



Toll Free: 1-800-579-8088 Web: www.zinko.com

MODEL

ZPR-056 & ZPR-106

Hydraulic Pulling Cylinders

Operation & Maintenance Manual

Safety Information

Read and follow all WARNINGS, CAUTIONS and INSTRUCTIONS included with each product to use the product correctly and to avoid personal injury or property damage during system operation. ZINKO can not be held responsible for damage or injury resulting from unsafe use of products, lack of maintenance or incorrect system application.

Caution Remarks Used In This Manual

WARNING Wrong operation may result in the operator's death or serious injury.

CAUTION Wrong operation may result in the operator's injury or property damages.

WARNING

For Your Safety and to Prevent Injury

- 1. READ THIS OPERATION MANUAL THOROUGHLY and fully understand its contents before using the jack.**
This manual explains important warning information.
- Always wear proper protective gear when operating hydraulic equipment.
- 3. STAY CLEAR OF LOADS SUPPORTED BY HYDRAULICS.** Keep hands and feet away from cylinder and work piece during operation.
- A cylinder, when used as a load lifting device, should never be used as a load holding device. After the load has been raised or lowered, it **must always be blocked mechanically.**
- 5. USE ONLY RIGID PIECES TO HOLD LOADS.** Carefully select steel or wood blocks that are capable of supporting the load.
- 6. NEVER USE A HYDRAULIC CYLINDER AS A SHIM OR SPACER IN ANY LIFTING OR PRESSING APPLICATION.**
- 7. DO NOT EXCEED EQUIPMENT RATINGS.** Never attempt to lift a load weighing more than the capacity of the cylinder. Overloading causes equipment failure and possible personal injury. The cylinders are designed for a maximum pressure of 700 bar (10,000 psi). **DO NOT CONNECT A JACK OR CYLINDER TO A PUMP WITH A HIGHER PRESSURE RATING.**
- 8. NEVER SET THE RELEASE VALVE TO A HIGHER PRESSURE THAN THE MAXIMUM RATED PRESSURE OF THE PUMP.** Higher settings may result in equipment damage and/or personal injury. The system operating pressure **must not exceed** the pressure rating of the lowest rated component in the system.
NOTE: Install pressure gauges in the system to monitor operating pressure.
- 9. KEEP HYDRAULIC EQUIPMENT AWAY FROM FLAMES AND HEAT.** Excessive heat will soften packings and seals resulting in fluid leaks. Heat also weakens hydraulic hose materials and packings. For best performance, do not expose equipment to temperatures of 150° F (65° C) or higher.
- 10. ONLY USE HYDRAULIC CYLINDERS IN A COUPLED SYSTEM.** Never use a cylinder with unconnected couplers. If the cylinders become extremely overloaded, components can fail catastrophically causing property damage and/or severe personal injury.

Hydraulic Hoses

CAUTION Avoid damaging hydraulic hoses. Avoid sharp bends and kinks when routing hoses. Using a bent or kinked hose will cause severe back-pressure. Sharp bends and kinks will internally damage the hose leading to premature hose failure.

- 1. DO NOT DROP HEAVY OBJECTS ON HOSE(S).** A sharp impact may cause internal damage to hose wire strands. Applying pressure to a damaged hose may cause it to rupture.
- 2. DO NOT LIFT HYDRAULIC EQUIPMENT BY THE HOSE OR SWIVEL COUPLERS.** Use the carrying handle or other means of safe transport.
- 3. DO NOT HANDLE PRESSURIZED HOSES.** Escaping oil under pressure can penetrate the skin causing serious injury. If oil is injected under the skin, see a doctor immediately.

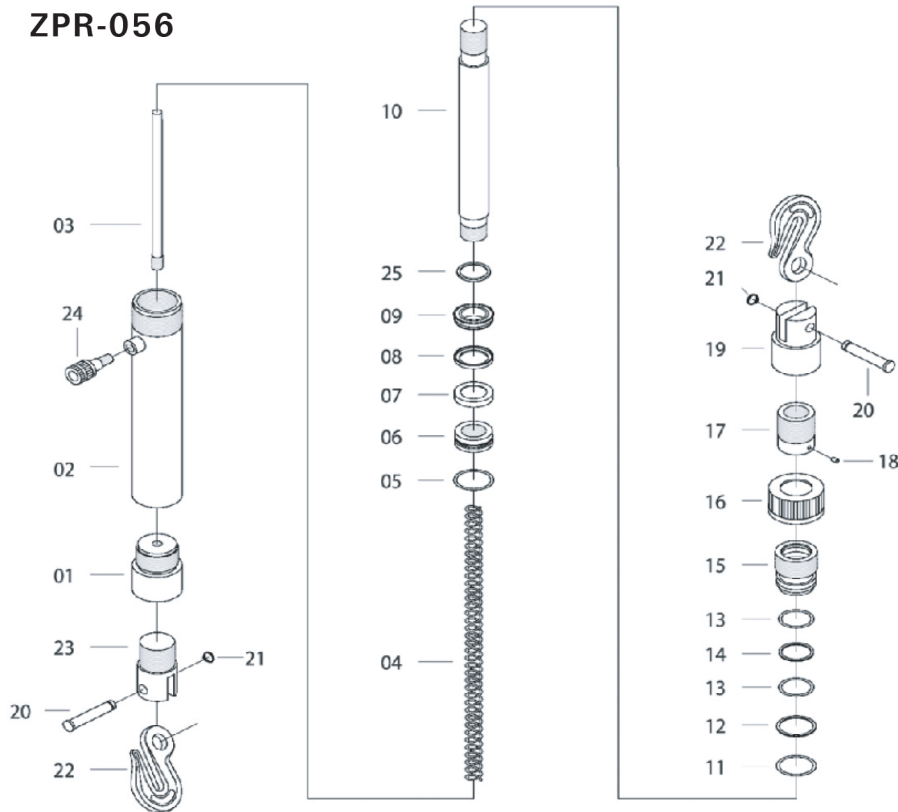
Installation

- 1. Make hydraulic connections.** Use a pump with release valve or a 3-way valve and one hose for single-acting cylinders (Use a pump with a 4-way valve and two hoses for double-acting cylinders). **IMPORTANT: Double-acting cylinders must have both couplers connected. Fully hand-tighten all couplers. Loose couplers connected will block the flow of oil between the pump and the cylinder.**
- 2. Remove air from cylinder.**
Single-acting cylinders: Position the cylinder so that the plunger is pointed down and the cylinder is lower than the pump. Fully extend and retract the cylinder 2 or 3 times.
Double-acting cylinders: Lay the cylinder on its side and have the couplers facing up. Fully extend and retract the cylinder 2 or 3 times.

Zinko Hydraulic Jack

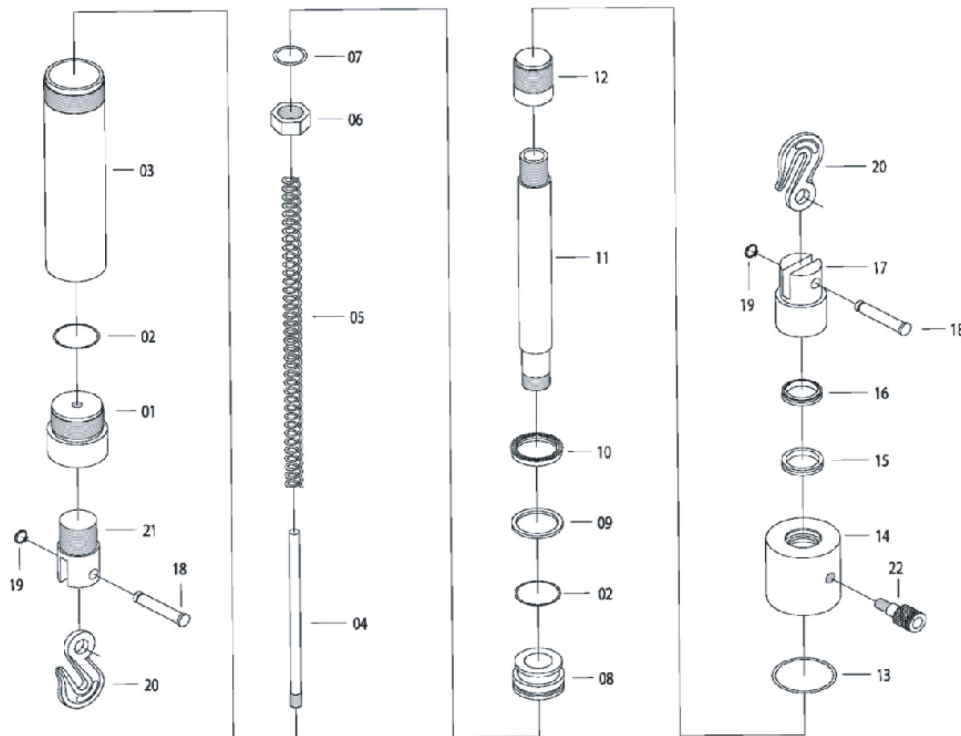
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ZPR-056



#	DESCRIPTION
01	Cylinder Base
02	Cylinder
03	Fixing Screw
04	Spring
05*	O-Ring
06	Bypass Bushing
07	Copper Bushing
08*	Back-Up Ring
09*	Cup Seal
10	Ram
11*	O-Ring
12*	Back-Up Ring
13*	O-Ring
14*	Back-Up Ring
15	Fasten Nut
16	Ram Sleeve
17	Adapter
18	Set Screw
19	Hook Connector
20	Pin
21*	Snap Ring
22	Hook
23	Hook Connector
24	Coupler
25	Washer
RP	Repair Kit (All Parts with*)

ZPR-106



#	DESCRIPTION
01	Cylinder Base
02*	O-Ring
03	Cylinder
04	Fixing Screw
05	Spring
06	Nut
07*	O-Ring
08	Bypass Bushing
09*	Back-Up Ring
10*	Cup Seal
11*	Ram
12	Adapter
13*	O-Ring
14	Cylinder Top
15*	Cup Seal
16*	Wiper Seal
17	Hook Connector
18	Pin
19*	Snap Ring
20	Hook
21	Hook Connector
22	Coupler
RP	Repair Kits (All Parts with*)

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NOTE: Collar threads are rated for the full capacity of the cylinder when fully engaged in attachments. The use of cylinder attachments or extensions reduces the cylinder capacity by at least 50%.

Operation

Operate the hydraulic pump to advance and retract the cylinder. Some single-acting cylinders are spring-return, while others are load return. Double-acting cylinders are powered in both directions by the pump.

Maintenance

1. Use only certified hydraulic lift oil with these cylinders. The use of any other oil may invalidate your warranty.
2. Use dust caps when cylinders are disconnected from the hose(s) Keep the entire cylinder clean to prolong the life of the cylinder.
3. Store cylinders upright to prevent seal distortion.

IMPORTANT: Hydraulic equipment must only be serviced by a qualified technician. For repair service, contact the authorized **ZINKO** service center in your area. To protect your warranty, use only certified hydraulic lift oil.

WARNING Immediately replace worn or damaged parts with genuine **ZINKO** parts. Standard grade parts may break causing personal injury and/or property damage. **ZINKO** parts are designed to fit properly and withstand high loads.

Troubleshooting

These cylinders should be repaired only by authorized **ZINKO** Technical Service Centers. Single-acting cylinders are spring-loaded and require special disassembly techniques to prevent personal injury.

PROBLEM	POSSIBLE CAUSE
Cylinder Will Not Advance.	<ol style="list-style-type: none">1) Pump release valve is open.2) Coupler is not fully tightened.3) Oil level in pump is low.4) Pump malfunctioning.5) Load is too heavy for cylinder.
Cylinder Advances Part Way.	<ol style="list-style-type: none">1) Oil level in pump is low.2) Coupler is not fully tightened.3) Cylinder plunger is binding.
Cylinder Advances In spurts.	<ol style="list-style-type: none">1) Air in hydraulic system.2) Cylinder plunger is binding.
Cylinder Advances Slower Than Normal.	<ol style="list-style-type: none">1) Leaking connection.2) Coupler is not fully tightened.3) Pump malfunctioning.
Cylinder Advances But Will Not Hold.	<ol style="list-style-type: none">1) Cylinder seals leaking.2) Pump malfunctioning.3) Leaking connection.4) Incorrect system setup.
Cylinder Leaks Oil.	<ol style="list-style-type: none">1) Worn or damaged seals.2) Internal cylinder damage.3) Loose connection.
Cylinder Will Not Retract, or Retracts Slower Than Normal.	<ol style="list-style-type: none">1) Pump release valve is closed.2) Coupler is not fully tightened.3) Pump reservoir overfilled.4) Narrow hose restricting flow.5) Broken or weak retraction spring.6) Cylinder damaged internally.



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