

Model: 7094-010
Bead Breaker

10/2020 – Rev. 02

REVISION

01

02

DATE

04/2018

10/2020

TEXT AFFECTED

Original release

Modified Parts List

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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.

1.0 PRODUCT INFORMATION

1.1 DESCRIPTION

Tire bead breaker

1.2 MODEL & SERIAL NUMBER

Reference nameplate on unit

1.3 MANUFACTURER

Columbus**Jack**/Regent
1 Air Cargo Pkwy East
Swanton, Ohio 43558 USA

Telephone: 614.443.7492
Fax: 614.444.9337
E-mail: sales@columbusjack.com
Website: www.columbusjack.com

1.4 SPECIFICATIONS

Maximum Breaking Cylinder Force 25,000 lbs (11,339.8 kg)
Breaking Cylinder Stroke..... 15 in (38.1 cm)
Hydraulic Operating Pressure 1050 psi (72.4 bar)
Relief Valve Setting 1150 psi (79.3 bar)
Air Requirements:
 Volume..... 120 Scfm
 Pressure..... 90 psi (6.2 bar) minimum
Hydraulic Reservoir Capacity 2 gal (7.6 l)
Length 96.5 in (245.11 cm)
Depth..... 57.5 in (146.05 cm)
Height – Maximum 45 in (114.3 cm)
Estimated Weight 2000 lbs (907 kg)

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, or substantial property damage** if the warning notice is ignored.

CAUTION! — Caution is used to indicate the presence of a hazard that **will or can cause minor personal injury or property damage** if the caution notice is ignored.

3.0 TRAINING

3.1 TRAINING REQUIREMENTS

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

3.2 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.

3.3 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.

To derive maximum service, it is recommended that personnel have an understanding of the equipment before attempting to operate the bead breaker. It is mandatory that the operating procedures herein be followed.

4.0 PREPARATION FOR USE

Proceed as follows to prepare the Bead Breaker for service:

1. Inspect hydraulic reservoir fluid level at fill port. The fluid level should be within ½ in (1.2 cm) to the top of the reservoir with all cylinders in the retracted (collapsed) positions. If necessary, add sufficient hydraulic operating fluid (refer to 6.0 Hydraulic Fluid for proper hydraulic fluid specifications) to fill reservoir to required level.
2. Verify airflow lubricator bowl is at least half full of fluid. Lubricator should be adjusted to feed approximately two (2) drops of oil per minute.
3. Drain airline filter as required.
4. Inspect for any visual signs of hydraulic leakage or physical damage to the bead breaker.
5. Clean the floor area of any substance which could cause the operator to slip or fall when positioning a tire.
6. Fully extend and retract each cylinder to verify proper operation.
7. Every month, apply a thin film of lubricating oil to pivot pins and to the outer surface of each hydraulic cylinder ram.



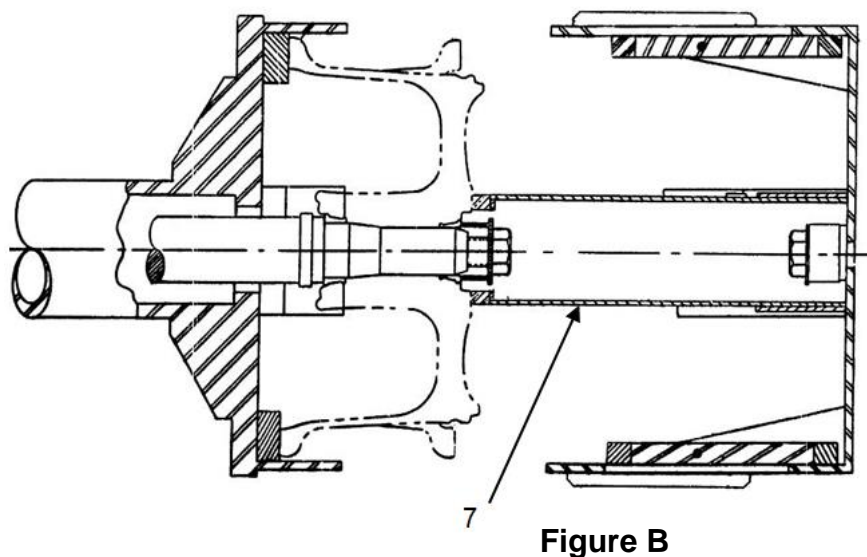
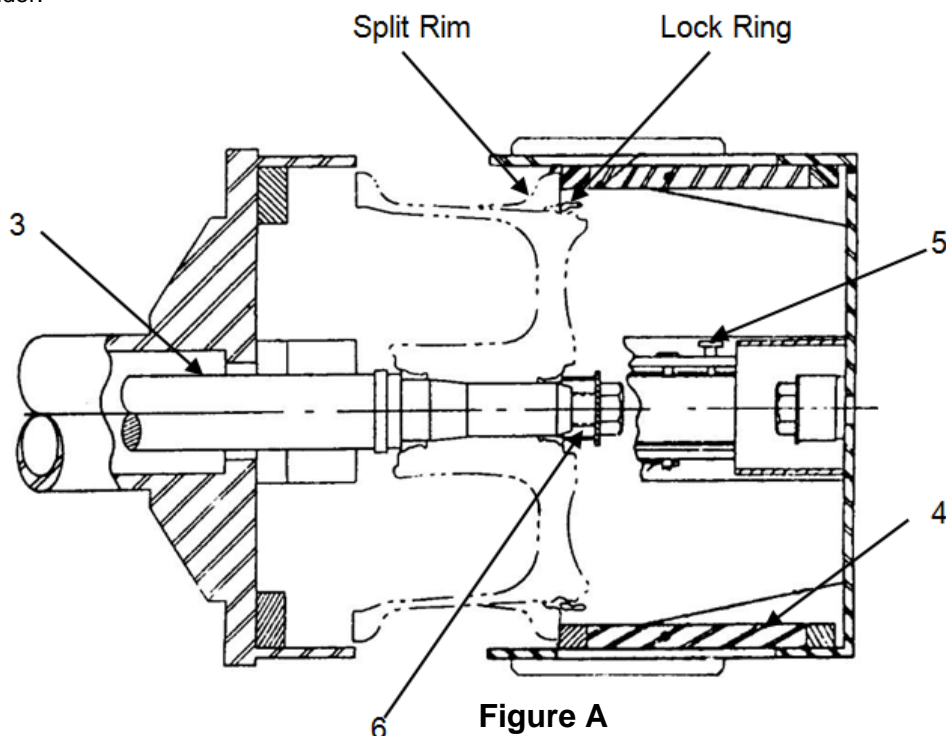
WARNING!

Due to the weight of various components of the bead breaker, care should be taken when performing disassembly operations. No attempt should be made to assemble or disassemble any of the bead breaker components without having chain hoist, overhead crane, wooden blocks (4 x 4's), and adequate manpower available. This is to insure that the component parts will remain in a mechanically stable position during the operation.

5.0 OPERATION

5.1 BREAK BEADS AND DISASSEMBLE WHEEL/TIRE

1. Prepare the bead breaker as outlined in 4.0 Preparation for Use.
2. With bead breaker in fully open position, place wheel support (Figure A, Item 3) in fully extended position and install lock pin (Figure A, Item 6).
3. Insure rubber bumpers (Figure A, Item 4) are in the fully retracted position and locked in place with pins (Figure A, Item 5).
4. Roll tire/wheel assembly between adapter rings.
5. Using right control handle, raise/lower upper frame until wheel support is in line with wheel center.
6. Slide wheel onto wheel support and lock into place with wheel retainer (Figure A, Item 6).
7. Raise upper frame until tire is off ground.
8. Using left control handle, extend cylinder until right tire bead is broken and split rim has moved in enough to expose lock ring.
9. Release left control handle and remove lock ring.
10. Using left control handle, retract cylinder.
11. Remove lock pin (Figure A, Item 6), move wheel support to fully retracted position and reinstall lock pin.
12. Install arm assembly (Figure B, Item 7).
13. Using left control handle, extend cylinder until left tire bead is broken.
14. Using left control handle, fully retract and remove arm assembly.
15. Remove tire from wheel.



5.2 ASSEMBLE WHEEL/TIRE

1. With bead breaker in fully open position, place wheel support (Figure C, Item 3) in fully extended position and install lock pin (Figure A, Item 6).
2. Insure rubber bumpers (Figure C, Item 4,) are in the fully extended position and locked in place with pins (Figure C, Item 5).
3. Slide wheel onto wheel support and lock into place with wheel retainer (Figure C, Item 6).
4. Place tire on wheel and position split rim to start on wheel.
5. Using left control handle, extend cylinder until split rim has moved in enough to expose lock ring groove in wheel.
6. Install lock ring on wheel.
7. Using left control handle, fully retract cylinder.
8. Remove wheel retainer and remove wheel/tire assembly from wheel support.

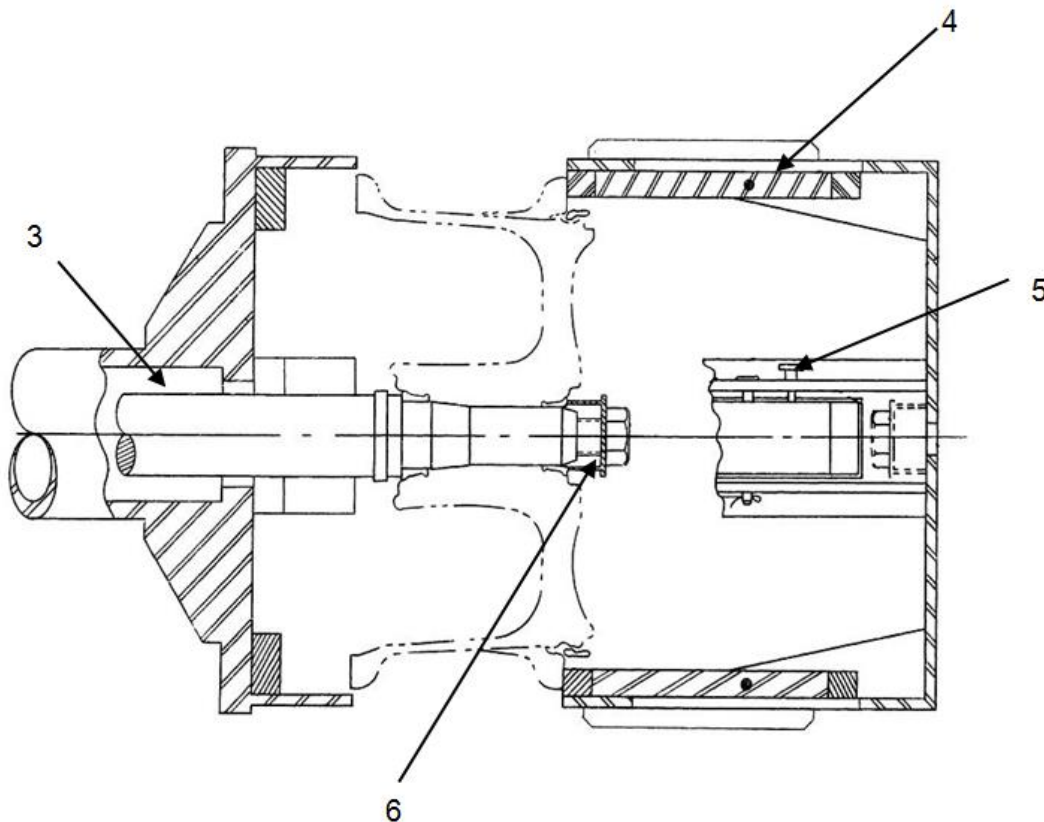


Figure C

6.0 HYDRAULIC FLUID

The following hydraulic fluids are recommended for use in the bead breaker:

Tellus 15	Shell Oil Co.
MIL-PRF-6083a	General Petroleum Corp., MILVAC-6083
Calol Engine Oil-5	Standard Oil Co.
MIL-PRF-5606	Shell Oil Co., Aero Shell No. 4
Texas Regal Oil AA	R & O), Texas Co.
Opaline 10W Motor Oil	Sinclair Co.
MIL-PRF-83282	Shell Oil Co.
Red Line CP Oil	Union Oil Co.

7.0 TROUBLE SHOOTING

1. If operational troubles are encountered, refer to table which lists the most commonly encountered troubles and give information which will facilitate location of trouble source and determination of remedial action.
2. When removal of hydraulic system interior components is necessary, drain all hydraulic fluid from the bead breaker and proceed with the required disassembly.
3. All removed metallic parts shall be cleaned with solvent and thoroughly dried.

CAUTION!



Use solvent only in a well-ventilated area, removed from vicinity of open flame or elevated temperature. Avoid prolonged or repeated contact with the skin and inhalation of toxic solvent vapors, and do not smoke in presence of vapors. Toxic solvents present a danger to health.

4. All damaged or defective parts shall be replaced; detail rework of bead breaker parts is not considered reliable or safe.
5. After trouble shooting and corrective action, and prior to use of the bead breaker, prepare the bead breaker for operation as outlined in 4.0 Preparation Prior Use.

TROUBLE	PROBABLE CAUSE	REMEDY
External fluid leakage at extend/retract ram	Damaged backup rings, packings or ram sealing segment assembly, surface	Remove spider/ring. Remove ram assembly thru rear. Inspect and replace defective parts. Replace O-Ring
Rams fail to travel	Obstructed fluid section passage	Remove suction lines and inspect for obstruction
	Obstructed suction strainer	Remove and replace strainer
	Low fluid level	Fill to correct fluid level
	Relief valve failing to hold pressure	Inspect for failing valve and replace
Rams will not travel full distance	Low fluid level	Fill to correct fluid level
Ram will not break bead after complete pump up	Internal leakage past ram and outer cylinder	Remove adapter assembly and end cap. Remove ram assembly thru rear. Inspect and replace defective parts
	Relief valve malfunction or low setting	Correct valve setting or replace
All rams inoperative	Improper air supply	Insure proper input air power is available
	Relief valve malfunction	Correct valve setting or replace
Elevation cylinder will not remain in position	Leaking check valve	Remove valve and remove possible contamination under valve seat or replace valve
Pump-up satisfactory, but pump pressure fails to by-pass at maximum ram extension or with over load applied	Relief valve set too high	Adjust relief valve
	Inoperative relief valve	Remove and replace

8.0 PROVISION OF SPARES

8.1 SOURCE OF SPARE PARTS

Spare parts may be obtained from the manufacturer:
 ColumbusJack/Regent
 1 Air Cargo Pkwy East
 Swanton, Ohio 43558 USA

Telephone: 614.443.7492
 Fax: 614.444.9337
 E-mail: sales@columbusjack.com
 Website: www.columbusjack.com

8.2 RECOMMENDED SPARE PARTS LISTS

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

9.0 IN SERVICE SUPPORT

Contact Tronair, Inc. for technical services and information. See Section 1.3 – Manufacturer.

10.0 GUARANTEES/LIMITATION OF LIABILITY

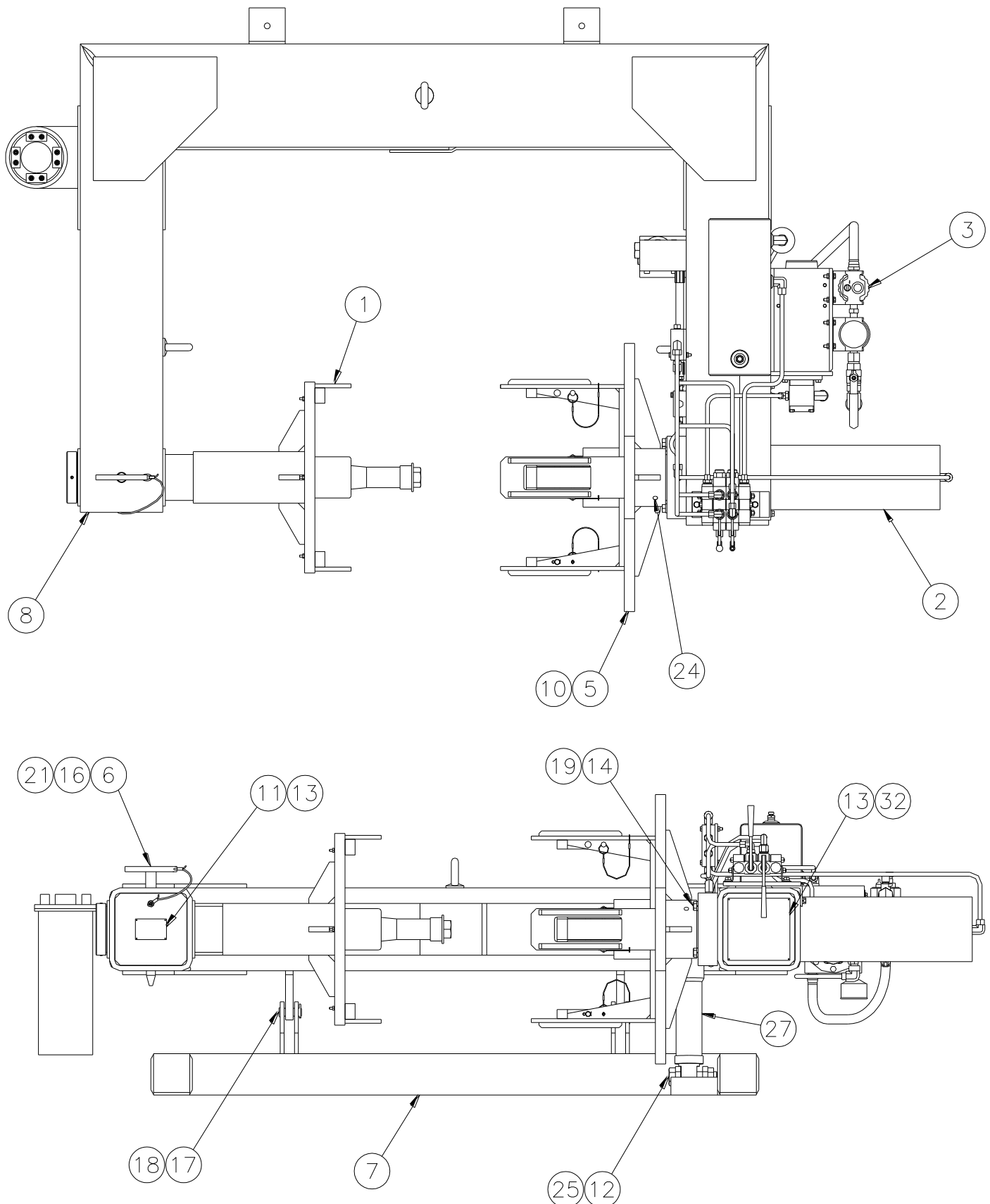
1. ColumbusJACK Corporation, (Seller) warrants each new product of its manufacture to be free from defects in material or workmanship, under proper, reasonable and normal use and service, and for a period of twelve (12) months after date of shipment from Seller's Swanton, OH. USA facility.
2. Where Buyer 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 twelve (12) months form date of original shipment. This warranty and liability of the Seller is expressly limited solely to replacement of repair of defective parts or goods, and return at Buyer's expense to Seller after find by Seller the product was defective prior to original shipment or, at the option of Seller, to making refund to Buyer of the purchase price for said product.
3. 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 MERCHANT-ABILITY OR OF FITNESS) EXCEPT THAT THE MATERIAL SHALL BE OF THE QUALITY SPECIFIED HEREIN, 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. The Buyer's sole and exclusive remedy shall be repair or replacement of defective parts 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. The 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 where, 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 pertinent to 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.

The obligations of ColumbusJACK expressly stated herein are in lieu of all other warranties or conditions expressed or implied.

Any unauthorized modification of the ColumbusJACK products or use of the ColumbusJACK products in violations of cautions and warnings in any manual (including updates) or safety bulletins published or delivered by ColumbusJACK will immediately void any warranty, express or implied and ColumbusJACK disclaims any and all liability for injury (WITHOUT LIMITATION and including DEATH), loss or damage arising from or relating to such misuse.

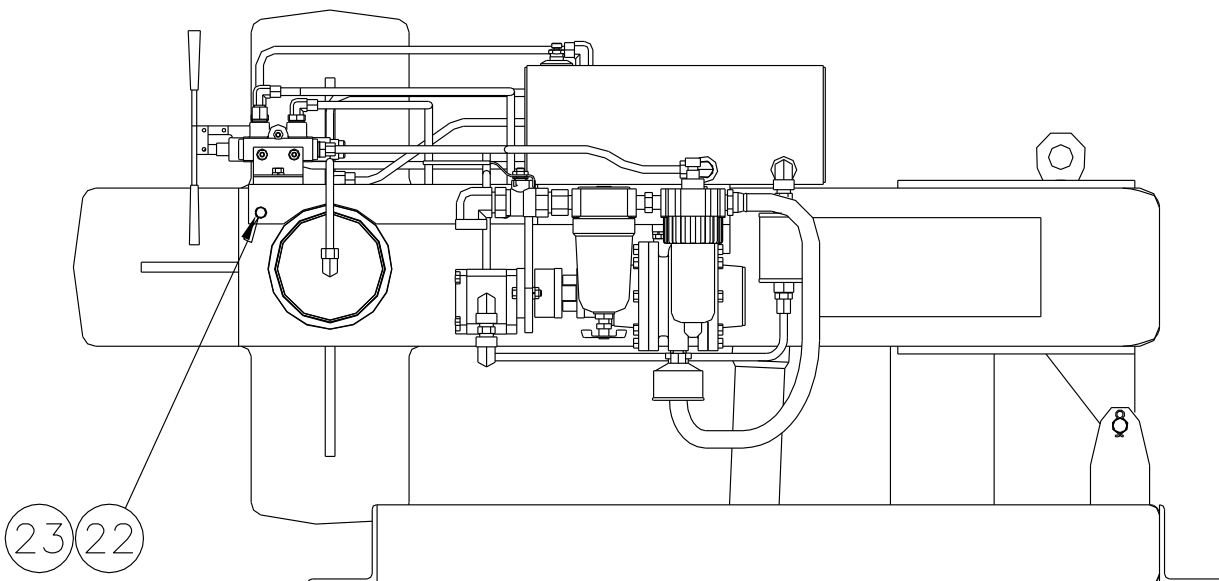
Parts List

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



Parts List

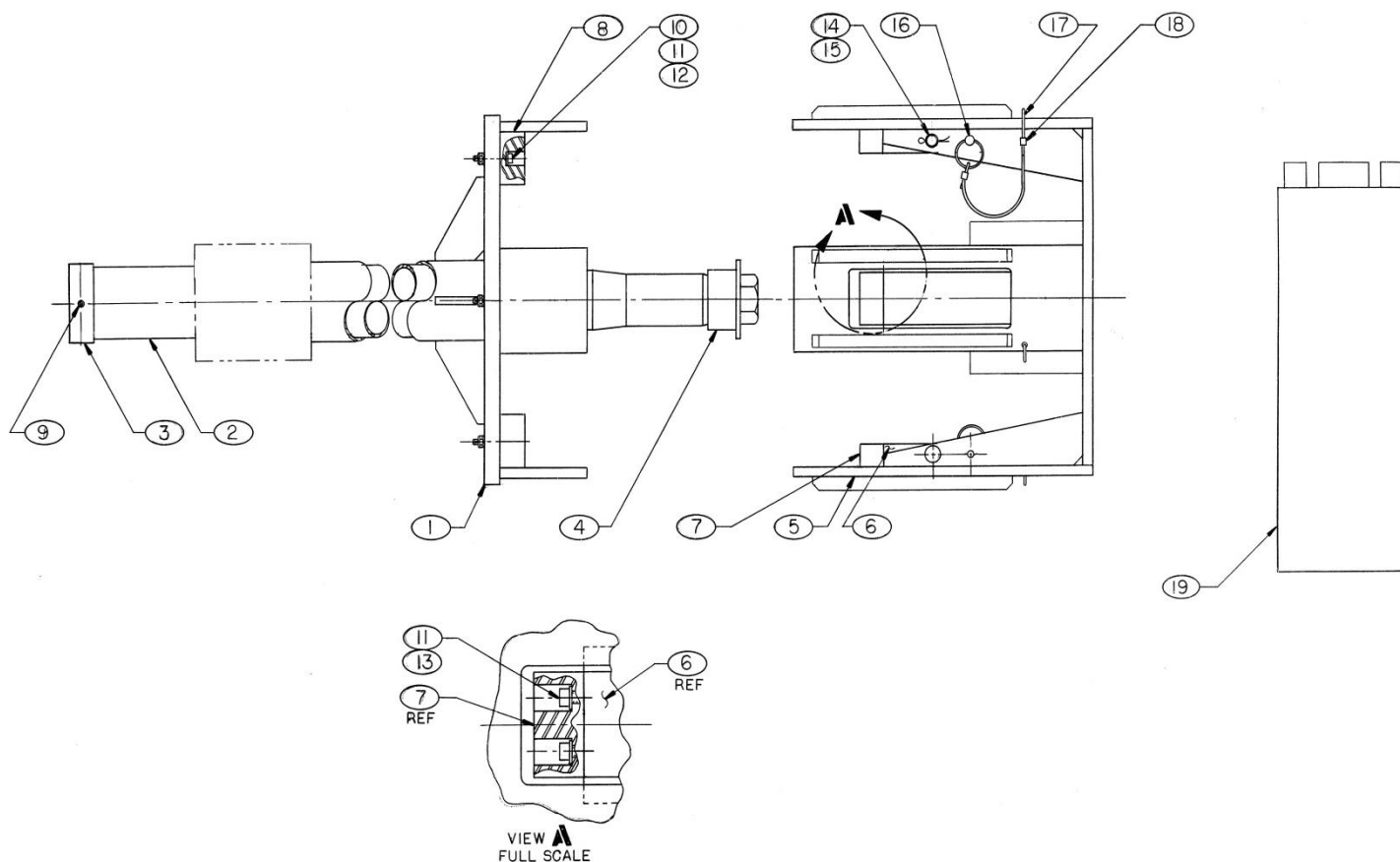
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ITEM	PART NUMBER	DESCRIPTION	QTY
1	7016-G	Adapter Ring Set Assembly	1
2	7003-C	Cylinder Assembly	1
3	7003-G	Pneudraulic Assembly	1
5	7003-4	Pressure Plate	1
6	7003-30	Pin	1
7	7003-1	Base	1
8	7094-3	Frame	1
10	7003-29	Retainer, Adapter Plate	1
11	916-47	Nameplate	1
12	7003-32	Cap Screw	2
13	MS21318-13	Drive Screw	8
14	372-20220	Hex Head Cap Screw	4
16	450A6404	Pan Head Screw	1
17	MS20392-10C59	Pin, Flat Head	2
18	322-04400	Cotter Pin	2
19	346-10032	Lockwasher	4
21	345-11006	Flat Washer	1
22	346-10020	Lockwasher	3
23	372-14060	Hex Head Cap Screw	3
24	312-20040	Set Screw, Cup Point	1
25	333-33000	Hex Jam Locknut	2
27	450A6131	Cylinder	1
32	7094-14	Nameplate, Instruction	1

Parts List

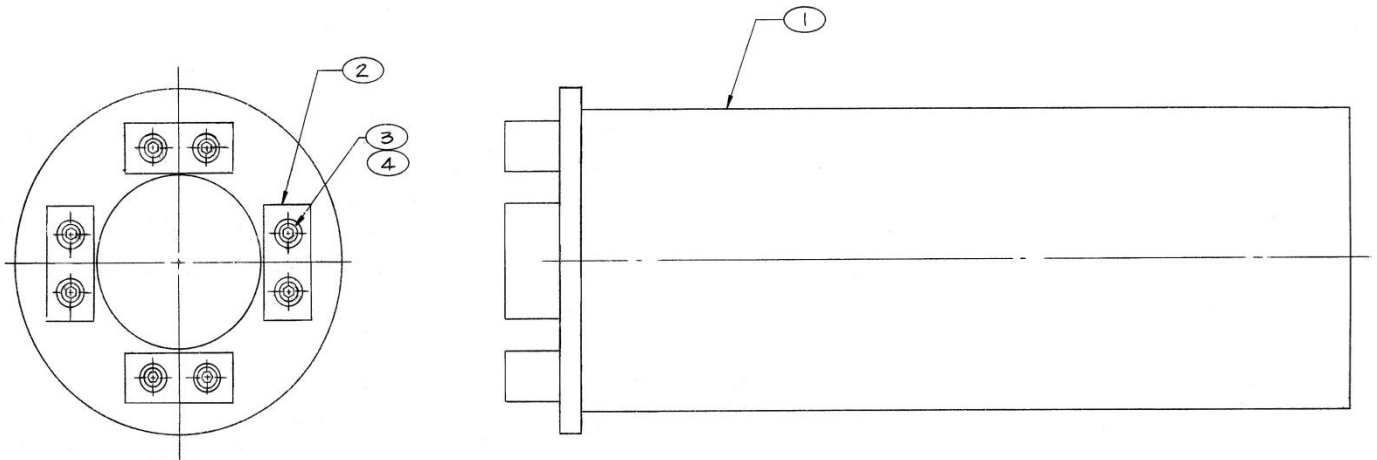
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ITEM	PART NUMBER	DESCRIPTION	QTY
	7016-G	Adapter Ring Set Assembly ; consists of:	REF
1	7016-16	Stationary Adapter Ring	1
2	7016-17	Wheel Support	1
3	7016-19	Wheel Support Stop	1
4	7016-18	Wheel Retainer	1
5	7016-22	Moving Adapter Ring	1
6	7016-21	Bumper Positioner	4
7	7016-20	Bumper	8
8	7016-25	Spacer	4
9	450A5651	Spring Pin	2
10	378-10140	Socket Head Cap Screw	4
11	345-11008	Flat Washer	20
12	333-31000	Hex Locknut	4
13	378-10040	Socket Head Cap Screw	16
14	MS20392-7C105	Pin, Flat Head	4
15	322-03240	Cotter Pin	4
16	450A5898	Detent Pin	4
17	450A6211	Cable	AR
18	450A5715	Oval Sleeve	8
19	7016-AK	Arm Assembly	1

Parts List

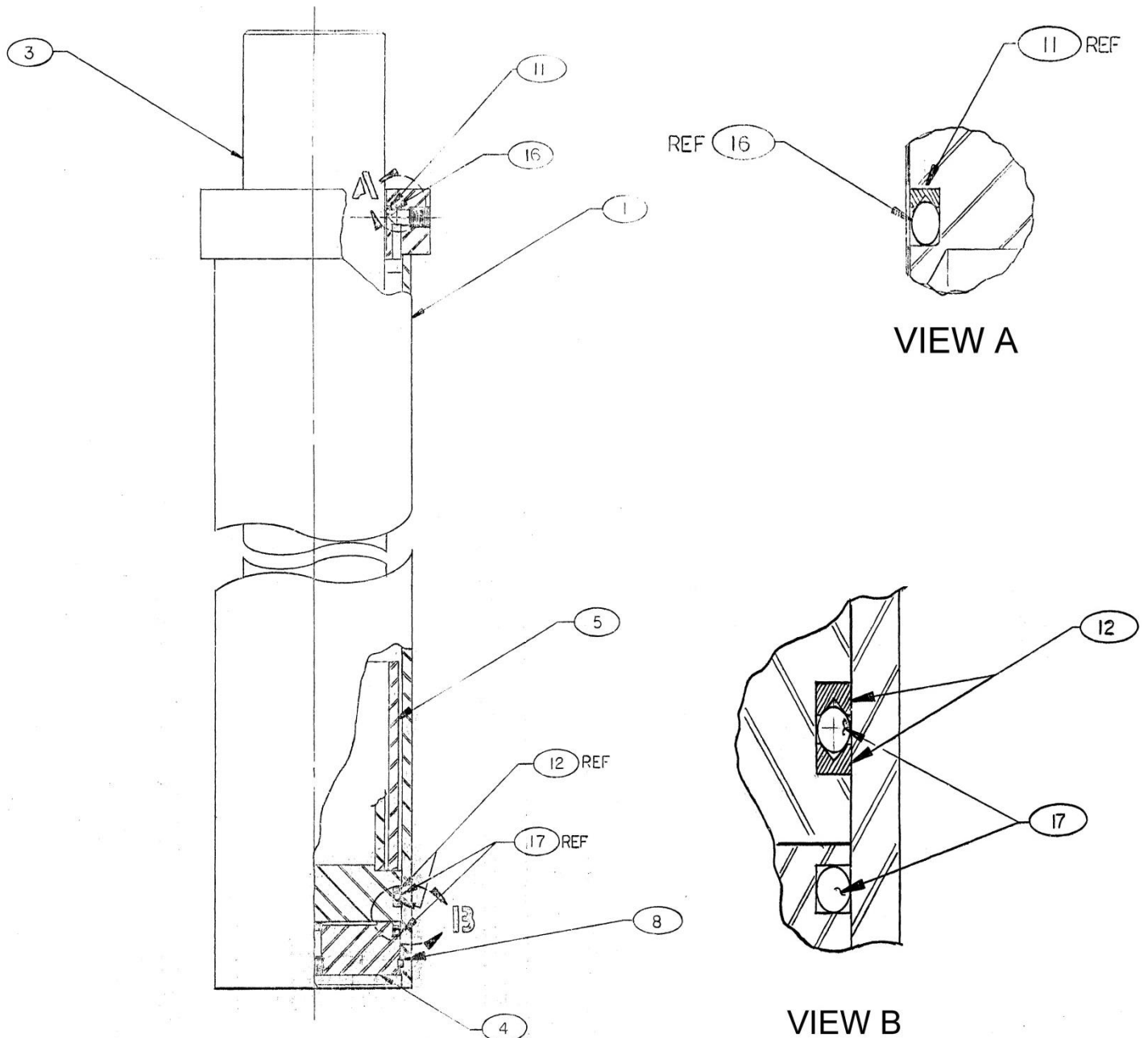
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



ITEM	PART NUMBER	DESCRIPTION	QTY
	7016-AK	Arm Assembly ; consists of:	REF
1	7016-30	Arm	1
2	7016-20	Bumper	4
3	378-10040	Socket Head Cap Screw	8
4	345-11008	Flat Washer	8

Parts List

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

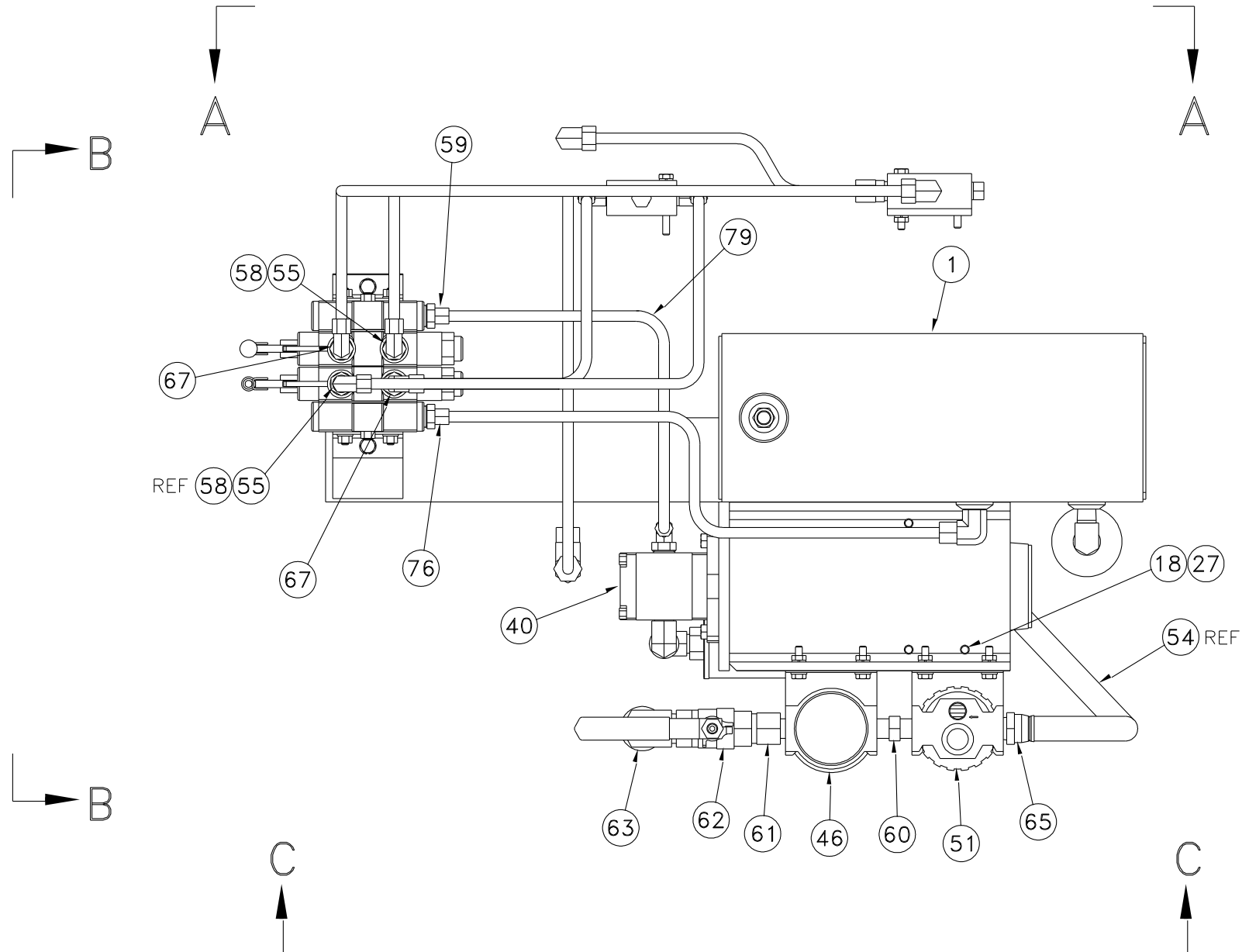


ITEM	PART NUMBER	DESCRIPTION	QTY
	7003-C	Cylinder Assembly ; consists of:	REF
1	7003-5	Cylinder Weldment	1
3	7003-6	Ram	1
4	7003-7	End Cap	1
5	7003-8	Stop Tube	1
8	915-150.18-5.810	Snap Ring, Internal	1
11	916-45-4.436	Backup Ring	1
12	916-44-4.937	Backup Ring	2
16	MS28775-349	O-Ring	1
17	MS28775-428	O-Ring	2

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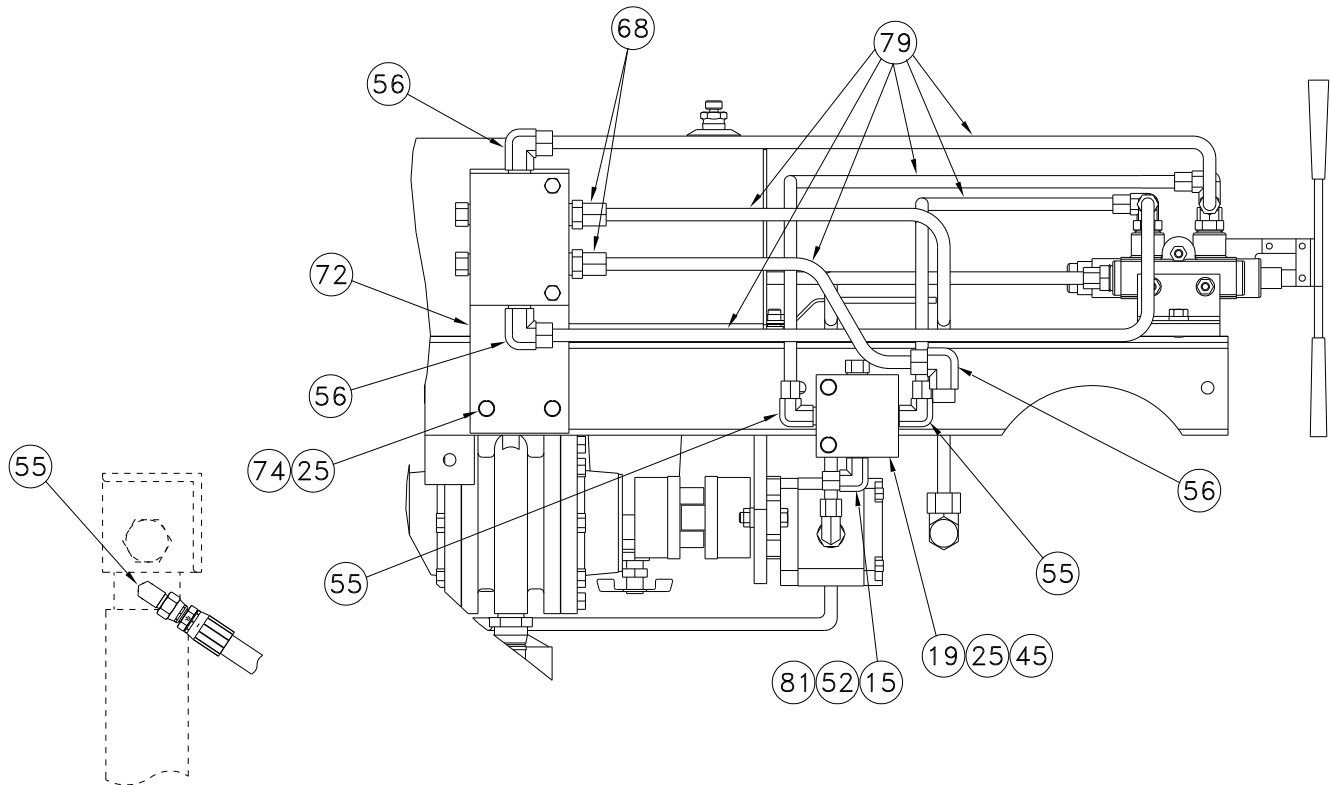
Parts List

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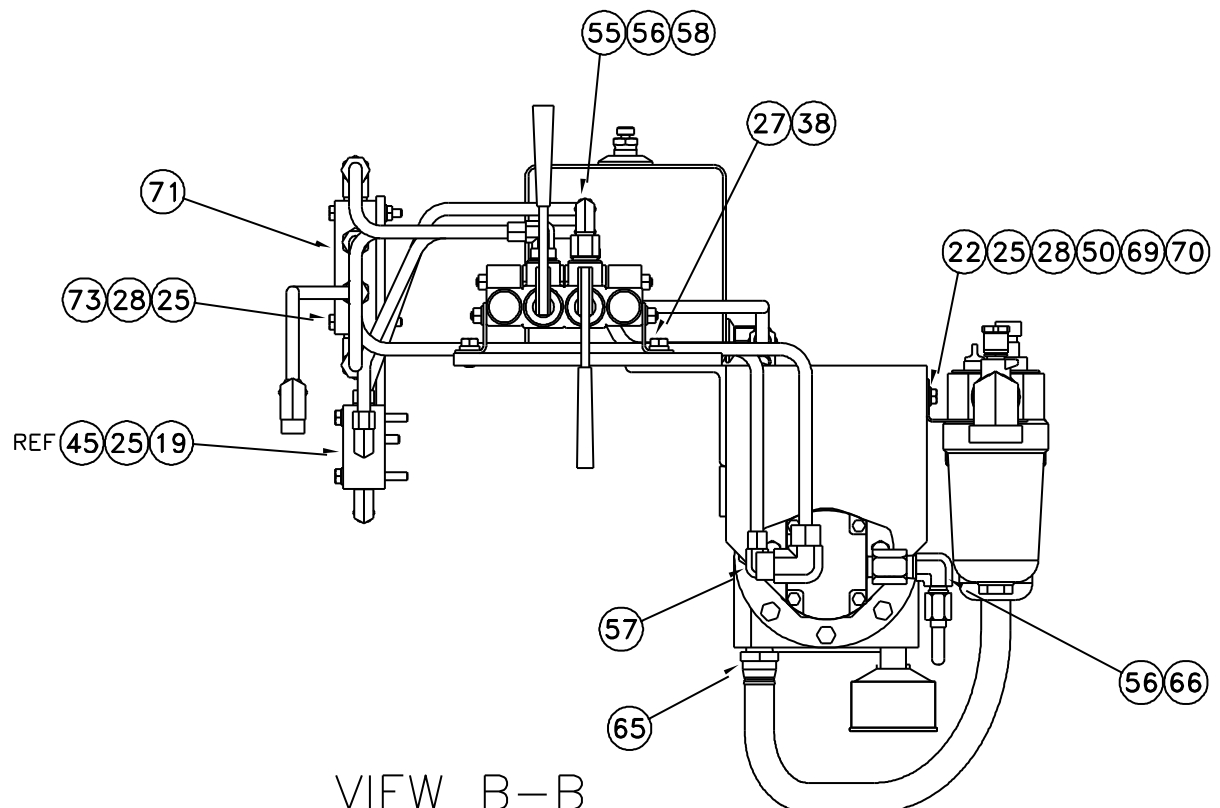
Parts List

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(450A6131 CYLINDER)
(ITEM 27, 7094-010)

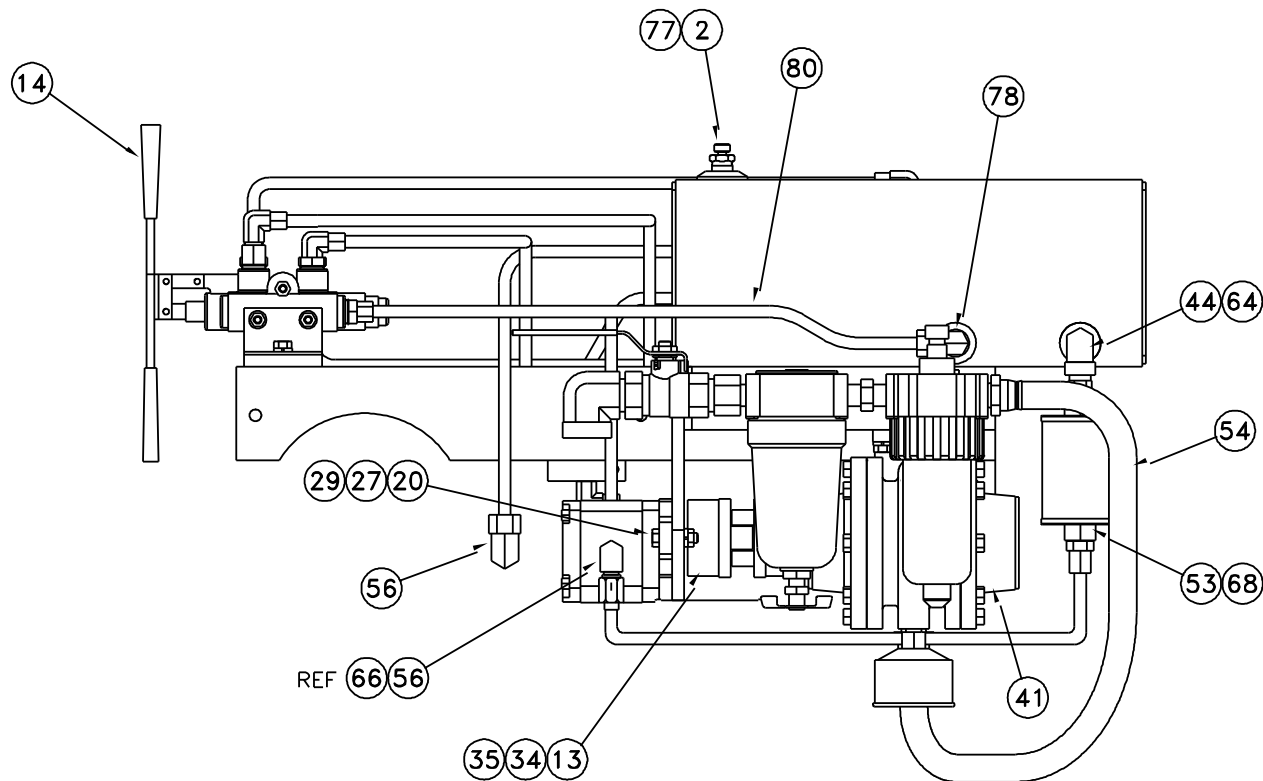
VIEW A-A



VIEW B-B

Parts List

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



VIEW C-C

ITEM	PART NUMBER	DESCRIPTION	QTY
	7003-G	Pneudraulic Assembly; consists of:	REF
1	7003-11	Reservoir and Frame	2
2	50B7763	Air Vent Assembly	1
13	7003-26	Coupling, Flexible	2
14	7003-27	Directional Valve, 4-Way	1
15	915-FR-.03	Flow Control Valve	
18	372-14080	Hex Head Cap Screw	
19	372-12120	Hex Head Cap Screw	
20	372-14100	Hex Head Cap Screw	
22	372-12080	Hex Head Cap Screw	
25	346-10016	Lockwasher	
27	346-10020	Lockwasher	
28	333-41201	Hex Nut	
29	333-51400	Hex Nut.	
34	MS20066-164	Key, Square	
35	MS35756-8	Key, Woodruff	
38	372-14050	Hex Head Cap Screw	
40	450A6337	Pump	
41	450A6335	Air Motor with Muffler	
44	483-10606	Pipe Nipple	
45	450A5590	Check Valve	
46	450A3233	Air Filter	

Parts List

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

ITEM	PART NUMBER	DESCRIPTION	QTY
50	450A6446	Mounting Bracket Kit	
51	450A5498	Lubricator	
52	450A6397	Hose Assembly	
53	450A6447	Filter	
54	450A6399	Air Hose	
55	456-10604-A	Male Elbow	
56	456-10606-A	Male Elbow	
57	450-10608-A	Elbow	
58	489-30604	Adapter	
59	452-10606-A	Connector	
60	483-10808	Pipe Nipple	
61	483-11208	Pipe Nipple	
62	450A6400	Ball Valve	
63	485-01212	Street Elbow	
64	485-00606	Street Elbow	
65	450A5750	Adapter	
66	489-31006	Adapter	
67	450-10606-A	Straight Thd Elbow	
68	457-10606-A	Male Connector	
69	345-11016	Flat Washer	
70	450A6402	Bevel Washer	
71	450A5584	Check Valve	
72	7003-34	Valve Mounting Plate	1
73	372-12160	Hex Head Cap Screw	2
74	372-12060	Hex Head Cap Screw	2
76	452-10806-A	Connector	1
77	485-51606	Reducer	1
78	456-10806-A	Male Elbow	1
79	SST-10060	Stainless Tube	A/R
80	SST-12200	Stainless Tube	A/R
81	485-00404	Street Elbow	1