



Model: 5033-010
Bead Breaker

05/2018 – Rev. 01

REVISION
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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

Capacity 2,000 lbs (907 kg)
Rim Size Range
Diameter 6 – 16 in (15.24 – 40.64 cm)
Maximum Width 11 in (27.94 cm)
Estimated Weight 78 lbs (35.4 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 PRE-OPERATION PROCEDURE

1. Perform visual inspection, by checking for oil leakage.
2. Check for loose, damaged or missing parts.
3. Check oil level.

5.0 OPERATION

1. Place wheel on rollers.
2. Adjust the jaw height to contact tire close to rim.
3. Actuate pump pedal, which will hydraulically force the jaws together, causing the tire bead to break loose from the rim.



WARNING!

Personnel must keep clear of tire and wheel when breaking beads.

4. Depress the release valve pedal to retract the jaws to their open position.
5. Rotate the wheel and with the jaws in a new position on the tire, repeat steps 3 through 5 until the bead is completely free of the wheel.

6.0 OIL LEVEL

1. To fill with oil, rotate hydraulic assembly forward.
2. Retract jaws by depressing release valve pedal.
3. Remove 1/4" pipe plug and fill to hole level only.

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.



WARNING!

Electrical Power Must Be Off To The Hydraulic Power Supply Whenever Disassembly Of Any Part Of The Bead Breaker Is Necessary.

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 paragraph 3.0 Preparation Prior To First Use.

TROUBLE	PROBABLE CAUSE	REMEDY
Jaw does not close when pump is operated	The pump valve or release valve may be dirty	Flush by depressing foot release pedal and actuate foot pump pedal rapidly
Jaw does not close with sufficient force to break tire bead from rim	By-pass valve may be improperly set	Adjust by-pass valve
	Oil leakage	Determine where oil is leaking and replace the necessary packings
Jaws close erratically	Air trapped in system	Tip unit until reservoir is above the level of the jaws. Actuate pump until jaws are closed. Depress release pedal. Repeat process until trapped air has circulated back to the reservoir

8.0 MAINTENANCE

8.1 RRAM O-RINGS, BACKUP RING AND WIPER

To replace:

1. Rotate hydraulic assembly to vertical position and retract jaws to about 1 in (2.5 cm) from closed position .
2. Place a steel bar approximately $\frac{1}{4} \times \frac{1}{2} \times 1 \frac{1}{4}$ in (.64 x 1.27 x 3.18 cm) long between jaw and cylinder bushing.
3. Depress release valve pedal and move jaw to retracted position. The steel bar will relieve spring pressure on the cylinder bushing and ease disassembly.
4. Remove snap ring using a 1/8" rod thru hole in top of cylinder. Remove ram from cylinder.
5. Disassemble and replace o-rings, backup ring and wiper.
6. Reassemble using caution not to damage o-rings. Remove air trapped in cylinder as instructed in section 7.0 Trouble Shooting.

8.2 PUMP O-RING AND BACKUP RING

To replace:

1. Remove clevis pin and cotter pin, using care as spring is under load.
2. Pull out pump piston.
3. Remove o-ring and backup ring.
4. Reassemble in reverse order.

8.3 OIL SCREEN

To clean:

1. Remove oil screen plug, oil screen spring and oil screen.
2. Clean, replace and reassemble in reverse order.

8.4 PUMP VALVE

To clean or adjust:

1. Remove clevis pin and cotter pin using care as spring is under load.
2. Unscrew pump body, remove upper valve gasket and valve.
3. Clean and reassemble with new gasket. Use Teflon tape on pump body threads.



CAUTION!

DO NOT scratch or mar the finish of the valve during reassembly. All Columbus Jack/Regent safety valves are set at the factory and should not require any further adjustment. However, if adjustment is desired, adjust per RJM 210 (see Appendix)

8.5 RELEASE VALVE O-RING

To replace:

1. Swing release valve pedal clear and remove release valve bushing and release valve.
2. Replace o-ring and reassemble in reverse order.

8.6 BLOCK O-RING, PRESSURE O-RING, RESERVOIR PLUG O-RING AND BACKUP RING

To replace:

1. Remove hex head cap screws, lockwashers and hex nut lockwasher.
2. Remove retaining ring.
3. Separate pump and tube weldment from reservoir. Remove reservoir plug.
4. Replace o-rings and backup ring and reassemble. Use care not to pinch o-rings during reassembly.

8.7 SHOP AIDS AVAILABLE

Adjuster Assembly 915-EB

8.8 OVERHAUL KITS AVAILABLE

Soft Kit KC5033

Repair Kit KD5033

9.0 PROVISION OF SPARES

9.1 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

9.2 RECOMMENDED SPARE PARTS LISTS

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

10.0 IN SERVICE SUPPORT

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

11.0 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.

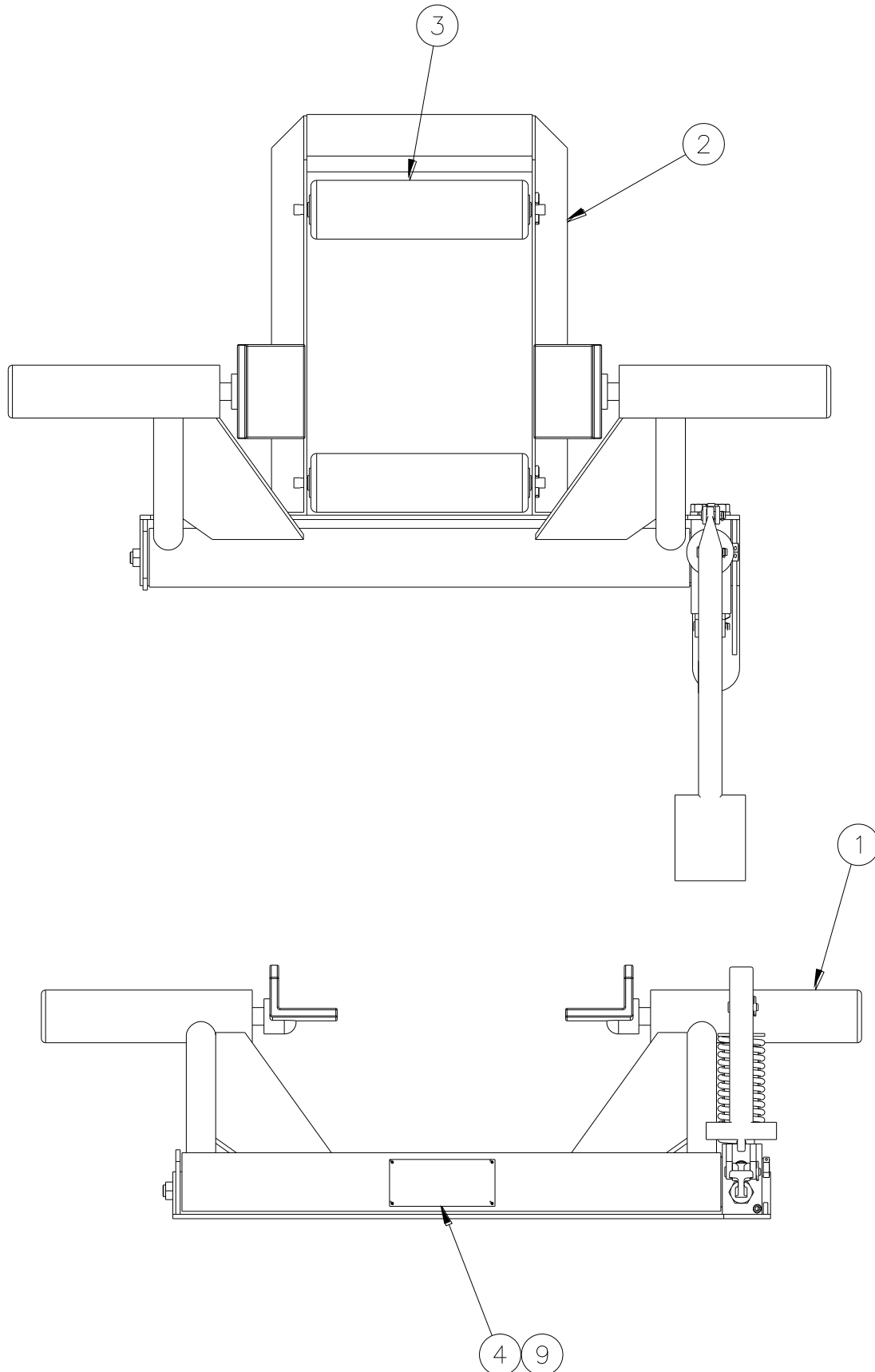
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12.0 APPENDICES

APPENDIX I Routine Jack Maintenance Bulletins

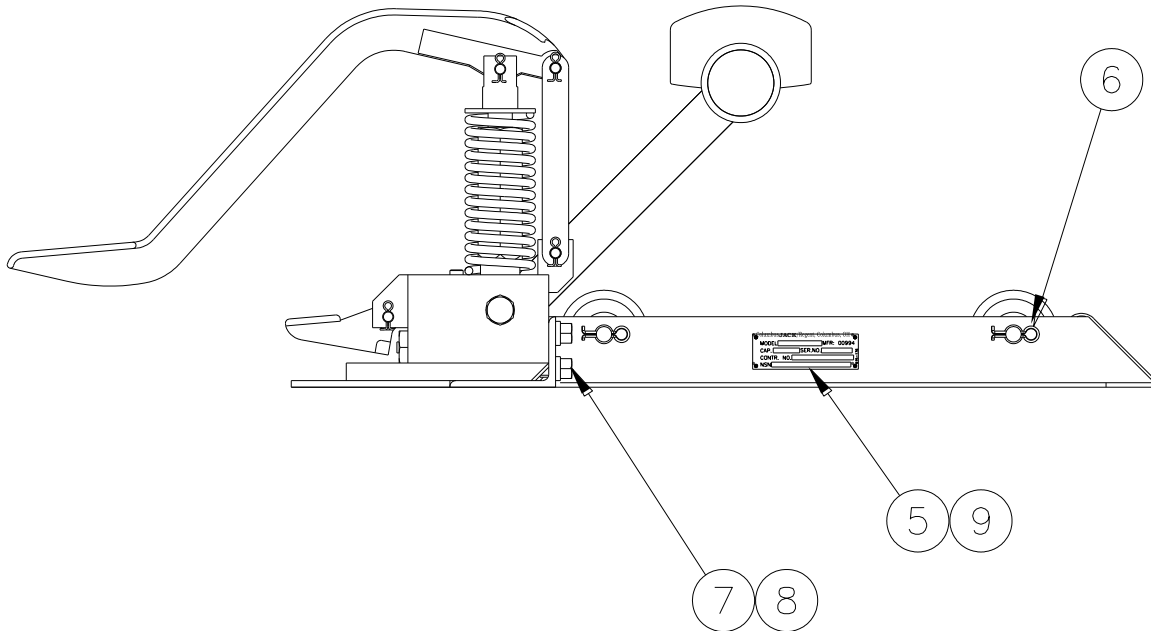
Parts List

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



Parts List

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



ITEM	PART NUMBER	DESCRIPTION	QTY
1	5033-B	Hydraulic Assembly	1
2	5033-1	Frame	1
3	5033-2	Roller	2
4	5033-26	Instruction Plate	1
5	915-176	Nameplate	1
6	322-05320	Cotter Pin	4
7	372-16060	Hex Head Cap Screw	4
8	346-10024	Lockwasher	4
9	450A6984	Drive Screw	8

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



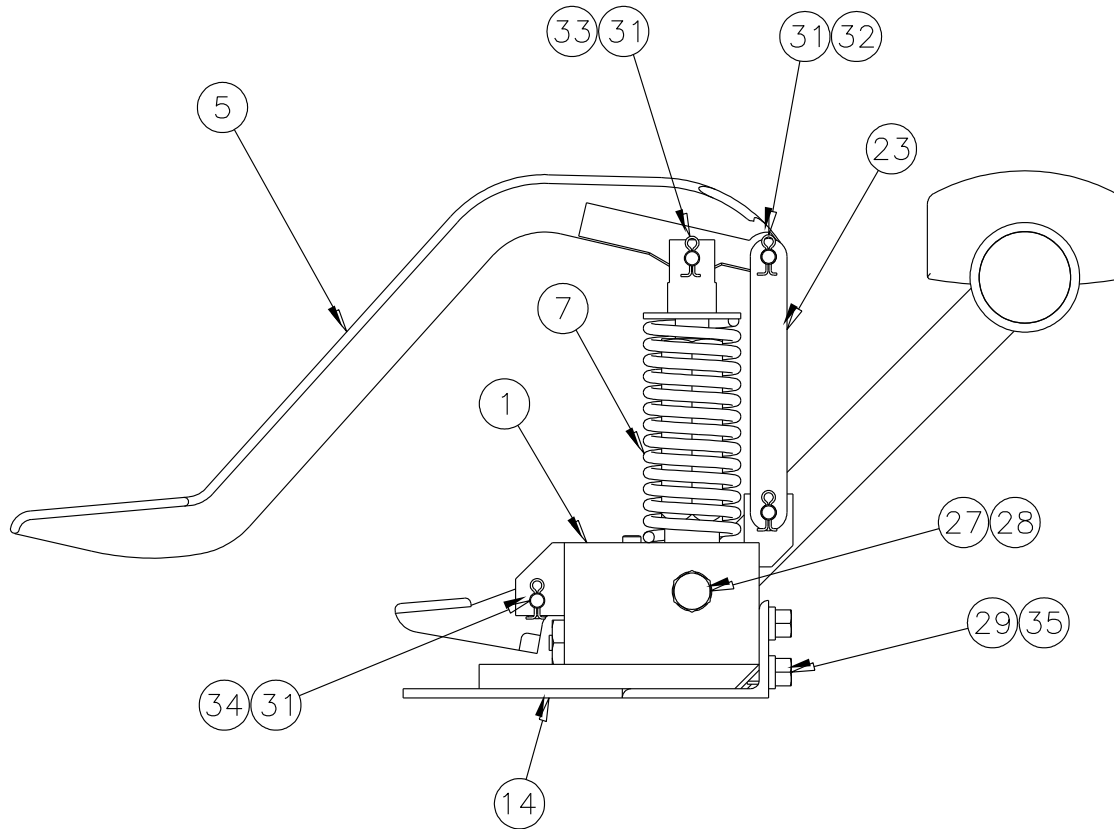
Parts List

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

ITEM	PART NUMBER	DESCRIPTION	QTY
	5033-B	HYDRAULIC ASSEMBLY ; consists of:	
2	5033-4	Bushing, Release Valve	1
3	5033-5	Release Valve	1
4	5033-6	Pedal, Release Valve	1
6	450A6916	Flat Washer	1
8	5033-10	Spring	1
9	5033-15	Cylinder and Reservoir	1
11	5033-19	Reservoir Plug	1
16	5033-28	Jaw	2
17	915-16A-3	Valve	1
18	915-17	Gasket	2
19	915-74C	Pump Piston	1
20	915-179	Pump Body	1
21	915-127.13	Backup Ring	1
24	916-7	Oil Screen	1
25	916-10	Spring, Oil Screen	1
26	916-15	Ball	1
30	333-52000	Hex Nut	1
36	346-10032	Lockwasher	1
37	345-11032-T	Flat Washer	
38	611-01201	O-Ring	1
39	611-01101	O-Ring	1
40	611-11511	O-Ring	1
43	611-22522	O-Ring	4
45	618-21122	Backup Ring	1
46	611-11211	O-Ring	1
47	5033-11	Plug, Oil Screen	1
48	488-00004	Pipe Plug	2
49	450A6002	Retaining Ring	2
50	312-16030	Set Screw	1
51	216-1-20	Ball	1
52	450A7457	Shim	A/R
53	450A7458	Shim	A/R
54	450A7459	Shim	A/R

Parts List

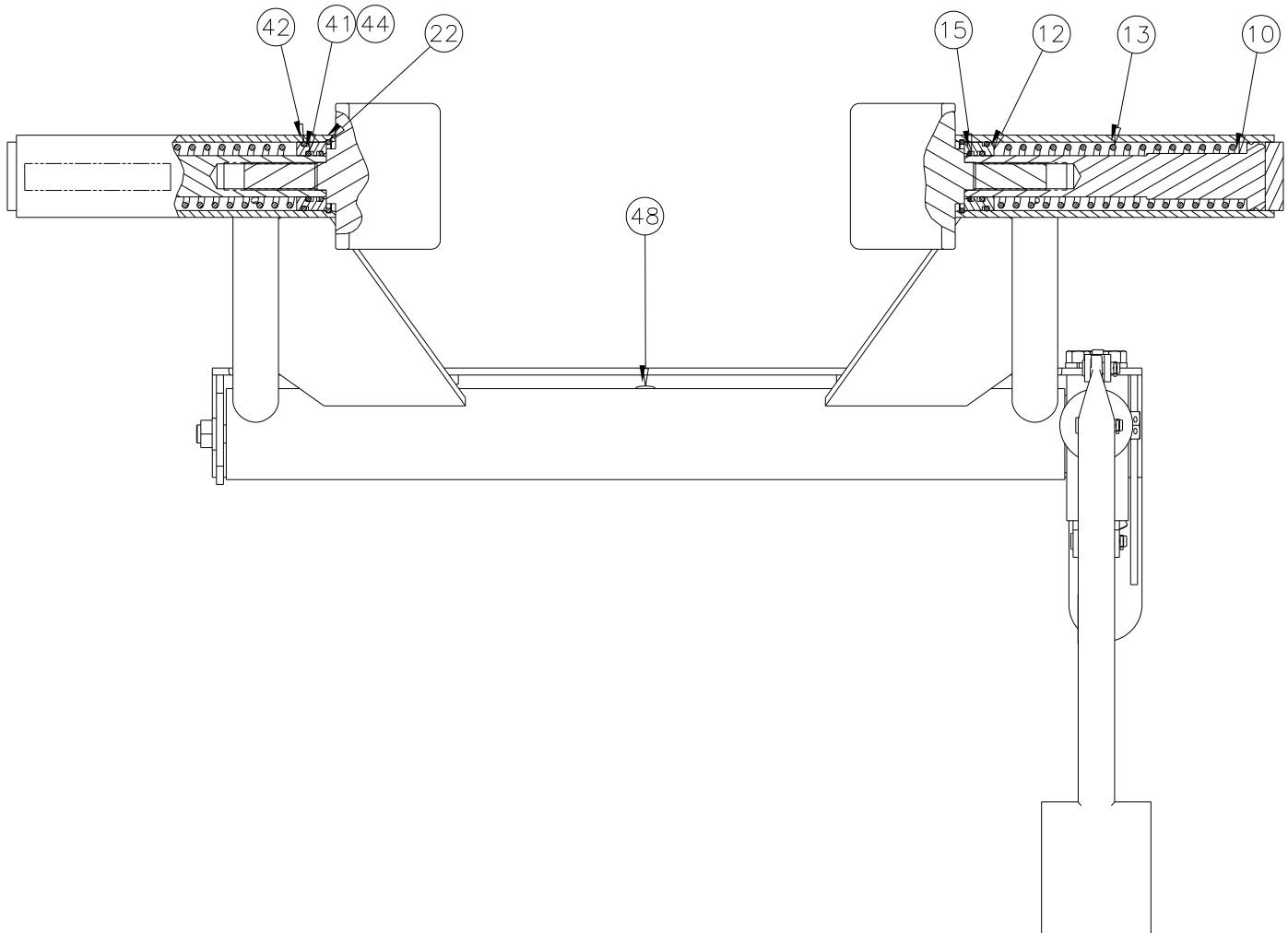
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



	5033-B	HYDRAULIC ASSEMBLY ; consists of:	
1	5033-3	Pump and Tube Weldment	1
5	5033-7	Pump Pedal	1
7	5033-9	Spring	1
14	5033-23	Frame	1
23	915-151.42	Pump Link	1
27	916-21	Plug, Adjusting	1
28	916-22	Gasket	1
29	372-16060	Hex Head Cap Screw	3
31	322-03240	Cotter Pin	4
32	321-14250	Clevis Pin	2
33	321-14330	Clevis Pin	1
34	321-14410	Clevis Pin	1
35	346-10024	Lockwasher	3

Parts List

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



ITEM	PART NUMBER	DESCRIPTION	QTY
	5033-B	HYDRAULIC ASSEMBLY ; consists of:	
10	5033-17	Ram	2
12	5033-20	Cylinder Bushing	2
13	5033-21	Spring	2
15	5033-25	Wiper	2
22	915-150.12-2.00	Snap Ring	2
41	611-21621	O-Ring	2
42	611-22322	O-Ring	2
44	618-42164	Backup Ring	2
48	488-00004	Pipe Plug	2



APPENDIX I

Routine Jack Maintenance Bulletin



Routine Jack Maintenance Bulletin

TO PROVIDE COMPLETE INFORMATION ON SERVICING
ColumbusJACK/REGENT QUALITY GROUND HANDLING EQUIPMENT

BULLETIN RJM 171 – RECOMMENDED HYDRAULIC OILS

The following hydraulic oils are recommended for use in all ColumbusJACK/Regent products, though any oil compatible with Buna-N seals may be used. Proper oil level should be .5 to 1 inch below the fill port when all rams are collapsed.

Exxon/Mobil Aero HF (MIL-PRF-5606)

Exxon/Mobil DTE-11, -15

NATO Code No. H-538 (MIL-PRF-87257)

Phillips 66 X/C 5606

Royco 783 (Anderol) (MIL-PRF-6083)

Royco 782 (Anderol) (MIL-PRF-83282)

Shell Tellus 10, 15

Shell Aerofluid 31 (MIL-PRF-83282)

Shell Aerofluid 41 (MIL-PRF-5606)

Texaco Regal Oil R & O (32, 46, 100, 150, 220, 320, 460)

BULLETIN RJM 210 – PROCEDURE FOR ADJUSTING RELIEF VALVE IN 5033-010 BEAD BREAKER

It is imperative that the safety relief valve on the Model 5033-010 Bead Breaker be set correctly to prevent damage to the unit. The following procedure describes how to adjust this relief valve:

1. Remove access screw and gasket. Install valve adjusting tool, Part No. 915-EB. (see illustration)

NOTE: If tool is not available, disregard this step.

2. Operate foot pump until both rams are fully extended to their stops.
3. Using a scale, measure the force required to operate the pump pedal until the pump pedal "drops" or "goes soft" indicating the relief valve is bypassing. This force should be between 50 - 70 lbs (22.7 – 31.8 kg).
4. If safety relief valve is set too high, release pressure and rotate adjusting screw counterclockwise. Repeat above steps until valve is adjusted in range.
5. If safety relief valve is set too low, release pressure and rotate adjusting screw clockwise. Repeat steps until valve is adjusted in range.

NOTE: If adjusting tool is not available, it is necessary to relieve pressure completely before removing valve access screw and gasket. Then valve set screw can be adjusted using a 1/8 inch Allen wrench. Valve access screw and seal must be re-installed before pump pedal can be re-pressurized.

6. After testing is complete, fully collapse ram(s). Partially remove Allen wrench by pulling it straight out, then remove valve adjusting tool. Install access screw and gasket. Bead Breaker is now ready for service.

