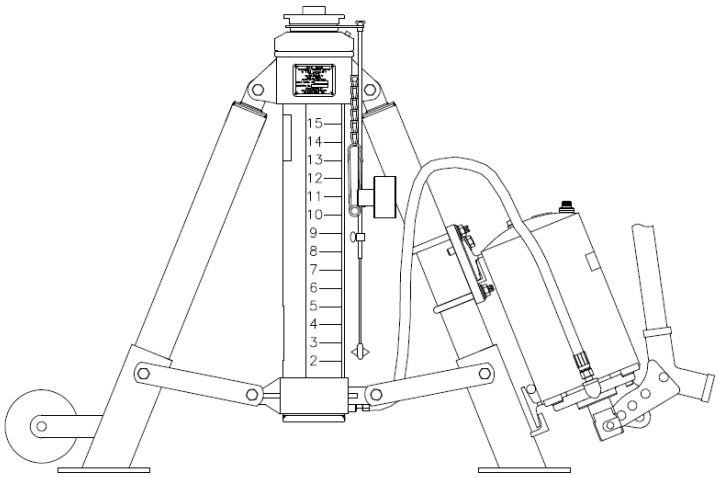
OPERATION & SERVICE MANUAL



Model: 764D1100
5 Ton (4.5 Metric Ton)
Tripod Jack

06/2024 – Rev. 02

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

ColumbusJACK/Regent
1 Air Cargo Pkwy East
Swanton, OH 43558

Phone: 614.443.7492
Web: www. columbusjack.com
Email: sales@ columbusjack.com

REVISION	DATE	TEXT AFFECTED
01	08/2018	Original release
02	06/2024	Modified 10.2 Recommended Spare Parts List

TABLE OF CONTENTS

PAGE

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., it 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

5 Ton (4.5 Metric Ton) Tripod Jack

1.2 MODEL & SERIAL NUMBER

Reference nameplate on unit

1.3 MANUFACTURER

***TRONAIR*, Inc./ColumbusJack/Regent**
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

Capacity	5 Ton (4.5 Metric Ton)	
Leg Extensions	Minimum Height	Maximum Height
Zero	25.5 in (64.77 cm)	53.5 in (135.89 cm)
One	37.5 in (95.25 cm)	65.5 in (166.37 cm)
Two	49.5 in (125.73 cm)	77.5 in (196.85 cm)
Hydraulic Lift	16 in (40.64 cm)	
Screw Extension	12 in (30.48 cm)	
Estimated Weight	148 lbs (67 kg)	
Operating Pressure	1845 psi (127.2 bar)	
Relief Valve Pressure	2030 psi (140 bar)	
Reservoir capacity	.8 gal (3 l)	

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.

2.2 PRODUCT SAFETY

Make sure all personnel involved with this jack read and understand these instructions before using.

WARNING!

Each jack is operated independently and aircraft must be raised evenly to provide stability. Failure to use safe jacking practices may result in equipment damage and injury to personnel. Personnel not involved in jacking the aircraft must remain clear of the immediate area. Other work should not be performed until jacking is completed and aircraft is stabilized. Do not work under suspended loads unless required. Failure to follow strict safety precautions may result in equipment damage and injury or death to personnel. When jacking operations are completed and aircraft is stabilized, necessary personnel may complete required maintenance actions under aircraft.

The jack is designed to lift only vertical loads with a maximum weight of 5 Ton (4.5 Metric Ton). Do not use jack for lifts exceeding the weight or design limits. Failure to comply can result in injury or death to personnel and/or severe damage to the jack and aircraft.

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.

4.0 SYSTEM BLEED PROCEDURE

1. Break hydraulic line at base of cylinder.
2. Operate hand pump until oil comes out freely with no air bubbles. Retighten hydraulic line at base of cylinder.
3. Raise ram approximately 6 in (15.24 cm) with hand pump.
4. Open release valve.
5. If ram fails to raise, repeat steps 1 thru 2 until all air is removed and ram is able to raise upon using hand pump.

5.0 PRE-OPERATION PROCEDURE

1. Perform visual inspection, by checking for oil leakage.
2. Check for loose, damaged or missing parts.
3. Check oil level.
4. Ensure Air Vent is open, if applicable.

6.0 ASSEMBLY AND ERECTION

6.1 BASIC TRIPOD JACK

The jack may be assembled in the basic jack configuration or erected to various heights by the addition of leg extensions and supporting braces. Complete assembly can be accomplished without the use of excessive force. If alignment cannot be accomplished, inspect parts for bending or twisting. If bending or twisting is evident, replace part.

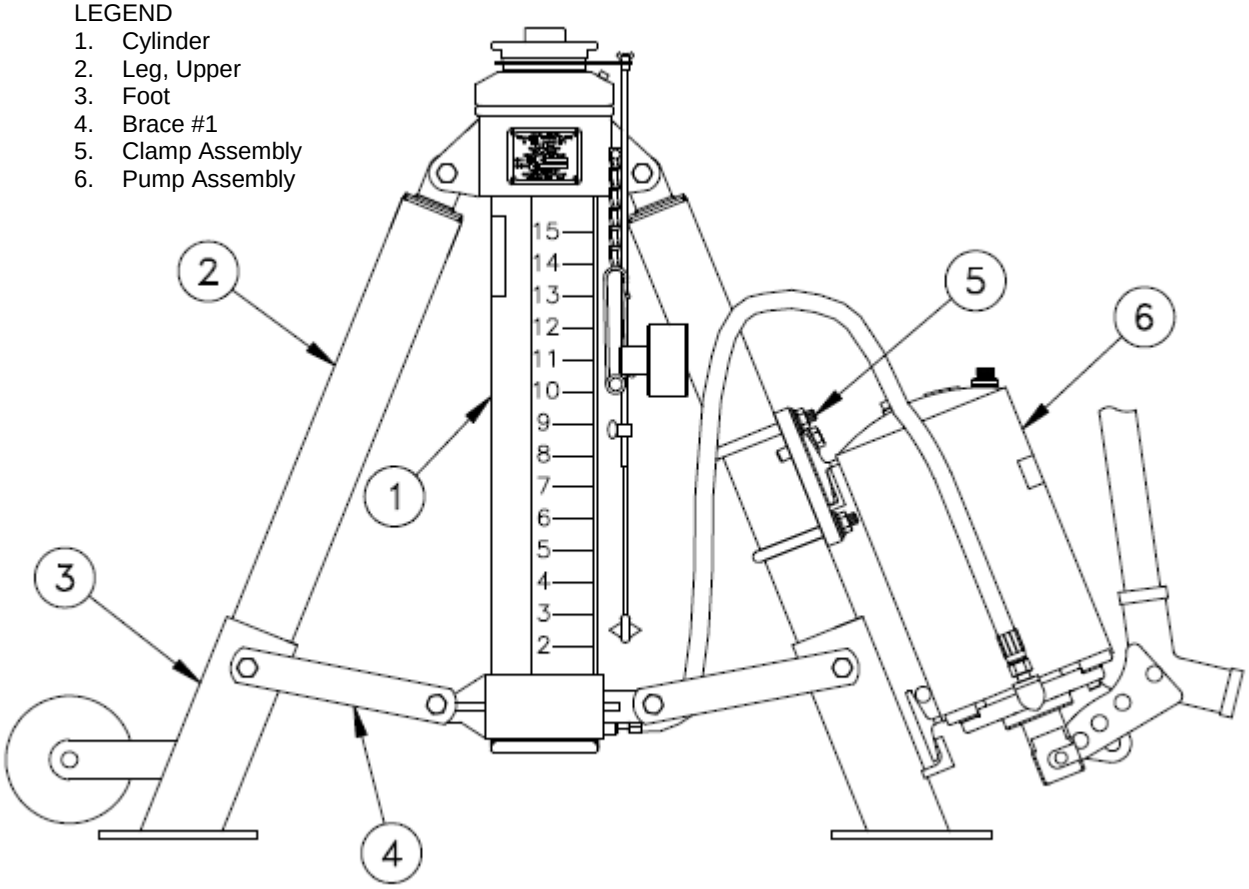
CAUTION!

Do not tighten bolts and nuts at basic leg. Over tightening will distort ears and/or cylinder bore. This can result in premature parts failure.

1. Attach the basic legs (2) to the lugs at the top of the cylinder assembly (1) and secure with bolts and nuts.
2. Attach braces #1 (4) to each side of the lugs at the bottom of the cylinder assembly (1) and secure with bolts and nuts.
3. If a leg extension is not to be added, attach foot assemblies (3) and secure free ends of braces #1 (4) to the foot assemblies (3) with bolts and nuts.
4. Attach pump (6) only if you are not adding leg extensions by placing the lug on the lower part of the pump reservoir into the slotted support located on the foot (3) and secure with clamp assembly (5) to right hand leg.

NOTE: Do not fully tighten bolts and nuts until final desired height is attained.

LEGEND
1. Cylinder
2. Leg, Upper
3. Foot
4. Brace #1
5. Clamp Assembly
6. Pump Assembly

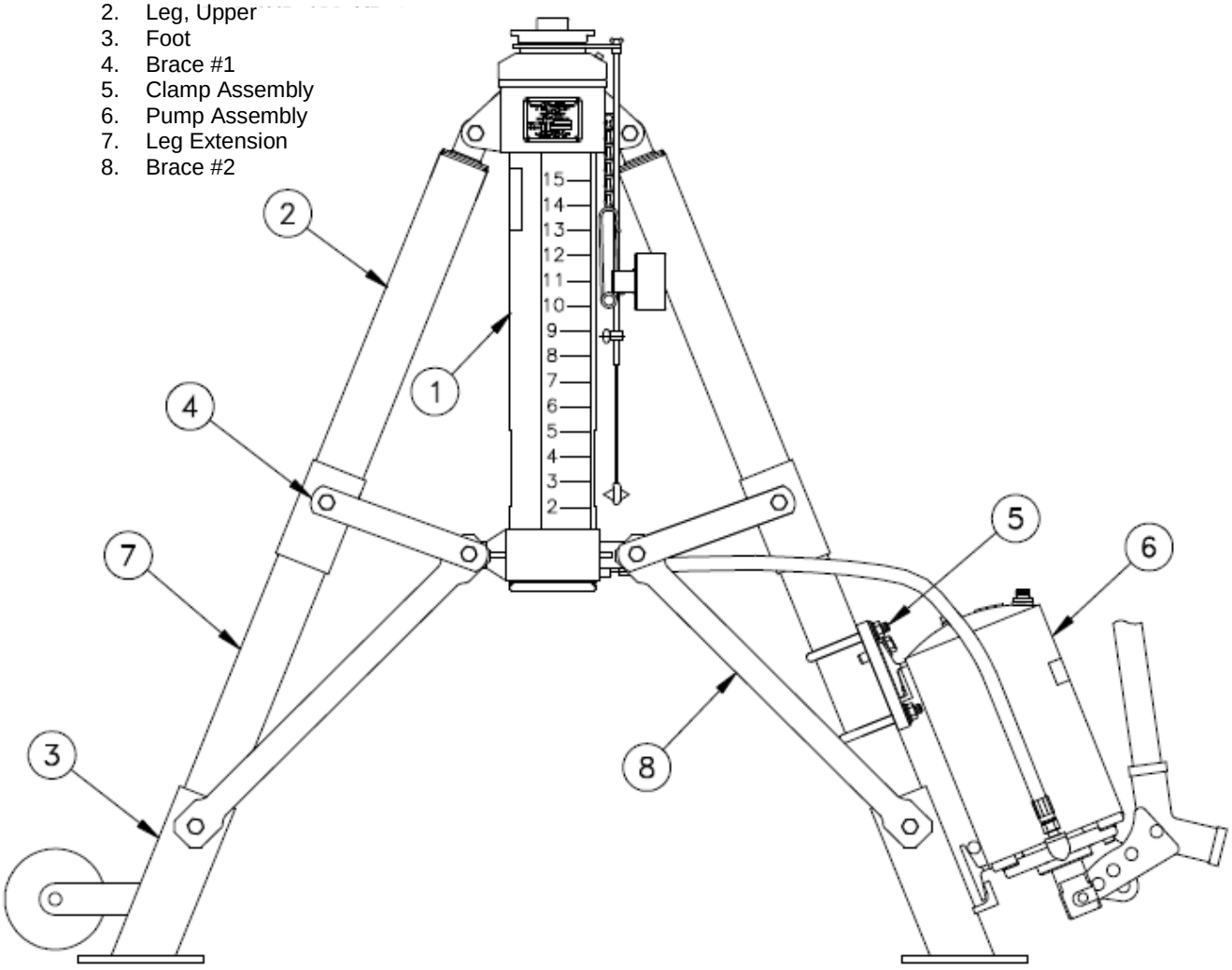


6.2 ONE-LEG EXTENSION ASSEMBLY

1. Be sure foot assemblies and pump assembly are not attached to tripod before installing leg extension.
2. Place the flared end of leg extensions (7) over end of basic legs (2) and align holes.
3. Place the end of braces #1 (4) over each side of leg extensions (7) and insert bolts through braces #1 (4), leg extensions (7) and basic legs (2). Install nuts.
4. Place one end of braces #2 (8) under braces #1 (4) and secure both braces to lugs at bottom of cylinder assembly (1) with bolts and nuts
5. If another leg extension is not to be added, attach foot assemblies (3) and secure free ends of braces # 2 (8) to the foot assemblies (3) with bolts and nuts.
5. Attach pump (6) only if you are not adding leg extensions by placing the lug on the lower part of the pump reservoir into the slotted support located on the foot (3) and secure with clamp assembly (5) to right hand leg.

NOTE: Do not fully tighten bolts and nuts until final desired height is attained.

LEGEND
1. Cylinder
2. Leg, Upper
3. Foot
4. Brace #1
5. Clamp Assembly
6. Pump Assembly
7. Leg Extension
8. Brace #2

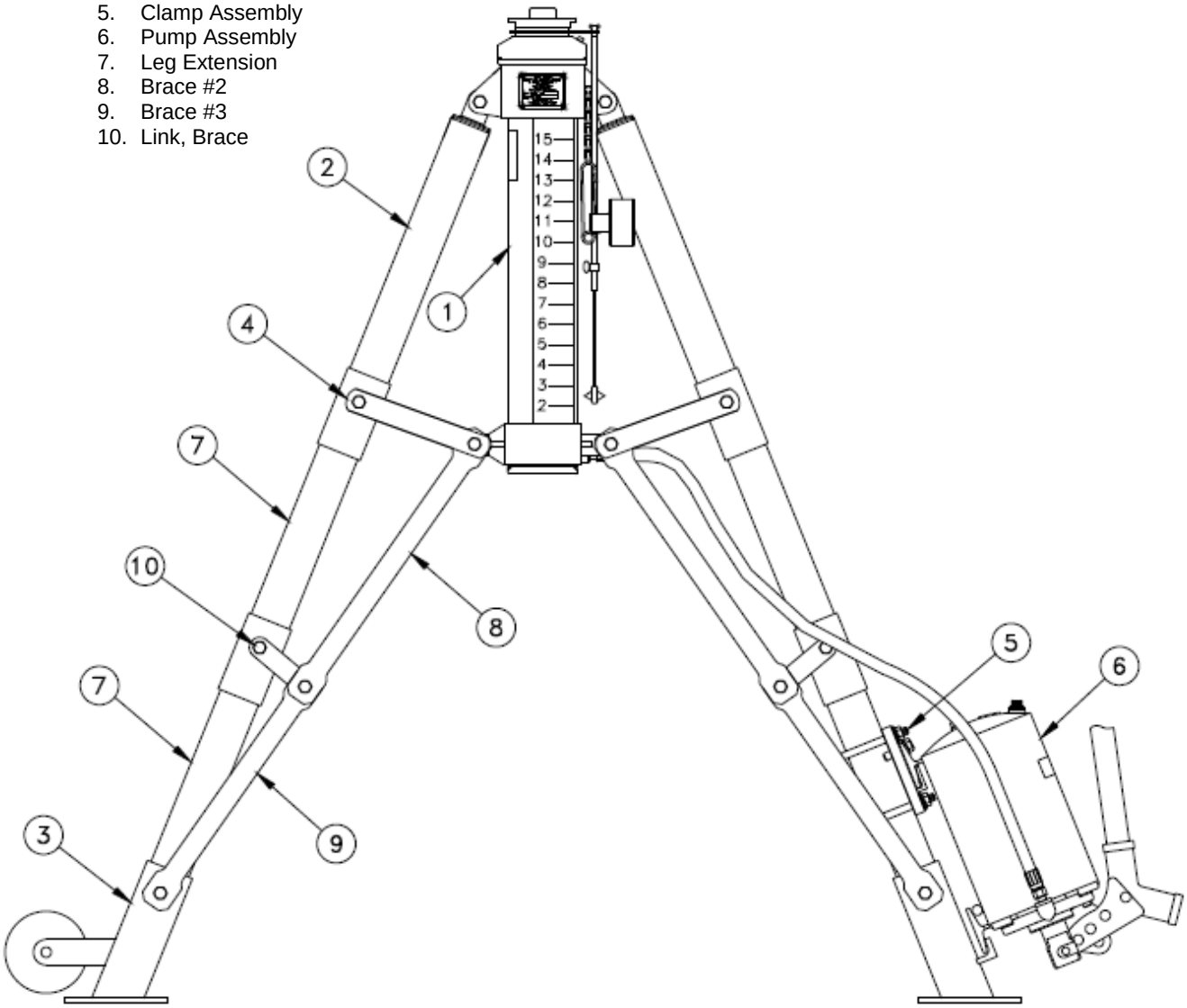


6.3 TWO-LEG EXTENSION ASSEMBLY

1. Be sure foot assemblies and pump assembly are not attached to tripod before installing leg extensions.
2. Place the flared end of leg extensions (7) over end of basic legs (2) and align holes.
3. Place the end of the links (10) over each side of leg extensions (7) and insert bolts through links (10), and leg extensions (7) and install nuts.
4. Secure free end of links (10) between braces #2 (8) and braces #3 (9), insert bolts through links (10), braces #2 (8) and braces #3 (9) and install nuts.
5. Attach foot assemblies (3) and secure free end of braces #3 (9) to the foot assemblies (3) with bolts and nuts.
6. Attach pump (6) only if you are not adding leg extensions by placing the lug on the lower part of the pump reservoir into the slotted support located on the foot (3) and secure with clamp assembly (5) to right hand leg.

NOTE: Do not fully tighten bolts and nuts until final desired height is attained.

LEGEND
1. Cylinder
2. Leg, Upper
3. Foot
4. Brace #1
5. Clamp Assembly
6. Pump Assembly
7. Leg Extension
8. Brace #2
9. Brace #3
10. Link, Brace



7.0 OPERATION

7.1 LIFTING PROCEDURE

1. Extension screw should be screwed down and ram should be fully retracted.
2. Position jack under load lifting point.
3. Unscrew the extension screw as required.
4. Close release valve.
5. Operate pump to extend ram to desired height.

WARNING!

Maintain approximately one (1) inch clearance between locknut and mating surface during raising and lowering of ram.

6. Screw locknut down against cylinder head and screw thumbscrew in locknut down against ram to mechanically secure the lifted load.

NOTE: Thumbscrew must be screwed down against ram to secure lifted load.

7. Open release valve to release hydraulic pressure.

7.2 LOWERING PROCEDURE

1. Close release valve.
2. Unscrew thumbscrew in locknut and operate pump to raise ram until locknut is free to rotate.
3. Slowly open jack release valve and allow ram to fully retract

NOTE: Speed of lowering is controlled by how far release valve is open.

WARNING!

Maintain approximate one (1) inch clearance between locknut and mating surface during lowering of ram.

4. Lower extension screw completely.

7.3 RELIEF VALVE SETTING

1. Position jack under a jack tester. Partially extend the ram.
2. Remove air vent and plug.
3. Insert an 18 inch screwdriver into plug hole and align with relief valve assembly.
4. Operate hand pump and verify that safety valve is set at 5.25 – 5.5 tons. Increase pressure setting by using screwdriver to adjust safety valve screw clockwise. To decrease pressure setting, adjust safety valve screw counterclockwise.

WARNING!

Use care not to set valve more than 10% above rated capacity. DO NOT exceed 11 tons.

5. Remove screwdriver and reinstall air vent and plug.

8.0 TROUBLE SHOOTING

If operational troubles are encountered, refer to the Trouble Shooting Chart which lists the most commonly occurring problems and gives information which will facilitate location of trouble source and determination of remedial action.

TROUBLE	PROBABLE CAUSE	REMEDY
Jack will not rise	Open pump release valve. Ball not seated; oil passing back into reservoir	Close release valve firmly. If necessary, reopen release valve, pump rapidly to flush out foreign matter. Close release valve
	Open suction valve. Ball not seated; oil passing back into reservoir	Pump rapidly to flush system
	Open discharge valve. Ball not seated; oil passing back into pump chamber	Pump rapidly to flush system
	Sticking suction valve	Pump rapidly to flush system
	Clogged screen	Remove and clean
	Lack of oil	Refill - Check for leaks
	Air under ram	Bleed system
	Leaks in hose assembly	Retighten or repair
	Faulty pump safety valve (set too low or it leaks)	Reset adjusting screw
Jack will not raise capacity load	Faulty pump safety valve	Reset adjusting screw
	High pressure leaks at joints, plugs or tubing	Retighten or repair
	Leaky discharge valve	Replace defective parts or rework valve seat in pump base
	Leaky ram o-ring packing	Replace packing
	Leaky pump release	Tighten
Jack will not raise to full height	Lack of oil	Refill reservoir; check system for leaks
	Sticking suction valve	Pump rapidly to dislodge
	Clogged screen	Clean screen
	Closed air vent	Open air vent
Jack rises and falls during each stroke	Leaky discharge valve	Replace defective parts or rework valve seat in pump base
Jack will not hold up load	Leaky release valve	Replace defective parts
	Leaky discharge valve	Replace defective parts or rework valve seat in pumping base
	Leaky ram o -ring packing	Replace packing
	Leaky safety valve	Replace defective parts or rework valve seat in pump base
	Leaks in oil line	Retighten or repair
	Safety ram lock nut not in right place	Loosen screw and rotate nut to top of ram and tighten screw
Jack will not lower the load	Safety ram lock nut not in right place	Loosen screw and rotate nut to top of ram and tighten screw
	Broken pump release valve	Replace defective parts as needed
	Bent ram	Rework ram or replace entire lift unit
Jack will not completely close	Safety ram lock nut not in right place	Loosen screw and rotate nut to top of ram and tighten screw
	Damaged ram	Rework ram or replace entire lift unit
	Air under ram	Bleed system
	Restricted oil passage	Disconnect one end of hose and pump handle rapidly to flush
Excessive pressure required to work handle	Handle position in relation to piston requires adjustment	Disconnect one end of hose and pump handle rapidly to flush
	Restricted oil passage	Disconnect one end of hose and pump handle rapidly to flush
Handle stroke partially ineffective	Sticking intake valve	Open pump release and pump rapidly to flush system
	Clogged screen	Clean screen
	Closed air vent	Open air vent

9.0 MAINTENANCE

There are no special maintenance instructions for this jack.

9.1 SHOP AIDS AVAILABLE

Contact ColumbusJACK/Regent Sales for any shop aids.

9.2 OVERHAUL KITS AVAILABLE

Soft Kit.....120A1595
Repair Kit 120A1596

10.0 PROVISION OF SPARES

10.1 SOURCE OF SPARE PARTS

Spare parts may be obtained from the manufacturer:

TRONAIR, **Inc./ColumbusJack/Regent**	Telephone:	(419) 866-6301 or 800-426-6301
1 Air Cargo Pkwy East	Fax:	(419) 867-0634
Swanton, Ohio 43558 USA	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

10.2 RECOMMENDED SPARE PARTS LISTS

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

Recommended Spares:
49B6450-2..... Tube Assembly – Rise Ind
450A4352..... Wheel
120A1595..... Soft Kit
120A1596..... Repair Kit

11.0 IN SERVICE SUPPORT

Contact Columbus Jack. for technical services and information. See Section 1.3 – Manufacturer.

12.0 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 the 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*.**

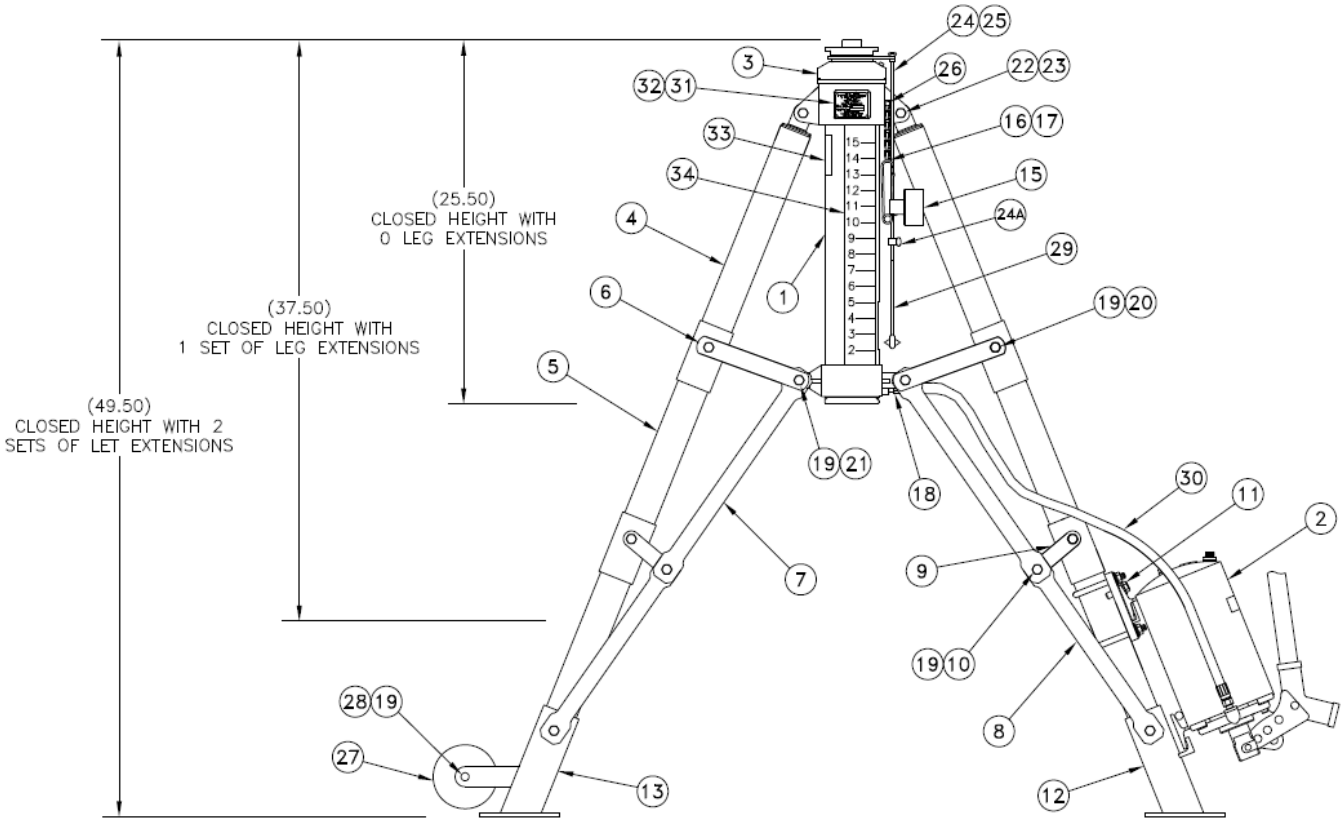
13.0 APPENDICES

APPENDIX I Routine Jack Maintenance Bulletins

This page left blank intentionally.

Parts List

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



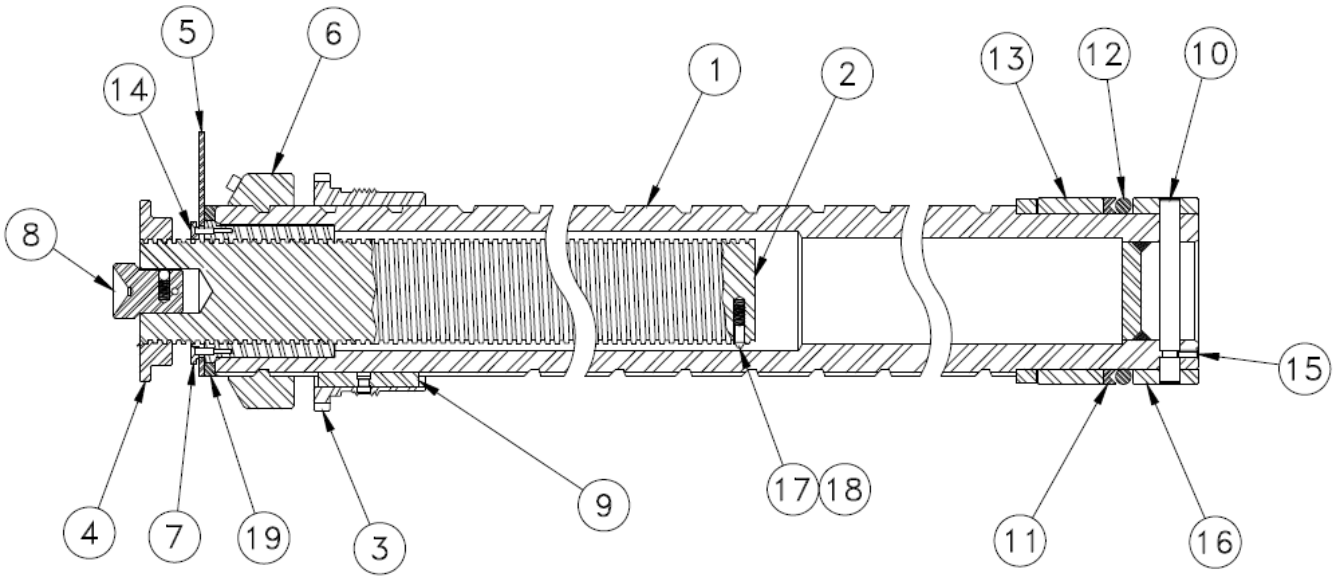
Parts List

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

Item	Part Number	Description	Qty
1	50D25183	Cylinder	1
2	51D7139	Pump Assembly	1
3	50D25180	Ram Assembly	1
4	50B25196	Leg, Upper	3
5	50B25234	Leg Extension	6
6	50B25212	Brace #1	6
7	50C25210	Brace #2	6
8	50B25215	Brace #3	6
9	50A25189	Link, Brace	6
10	50B25247	Spacer	3
11	270AS204-1	Clamp Assembly	1
12	764C1303	Foot Weldment, Center	1
13	764D1301	Foot Weldment, Left	1
14	764D1302	Foot Weldment, Right (Not Shown)	1
15	56B6192	Socket Assembly	1
16	450A7023	Pin, Blanket	1
17	450A5313	Chain	1
18	460-10806	Adapter, Elbow	1
19	333-31800	Hex Locknut	23
20	372-18280	Hex Head Cap Screw	9
21	372-18120	Hex Head Cap Screw	6
22	372-20160	Hex Head Cap Screw	3
23	333-32000	Hex Locknut	3
24	49B6450-2	Tube Assembly	1
24A	6-32	Thumbscrew	1
25	450A7030	Wing Nut	1
26	450A6993	Drive Screw	1
27	450A4352	Wheel	2
28	372-18260	Hex Head Cap Screw	2
29	48A7878-2	Rod, Pointer	1
30	450A4150-36	Hose Assembly	1
31	450A5312	Nameplate	1
32	450A6984	Drive Screw	4
33	42A13047-2	Decal, 5 Ton	1
34	50A25161	Decal, Rise Indicator	1

Parts List

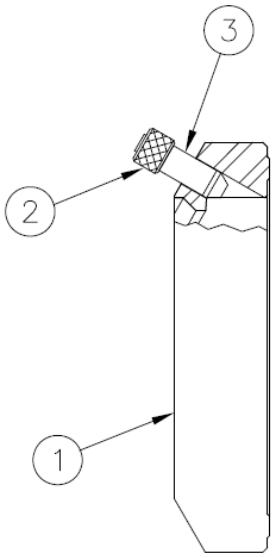
When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Item	Part Number	Description	Qty
	50D25180	**Ram Assembly;** consists of:	
1	50B25204	Ram and Nut Assembly	1
2	50C25200	Extension Screw	1
3	42B15083	Bearing, Upper.	1
4	50B25231	Nut, Extension Screw	1
5	50A25171	Collar, Rise Indicator	1
6	43A12190-2	Locknut Assembly	1
7	50A25170	Retainer, Collar	1
8	50B25164	Socket	1
9	43A12189-2	Key Assembly	1
10	50A25186	Pin, Ram	1
11	50B25175-3	Backup Ring	1
12	50B25174-5	O-Ring	1
13	50A25232	Bearing, Upper	1
14	AN510-3R6	Screw	4
15	AN565A2-3	Set Screw	1
16	50A25151	Bearing, Lower	1
17	42A12988	Plunger	1
18	42A12989	Spring	1
19	50A25237	Support	1

Parts List

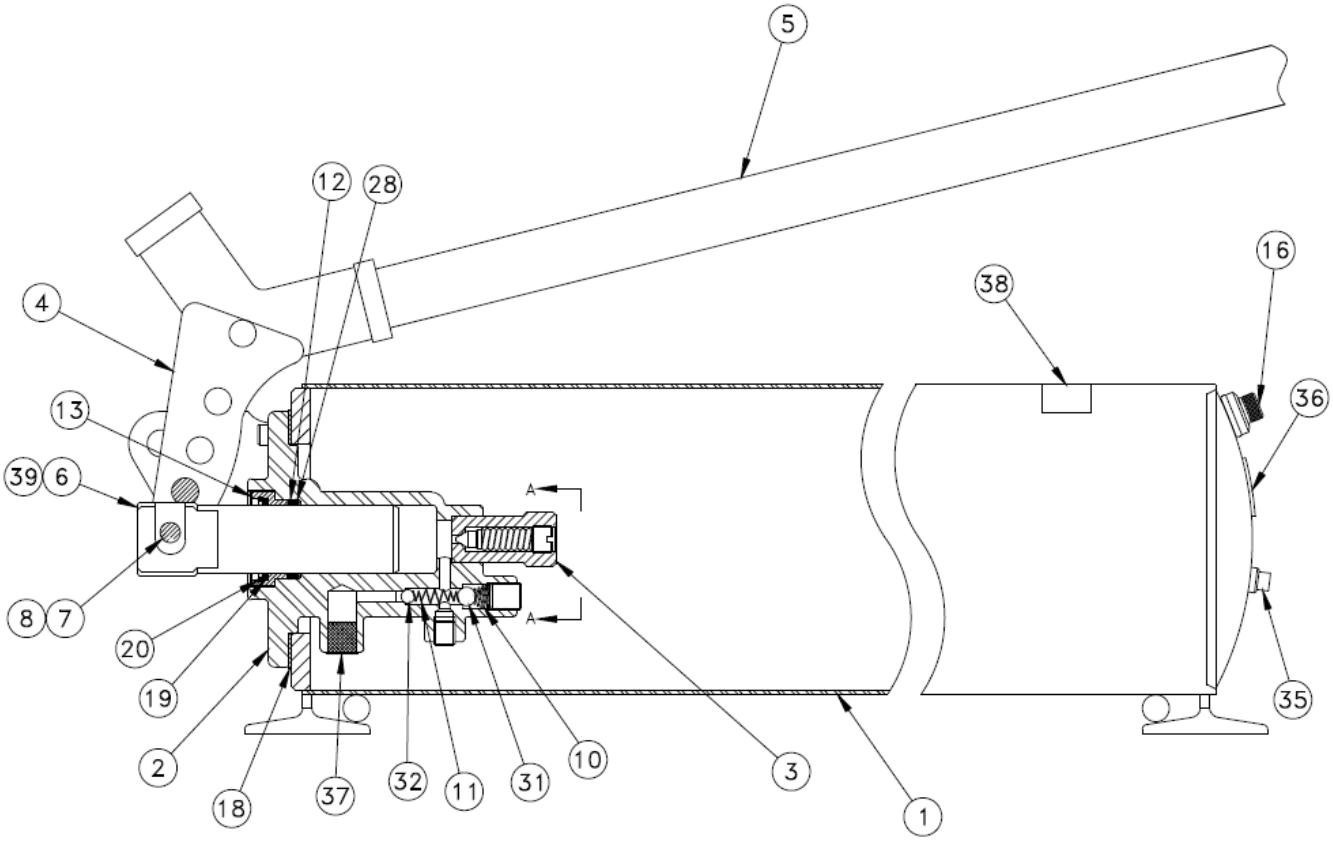
When ordering replacement parts/kits, please specify model, serial number and color of your unit.

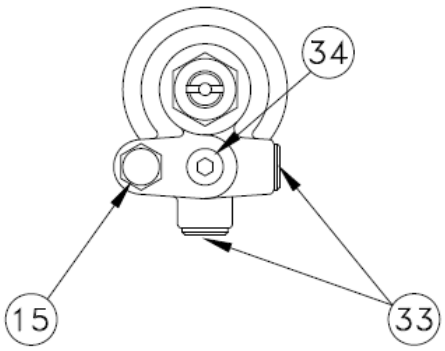


Item	Part Number	Description	Qty
	43A12190-2	**Locknut Assembly;** consists of:	
1	42D15085	Locknut	1
2	42A13037	Head, Screw	1
3	42A13036	Retaining Screw	1

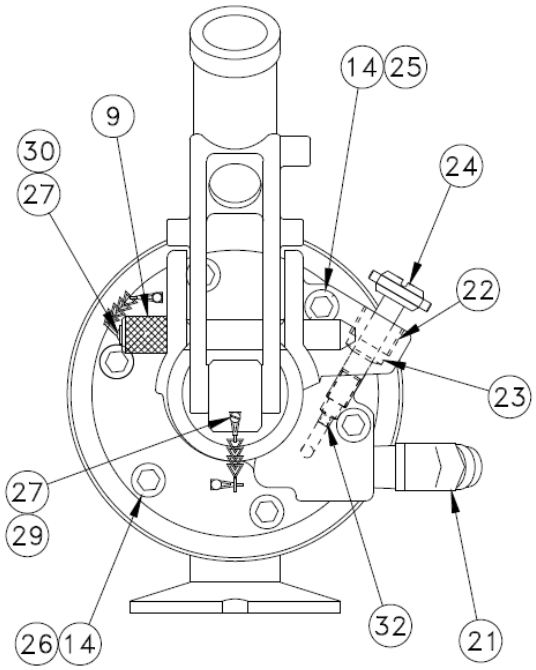
Parts List

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





VIEW A–A



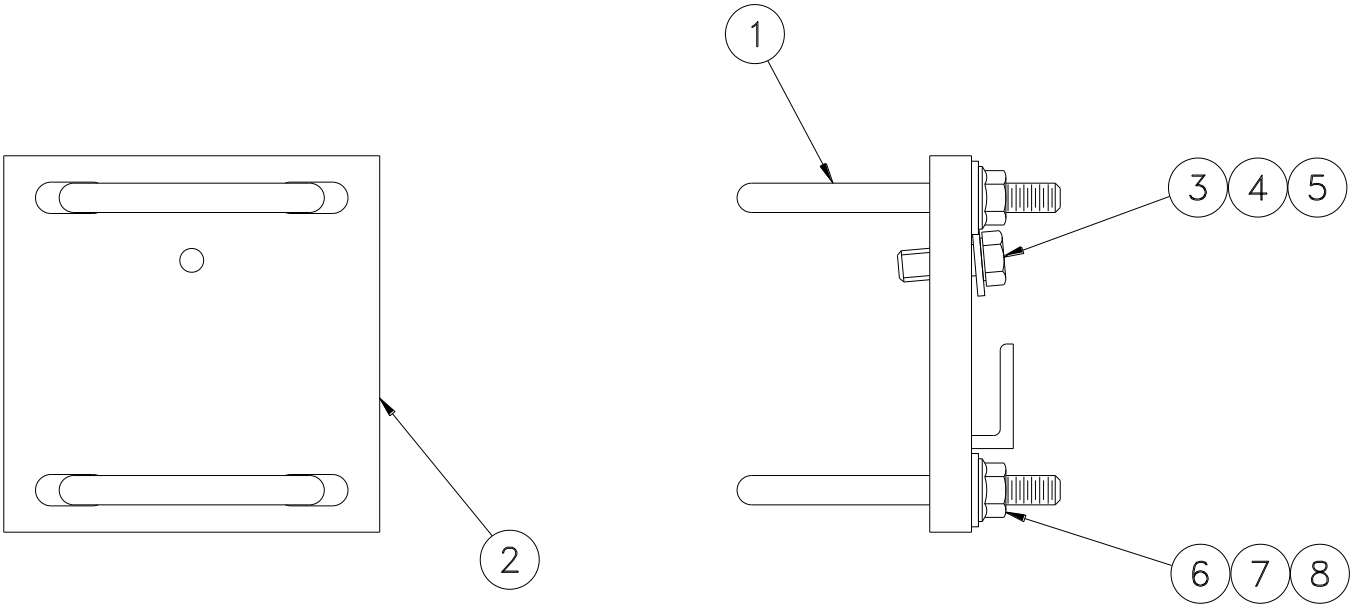
Parts List

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

Item	Part Number	Description	Qty
	51D7139	**Pump Assembly;** consists of:	
1	50C25220-1	Reservoir Weldment	1
2	52D6861	Body, Pump	1
3	43A12192-2	Relief Valve Assembly	1
3.1	42A12999	Body	1
3.2	42A13000	Relief Valve	1
3.3	42A13001	Spring	1
3.4	42A13002	Set Screw	1
4	48C7860	Socket, Pump Handle	1
5	48B7861	Handle, Pump	1
6	52B6863	Piston, Pump	1
7	42A13017	Pin, Pump Piston	1
8	42A13016	Roller, Piston Pin	1
9	43A12196	Pin Assembly	1
10	42A13004	Spring	1
11	42A13003	Spring, Intake Valve	1
12	48B7863-2	Backup Ring, Teflon	1
13	52B6864	Nut, Packing	1
14	48A7858	Washer	6
15	43A12191-2	Relief Valve Assembly	1
15.1	42A13009	Body	1
15.2	42A13010	Spring	1
15.3	42A13011	Relief Valve	1
15.4	42A13055	Set Screw	1
16	50B7763	Air Vent Assembly	1
18	42A13025	Gasket, Pump Body	1
19	48A7880	Felt Wiper	1
20	48A7866	Retaining Ring	1
21	MS20823-8	Connector Assembly, Female	1
22	42A13022	Nut, Release Stem	1
23	42A13021	Packing, Release Stem	1
24	42A12998	Release Valve Assembly	1
25	450A4276	Socket Head Cap Screw	2
26	378-16060	Socket Head Cap Screw	4
27	450A5313	Chain	AR
28	MS28775-218	O-Ring	1
29	MS35206-261	Pan Head Screw	1
30	MS21318-41	Drive Screw	3
31	MS19059-2417	Ball	1
32	MS19059-2414	Ball	2
33	MS27769U2	Pipe Plug	2
34	MS27769U3	Pipe Plug	1
35	488-00006	Pipe Plug	1
36	43A12145	Decal, Air Vent Instructions	1
37	D2421	Screen, Brass	1
38	42A13047-2	Decal, 5 Ton Capacity	1
39	MS21318-23	Drive Screw	1

Parts List

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



Item	Part Number	Description	Qty
	270AS204-1	**Clamp Assembly;** consists of:	
1	NAS3105C16-16	U-Bolt	2
2	270AS205-1	Plate	1
3	MS35338-46	Lockwasher.	1
4	MS90725-60	Hex Head Cap Screw	1
5	MS27183-13	Flat Washer.	1
6	MS27183-11	Flat Washer	4
7	MS35338-45	Lockwasher	4
8	MS35691-15	Hex Nut, Jam	4

APPENDIX I

Routine Jack Maintenance Bulletins

Routine Jack Maintenance Bulletin

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

BULLETIN RJM 102 – PROCEDURE FOR WINTERIZATION OF HYDRAULIC AIRCRAFT JACKS

The following procedures should be utilized for optimum operational characteristics when using jacks at various temperature extremes:

1. Above 0ºF (-18ºC) Use MIL-PRF-5606, or equal, with no further additive required.
2. At 0º to -20ºF (-18ºC to 29ºC) Use a mixture of 75% MIL-PRF-5606, or equal, and 25% kerosene.
3. Below -20ºF (-29ºC) Use a mixture of 50% MIL-PRF-5606, or equal, and 50% kerosene.

Due to most company, safety, or union regulations which restrict employees from working out-of-doors below -30ºF (-34ºC), there is a lack of experience beyond this point. It is permissible, however, to increase the percentage of kerosene up to 100%. As the ambient temperature increases, MIL-PRF-5606, should be added back to the system in the appropriate mixture.

The air supply should be clean and dry. At -30ºF (-34ºC), the air pump will start to react sluggishly and continue to operate less efficiently as the temperature decreases when a normal air supply is used. The problem can be eliminated by using a dry nitrogen source of sufficient capacity.

To ease the operation of the locknut(s) and screw extension, use "Never Freeze" by Snap-On, or equal, and apply liberally to the thread surfaces.

Routine Jack Maintenance Bulletin

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

BULLETIN RJM 116 –SCREW EXTENSION USAGE

When using a jack that has a screw extension, it is advisable that the screw extension be extended as far as possible, and still has the jack roll under the jacking point. If the screw extension is not properly extended, the aircraft may not be able to be raised to the desired height.

A periodic check should be made to the screw extension to ensure that the stop is operating properly to prevent over-extension. To do this, rotate the screw extension counterclockwise until it stops rotating. DO NOT FORCE THE SCREW EXTENSION BEYOND THIS POINT. If the screw extension does not stop rotating, remove it and repair the stop. DO NOT USE WITHOUT THE SCREW EXTENSION STOP WORKING PROPERLY, AS THE JACK COULD FAIL WITH AN OVER-EXTENDED SCREW EXTENSION.

Routine Jack Maintenance Bulletin

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

BULLETIN RJM 147 – RECOMMENDED ANNUAL JACK CERTICIFATION PROCEDURE

The following Recommended Annual Jack Certification Procedure is provided as a guide to insure that hydraulic aircraft jacks are always certified for operation. An annual time interval is a general recommendation only. The actual interval used should include factors for the climatic conditions in which the equipment is stored and the frequency of equipment use. Recommendations for Suggested Preventative Maintenance can be found in RJM 170.

1. With no external load applied to the jack, fully close release valve and fully extend ram(s) to verify function and the absence of external hydraulic leakage.

WARNING!

DO NOT APPLY PRESSURE AGAINST INTERNAL RAM STOP(S).

2. Open release valve and verify ram(s) retract fully.
3. Position jack under jack tester.

   NOTE: For tripod jacks, all leg extensions should be installed on the jack.

4. Close release valve, and extend ram(s) until cup adapter contacts jack tester. Make sure that the ram of a single stage jack is partially extended and that the smaller ram of a multi-stage jack is partially extended.
5. Pressurize the jack against the jack tester. Using a calibrated pressure gauge on either the jack or the jack tester, monitor the pressure until the capacity (operating pressure) of the jack is reached.
6. With the jack pressurized against the jack tester, hold in this position for 3 minutes. Verify that the jack pressure has not decreased, indicating internal leakage.
7. Open the release valve to relieve jack pressure against the jack tester.
8. Set the safety relief valve per jack operation and maintenance manual.

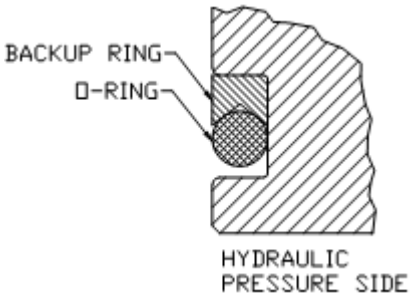
Routine Jack Maintenance Bulletin

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

BULLETIN RJM 149 – TEFLON BACKUP RING INSTALLATION PROCEDURE

When installing new Teflon backup rings on a ram or piston of any jack model, the following procedure should be observed to ensure correct installation of the ring. When installing a new backup ring, the corresponding o-ring should always be replaced also.

1. Cut existing o-ring and Teflon backup ring.
2. Clean and visually inspect the groove in the ram or piston for any nicks, scratches of score marks, which could cut the o-ring and backup ring during installation.
3. Check to ensure backup ring is clean and not damaged.
4. Set backup ring on a flat metal surface.
5. Using a propane torch, heat backup ring in a circular motion until backup ring is equally softened and pliable or flexible.
6. Carefully pick-up the HOT Teflon backup ring off the HOT metal plate and stretch the ring enough to fit over the end of the ram (piston).
   NOTE: Make sure the "V" cup portion of the backup ring will face the o-ring. (see figure)
7. If backup ring does not return to size after cooling, re-heat backup ring while on the part, and cool quickly with a cold, wet towel or rag.
8. Check to ensure o-ring is clean and not damaged.
9. Carefully stretch o-ring over the end of the ram (piston). Ensure that the o-ring and the "V" cup of the backup ring are facing each other. (See figure)



Routine Jack Maintenance Bulletin

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

BULLETIN RJM 170 – SUGGESTED PREVENTATIVE MAINTENANCE FOR JACKS

The following Preventative Maintenance Schedule is provided as a guide to insure that hydraulic aircraft jacks are always ready for operation. The time intervals listed are a general recommendation only. The actual interval used should include factors for the climatic conditions in which the equipment is stored and the frequency of equipment use.

Prior to Operation

1. Inspect for damaged or missing components.
2. Inspect for oil leakage and proper fluid level.
3. Inspect screw extension for mechanical stop.
4. Inspect all snap rings for engagement into grooves.
5. Inspect jack adapter for damage.

Every 6 Months

1. Inspect for worn snap ring grooves.
2. Change hydraulic filters if applicable.
3. If jack has not been used regularly, cycle jack without load.
4. Grease all lube fittings with a general purpose grease.
5. Wipe down ram(s) and screw extension with hydraulic oil.

Every 12 Months

1. Calibrate pressure gauge if applicable per RJM 173.
1. Perform "Recommended Annual Jack Certification Procedure" per RJM 147.

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)