Form No. 546285

Parts List &
Operating Instructions
for: **5214**

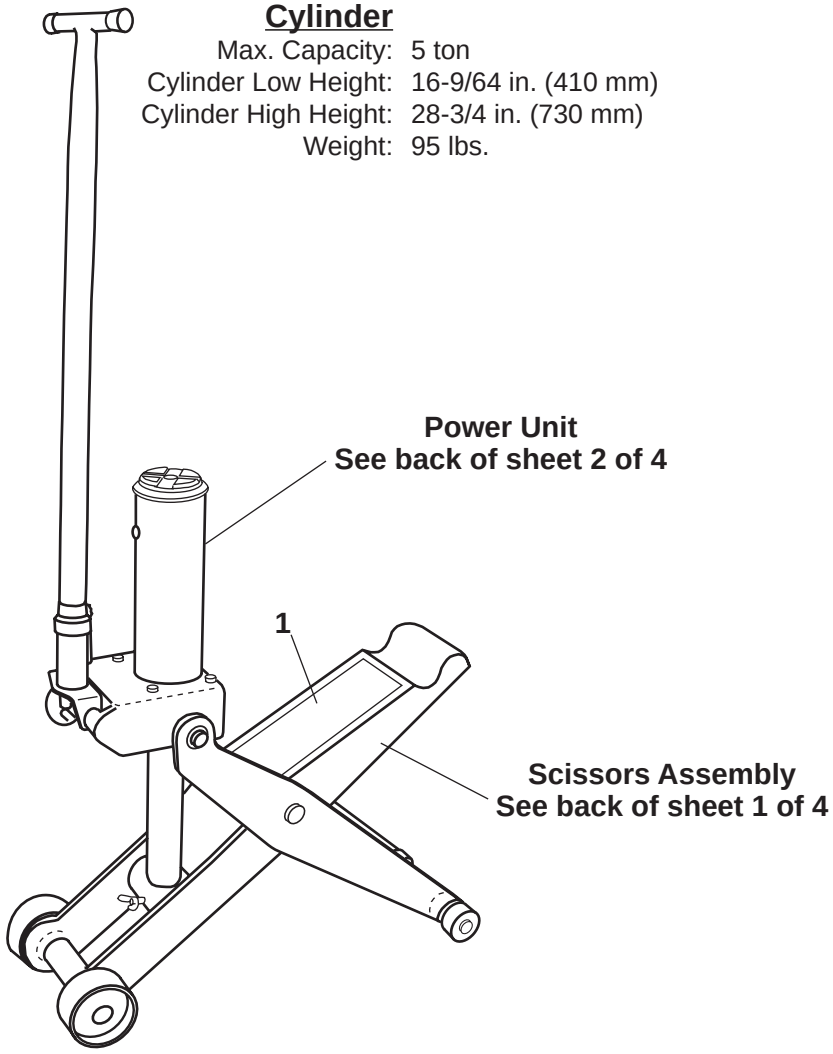
Forklift Jack

Scissors

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

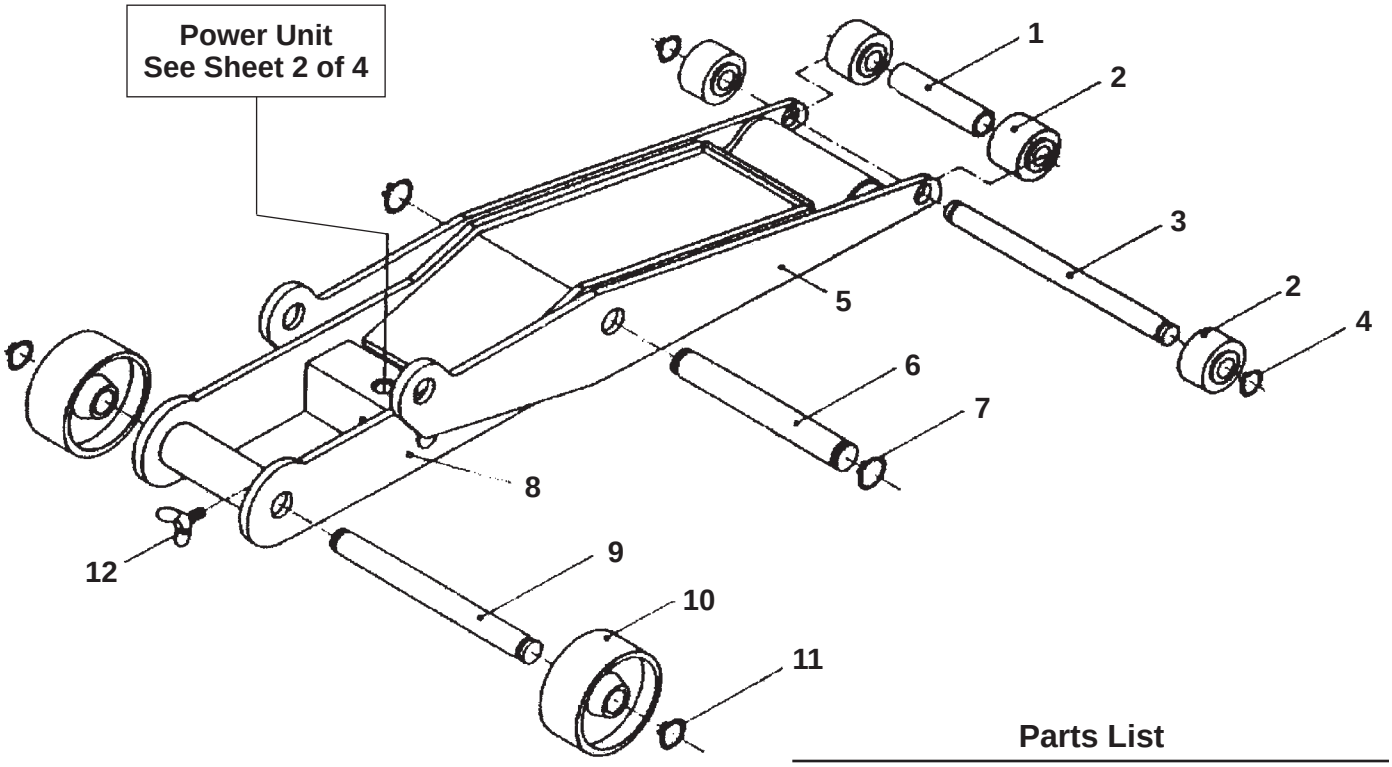
Cylinder

Max. Capacity: 5 ton
Cylinder Low Height: 16-9/64 in. (410 mm)
Cylinder High Height: 28-3/4 in. (730 mm)
Weight: 95 lbs.



Item No.	Part No.	No. Req'd	Description
1	**546284**	1	Warning / Logo Decal

Scissors Assembly



Parts List

Item No.	Quantity	Description
1	1	Bushing
2	4	Caster
3	1	Axle
4	2	Retaining Ring
5	1	Base Frame
6	1	Main Pivot Pin
7	2	Retaining Ring
8	1	Lifting Arm
9	1	Axle
10	2	Wheel
11	2	Retaining Ring
12	1	Wing Screw

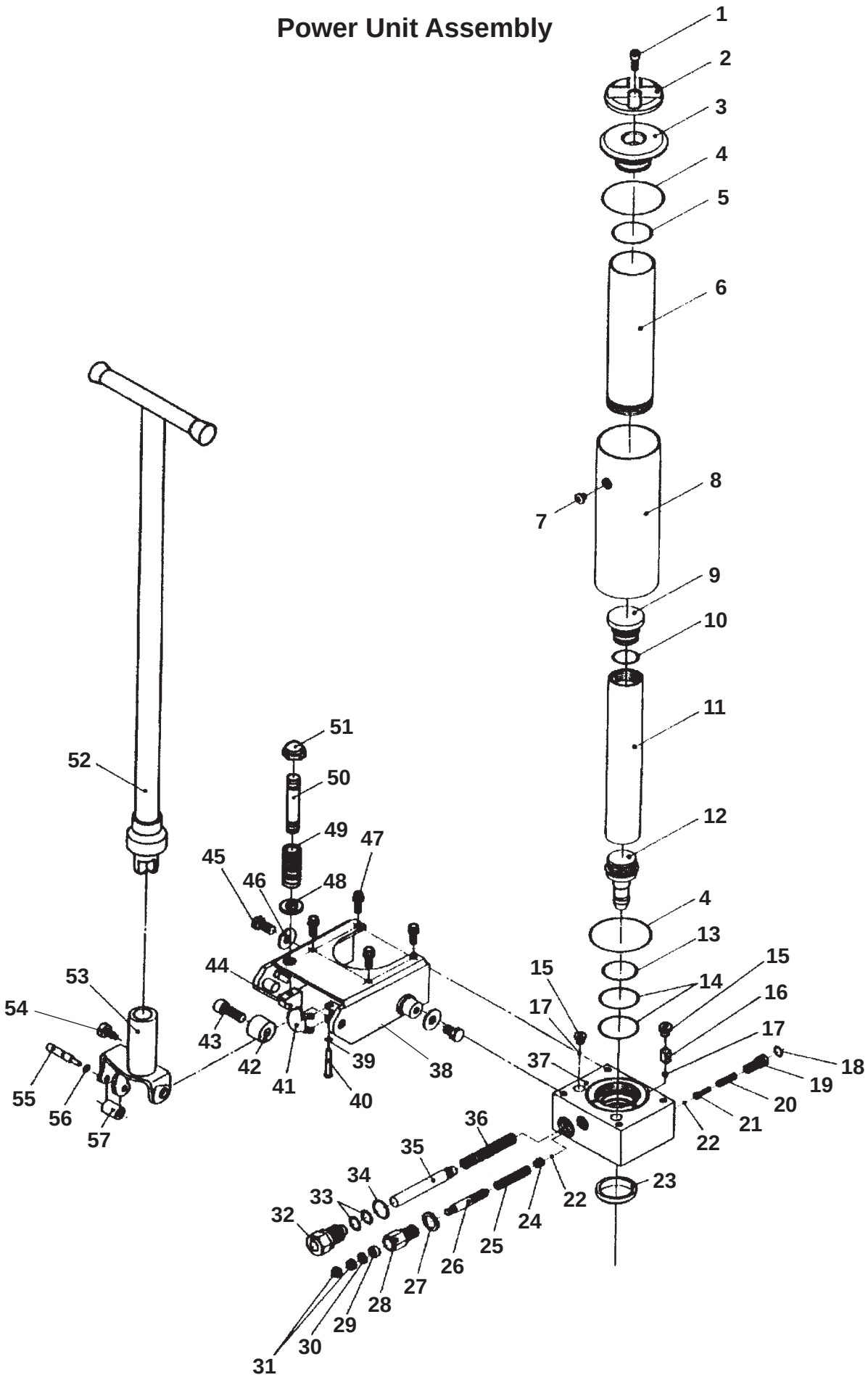
Replacement Parts and Kits

Item No.	Qty.	Description
No. 547239 Front Wheel Kit includes:		
1	1	Bushing
2	4	Caster
3	1	Axle
4	2	Retaining Ring
No. 547240 Rear Wheel Kit includes:		
9	1	Axle
10	2	Wheel
11	2	Retaining Ring

Item No.	Qty.	Description
No. 547241 Main Axle Kit includes:		
6	1	Axle
7	2	Retaining Ring
No. 547249 Hardware Kit includes:		
4	2	Retaining Ring
7	2	Retaining Ring
11	2	Retaining Ring
12	1	Wing Screw

(More items included in this kit are listed on back of sheet 2 of 4.)

Power Unit Assembly



Parts List

Item	Qty	Description
1	1	Screw
2	1	Saddle
3	1	Cylinder Nut
4	2	O-ring
5	1	O-ring
6	1	Piston Rod Cylinder *(No. 547237)*
7	1	Filler Plug
8	1	Reservoir *(No. 547236)*
9	1	Piston Rod Guide
10	1	O-ring
11	1	Piston Rod
12	1	Piston Rod Pin
13	1	O-ring
14	2	O-ring
15	2	Valve Plug
16	1	Valve Weight
17	2	Steel Ball *(6.5 mm dia.)*
18	1	O-ring
19	1	Screw
20	1	Spring
21	1	Screw
22	2	Steel Ball *(4.5 mm dia.)*
23	1	Wiper Ring
24	1	Spring Screw
25	1	Spring
26	1	Release Shaft
27	1	Washer
28	1	Release Cover
29	1	Seal
30	1	Washer
31	2	Nut
32	1	Piston Rod Guide
33	2	O-ring
34	1	O-ring
35	1	Pump Piston
36	1	Spring
37	1	Pump Block *(No. 547234)*
38	1	Pump Block Housing *(No. 547242)*
39	1	Lockwasher
40	1	Pin
41	1	Release Bracket
42	1	Spacer
43	1	Bolt
44	1	Stop Block
45	2	Screw
46	2	Washer
47	4	Screw
48	1	Washer
49	1	Spring
50	1	Pin
51	1	Nut
52	1	Handle *(No. 547248)*
53	1	Handle Mount Bracket *(No. 547245)*
54	1	Handle Retaining Bolt *(No. 547247)*
55	1	Pin
56	1	Retaining Ring
57	1	Roller

Replacement Parts and Kits

No. 547229 Seal Kit includes:

Item No.	Qty.	Description
4	2	O-ring
5	1	O-ring
7	1	Filler Plug
10	1	O-ring
13	1	O-ring
14	2	O-ring
15	2	Valve Plug
16	1	Valve Weight
17	2	Steel Ball (6.5 mm dia.)
18	1	O-ring
22	2	Steel Ball (4.5 mm dia.)
23	1	Wiper Ring
27	1	Washer
29	1	Seal
33	2	O-ring
34	1	O-ring

No. 547235 Piston Rod Kit includes:

Item No.	Qty.	Description
9	1	Piston Rod Guide
10	1	O-ring
11	1	Piston Rod
12	1	Piston Rod Pin

No. 547238 Saddle Kit includes:

Item No.	Qty.	Description
1	1	Screw
2	1	Saddle
3	1	Cylinder Nut

No. 547243 Release Bracket Kit includes:

Item No.	Qty.	Description
39	1	Lockwasher
40	1	Pin
41	1	Release Bracket

No. 547244 Handle Lock Kit includes:

Item No.	Qty.	Description
44	1	Stop Block
48	1	Washer
49	1	Spring
50	1	Axle
51	1	Nut

No. 547246 Pump Roller Kit includes:

Item No.	Qty.	Description
55	1	Pin
56	1	Retaining Ring
57	1	Roller

No. 547249 Hardware Kit includes:

Item No.	Qty.	Description
42	1	Spacer
43	1	Bolt
45	2	Screw
46	2	Washer
47	4	Screw
54	1	Locking Screw

(More items included in this kit are listed on back of sheet 1 of 4.)

No. 547231 Pump Piston includes

Item No.	Qty.	Description
32	1	Piston Rod Guide
33	2	O-ring
34	1	O-ring
35	1	Pump Piston
36	1	Spring

No. 547233 Safety Valve includes

Item No.	Qty.	Description
18	1	O-ring
19	1	Screw
20	1	Spring
21	1	Screw
22	1	Steel Ball (4.5 mm dia.)

No. 547232 Release Screw includes

Item No.	Qty.	Description
22	1	Steel Ball (4.5 mm dia.)
24	1	Spring Screw
25	1	Spring
26	1	Release Shaft
27	1	Washer
28	1	Release Cover
29	1	Seal
30	1	Washer
31	2	Nut

No. 547230 Power Unit includes parts list items 1—51 and 53—57.

Shaded areas reflect the most current revisions made to this form.

Safety Precautions

CAUTION: To prevent personal injury and damage to equipment,

- **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's 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.**

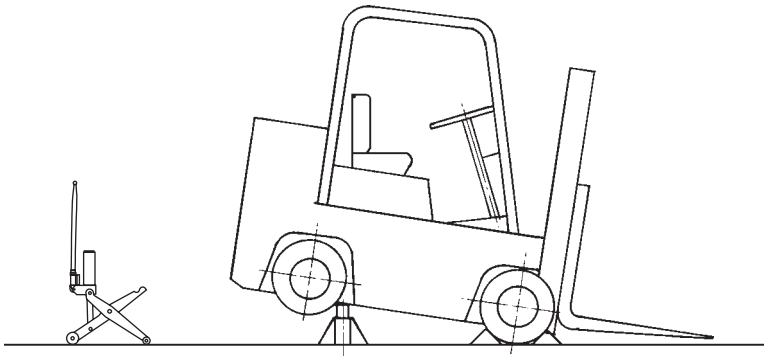


Figure 1

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

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.

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).

⚠ CAUTION: 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.
3. 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.

⚠ CAUTION: 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; 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.

⚠ CAUTION: 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.

⚠ CAUTION: 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.**

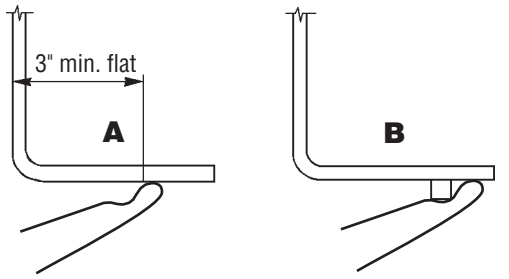


Figure 2

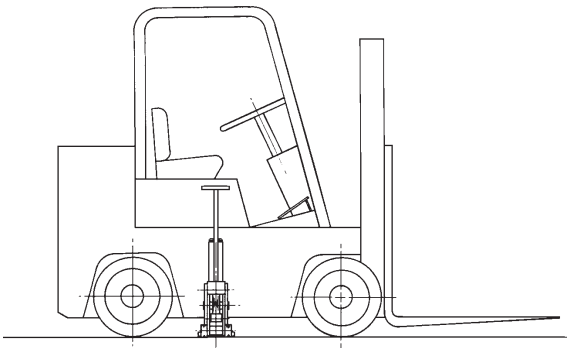


Figure 3

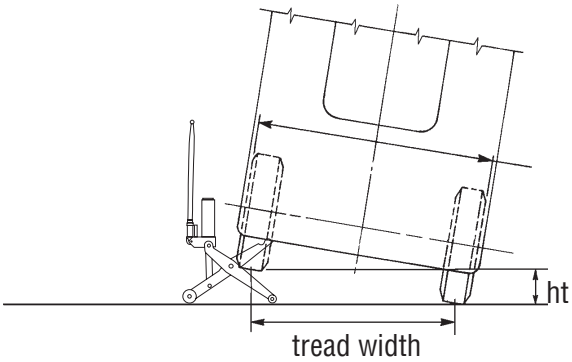


Figure 4

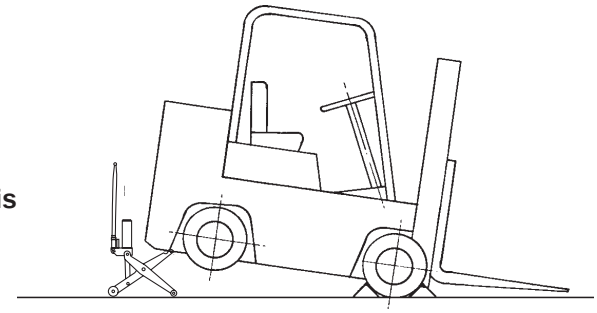


Figure 5

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, and 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
   b. Excessive wear, bending, or other damage
   c. Leaking hydraulic fluid
   d. Scored or damaged piston rod
   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	1. Air in system	*1. Refer to section titled "Bleeding Air from the Forklift Jack."*
	2. Oil viscosity too high	*2. Change to a lower viscosity oil.*
	3. Internal leakage in cylinder	*3. Replace worn packings. Look for excessive contamination or wear.*
	4. Cylinder sticking or binding	*4. Look for dirt, gummy deposits, leaks, misalignment, worn parts, defective packings.*
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. 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	*1. Repair power unit.*
	2. Leaking seals	*2. Replace seals.*
Jack lifts load, but doesn't hold	1. Cylinder packing is leaking	*1. Replace seals.*
	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 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	*2. Turn the release valve nut clockwise (CW) one or two turns. Note: The release shaft must not rotate!*