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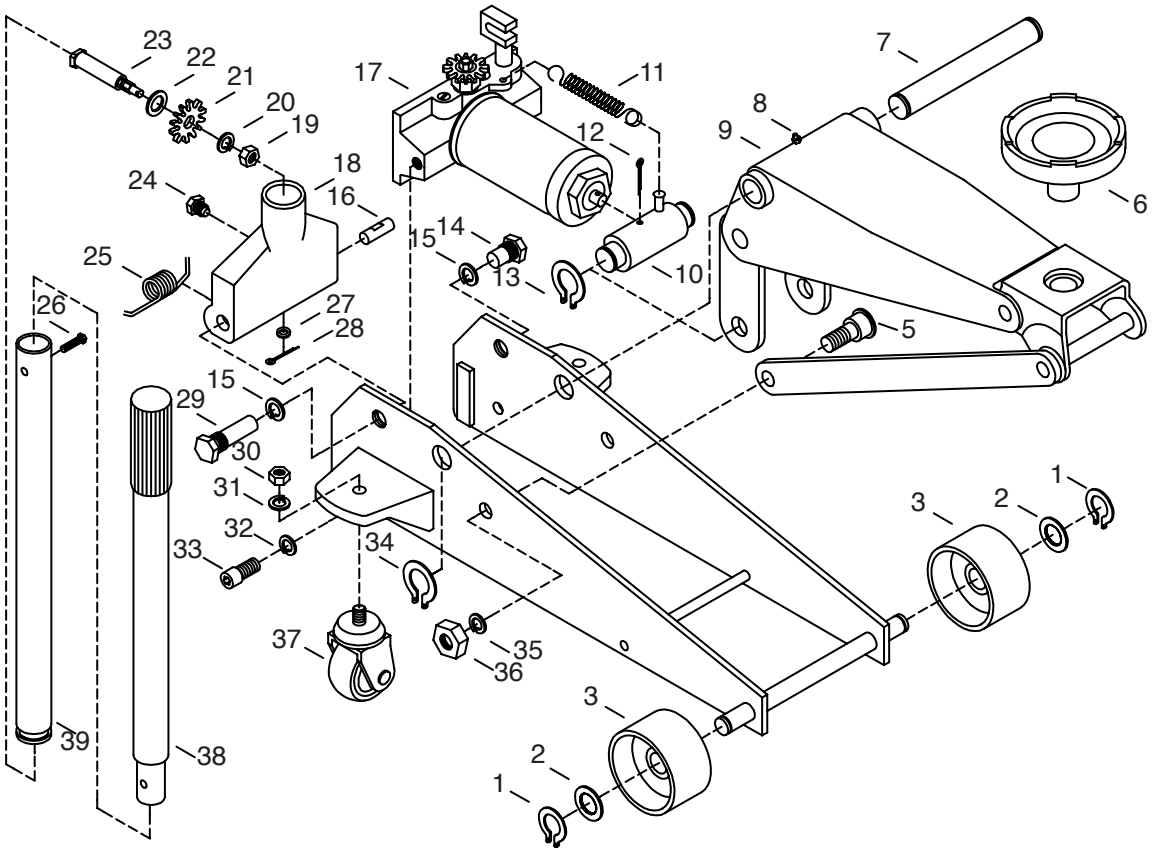
Form No. 522982

Parts List and Operating Instructions for:

1503A
1504A

Service Jacks

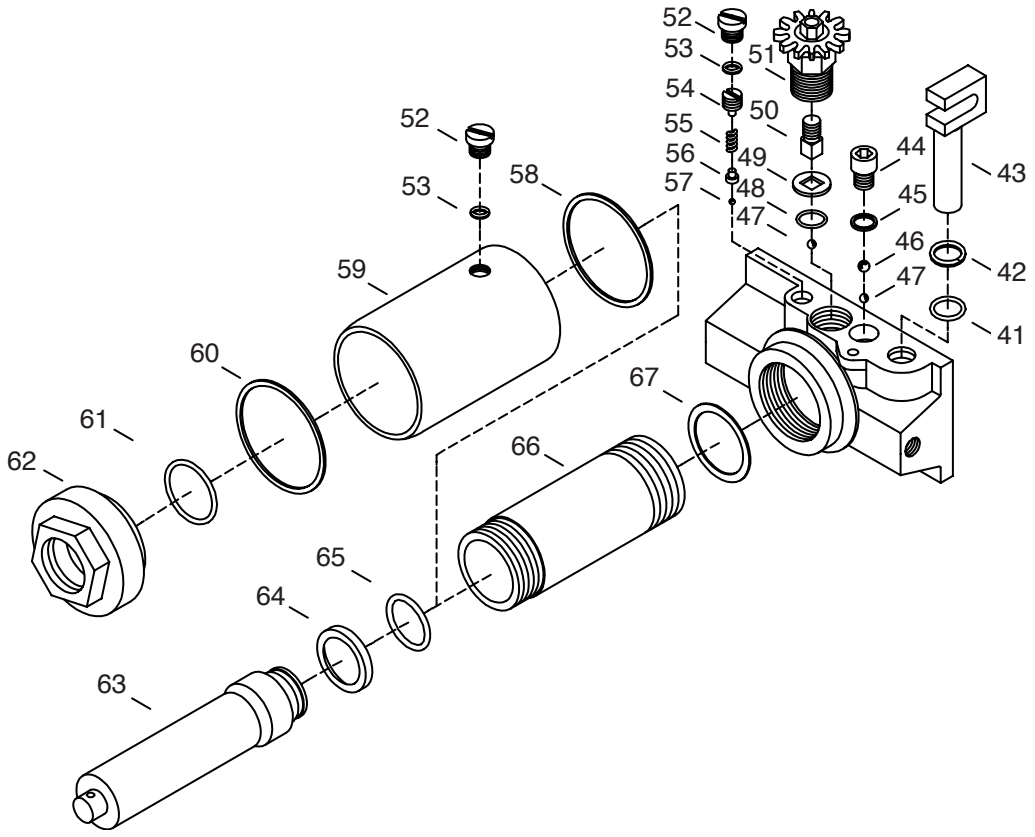
No. 1503A Max. Capacity: 2-1/2 Tons
No. 1504A Max. Capacity: 3 Tons



Service Jack Item List

Item No.	Qty.	Description
1	2	Retaining Ring
2	2	Washer
3	2	Wheel
5	2	Link Bolt
6	1	Saddle
7	1	Shaft
8	1	Grease Fitting
9	1	Lifting Arm Assembly
10	1	Load Block
11	1	Return Spring
12	1	Cotter Pin
13	2	Retaining Ring
14	1	Bolt
15	2	Lock Washer
16	1	Plunger Pin
17	1	Power Unit Assembly
18	1	Handle Socket
19	1	Hex Nut
20	1	Lock Washer
21	1	Gear
22	1	Washer
23	1	Gear Shaft
24	1	Handle Screw
25	1	Torsion Spring
26	1	Hex Head Screw
27	1	Washer
28	1	Cotter Pin
29	1	Bolt
30	2	Hex Nut
31	2	Lock Washer
32	2	Lock Washer
33	2	Cap Screw
34	2	Retaining Ring
35	2	Lock Washer
36	2	Hex Nut
37	2	Caster Assembly
38	1	Upper Handle
39	1	Lower Handle

Issue Date: Rev. C March 19, 2012



Hydraulic Pump Item List

Item No.	Quantity	Description
41	2	O-ring
42	2	Back-up Ring
43	1	Plunger
44	1	Plug Screw
45	1	Washer
46	1	Ball
47	2	Ball
48	1	O-ring
49	1	Guide Plate
50	1	Actuator
51	1	Release Valve Assembly
52	2	Plug Screw
53	2	Seal Washer
54	1	Overload Valve Screw
55	1	Spring
56	1	Spring Retainer
57	1	Ball
58	1	O-ring
59	1	Reservoir
60	1	O-ring
61	1	O-ring
62	1	Top Nut
63	1	Ram
64	1	O-ring Retainer
65	1	O-ring
66	1	Cylinder
67	1	O-ring

Replacement Kits

Caster Kits
Nos. 522932 (1503A) and 522955 (1504A) include:

Item No.	Qty.	Description
30	1	Hex Nut
31	1	Lock Washer
37	1	Caster Assembly

Handle Kits
Nos. 522934 (1503A) and 522957 (1504A) include:

Item No.	Qty.	Description
26	1	Hex Head Screw
38	1	Upper Handle
39	1	Lower Handle

Handle Pivot Kits
Nos. 522939 (1503A) and 522962 (1504A) include:

Item No.	Qty.	Description
14	1	Bolt
15	2	Lock Washer
16	1	Plunger Pin
18	1	Handle Socket
29	1	Bolt

Handle Retaining Bolt
Nos. 522938 (1503A) and 522961 (1504A):

Item No.	Qty.	Description
24	1	Handle Screw

Handle Return Spring
Nos. 522935 (1503A) and 522958 (1504A):

Item No.	Qty.	Description
25	1	Torsion Spring

Grease Zerk
Nos. 522945 (1503A) and 522968 (1504A):

Item No.	Qty.	Description
8	1	Grease Fitting

Hardware Kits
Nos. 522951 (1503A) and 522974 (1504A) include:

Item No.	Qty.	Description
44	1	Plug Screw
45	1	Washer
46	1	Ball
47	1	Ball
52	2	Plug Screw
53	2	Seal Washer
54	1	Overload Valve Screw
55	1	Spring
56	1	Spring Retainer
57	1	Ball

Lift Arm Kits
Nos. 522943 (1503A) and 522966 (1504A) include:

Item No.	Qty.	Description
5	2	Link Bolt
8	1	Grease Fitting
9	1	Lifting Arm Assembly
35	2	Lock Washer
36	2	Hex Nut

Lift Arm Return Spring
Nos. 522936 (1503A) and 522959 (1504A):

Item No.	Qty.	Description
11	1	Return Spring

Load Block Kits
Nos. 522940 (1503A) and 522963 (1504A) include:

Item No.	Qty.	Description
10	1	Load Block
12	1	Cotter Pin
13	2	Retaining Ring

Main Pivot Pin Kits
Nos. 522942 (1503A) and 522965 (1504A) include:

Item No.	Qty.	Description
7	1	Shaft
34	2	Retaining Ring

Power Unit Kits
Nos. 522937 (1503A) and 522960 (1504A) include:

Item No.	Qty.	Description
17	1	Power Unit Assembly
32	2	Lock Washer
33	2	Cap Screw

Pump Plunger Kits
Nos. 522948 (1503A) and 522971 (1504A) include:

Item No.	Qty.	Description
41	2	O-ring
42	2	Back-up Ring
43	1	Plunger

Ram Kits
Nos. 522950 (1503A) and 522973 (1504A) include:

Item No.	Qty.	Description
63	1	Ram
64	1	O-ring Retainer
65	1	O-ring
66	1	Cylinder
67	1	O-ring

Release Gear Assembly Kits
Nos. 522947 (1503A) and 522970 (1504A) include:

Item No.	Qty.	Description
47	1	Ball
48	1	O-ring
49	1	Guide Plate
50	1	Actuator
51	1	Release Valve Assembly

Release Gear Kits
Nos. 522944 (1503A) and 522967 (1504A) include:

Item No.	Qty.	Description
19	1	Hex Nut
20	1	Lock Washer
21	1	Gear
22	1	Washer
23	1	Gear Shaft
27	1	Washer
28	1	Cotter Pin

Reservoir Kits
Nos. 522949 (1503A) and 522972 (1504A) include:

Item No.	Qty.	Description
52	1	Plug Screw
53	1	Seal Washer
58	1	O-ring
59	1	Reservoir
60	1	O-ring
61	1	O-ring
62	1	Top Nut

Saddle
Nos. 522941 (1503A) and 522964 (1504A):

Item No.	Qty.	Description
6	1	Saddle

Seal Kits
Nos. 522946 (1503A) and 522969 (1504A) include:

Item No.	Qty.	Description
41	2	O-ring
42	2	Back-up Ring
45	1	Washer
48	1	O-ring
53	2	Seal Washer
58	1	O-ring
60	1	O-ring
61	1	O-ring
64	1	O-ring Retainer
65	2	O-ring
67	1	O-ring

Wheel Kits
Nos. 522933 (1503A) and 522956 (1504A) include:

Item No.	Qty.	Description
1	1	Retaining Ring
2	1	Washer
3	1	Wheel

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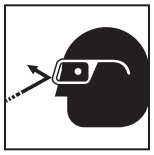
Safety Precautions

CAUTION: To prevent personal injury and damage to equipment,

- **Study, understand, and follow all instructions before using this device. If the operator cannot read these instructions, operating instructions and safety precautions must be read and discussed in the operator's native language.**
- **Before using the service jack to lift a vehicle, refer to the vehicle service manual to determine recommended lifting surfaces on the vehicle chassis.**



- **Wear eye protection that meets ANSI Z87.1 and OSHA standards.**
- **Inspect the jack before each use; do not use the jack if it's damaged, altered, or in poor condition. Take corrective action if any of the following conditions are found: cracked or damaged housing; excessive wear, bending, or other damage; leaking hydraulic fluid; scored or damaged piston rod; loose hardware; modified or altered equipment.**

- **A load must never exceed the rated lifting capacity of the jack.**
- **Use the jack on a hard, level surface. The jack must be free to roll without any obstructions while lifting or lowering the vehicle. The wheels of the vehicle must be in the straight-ahead position, and the hand brake released.**
- **Use the jack for lifting purposes only. Stay clear of a lifted load. Place support stands under the axles before working on the vehicle.**
- **Center the load on the jack saddle. Off-center loads can damage seals and cause jack failure. Lift only dead weight.**
- **Do not use blocks or other extenders between the saddle and the load being lifted.**
- **Do not modify the jack or use adapters unless approved or supplied by OTC.**
- **Lower the jack slowly and carefully while watching the position of the jack saddle.**
- **Use only approved hydraulic fluid (Chevron AW Hydraulic Oil or equivalent). The use of alcohol, hydraulic brake fluid, or transmission oil could damage seals and result in jack failure.**

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

Setup

Assembling the Handle

1. Loosen the thumb screw on the back of the handle socket.
2. Grease the socket opening. Insert the handle.
3. Torque the thumb screw again to 150–200 in. lbs.

Bleeding Air from the Service Jack

Air can accumulate within a hydraulic system during shipment or after prolonged use. This entrapped air causes the jack to respond slowly or feel "spongy." To remove the air:

1. Open the release valve by turning the handle all the way counterclockwise (CCW).
2. Pump the handle six full strokes.
3. Close the release valve by turning the handle all the way clockwise (CW).
4. Pump the handle until the lift arm is fully extended.
5. Lower the lift arm by turning the handle all the way counterclockwise (CCW). If the jack does not immediately respond, repeat steps 2–4.

Operating Instructions

1. Close the release valve by turning the handle clockwise (CW) as far as it will go.
2. Position the jack under the vehicle. **IMPORTANT: Use the manufacturer's recommended lifting points on the chassis.**
3. Pump the jack handle to raise the saddle to the contact point.
4. Check the placement of the jack; the load must be centered on the jack saddle. **IMPORTANT: Avoid wheel obstructions such as gravel, tools, or uneven expansion joints.**
5. Finish lifting the vehicle by pumping the handle. Do not attempt to raise the jack beyond its travel stops.
6. Place approved support stands under the vehicle at points that will provide stable support. Before making repairs on the vehicle, lower it onto the support stands by SLOWLY and CAREFULLY turning the handle counterclockwise (CCW).

Preventive Maintenance

IMPORTANT: The greatest single cause of failure in hydraulic units is dirt. Keep the service 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.

1. Store the jack in a well-protected area where it will not be exposed to corrosive vapors, abrasive dust, or any other harmful elements.
2. Regularly lubricate the moving parts in the wheels, arm, and handle.
3. Replace the oil in the reservoir at least once per year. To check the oil level, lower the lift arm completely. Remove the rubber filler plug. Oil level should be at the bottom of the filler plug hole. If necessary, add approved anti-wear hydraulic jack oil, and install the filler plug. **IMPORTANT: The use of alcohol, hydraulic brake fluid, or transmission oil could damage the seals and result in jack failure.**
4. Inspect the jack before each use. Take corrective action if any of the following problems are found:
   a. cracked, damaged housing
   b. excessive wear, bending, other damage
   c. leaking hydraulic fluid
   d. scored, damaged piston rod
   e. loose hardware
   f. modified equipment
5. Keep warning labels and instructional decals clean and readable. Use a mild soap solution to wash external surfaces of the jack.

Troubleshooting Guide

Repair procedures must be performed in a dirt-free environment by qualified personnel who are familiar with this equipment. **CAUTION: All inspection, maintenance, and repair procedures must be performed when the jack is free of a load (not in use).**

Trouble	Cause	Solution
Jack does not lift	1. Release valve is open.	*1. Close release valve.*
	2. Low/no oil in reservoir.	*2. Fill with oil and bleed system.*
	3. Air-locked system.	*3. Bleed system.*
	4. Load is above capacity of jack.	*4. Use correct equipment.*
	5. Delivery valve and/or bypass valve not working correctly.	*5. Clean to remove dirt or foreign matter. Replace oil.*
	6. Packing worn out or defective.	*6. Replace hydraulic unit.*
Jack lifts only partially	1. Too much or not enough oil.	*1. Check oil level.*
Jack advances slowly	1. Pump not working correctly.	*1. Replace hydraulic unit.*
	2. Leaking seals.	*2. Replace hydraulic unit.*
Jack lifts load, but doesn't hold	1. Cylinder packing is leaking.	*1. Replace hydraulic unit.*
	2. Valve not working correctly (suction, delivery, release, or bypass).	*2. Inspect valves. Clean and repair seat surfaces.*
	3. Air-locked system.	*3. Bleed system.*
Jack leaks oil	1. Worn or damaged seals.	*1. Replace hydraulic unit.*
Jack will not retract	1. Release valve is closed.	*1. Open release valve all the way counterclockwise (CCW). May be necessary to clean release valve.*
Jack retracts slowly	1. Cylinder damaged internally.	*1. Send jack to OTC-authorized service center. (Refer to OTC Form No. 104060.)*
	2. Link section is binding.	*2. Lubricate or replace link section.*