

# BLACKHAWK LIFTING EQUIPMENT

## instructions & repair parts

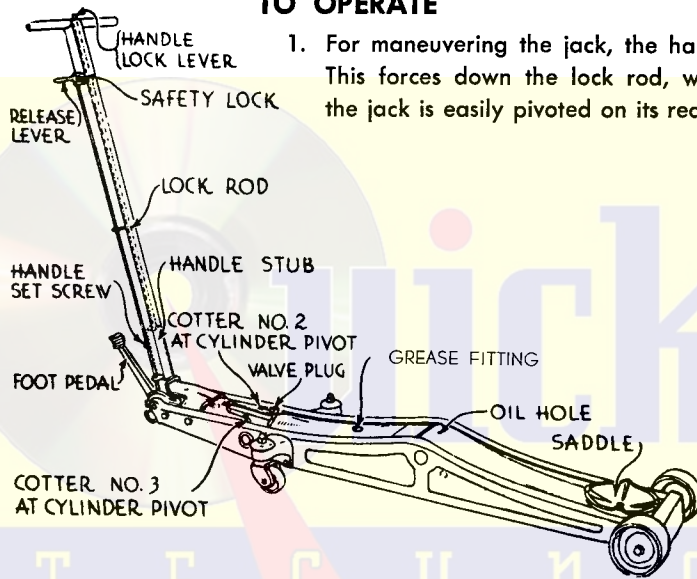
**MODEL SJ-16**  
**SERVICE JACK**  
**Capacity 10 Ton**

### TO ASSEMBLE

1. Check the handle set screw for tightness.
2. Remove and discard the screw from the filler plug. This is very important, as the vent hole must always be kept open so the jack can "breathe."

### TO OPERATE

1. For maneuvering the jack, the handle is locked to the frame by depressing the Lock Lever. This forces down the lock rod, which locks the handle in one of two positions, after which the jack is easily pivoted on its rear casters.



2. Having placed the jack in position, the saddle is raised to the load by means of the foot pedal. On cars with independent suspension, it is often advantageous to operate this pedal by hand while watching to assure desired saddle to car contact. Light loads may be lifted with the foot pedal alone, which has quicker action than the handle.
3. Pump with the handle for easy lifting.
4. To lower the load, pull back gently on the release lever.
5. Always use the Safety Lock attached to the release lever to prevent operation of the release either accidentally or carelessly.

### TO REFILL

Remove the filler plug and with the saddle DOWN pour in Blackhawk Hydraulic Jack Oil until the level comes up to within  $\frac{1}{4}$ " to  $\frac{3}{8}$ " below filler hole. Overfilling causes excess to spurt out the vent hole as jack is raised. Insufficient oil causes jack to lift only part way. Always be sure to put in oil only when the saddle is down. Be careful not to let any dirt get into the reservoir while the Filler Plug is out.

### TO SERVICE

1. Keep all working parts thoroughly lubricated. Grease Zerk fitting regularly. Oil should also be put in the handle pivot and foot pedal.
2. Packing nuts at the piston and pump plunger should be kept moderately tight. These packings are NOT under high pressure, and should only be tight enough to prevent leakage.
3. Ball valves may be removed for inspection and cleaning by removing the Valve Plug and turning the jack on its side, when they will roll out.

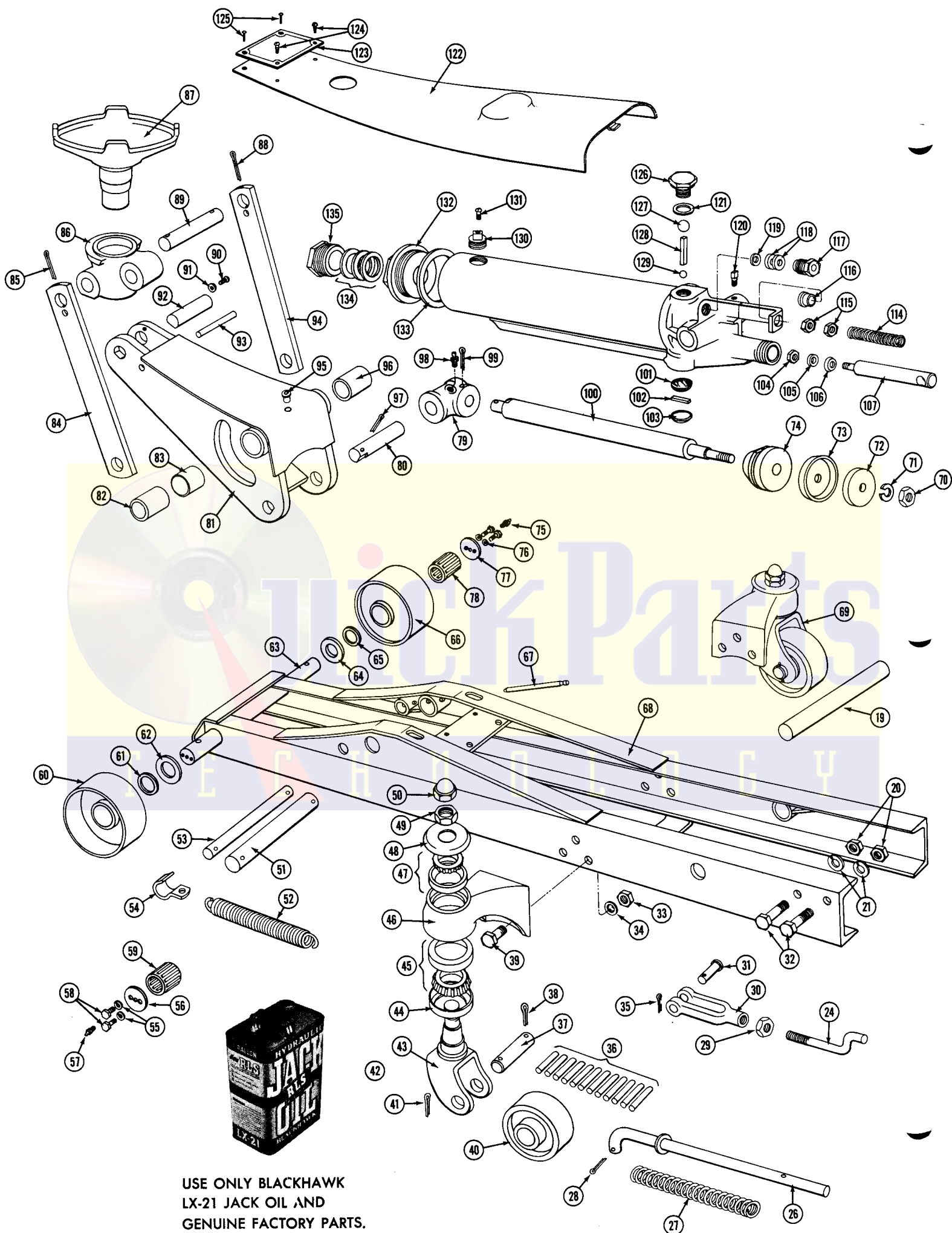
**IMPORTANT:** Whenever it is necessary to loosen or remove the Valve Plug, the gasket should be replaced

with a new one. Oil leakage at this point is usually caused by trying to use an old gasket over again.

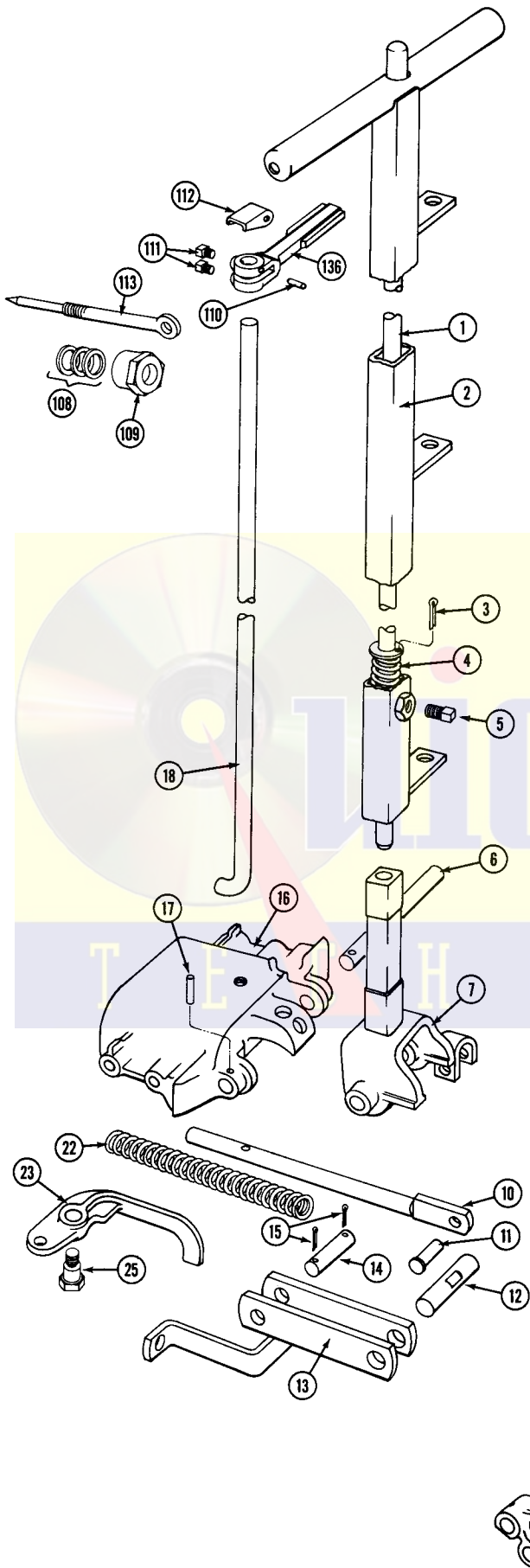
4. If pumping fails to raise the load, the lower ball valve is leaking, and it should be inspected for dirt or other obstruction.
5. If the load raises on the down stroke of the handle and immediately settles back, forcing up the handle, it shows the upper ball valve is leaking.
6. Pumping only on a half stroke of the handle may also be caused by a loose piston packing nut. Be sure this nut is kept tight.

### TO RELIEVE WHEN AIR-BOUND

1. Should the oil supply run too low, or in case of air leakage at the Clean Out Plug, the jack may become air-bound and work on only a half-stroke of the handle. Fill the jack with oil, raise the saddle, and then lower the saddle while holding the foot pedal depressed. This will flush out any air in the system, and excess oil may run out of the vent. Be sure jack is properly filled with oil before putting it back in service.



**USE ONLY BLACKHAWK  
 LX-21 JACK OIL AND  
 GENUINE FACTORY PARTS.**

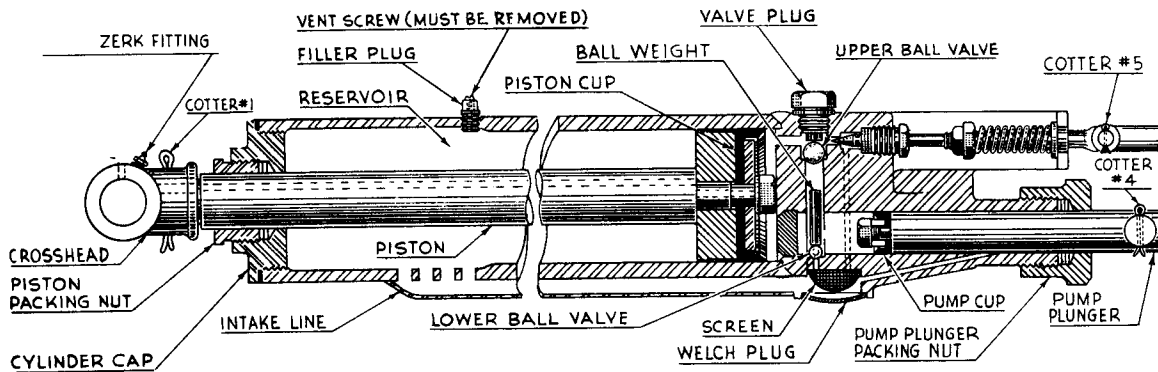


Item No.	Part No.	Description	Item No.	Part No.	Description
1	D468.149	Rod	63	D499.104	Front Axle
2	D466.135	Cross Bar & Handle Tube	64	D502.108	Washer
3	D527.061	Cotter Pin	65	D461.108	Washer
4	D424.183	Lock Spring	66	D509.106	Front Wheel
5	D390.028	Screw	67	D472.061	Pin
6	D469.061	Pin	68	D500.001	Frame
7	D411.133	Yoke Assembly	69	D404.154	Caster Assy. Less Bracket
8	D412.157	Lever	70	D394.055	Nut
9	D438.028	Screw	71	D395.108	Lock Washer
10	D449.149	Rod	72	D458.043	Spreader
11	D463.061	Pin	73	D439.041	Cup
12	D470.061	Pin	74	D399.044	Ring
13	D505.062	Link	75	D437.188	Grease Fitting
14	D467.061	Pin	76	D518.108	Lock Washer
15	D515.061	Cotter Pin	77	D501.071	Disc
16	D413.111	Bracket	78	D507.107	Front Bearing
17	D528.061	Pin	79	D401.264	Plunger Head
18	D462.149	Release Rod	80	D476.061	Pin
19	D475.061	Pin	81	D481.103	Lifting Arm
20	D394.055	Nut	82	D479.039	Bushing
21	D519.108	Lock Washer	83	D480.186	Spacer
22	D410.183	Spring	84	D445.062	Link
23	D397.157	Release Lever	85	D584.061	Cotter Pin
24	D471.149	Rod	86	D417.111	Saddle Bracket
25	D478.028	Bolt	87	D402.045	Saddle
26	D504.149	Rod	88	D584.061	Cotter Pin
27	D506.183	Spring	89	D446.061	Pin
28	D516.061	Cotter Pin	90	D391.028	Screw
29	D419.055	Nut	91	D524.108	Washer
30	D441.133	Adj. Yoke	92	D473.061	Pin
31	D433.061	Pin	93	D525.061	Pin
32	D434.028	Screw	94	D445.062	Link
33	D503.055	Nut	95	D464.096	Fitting
34	D418.108	Lock Washer	96	D479.039	Bushing
35	D527.061	Cotter Pin	97	D429.061	Cotter Pin
36	D393.107	Roller	98	D437.188	Grease Fitting
37	D396.104	Axle	99	D526.061	Cotter Pin
38	D392.061	Cotter Pin	100	D448.040	Plunger
39	D514.028	Screw	101	D453.018	Screen
40	D398.106	Rear Wheel	102	D512.999	Magnet
41	D392.061	Cotter Pin	103	D425.006	Plug
42	See Item 69		104	D419.055	Nut
43	D403.133	Caster Yoke	105	D496.043	Spreader
44	D513.020	Cap Bearing	106	D494.041	Cup
45	D436.107	Lower Bearing	107	D497.040	Piston
46	D414.111	Caster Bracket	108	D495.076	Packing
47	D435.107	Upper Bearing	109	D405.055	Nut
48	D456.020	Cap Bearing	110	D491.061	Pin
49	D423.055	Nut	111	D438.028	Set Screw
50	D483.055	Nut	112	D490.111	Bracket
51	D477.061	Pin	113	D447.010	Release Valve
52	D482.183	Spring	114	D427.183	Spring
53	D474.061	Pin	115	D422.055	Nut
54	D444.017	Hook	116	D452.039	Bushing
55	D518.108	Lock Washer	117	D454.055	Packing Nut
56	D501.071	Disc	*118	D488.076	Packing
57	D437.188	Fitting	119	D498.043	Spreader
58	D420.028	Screw	120	D390.028	Set Screw
59	D507.107	Front Bearing	*121	D443.167	Gasket
60	D509.106	Front Wheel	122	D508.098	Cover
61	D461.108	Washer	123	SJ16.026	Decal
62	D502.108	Washer	124	D522.028	Screw
			125	D523.003	Rivet
			126	D451.006	Plug
			*127	D440.016	Ball
			128	D465.186	Spacer
			*129	D430.016	Ball
			130	D457.006	Plug
			131	D522.028	Screw
			132	D415.020	Top Cap
			*133	D511.161	Gasket
			*134	D485.076	Packing
			135	D416.055	Nut
			136	D400.135	Handle Assembly Includes Item 110, 111, 112, and 136
			137	SJ100.406	Decal, 2 Req.

**ASSEMBLY**

SJ16.05A.....Complete Power Unit Available either as exchange or outright purchase

\*For economy repair, use Jack/Saver Kit SJ16K-3. Items included in this Kit are marked with asterisk \*.



## TO REMOVE CYLINDER

1. Remove the cotter (No. 1) in the cross head.
2. Remove cotters (No. 2 and No. 3) at the cylinder pivot.
3. Remove the cotter (No. 4) and pin in the pump.
4. Remove the cotter (No. 5) and pin in the release yoke.
5. Raise the lifting arm by means of the saddle and place a block of wood between the arm and frame to hold up the arm.
6. This releases the cylinder at the forward end, so that it may be removed as a complete unit, for service or replacement with a factory reconditioned unit.

## TO REPLACE CUP

1. After removing the cylinder unit as described above, place it in a vise. Note that the vise jaws should grip the forging, not the steel cylinder. Set the unit in the vise with the forging downward, and the steel cylinder and piston up.
2. Unscrew the cylinder cap and lift the piston out of the cylinder.

3. Remove the nut and washer which holds the cup at the end of the piston; put in the new cup, and replace nut and washer.
4. In fitting the new cup into the cylinder, USE GREAT CARE as the cup passes the filler plug hole not to cut or otherwise damage the cup. Then replace the cylinder cap.
5. To replace the small cup on the pump, turn the cylinder unit pump end upward in the vise.
6. Unscrew the packing nut and pull out the pump plunger. Remove the nut that holds cup to end of plunger; insert new cup, and replace nut.
7. Be careful NOT to force the cup through the packing nut, as this will damage the cup. Instead, slip the packing nut over the plunger from the other end. Replace plunger and tighten packing nut moderately — just enough to prevent leakage.
8. Cylinder unit is replaced in jack by inserting five cotters and two pins in reverse order described above. Start with instruction 4, under "To Remove Cylinder" and replace cotters in order — 5, 4, 3, 2, and 1. Release linkage should then be re-adjusted.

## Guarantee

Blackhawk guarantees its Lifting Equipment and Porto-Power Repair Tools against defects in workmanship and material for 90 days from date of delivery to the user. Only exception is chain, which follows the trade custom of its manufacturers and cannot be guaranteed.

When question of warranty arises, the user should send his unit to the nearest Blackhawk Franchised Service Depot for inspection, transportation to be prepaid and evidence of delivery date furnished. Contact Blackhawk Mfg. Co., Milwaukee, Wis., for list of Franchised Service Depots.

If the difficulty comes under the terms of our guarantee, the Franchised Service Depot will repair or replace parts affected and return prepaid. Our guarantee does not cover ordinary wear and tear, abuse, misuse, overloading, altered products or use of improper fluid.

## Franchised Service Depots



For quality workmanship with genuine Blackhawk parts select a Franchised Blackhawk Service Depot for your repair work. Only repairs performed by a franchised service depot displaying this official franchise service depot sign are backed with full factory guarantee. The Classified Section in your Phone Book lists your nearest Franchised Service Depot.

**BLACKHAWK MFG. CO.**  
MILWAUKEE 46, WISCONSIN



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