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Parts List & **Operating Instructions** for:

5214

Forklift Jack

<u>Scissors</u>

Max. Capacity: 4 ton Scissors Low Height: 2-5/32 in. (55 mm) Scissors High Height: 17-29/32 in. (455 mm)





1 546284 1 Warning / Logo Decal

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Forklift Jack Assembly



Item	Qty	Description	Item	Qty	Description	Item	Qty	Description
1	1	Lifting Arm	24	1	Piston Rod	51	2	Washer
2	1	Base Frame	26	1	Pump Block (No. 547234)	52	1	Washer
3	1	Wheel Axle	27	1	Spacer	53	1	Retaining Ring
4	1	Castor Axle	28	1	Pump Block Housing	54	2	Retaining Ring
5	4	Castor			(No. 547242)	55	2	Retaining Ring
6	1	Bushing	29	1	Pump Piston	56	2	Retaining Ring
7	2	Wheel	30	1	Release Shaft	57	1	Lockwasher
8	1	Main Pivot Pin	31	1	Release Cover	58	1	Pin
9	1	Valve Weight	32	1	Pump Piston Complete	59	2	Steel Ball (4.5 mm dia.)
10	1	Handle Retaining Bolt	33	1	Release Shaft Complete	60	2	Steel Ball (6.5 mm dia.)
		(No. 547247)	34	1	Safety Valve	61	1	Screw
11	1	Handle <i>(No. 547248)</i>	35	1	O-ring	62	4	Screw
12	1	Roller	36	1	O-ring	63	2	Screw
13	1	Pin	37	2	O-ring	64	1	Wing Screw
14	1	Handle Mount Bracket	39	1	O-ring	65	1	Screw
		(No. 547245)	40	2	O-ring	66	1	Stop Block
15	1	Spring Screw	41	1	O-ring	67	1	Pin
16	1	Release Bracket	42	2	O-ring	68	1	Filler Plug
17	1	Piston Rode Guide	43	1	Seal	69	1	Bolt
18	1	Pump Complete	44	1	Wiper Ring	70	2	Valve Plug
19	1	Saddle	45	2	Nut	71	1	Spring
20	1	Cylinder Nut	46	1	Screw	72	1	Washer
21	1	Piston Rod Cylinder	47	1	Spring	73	1	Nut
		(No. 547237)	48	1	Spring	74	1	Screw
22	1	Reservoir <i>(No. 547236)</i>	49	1	Spring			
23	1	Piston Rode Guide	50	1	Washer			

Parts List

Replacement Parts and Kits

te	en	n	

No. Qty. Description

No. 547239 Front Wheel Kit includes:

- 6 1 Bushing
- 5 4 Castor
- 4 1 Castor Axle
- 54 2 **Retaining Ring**

No. 547240 Rear Wheel Kit includes:

- Wheel Axle 3 1
- 7 2 Wheel
- 55 2 **Retaining Ring**

Item		
No.	Qty.	Description

No. 547241 Main Axle Kit includes:

8 1 Main Pivot Pin 56 2 **Retaining Ring**

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Item

No. Qty.

Item No. Qty. Description No. 547229 Seal Kit includes: 42 2 O-ring 36 1 O-ring 68 1 Filler Plug 41 1 O-ring 37 2 O-ring 70 2 Valve Plug 9 1 Valve Weight Steel Ball (6.5 mm dia.) 60 2 2 59 Steel Ball (4.5 mm dia.) 44 1 Wiper Ring 52 1 Washer 1 43 Seal 40 2 O-ring 35 1 O-ring 39 1 O-ring No. 547235 Piston Rod Kit includes: 1 Piston Rod Guide 23 24 1 Piston Rod No. 547238 Saddle Kit includes: 61 1 Screw 19 1 Saddle 20 Cylinder Nut 1

No. 547243 Release Bracket Kit includes:

- 57 1 Lockwasher
- Pin 58 1
- 16 1 **Release Bracket**

Item No. Qty. Description No. 547244 Handle Lock Kit includes: Stop Block 66 1 72 1 Washer 71 1 Spring 67 1 Pin 73 1 Nut No. 547246 Pump Roller Kit

Replacement Parts and Kits

- includes: 13 1 Pin
- 53 1 **Retaining Ring**
- 12 1 Roller

No. 547249 Hardware Kit includes:

- 27 Spacer 1
- 1 69 Bolt
- 2 63 Screw
- 2 51 Washer
- 62 4 Screw
- 10 1 Handle Retaining Bolt
- 54 2 **Retaining Ring**
- 2 55 **Retaining Ring**
- 2 56 Retaining Ring
- 1 Wing Screw 64

No. 547231 Pump Piston includes

- Piston Rod Guide 17 1
- 2 O-ring 40
- 1 35 O-ring
- Pump Piston 29 1
- 49 1 Spring

No. 547233 Safety Valve includes 39 1 O-ring 74 1 Screw 48 1 Spring 46 1 Screw 65 1 Screw 59 1 Steel Ball (4.5 mm dia.) No. 547232 Release Screw includes 59 1 Steel Ball (4.5 mm dia.) 15 Spring Screw 1 47 1 Spring

Description

- 1 **Release Shaft**
- 30 52 1 Washer
- 31 1 **Release Cover**
 - 1 Seal
- 43 50 1 Washer
- 45 2 Nut

Safety Precautions

WARNING: To prevent personal injury and/or equipment damage,

Read, understand, and follow all instructions, including the ANSI B30.1 safety code for jacks. Before using the Forklift Jack to lift a vehicle, refer to the vehicle service manual for recommended lifting surfaces on the vehicle chassis.

- Wear protective eyewear that meets the requirements of ANSI Z87.1 and OSHA.
- Inspect the jack before each use; do not use the jack if it is damaged, altered, or in poor condition.
- Use the jack for lifting purposes only.
- A load must never exceed the rated lifting capacity of the jack.
- Use the jack only on a hard, level surface.
- Stay clear of lifted loads and the scissor mechanism of the jack.
- Place support stands under the axles before working on the forklift. See Figure 1.
- 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 lifting arm or cylinder saddle. Do not drive the forklift truck off the jack, or move the forklift when it is supported by the jack.
- Use only approved hydraulic fluid. The use of alcohol, hydraulic brake fluid, or transmission oil could damage seals and result in jack failure.



Figure 1

• This guide cannot cover every situation; always prioritize user safety when servicing.

Jack Assembly

Assembly Instructions

Begin with the jack, on its four wheels, on a level surface. While standing over the jack, use both hands to grasp, lift, and tilt the cylinder into a vertical position. Guide the cylinder's piston rod into the hole at the rear of the lifting arm in the base frame. Secure the cylinder in place with the wing screw. Insert the jack handle into the handle mounting bracket and secure in place with the handle retaining bolt aligned with the locking slot in the handle.

Assembly for Transporting

To transport the jack, lock the handle against the stop block by pressing down on the handle lock nut and pulling back on the handle. The jack can now be transported by its handle with the jack tipped back on its two back wheels.

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Bleeding Air from the Forklift 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. Pump the jack handle to raise the jack to approximately half its capable height.
- 2. Turn the jack upside down and support it on the cylinder saddle.
- 3. Slowly turn the pump handle to completely lower the jack in a controlled manner.

Operating Instructions

To raise the jack, lift and pump the handle fully until the desired height is reached. To reach the highest reach possible with this jack, lift the load to the maximum height of the scissor lift arm first, support the load at that height, then lift the load further with the cylinder.

To lower the jack, pull on the pumping handle and slowly turn it clockwise (CW).

WARNING: When lowering a forklift truck, keep the rate of lowering under your control. Do not lower the forklift until the area is free of personnel, tools, and equipment. Stay clear of the rear wheels on the jack because they will move backward when the jack is lowered.

Recommended Method to Raise a Forklift

- 1. Lower the forks on the forklift. Remove any load. Clear personnel from the area.
- 2. Carefully select a lifting point on the forklift. It must be strong enough to resist the lifting force without damage to the forklift.
- Cradle a support point in the notch at the end of the lift arm. See Figure 2-B. Always position the jack lift arm a minimum of 3 in. under a forklift with a flat underside. See Figure 2-A.

WARNING: To prevent injury or equipment damage,

• Do not use cribbing under the jack, on the lift arm, or on the cylinder saddle. The jack must remain in direct contact with the floor and the lift arm or notch, or cylinder saddle, must be in direct contact with the forklift.

Lifting from the Side

1. Position the jack closer to the rear wheels than the front wheels to maintain balance. See Figure 3. If the forklift seems heavier at one end, lower the jack and move it closer to the heavy end.

WARNING: When lifting narrow forklift trucks (less than 40 in. wide) from the sides, the height between the floor and the bottom of the raised tire cannot be more than one fourth (1/4) the tire tread width. (Tread width is measured from centerline to centerline of the tire treads.) If this height is exceeded, the forklift truck could tip over or the jack could drop the load. See Figure 4.

Lifting from the End

1. Position the jack at the center of the forklift truck. See Figure 5.

2. Chock the wheels at the opposite end of the forklift.

WARNING: To prevent injury or equipment damage,

- Do not lift from the end of the forklift if the contact surface is sloped or rounded, such as in the counter weight areas.
- When lifting 3-wheeled trucks, never lift the 2-wheeled end.



tread width

Figure 4



Preventive Maintenance

CAUTION: The greatest single cause of failure in hydraulic units is dirt. Keep the forklift 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 all mechanical parts of the jack using a heavy grade machine oil.
- 3. Check cylinder oil level with the jack on a level surface and in its lowest position with the cylinder completely retracted. Remove the plug from the oil filler hole. The oil level should be to the lower edge of the filler plug hole. If necessary, add approved anti-wear hydraulic jack oil, and install the filler plug again. **CAUTION: Use of alcohol, hydraulic brake fluid, detergent motor oil, 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 or damaged housing

- d. Scored or damaged piston rod
- b. Excessive wear, bending, or other damage
- c. Leaking hydraulic fluid

- e. Loose hardware
- f. 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	 Air in system Oil viscosity too high 	 Refer to section titled "Bleeding Air from the Forklift Jack." Change to a lower viscosity oil. 		
	3. Internal leakage in cylinder	3. Replace worn packings. Look for		
	4. Cylinder sticking or binding	excessive contamination or wear. 4. Look for dirt, gummy deposits, leaks, misalignment, worn parts, defective packings.		
Jack does not lift	 Release valve is open Low/no oil in reservoir Air-locked system Load is above capacity of jack Delivery valve and/or bypass valve not working correctly Packing worn out or defective 	 Close release valve. Fill with oil and bleed system. Bleed system. Use correct equipment. Clean to remove dirt or foreign matter. Replace oil. Repair power unit. 		
Jack lifts only partially	1. Too much or not enough oil	1. Check oil level.		
Jack advances slowly	1. Pump not working correctly 2. Leaking seals	 Repair power unit. Replace seals. 		
Jack lifts load, but doesn't hold	 Cylinder packing is leaking Valve not working correctly (suction, delivery, release, or bypass) Air-locked system 	 Replace seals. Inspect valves. Clean and repair seat surfaces. Bleed system. 		
Jack leaks oil	1. Worn or damaged seals	1. Replace seals.		
Jack will not retract	1. Release valve is closed	1. Open or clean release valve.		
Jack retracts slowly	1. Cylinder damaged internally	1. Send jack to OTC authorized service center for repair.		
	2. Poor clearance between release bracket and pumping handle	 Turn the release valve nut clockwise (CW) one or two turns. Note: The release shaft must not rotate! 		
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