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Form No. 107176

Parts List &
 Operating Instructions
 for:

1788

Air / Hydraulic Under Axle Jack

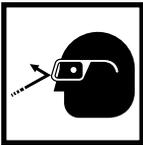
Max. Capacity: 22 Tons

Safety Precautions

WARNING: Failure to heed the following warnings can result in personal injury and / or equipment damage. These warnings cannot cover every situation, so have safety foremost in your mind when setting up a job.



- Read, understand, and follow safety precautions and operating instructions. If the operator cannot read English, operating instructions and safety precautions must be read and discussed in the operator's native language.



- Si el operador no puede leer el inglés, las instrucciones de operación y las precauciones de seguridad deberán leerse y comentarse en el idioma nativo del operador.
- Si l'utilisateur ne peut lire l'anglais, les instructions et les consignes de sécurité doivent lui être expliquées dans sa langue maternelle.



- Wear eye protection 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.
- To prevent tipping, set up the jack on a hard, level surface.
- The load must not exceed the rated lifting capacity of the jack. Lift only dead weight.
- Center the load on the jack saddle, because off-center loads can damage the seals and cause hydraulic failure.

- Use the jack for lifting purposes only. This jack is designed to LIFT loads, not support loads. Immediately support a lifted load with jack stands.
- Stay clear of lifted loads.
- The safety valve is set at the factory; no further adjustment is needed.
- Use only approved hydraulic fluid, such as Chevron AW Hydraulic Oil MV or equivalent.

Setup Instructions

1. Before using the under axle jack, remove the oil tank screw cover, and install the breathing screw provided. See Figure 1.
2. Add 1/2 oz. clean lubricating oil to the air inlet, and connect the air supply. **Important:** To prevent damage to the air pump, the air supply must be clean and dry.
3. Assemble the adapter holder to the handle using U-bolts, nuts, and spring washers provided. See Figure 2.
Note: When not using the adapters, store them on the holder. (Lock each adapter in place with a hitch pin.)

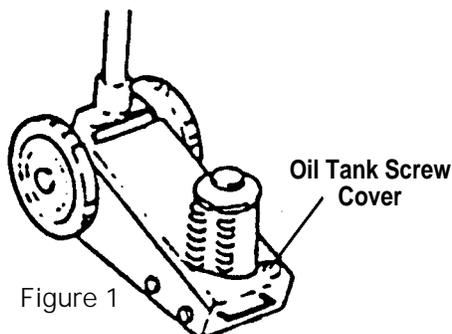


Figure 1

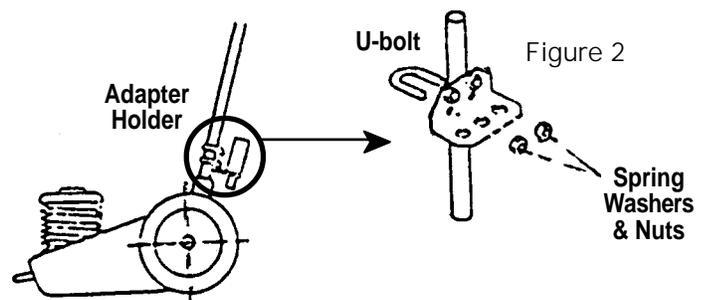


Figure 2

Operating Instructions

1. Tightly close the release knob (located on top of the "T" handle) by turning it clockwise.
2. Center the load on the jack saddle. Connect the air supply, and squeeze the air valve lever to raise the load. Release the air valve lever to stop movement.
3. Transfer the load to support stands.
4. 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 one of three positions.

Bleeding the Jack

Air bubbles can become trapped inside the hydraulic system, reducing the efficiency of the jack. Purge air from the system as needed by following these steps:

1. Remove the upper cover.
2. Loosen the bolt one-half turn. See Figure 3.
3. Close the release valve.
4. Operate the air pump while repeatedly tightening and loosening the bolt.
5. When the piston begins to rise, tighten the bolt. Verify that the piston can rise to the maximum height position.

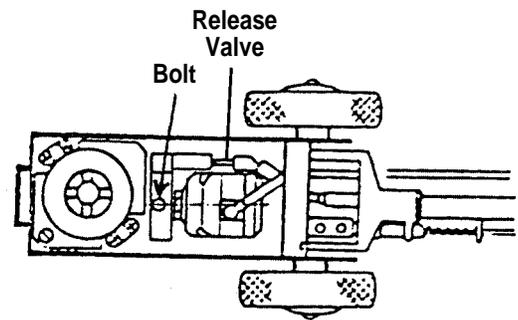


Figure 3

Preventive Maintenance

Important: Dirt is the greatest single cause of failure in hydraulic units. 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 and in a well protected area where it will not be exposed to corrosive vapors, abrasive dust, or any other harmful elements.
2. Maintain the oil level at the bottom of the filler plug hole. If it's necessary to add oil, remove the filler screw, and fill the reservoir with Chevron AW Hydraulic Oil MV or equivalent. The oil should be replaced once per year, or more often with heavy usage.
3. Visually inspect the jack before each use. Take corrective action if any of the following problems are found:

a. Cracked or damaged housing	e. Incorrectly functioning swivel heads or adj. screw
b. Excessive wear, bending, or other damage	f. Loose hardware
c. Leaking hydraulic fluid	g. Modified or altered equipment
d. Scored or damaged piston rod	
4. Periodically remove the air filter located inside the air valve body. See Figure 4. Wash the air filter in a suitable solvent, and air blow dry, making sure all dust and particles are removed from the filter.
5. Periodically remove the screw-in type air filter shown in Figure 5. Wash the air filter in a suitable solvent, and air blow dry, making sure all dust and particles are removed from the filter.

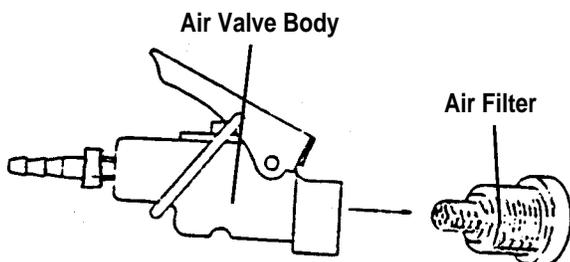


Figure 4

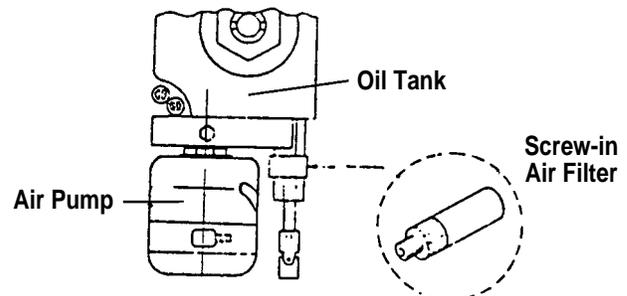


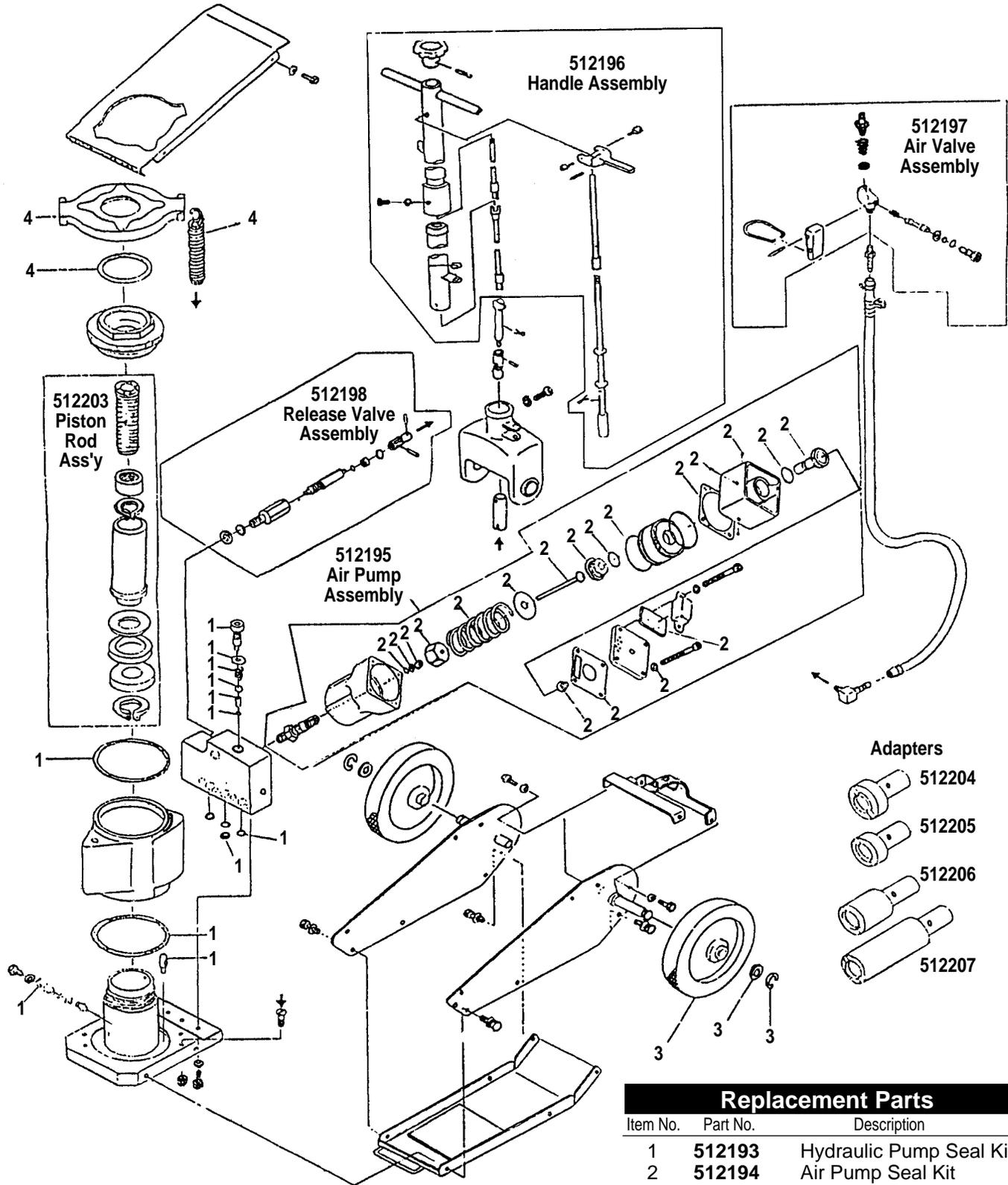
Figure 5

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	<i>1. With jack sitting on its base and ram retracted, bleed air by opening release valve. Pump for 10 seconds.</i>
	2. Viscosity of oil too high	<i>2. Change to a lower viscosity oil.</i>
	3. Ram sticking or binding	<i>3. Look for dirt, gummy deposits, leaks, misalignment, worn parts, or defective packing.</i>
	4. Internal leakage in ram	<i>4. Replace worn packings. Look for excessive contamination or wear.</i>
Ram does not advance	1. Release valve is open	<i>1. Close release valve located on top of "T" handle.</i>
	2. Low/no oil in reservoir	<i>2. Fill with oil & bleed system.</i>
	3. Air locked system	<i>3. With jack sitting on its base and ram retracted, bleed air by opening release valve, running pump for 10 seconds.</i>
	4. Load is above capacity of system	<i>4. Use correct equipment.</i>
Ram only extends partially	1. Low oil level in reservoir	<i>1. Fill reservoir with oil, & bleed system.</i>
	2. Piston rod is binding	<i>2. Look for dirt, gummy deposits, leaks, misalignment, worn parts, or defective packing.</i>
Ram advances slowly	1. Low air pressure	<i>1. Adjust air pressure to 90-145 psi.</i>
	2. Pump not working correctly	<i>2. Rework pump.</i>
	3. Leaking seals	<i>3. Replace seals.</i>
Ram advances but doesn't hold pressure	1. Release valve is open	<i>1. Close release valve located on top of "T" handle.</i>
	2. Ram seals are leaking	<i>2. Replace seals.</i>
	3. Pump check valve not working	<i>3. Clean / replace check valve.</i>
	4. Overload valve leaking or not adjusted	<i>4. Replace / adjust overload valve.</i>
Jack leaks oil	1. Worn or damaged seals	<i>1. Replace seals.</i>
Ram will not retract, or retracts slowly	1. Release valve is closed	<i>1. Open release valve.</i>
	2. Reservoir too full	<i>2. Drain oil to correct level.</i>
	3. Ram damaged internally	<i>3. Take jack to authorized service center for repair.</i>

These instructions have been written to help the user more effectively use and maintain 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/ANSI PALD-1. It is strongly recommended that the user read these two documents, which may be ordered from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th, New York, New York 10017.



Replacement Parts

Item No.	Part No.	Description
1	512193	Hydraulic Pump Seal Kit
2	512194	Air Pump Seal Kit
3	512199	Wheel Kit
4	512200	Spring/Hanger Sleeve Kit
	512195	Air Pump Assembly
	512196	Handle Assembly
	512197	Air Valve Assembly
	512198	Release Valve Assembly
	512203	Piston Rod Assembly
	512204	Adapter (2.675 x .800)
	512205	Adapter (1.900 x .800)
	512206	Adapter (1.900 x 2.350)
	512207	Adapter (1.900 x 3.950)