



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) 455-7290  
 Fax: (507) 455-7063

Air / Hydraulic  
**Under Axle Jack**  
 Max. Capacity: 22 Tons

**LIFETIME MARATHON WARRANTY®**

Effective 4-1-84

**All OTC products and parts, with the exceptions noted below, are warranted against defects in materials and workmanship for the life of the product or part.**

*OTC's warranty is expressly limited to persons who purchase OTC's products or parts for the purpose of resale or use in the ordinary course of the buyer's business. This warranty does not cover any product or part that has been abused, worn out, heated, ground, or otherwise altered, used for a purpose other than that for which it was intended, or used in a manner inconsistent with any instructions regarding its use.*

*OTC electronic products are warranted against defects in material and workmanship for three years. Excludes OTC 4-Gas Analyzer and OTC Smoke Opacity Meter, which are separately warranted under the conditions stated in the separate warranty.*

*This warranty does not cover any chains, batteries, fuses, electric motors, knives, or cutter blades which are sold with the OTC products.*

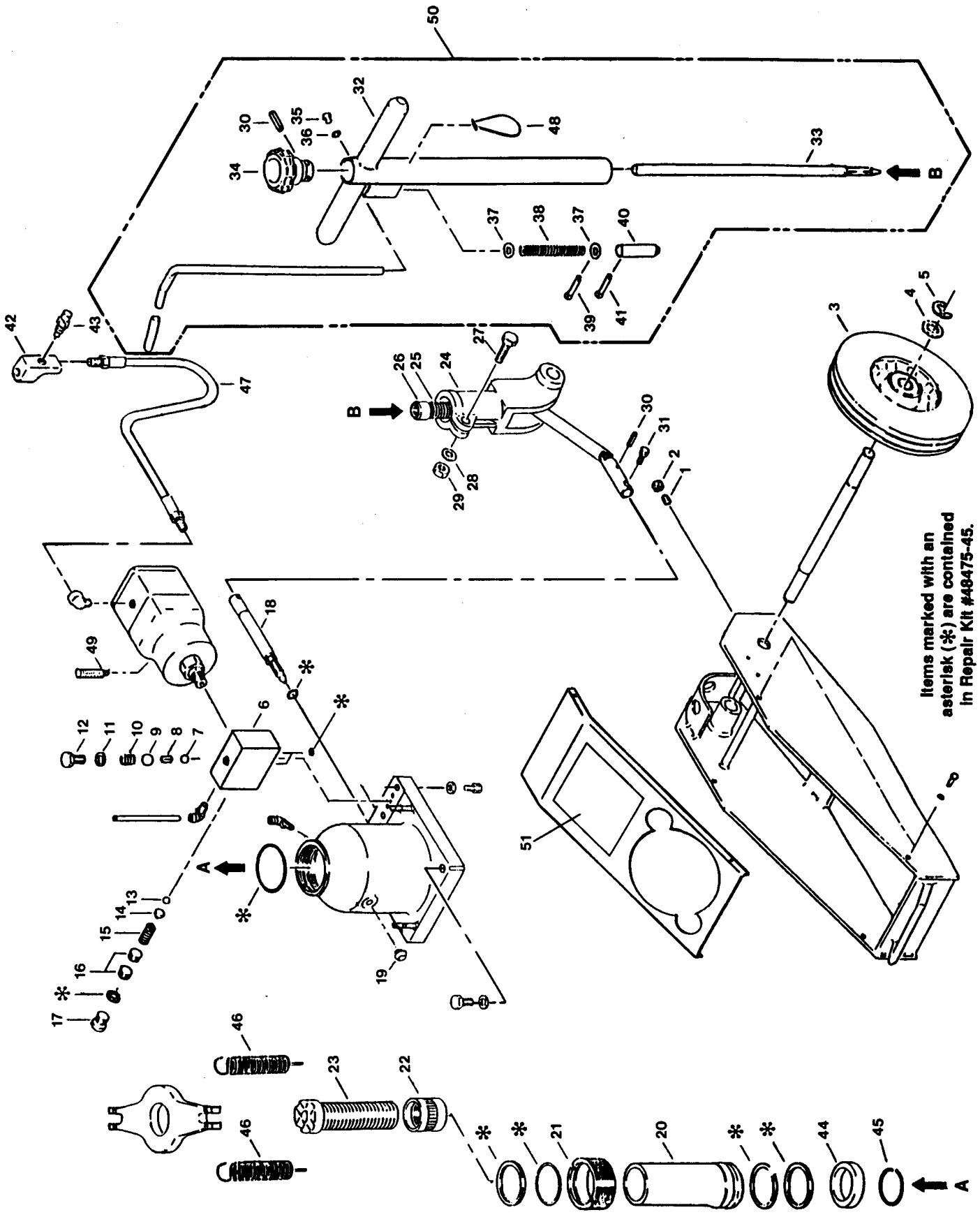
**THIS WARRANTY IS EXCLUSIVE, AND OTC MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, WITH RESPECT TO THE PRODUCTS MANUFACTURED AND SOLD BY IT, WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER. No agent, employee, or representative of OTC has any authority to bind OTC to any affirmation, representation, or warranty concerning OTC products or parts, except as stated here.**

**If any product or part manufactured by OTC is found to be defective by OTC, in its sole judgement, OTC will, at its option, either repair or replace such defective product or part. THIS REMEDY SHALL BE THE EXCLUSIVE REMEDY AVAILABLE FOR ANY DEFECTS IN THE PRODUCTS OR PARTS MANUFACTURED AND SOLD BY OTC, OR FOR DAMAGES RESULTING FROM ANY OTHER CAUSE WHATSOEVER, INCLUDING, WITHOUT LIMITATION, OTC'S NEGLIGENCE. OTC SHALL NOT, IN ANY EVENT, BE LIABLE TO ANY BUYER FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND, WHETHER FOR DEFECTIVE OR NON-CONFORMING GOODS, NEGLIGENCE, ON THE BASIS OF STRICT LIABILITY, OR FOR ANY OTHER REASON.**

*The purpose of this exclusive remedy shall be to provide the buyer with repair or replacement of products or parts manufactured by OTC found to be defective in materials or workmanship or negligently manufactured. This exclusive remedy shall not be deemed to have failed of its essential purpose so long as OTC is willing and able to repair or replace said defective products or parts in the prescribed manner.*

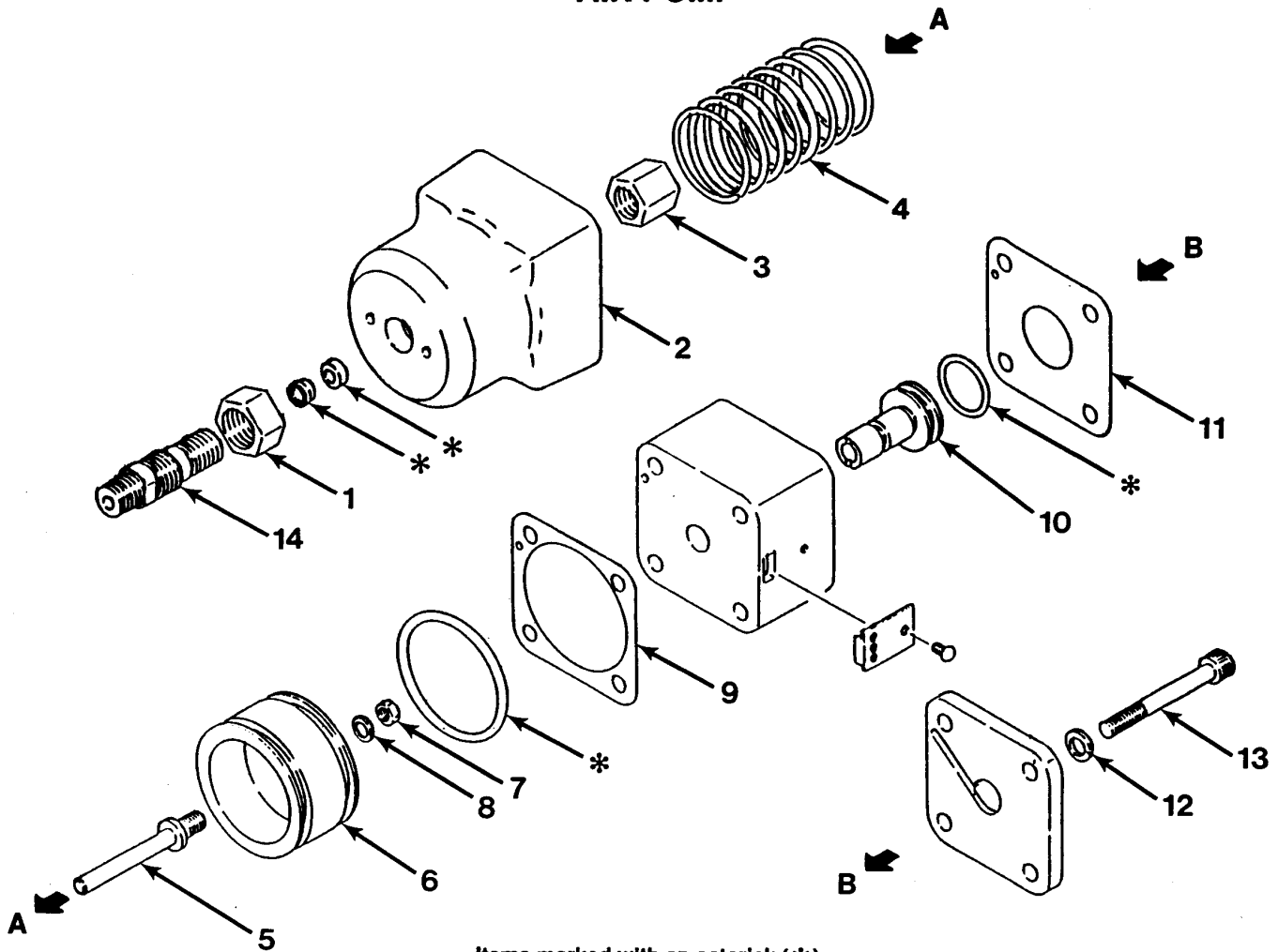
**Introduction**

These instructions are written to help you, the user, more effectively use and maintain your 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 PALD-1. It is strongly recommended that the user read ANSI B30.1 and ASME PALD-1. The documents may be ordered from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th, New York, New York, 10017.



Item No.	Part No.	No. Req'd	Description	Item No.	Part No.	No. Req'd	Description
1	48475-1	1	Screw	27	48475-25	1	Hi-ten Bolt
2	48475-2	1	Nut	28	48475-26	1	Washer
3	48475-3	2	Wheel	29	48475-27	1	Nut
4	48475-4	2	Washer	30	48475-28	2	Spring Pin
5	48475-5	2	E-Ring	31	48475-29	1	Bolt
6	48475-6	1	Valve Block	32	48475-30	1	Handle
7	48475-7	1	Ball	33	48475-31	1	Release Rod
8	48475-8	1	Piece	34	48475-32	1	Knob
9	48475-9	1	Ball	35	48475-33	1	Screw
10	48475-10	1	Valve Spring	36	48475-34	1	Spring Washer
11	48475-11	1	Copper Packing	37	48475-35	2	Washer
12	48475-12	1	Plug	38	48475-36	1	Spring
13	48475-13	1	Ball	39	48475-37	1	Cotter Pin
14	48475-14	1	Ball Sheet	40	48475-38	1	Lock Pin
15	48475-15	1	S.V. Spring	41	48475-39	1	Cotter Pin
16	48475-16	2	Adjusting Screw	42	48475-40	1	Valve Body
17	48475-17	1	S.V. Plug	43	48475-41	1	Air Valve
18	48475-18	1	Release Stem	44	48475-42	1	Ram Guide Pin
19	48475-19	1	Oil Plug	45	48475-46	1	Ram Snap Ring
20	48475-20	1	Ram	46	48475-47	4	Return Spring
21	48475-21	1	Nut	47	48475-48	1	Air Hose
22	48475-43	1	Sleeve	48	48475-49	1	Ring
23	48475-44	1	Adjusting Screw	49	48475-50	1	Silencer
24	48475-22	1	Handle Socket	50	48475-51	1	Handle Assembly
25	48475-23	1	Spring	51	310596	1	Decal
26	48475-24	1	Universal Joint				

**AIR PUMP**



Items marked with an asterisk (\*)  
are contained in Repair Kit #48475-66.

Item No.	Part No.	No. Req'd	Description
1	48475-53	1	Nut
2	48475-54	1	Cylinder
3	48475-55	1	Seal Nut
4	48475-56	1	Spring
5	48475-57	1	Piston Rod
6	48475-58	1	Piston
7	48475-59	1	Nut
8	48475-60	1	Spring Washer
9	48475-61	1	Gasket "A"
10	48475-62	1	Valve
11	48475-63	1	Gasket "B"
12	48475-64	4	Spring Washer
13	48475-65	4	Cap Screw
14	48475-52	1	Cylinder Bolt

## SAFETY PRECAUTIONS



- WARNING:** To help prevent personal injury and/or damage to equipment,
- Read, understand, and follow all instructions, including the ANSI B30.1 and ASME PALD-1 safety codes.
  - Inspect the jack before each use; do not use if it is damaged, altered, or in poor condition.
  - Wear approved safety glasses when using the Under Axle Jack.
  - Use the jack for lifting purposes only.
  - Do not use the jack beyond its rated capacity.
  - Only use the jack on a hard level surface.
  - Center the load on the saddle. Off-center loads can damage the seals and cause jack failure.
  - Lift only dead weight.
  - Stay clear of lifted loads.
  - After lifting, always use safety stands to support the load before making repairs.
  - The safety valve is set at the factory, and no further adjustment is needed.
  - Use only approved hydraulic fluid (Chevron AW Hydraulic Oil MV or equivalent).

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

## OPERATING INSTRUCTIONS

1. Before using the Under Axle Jack, add 1/2 oz. of clean lubricating oil to the air inlet. Lack of oil can cause pump malfunction.
2. Connect the air supply. **IMPORTANT:** To help prevent damage to the air pump, the air supply must be clean and dry.
3. Tightly close the release valve knob (located on top of the "T" handle) by turning it clockwise. Center the load on the jack saddle. Push the air valve lever to raise the load.
4. Transfer the load to safety stands.
5. To lower the jack, open the release valve knob by SLOWLY turning it counterclockwise.

**NOTE:** To adjust the handle, pull up and then release the lever to lock it in a vertical, horizontal, or 45° position.

## PREVENTIVE MAINTENANCE

**IMPORTANT:** The greatest single cause of failure in hydraulic units is dirt. 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.

1. When the jack is not in use, keep the piston and pump rods fully retracted. Store the jack on its base in a well protected area where it will not be exposed to corrosive vapors, abrasive dust, or other harmful elements.
2. Maintain the oil level at the bottom of the filler plug hole. If it is necessary to add oil, remove the filler plug, and fill the reservoir with Chevron AW Hydraulic Oil MV or equivalent.
3. Visually inspect the jack periodically for the following problems, and take corrective actions before use:
 

<ol style="list-style-type: none"> <li>a. Cracked or damaged housing</li> <li>b. Excessive wear, bending, or other damage</li> <li>c. Leaking hydraulic fluid</li> <li>d. Scored or damaged piston rod</li> </ol>	<ol style="list-style-type: none"> <li>e. Swivel heads or adj. screws not working</li> <li>f. Loose hardware</li> <li>g. Modified or altered equipment</li> </ol>
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Issue Date:      Rev. 4-1-96

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## TROUBLESHOOTING GUIDE

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

Trouble	Cause	Solution
<b>Erratic Action</b>	<ol style="list-style-type: none"> <li>1. Air in system</li> <li>2. Oil viscosity too high</li> <li>3. Internal leakage in cylinder</li> <li>4. Cylinder sticking or binding</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>With jack sitting on its base and ram retracted, bleed air by opening release valve knob, and run pump for 10 seconds.</i></li> <li>2. <i>Change to lower viscosity oil</i></li> <li>3. <i>Replace worn packings. Check for excessive contamination or wear</i></li> <li>4. <i>Check for dirt, gummy deposits, or leaks. Check for misalignment, worn parts, or defective packing</i></li> </ol>
<b>Jack does not advance</b>	<ol style="list-style-type: none"> <li>1. Release valve is open</li> <li>2. Low/no oil in reservoir</li> <li>3. Air-locked system</li> <li>4. Load is above capacity of system</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Close release valve located on top of "T" handle</i></li> <li>2. <i>Fill with oil and bleed system</i></li> <li>3. <i>With jack sitting on its base and ram retracted, bleed air by opening release valve knob, and run pump for 10 seconds.</i></li> <li>4. <i>Use correct equipment</i></li> </ol>
<b>Jack only extends partially</b>	<ol style="list-style-type: none"> <li>1. Reservoir is low on oil</li> <li>2. Piston rod is binding</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Fill reservoir</i></li> <li>2. <i>Check for dirt, gummy deposits, or leaks. Check for misalignment, worn parts, or defective packing</i></li> </ol>
<b>Jack advances slowly</b>	<ol style="list-style-type: none"> <li>1. Low air pressure</li> <li>2. Pump not working correctly</li> <li>3. Leaking seals</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Adjust air pressure to 90-180 PSI</i></li> <li>2. <i>Rework pump</i></li> <li>3. <i>Replace seals</i></li> </ol>
<b>Jack advances but doesn't hold pressure.</b>	<ol style="list-style-type: none"> <li>1. Release valve is open</li> <li>2. Cylinder seals are leaking</li> <li>3. Pump check valve not working correctly</li> <li>4. Overload valve leaking or not adjusted correctly</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Close release valve located on top of "T" handle</i></li> <li>2. <i>Replace seals</i></li> <li>3. <i>Clean/replace check valve</i></li> <li>4. <i>Replace/adjust overload valve</i></li> </ol>
<b>Jack leaks oil</b>	<ol style="list-style-type: none"> <li>1. Worn or damaged seals</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Replace seals</i></li> </ol>
<b>Jack will not retract or retracts slowly</b>	<ol style="list-style-type: none"> <li>1. Release valve is closed</li> <li>2. Cylinder is damaged internally</li> <li>3. Reservoir is too full</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Open release valve</i></li> <li>2. <i>Send jack to authorized service center for repair</i></li> <li>3. <i>Drain oil to correct level</i></li> </ol>