

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

Parts List & Operating Instructions for:

Form No. 106218

5012A

Under Axle Jack

Max. Capacity: 25 Tons

The Under Axle Jack is an air-operated lifting device designed for jacking loaded trailers and trucks using the manufacturer's recommended lift points on the chassis.



Sheet No. 1 of 4

Issue Date: Rev. C, 8-16-02



Safety Precautions

CAUTION: To help 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 under axle 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.
- Only use the jack on a hard, level surface.
- Center the load on the jack saddle. Off-center loads can damage seals and cause jack failure.
- Lift only dead weight.
- Stay clear of lifted loads. Place support stands under the axles before working on the vehicle.
- Do not adjust the safety valve.
- Do not modify the jack or use adapters unless approved or supplied by OTC. ۲
- Lower the jack slowly and carefully while watching the position of the jack saddle.
- Use only approved hydraulic fluid (Chevron AW Hydraulic Oil MV 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.

Operating Instructions

- 1. Lubricate the air inlet on the jack with 1/2 oz. clean lubricating oil; lack of oil can cause pump malfunction.
- 2. Connect the air supply. (90 200 psi of clean, dry air is required for the capacity of this jack.)
- 3. Set the vehicle's parking brakes and / or block the wheels.
- 4. Position the jack under the vehicle. Important: Use the vehicle manufacturer's recommended lifting points on the chassis.
- 5. Close the release valve by turning the release knob clockwise (CW) as far as it will go.
- 6. Press the air valve lever to raise the jack saddle until it touches the vehicle. Check the placement of the saddle lugs. Finish lifting the vehicle.
- 7. Place approved safety stands under the vehicle at points that will provide stable support. Before making repairs, lower the vehicle onto the safety stands by SLOWLY and carefully turning the release knob counterclockwise (CCW).

Bleeding Air from the Under Axle 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:

- Open the release valve by turning the knob all the way counterclockwise (CCW).
- 2. Connect the air supply to the jack.
- 3. Press the air valve control lever, and cycle the jack twenty or more times.
- 4. Close the release valve by turning the knob all the way clockwise (CW).
- 5. Press the air valve control lever until the ram is fully extended.
- 6. Lower the ram by turning the release knob all the way CCW. If the jack does not immediately respond, repeat this procedure.







Sheet No.	2 of 4
Issue Date:	Rev. C, 8-16-02



_

ltem No.	Part No.	No. Req'd	Description
1	✻	1	Seal <i>(2-5/8 x 2-7/8 x 1/18; loaded lip)</i>
2	5012-02	2	Plug <i>(1/8 NPT)</i>
3	5012-03	1	Jack Cap
4	*	2	Backup Ring <i>(3-1/8 x 3/16 x 3-1/2)</i>
5	5012-05	1	Extension Screw
6	5012-86	1	Hydraulic Ram
7	5012-07	1	Hydraulic Cylinder
8	5012-08	1	Outer Barrel Weldment
9	5012-09	1	Bladder
11	*	1	Quad Ring <i>(2-3/4 x 1/8 x 3)</i>
12	5012-87	1	Socket Hd. Cap Screw (6-32 UNC x 1/4" lg.)
13	*	1	Seal <i>(2-1/2 x 3 x 1/4)</i>
14	5012-88	1	Base Plate
15	*	2	Quad Ring <i>(7/16 x 1/4 x 3/32)</i>
16	*	1	Backup Ring <i>(11/16 x 1/2)</i>
18	5012-89	1	Pump Housing
19	5012-19	1	Pump Plunger
20	*	1	Seal <i>(9/16 x 5/16 x 1/8)</i>
21	5012-97	1	Pump Housing Cap
22	*	2	Quad Ring <i>(3 x 2-5/8 x 3/16)</i>
23	5012-23	1	Compression Spring (1-3/4 OD)
24	5012-93	1	Retaining Ring
25	*	1	O-ring <i>(2-1/4 x 1/16 x 2-1/8)</i>
26	5012-91	1	Motor Housing
27	*	1	Shuttle Valve Seal (31/32 dia.)
28	*	1	Seal <i>(1-1/4 x 1 x 1/8)</i>
29	5012-94	1	Air Shuttle Piston
30	5012-92	1	Piston Cap
31	5012-31	1	Compression Spring (1/4 ID x 3/8" lg.)
32	5012-32	1	Ball <i>(3/8 dia.)</i>
33	5012-33	1	Check Valve Spacer
34	5012-34	1	Male Elbow <i>(90° x 1/8 NPTF)</i>
35	5012-35	1	Plug
36	5012-36	2	Ball <i>(1/4 dia.)</i>
37	5012-37	1	Plastic Plug
38	5012-38	1	Plug <i>(SAE #4)</i>
39	5012-39	1	Male Connector (1/8 NPTF)
41	*	1	O-ring (3/8 x 1/4 x 1/16)
42	5012-42	1	Release Stem
43	5012-43	1	Roll Pin <i>(3/16 dia. x 3/4" lg.)</i>
45	5012-45	1	Flex Shaft

* Items marked with an asterisk are included in Seal Kit No. 222954.

ltem No.	Part No.	No. Req'd	Description		
47	5012-47	1	Branch Tee (1/8 NPT)		
48	5012-48	2	Socket Hd. Cap Screw (3/8-24 x 2-1/4" lg.)		
50	5012-50	1	Washer (1.750 x .320 x .064)		
51	5012-51	1	Backup Ring (1-5/8 x 1/16 x 2)		
52	5012-52	1	Compression Spring (.406 OD)		
53	5012-53	1	Lift Pad Casting (5/8")		
54	5012-54	1	O-ring (1-1/16 x 1-1/4 x 3/32)		
55	5012-98	1	Power Unit		
56	5012-56	4	Self-tapping Screw (5/16-18)		
57	5012-57	4	Cap Screw <i>(1/2-13 x 1"; Grade 5; plated)</i>		
58	5012-58	4	Lockwasher (1/2"; plated)		
59	5012-59	1	Base Frame Weldment		
60	5012-60	1	Tubing <i>(1 /4 x .035 x 45-1/2" lg.)</i>		
61	5012-61	1	Top Cover		
62	5012-62	1	Tubing <i>(1/4 x .035 x 60" lg.)</i>		
63	5012-63	2	Handle Grip <i>(7/8" ID; black)</i>		
64	5012-64	1	Handle Bar		
65	5012-65	1	Handle Wheel		
66	5012-66	2	Roll Pin <i>(3/16 dia. x 7/8" lg.)</i>		
67	5012-67	1	Handle Grip		
68	5012-68	2	Male Connector (1/4 NPTF)		
69	5012-69	1	Nipple		
70	5012-70	1	Air Valve		
71	5012-71	1	Handle Weldment		
72	5012-72	1	Handle Release Rod Weldment		
73	5012-73	2	Jam Nut <i>(7/16-14; plated)</i>		
74	5012-74	2	Washer Cap Palnut (5/8 dia.; plated)		
75	5012-96	1	Bar Round <i>(5/8" x 14")</i>		
76	5012-95	2	Wheel		
77	5012-77	1	Compression Spring		
78	5012-78	1	Release Control Rod		
79	5012-79	2	Cap Screw		
80	216703	1	Made in USA Decal		
81	314486	1	Decal		
82	5012-82	1	Decal		
85	5012-90	1	Motor Piston		
Available Kits					
222954 1 Seal Kit (items marked with an (220972 1 Lift Pad Extension Kit (3")		Seal Kit (items marked with an (st) asterisk)			
		1	Lift Pad Extension Kit (3")		

Preventive Maintenance

Important: The greatest single cause of failure in hydraulic units is dirt. Keep the under axle 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.
- 3. Replace the oil in the reservoir at least once per year. To check the oil level, disconnect the air supply, place the under axle jack on level ground, and completely retract the ram. Remove the plastic cover and plug from the oil filler hole. The oil level should be within 1/4" of the filler plug hole. If necessary, add approved anti-wear hydraulic jack oil, and install the filler plug again. Important: The 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	 Air in system Oil viscosity too high Internal leakage in cylinder Cylinder sticking or binding 	 To bleed air, place jack on its base with ram retracted, open release valve knob, and cycle ram 20 times. Change to a lower viscosity oil Replace worn packings. Look for excessive contamination or wear. Look for dirt, gummy deposits, or leaks Check for misalignment, worn parts, or 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. Replace power unit 	
Jack lifts only partially 1. Too much or not enough oil		1. Check oil level	
Jack advances slowly1. Pump not working correctly 2. Leaking seals 3. Low air pressure		1. Replace power unit 2. Replace power unit or seals 3. Adjust air pressure to 90 - 200 psi.	
Jack lifts load, but doesn't hold	 Cylinder packing is leaking Valve not working correctly (suction, delivery, release, or bypass) Air-locked system 	 Replace power unit or seals Inspect valves. Clean and repair seat surfaces. Bleed system 	
Jack leaks oil 1. Worn or damaged seals		1. Replace power unit or seals	
ack will not retract 1. Release valve is closed		1. Open or clean release valve	
Jack retracts slowly	 Cylinder damaged internally Link section is binding 	 Send jack to OTC authorized service center for repair Lubricate link section 	
		Sheet No. 4 of 4	