



# Zinko Hydraulic Jack

P O Box 4903

Ontario, CA 91761

TEL: 909-989-9526 FAX:909-989-1724

## IMPORTANT RECEIVING INSTRUCTIONS:

Visually inspect all components for shipping damage. Shipping damage is **not** covered by warranty. If shipping damage is found, notify carrier at once. The carrier is responsible for all repairs and replacement costs resulting from damage in shipment cost.

### SAFETY FIRST

Read all instructions, warnings and cautions carefully.

Follow all safety precautions to avoid personal injury or property damage during system operation. Zinko cannot be responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system operation. Contact Zinko when in doubt as to the safety precautions and operations. Failure to comply with the following cautions and warnings could cause equipment damage and personal injury.

**▲ DANGER** is only used when your action or lack of action causes serious injury or even death.

**▲ WARNING** indicates a potential danger that requires correct procedures or practices to avoid personal injury.

**▲ CAUTION** is used to indicate correct operating maintenance procedures and practices to prevent damage to or destruction of equipment or other property.

**▲ WARNING** It is the operator's responsibility to read and understand the following safety statements:

- Wear proper personal protective gear when operating hydraulic equipment.
- Stay clear of loads supported by hydraulics.
- 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.
- Use only rigid pieces to hold loads. Carefully select steel or wood blocks that are capable of supporting the load.
- Never use a hydraulic cylinder as a shim or spacer in any lifting or pressing application.
- 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 max. pressure of 700 bar (10,000 psi). Do not connect a jack or cylinders to a pump with higher pressure rating.
- 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. Install pressure gauges in the system to monitor operating pressure. It is a window to what is happening in the system.
- **BE SURE SETUP IS STABLE BEFORE LIFTING LOAD:** Cylinders should be placed on a flat surface that can support the load. Where applicable, use a cylinder base for added stability. Do not weld or otherwise modify the cylinder to attach a base or other support.
- Avoid situations where loads are not directly centered on the

## Operating Instructions for: ZR, ZRB, AND ZRA Series Hydraulic Cylinder

cylinder plunger. Off-center loads produce considerable strain on cylinder and plungers. In addition, the load may slip or fall, causing potentially dangerous results. Distribute the load evenly across the entire saddle surface. Always use a saddle to protect the plunger.

▪ When ZAR-Series cylinders are used with powerset attachments or components, the maximum system pressure must be limited to half the rated pressure of 700 bar (5,000 psi).

**▲ CAUTION** Avoid damaging hydraulic hose. Avoid sharp bends and kinks when routing hydraulic 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.

▪ Do not drop heavy objects on hose. A sharp impact may cause internal damage to hose wire strands. Applying pressure to a damaged hose may cause it to rupture.

▪ Do not lift hydraulic equipment by the hose or swivel couplers. Use the carrying handle or other means of safe transport.

▪ **KEEP HYDRAULIC EQUIPMENT AWAY FROM FLAMES AND HEAT:** Excessive heat will soften packings and seals, resulting in fluid leaks. Heat also weakens hose materials and packings. For optimum performance do not expose equipment to temperature of 65 degrees (150 F) or higher.

▪ Protect hoses and cylinders from weld spatter.



**IMPORTANT:** Hydraulic equipment must only be

serviced by a qualified hydraulic 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 by genuine Zinko parts. Standard grade parts may break causing personal injury and property damage. Zinko parts are designed to fit properly and withstand high loads.

**▲ DANGER** To avoid personal injury keep hands and feet away from cylinder and work piece during operation.

▪ **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.

▪ 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 severe personal injury.

## INSTALLATION

1. Make hydraulic connections. Use a pump with release valve or a 3-way valve and one hose for single acting cylinders.

(a) Use a pump with a 4-way valve and two hoses for double-acting cylinders.

(b) **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.

(a) 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.

(b) Double-acting cylinders: Lay the cylinder on its side and have



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the couplers facing up. Fully extend and retract the cylinder 2 or 3 times.

**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 a least 50%.

### OPERATION

Operate the hydraulic pump to advance and retract the cylinder. Some single-acting cylinders are spring-return, other 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. Keep entire cylinder clean to prolong cylinder life.
3. Store cylinders upright to prevent seal distortion.

### TROUBLE SHOOTING

These cylinders should be repaired only by Authorized Zinko Technical Service Centers. Single-acting cylinders are spring loaded and require special disassemble techniques to prevent personal injury.

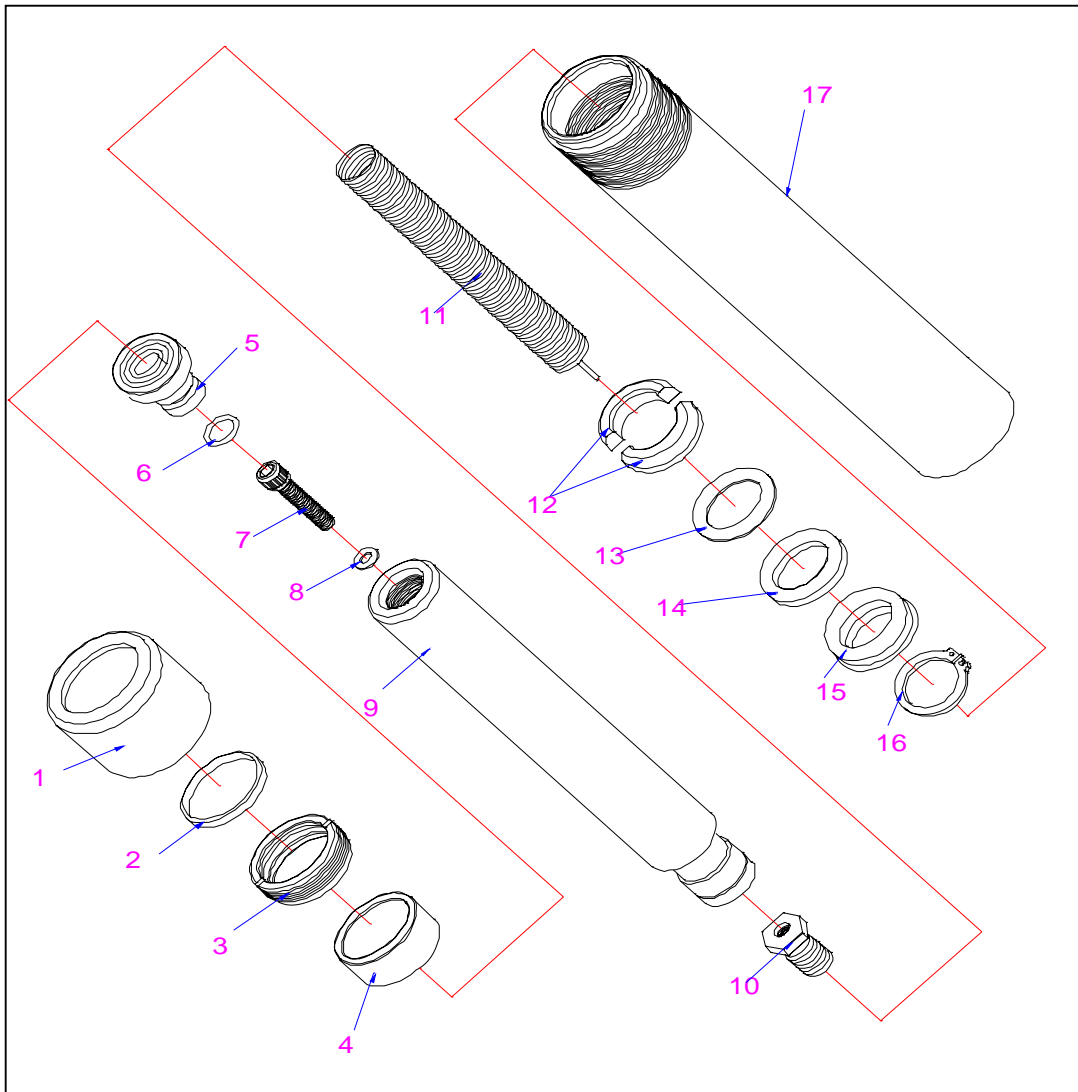
PROBLEM	POSSIBLE CAUSE
Cylinder will not advance.	Pump release valve open Coupler not fully tightened Oil level in pump is low Pump malfunctioning Load is too heavy for cylinder.
Cylinder advances part way	Oil level in pump is low Coupler not fully tightened Cylinder plunger binding
Cylinder advances in spurts	Air in hydraulic system Cylinder plunger binding
Cylinder advances slower than normal	Leaking connection Coupler not fully tightened Pump malfunctioning
Cylinder advances but will not hold	Cylinder seals leaking Pump malfunctioning Leaking connection Incorrect system set up
Cylinder leaks oil	Worn or damaged seals Internal cylinder damage Loose connection
Cylinder will not retract or retracts slower than normal	Pump Release valve is closed Coupler not fully tightened Pump Reservoir over-filled Narrow hose restricting flow Broken or weak retraction spring Cylinder damaged internally.



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ITEM	DESCRIPTION
1	THREAD PROTECTOR
2	WIPER
3	BEARING STOP RING
4	BEARING SLEEVE
5	SADDLE
6	STOP RING
7	SCREW
8	WASHER
9	PLUNGER
10	SEATING NUT
11	SPRING
12	ROD BEARING
13	WASHER
14	BEARING
15	U-CUP
16	C-RING
17	CYLINDER