



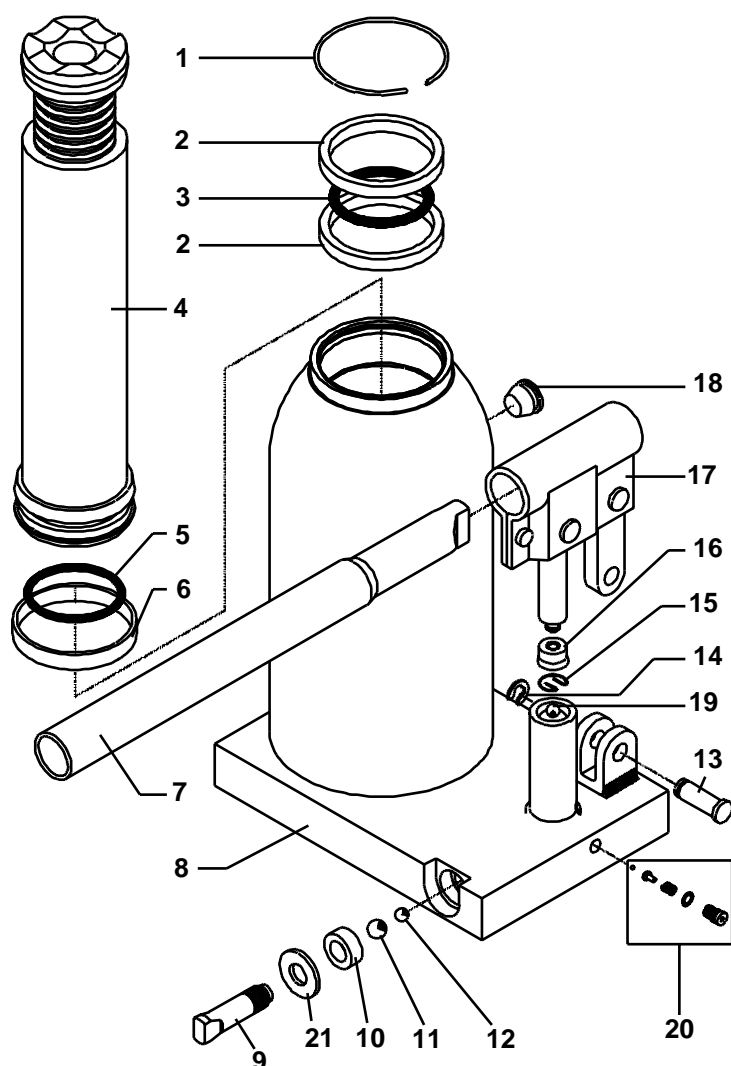
SPX Corporation
655 Eisenhower Drive
Owatonna, MN 55060-0995 USA
Phone: (507) 455-7000
Tech. Serv.: (800) 533-6127
Fax: (800) 955-8329
Order Entry: (800) 533-6127
Fax: (800) 283-8665
International Sales: (507) 455-7223
Fax: (507) 455-7063

Form No. 530691

**Parts List &
Operating Instructions for: 5221**

20-Ton Hydraulic Jack

These instructions have been written to help the user more effectively use and maintain OTC jacks. Some of the information applying to construction, installation, operation, inspection, and maintenance of hydraulic jacks was selected from ANSI B30.1 and ASME/ANSI PALD-1. It is strongly recommended that the user read these two documents, which may be ordered from the American Society of Mechanical Engineers, P.O. Box 2900, Fairfield, NJ 07007-2900.



Parts List

Item No.	Qty.	Description
1	1	Ring
2	2	Ring
3	1	O-ring
4	1	Main Piston
5	1	O-ring
6	1	Ring
7	1	Handle
8	1	Hydraulic Unit
9	1	Release
10	1	O-ring
11	1	Ball
12	1	Ball
13	1	Axle
14	1	Retaining Ring
15	1	Spring
16	1	Seal
17	1	Handle Socket
18	1	Filler Plug
19	1	Ball
20	1	Safety Valve
21	1	Washer

Replacement Kits for the 5221 Hydraulic Jack

Item No.	Qty.	Description
No. 531130 Seal Kit includes:		
1	1	Ring
3	1	O-ring
5	1	O-ring
6	1	Ring
10	1	O-ring
16	1	Seal
18	1	Filler Plug

No. 531128 Handle Kit includes:		
7	1	Handle

Item No.	Qty.	Description
No. 531131 Hardware Kit includes:		
2	2	Ring
9	1	Release
11	1	Ball
12	1	Ball
13	1	Axle
14	1	Retaining Ring
15	1	Spring
17	1	Handle Socket
19	1	Ball
20	1	Safety Valve
21	1	Washer

Safety Precautions



WARNING: To prevent personal injury and damage to equipment,



- Study, understand, and follow all instructions and safety precautions.
- Wear eye protection that meets ANSI Z87.1 and OSHA standards.
- Use the jack on a hard, level surface.
- Inspect the jack before each use; do not use the jack if it's damaged, altered, or in poor condition. Use only OTC approved parts on the jack.
- Use the jack for lifting purposes only. This jack is designed to LIFT loads, not support loads. Immediately support a lifted load with appropriate means.
- Never exceed the rated lifting capacity of the jack.
- Center the load on the jack saddle. Off-center loads can damage seals and cause jack failure.
- Lift only dead weight. Do not move the jack while it is supporting a load.
- Stay clear of lifted loads.
- Use only attachments and/or adapters supplied by the manufacturer.

- Lower the jack slowly and carefully while watching the position of the jack saddle.
- Use only approved hydraulic fluid (type HL or HM).

This guide cannot cover every situation, so always do the job with safety first.

Setup Instructions

Before operating the jack, purge the hydraulic unit to eliminate any possible air in the system.

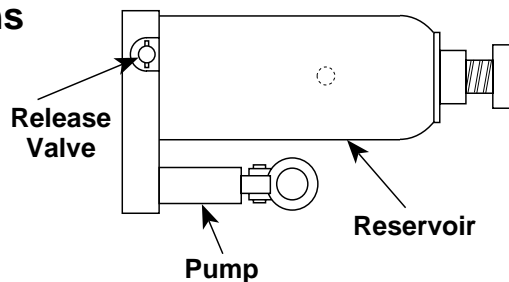
Bleeding air from the system:

1. Purge the system by opening the release valve; use the handle to turn the release valve 180° counterclockwise.
2. With the jack in an upright position, place the handle into the handle socket, and pump the handle rapidly several times.
3. Close the release valve by turning it clockwise until tight, and pump the ram to its full height.
4. Open the release valve, and let the ram descend quickly. Repeat if necessary.

Operating Instructions

1. Unscrew the extension screw until the jack saddle is close to the load.
2. To raise the jack, close the release valve by turning it clockwise. Insert the handle into the pump receiver and operate the pump.
3. To lower the jack, slowly open the release valve knob by turning it counterclockwise.

Using the jack in a horizontal position: Place the jack on its side so the pump is lower than the reservoir as shown.



Preventive Maintenance

Important: Dirt is the greatest single cause of failure in hydraulic units. Keep the jack clean and well lubricated to prevent foreign matter from entering the system. If the jack has been exposed to rain, snow, sand, or grit, it must be cleaned before it is used. The use of alcohol, hydraulic brake fluid, detergent motor oil, or transmission oil could damage the seals and result in jack failure. Use only approved hydraulic fluid (type HL or HM) with an ISO grade cinematic viscosity of 30 cSt at 40° C or an Engler viscosity of 3 at 50° C.

1. When the jack is not in use, keep the piston and pump rods fully retracted. Store the jack on its base (in an upright position) and in a well protected area where it will not be exposed to corrosive vapors, abrasive dust, or any other harmful elements.
2. Visually inspect the jack before each use. Take corrective action if any of the following problems are found:
 - a. Cracked or damaged housing
 - b. Excessive wear, bending, or other damage
 - c. Leaking hydraulic fluid
 - d. Scored or damaged piston rod
 - e. Incorrectly functioning swivel heads or adj. screw
 - f. Loose hardware
 - g. Modified or altered equipment

Troubleshooting Guide

Repair procedures must be performed in a dirt-free environment by qualified personnel who are familiar with this equipment.

Trouble	Cause	Solution
Erratic Action	1. Air in system 2. Viscosity of oil too high 3. Ram sticking or binding 4. Internal leakage in ram	1. With jack sitting on its base and ram retracted, bleed air from unit. See back of page 1 of 1 to bleed air from the system. 2. Change to a lower viscosity oil. 3. Look for dirt, gummy deposits, leaks, misalignment, worn parts, or defective packing. 4. Take jack to authorized service center for repair.
Ram does not advance	1. Release valve is open 2. Low/no oil in reservoir 3. Air locked system 4. Load is above capacity of system	1. Close release valve. 2. Fill with oil to fill line & bleed system. 3. Bleed the system. 4. Use correct equipment.
Ram only extends partially	1. Low oil level in reservoir 2. Piston rod is binding	1. Fill with oil to fill line & bleed system. 2. Look for dirt, gummy deposits, leaks, misalignment, worn parts, or defective packing.
Ram advances slowly	1. Pump not working correctly 2. Leaking seals	1. Take jack to authorized service center for pump repair. 2. Repair with seal kit No. 531130.
Ram advances but doesn't hold pressure	1. Pump check valve not working 2. Ram seals are leaking	1. Take jack to authorized service center for seal replacement. 2. Repair with seal kit No. 531130.
Jack leaks oil	1. Worn or damaged seals	1. Repair with seal kit No. 531130.
Ram will not retract, or retracts slowly	1. Release valve is closed 2. Reservoir too full 3. Ram damaged internally	1. Open release valve. 2. Drain oil to correct level. 3. Take jack to authorized service center for repair.

