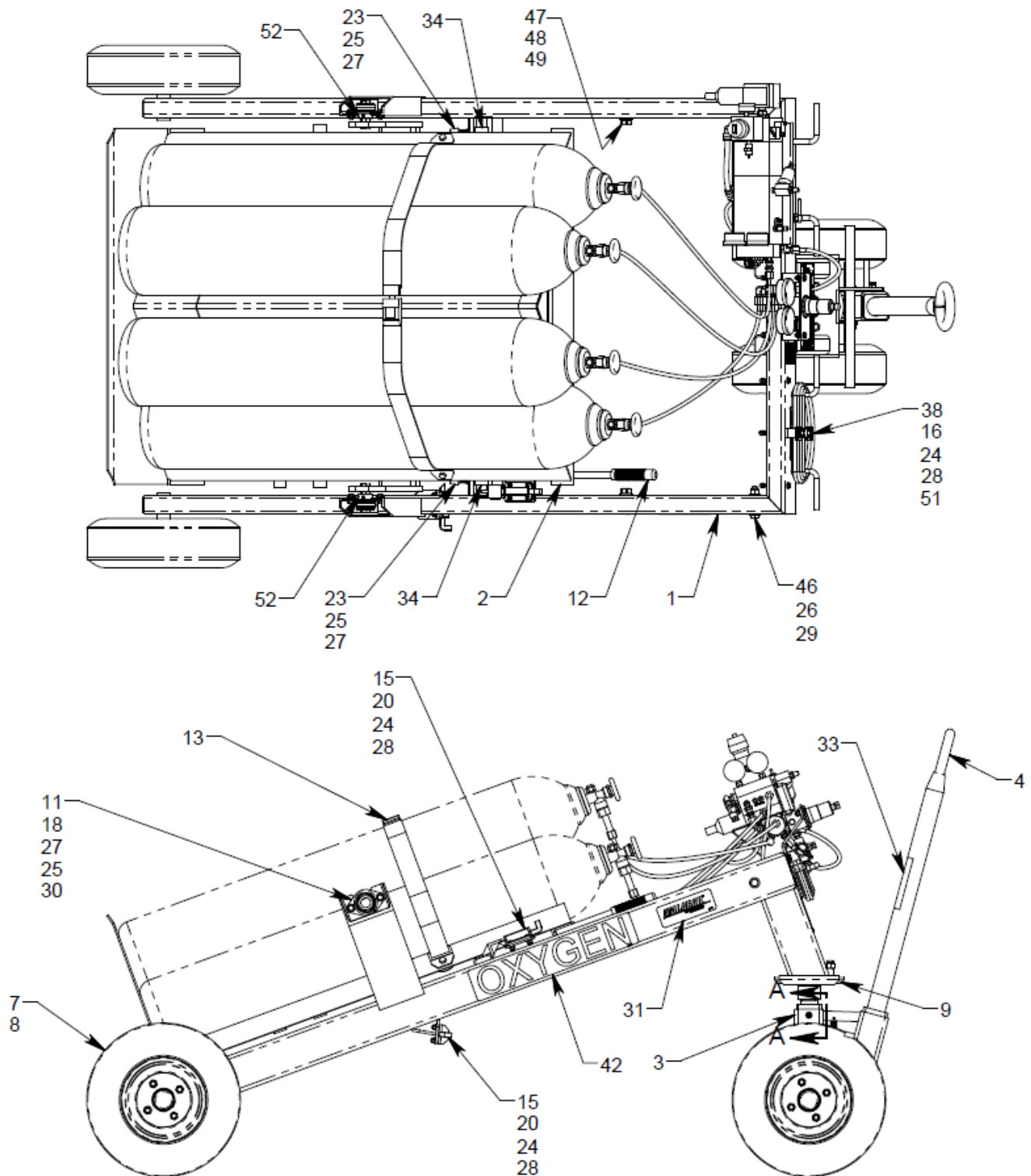


- A – SHUTOFF VALVE
- B – TANK PRESSURE GAUGE
- C – SUPPLY PRESSURE GAUGE
- D – OXYGEN SUPPLY VALVE
- E – OXYGEN MANIFOLD
- F – HIGH PRESSURE OXYGEN REGULATOR

- G – HIGH PRESSURE SERVICE HOSE
- H – TWO WAY BALL VALVE
- I – CHECK VALVE
- J – OXYGEN BOOST PUMP
- K – EXCESSIVE FLOW VALVE

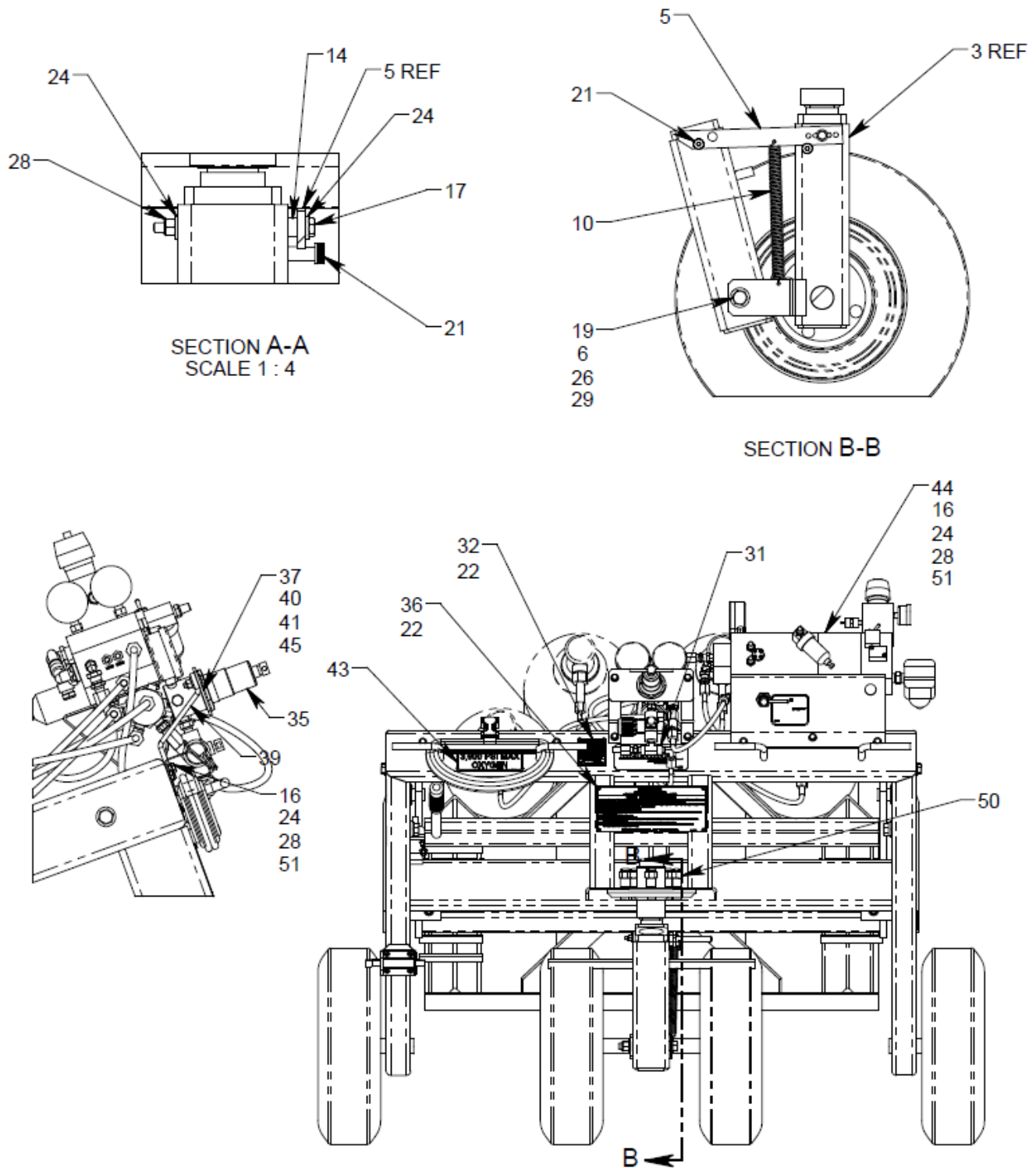
Parts List – Figure 1A

When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Parts List – Figure 1B

When ordering replacement parts/kits, please specify model, serial number and color of your unit.



(TOW HANDLE HIDDEN FOR CLARITY)

Parts List – Figure 1A & 1B

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
1	893201	FRAME WELDMENT	1
2	893202	TRAY WELDMENT	1
3	893203	FRONT FORK WELDMENT	1
4	893204	TOW HANDLE WELDMENT	1
5	893205	BRAKE LATCH WELDMENT	1
6	893236	TOW HANDLE BUSHING	1
7	492-252	WHEEL ASSEMBLY	4
8	893275	HUB, PAINTED	4
9	893274	HUB, PAINTED	1
10	495-052	SPRING	1
11	410-020	FLANGE BEARING	2
12	494-006	HANDLE GRIP	1
13	491-098	SAFETY BELT	1
14	390-115	SPACER	1
15	390-116	SLIDE BOLT	2
16	321-076	HHCS, 1/4-20 x 3" LG	8
17	324-083	HHCS, 1/4-20 x 4 1/4 LG, SST	1
18	321-256	HHCS, GR 5, 3/8-16 x 3/4 LG	4
19	321-294	HHCS, GR 5, 1/2-13 x 4 1/2 LG	1
20	326-009	BHCS, 1/4-20 x 1" LG	8
21	330-022	SHSS, 3/8 BODY x 3/4 LG x 5/16-18 THD, SST	2
22	397-010	SELF TAPPING SCREW, #6-32 x 3/16 LG	8
23	394-095	HOLDING SCREW, 3/8-16 x 2-1/2 LG	2
24	362-001	FLAT WASHER, 1/4 SAE	26
25	362-003	FLAT WASHER, 3/8 SAE	12
26	362-005	FLAT WASHER, 1/2 SAE	6
27	363-003	SPLIT LOCKWASHER, 3/8	6
28	353-001	HEX LOCKNUT, 1/4-20	17
29	353-012	HEX LOCKNUT, 1/2-13	3
30	352-002	HEX JAM NUT, 3/8-16	4
31	55998	STICKER, MALABAR	3
32	WF9-7035	NAME PLATE	1
33	75939	STICKER, TOWING	1
34	894313	PAD	2
35	473-107	REGULATOR SYSTEM, O2	1
36	894341	INSTRUCTION PLACARD	1
37	893242	REGULATOR PANEL, O2	1
38	837724	HOSE STRAP	1
39	893243	BRACKET	2
40	362-001	FLAT WASHER, 1/4 SAE	4
41	353-001	HEX LOCKNUT, 1/4-20	2
42	893244	STICKER, OXYGEN	2

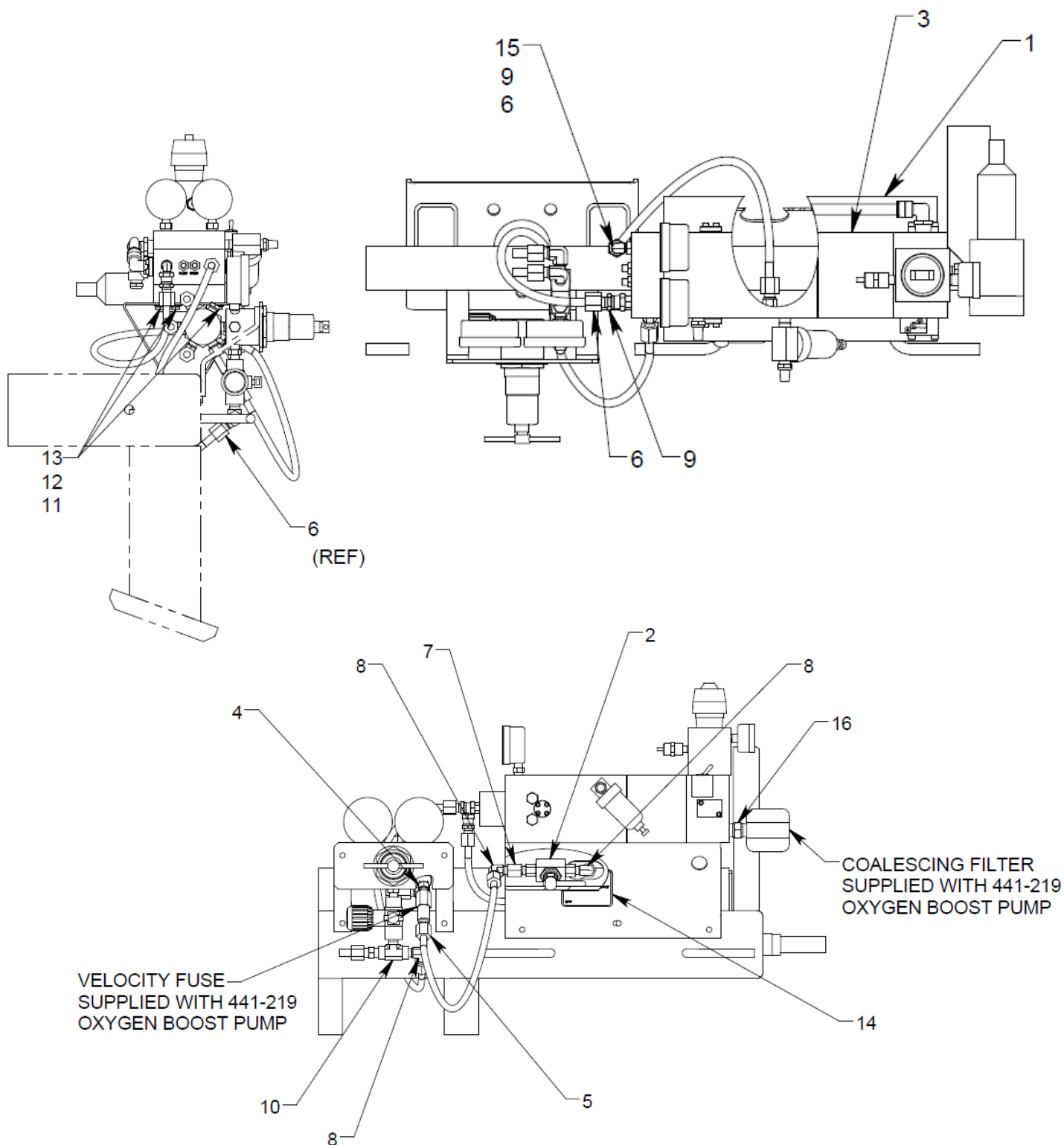
Parts List – Figure 1A & 1B

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
43	893246	STICKER, MAX PSI, O2	1
44	893252	OXYGEN BOOST PUMP ASSEMBLY	1
45	321-096	HHCS, 1/4-20 x 1" LG	2
46	321-039	HHCS, 1/2-13 x 3" LG	2
47	321-066	HHCS, 5/8-11 x 1" LG	2
48	362-006	FLAT WASHER, 5/8 SAE	2
49	363-005	SPLIT LOCKWASHER, 5/8	2
50	356-002	WHEEL NUT, 1/2-20 x 1.544 LG	5
51	356-003	CAP LOCKNUT, 1/4-20	8
52	394-103	SHAFT COLLAR, 1" BORE DIA	2
53	837721-23	NITROGEN HOSE, 15' LG	1
54	999-070	SHRINK TUBE, 18" LG, BLUE	1
55	999-071	SHRINK TUBE, 18" LG, RED	1

Parts List – Figure 2

When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Parts List – Figure 2

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
	893252	Oxygen Boost Pump Assembly; consist of:	
1	893250	MOUNTING BRACKET	1
2	424-033	TWO WAY BALL VALVE	1
3	441-219	OXYGEN BOOST PUMP	1
4	711-101	NIPPLE, 1/4 MPT, SS	1
5	473-109	HOSE, OXYGEN, 15"	1
6	473-110	HOSE, OXYGEN, 18"	2
7	714-073	ADAPTER, 1/4 MPT x 1/4 FPT, SS	1
8	712-096	ELBOW, 90°, 1/4 MPT, SS	3
9	721-224	ADAPTER, 1/4 FEMALE 37° x 1/4 MPT, SS	2
10	713-050	TEE, 1/4 FPT X 1/4 MPT X 1/4 FPT SS	1
11	362-001	FLAT WASHER, 1/4 SAE	3
12	363-001	SPLIT LOCKWASHER, 1/4	3
13	321-209	HHCS, 1/4-20 x 5/8 LG	3
14	893259	STICKER, O2 SUPPLY	1
15	893253	ELBOW, OXYGEN-CLEANED	1
16	711-004	NIPPLE, 1/2 MPT	1