OPERATING & SAFETY INSTRUCTIONS

ACTIONRAM HYDRAULIC CYLINDERS

Read this manual and follow all the safety rules and operating instructions before using this product.

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ACTIONRAM HYDRAULIC CYLINDERS

INSTRUCTIONS

RAISING THE RAM

- Ensure the release valve is closed before raising the ram.
- Do not overtighten the release valve.

LOWERING THE CYLINDER

- Open the release valve by turning it anticlockwise.
- The rate of descent depends on how much the valve is opened.
- If the cylinder is under load, open the valve slightly to prevent a rapid descent.

EXTENDING A CYLINDER UNDER LOAD

- Always ensure that the coupler or port thread is undamaged.
- Ensure the coupler or port thread is not in contact with any rigid construction.

USING A HOLLOW CYLINDER

- Support the base against a rigid, flat surface covering at least 75% of the cylinder base.
- Failure to do so can damage the ram, leading to a high pressure release of hydraulic fluid and loss of load, which may result in serious injury or death.

A double-acting hydraulic cylinder must have hoses and couplers securely connected to both ports. If one of the two ports is restricted or becomes disconnected, the cylinder, hoses or coupler may burst and cause serious injury or death.

INSPECTION & MAINTENANCE

- Examine all threads, fittings, and connections for signs of wear, corrosion, or damage. Replace any worn or damaged components immediately to prevent failure.
- Thoroughly clean all hose ends, couplers, and union ends before use to prevent contamination.
- Any repair or replacement of internal and external parts of the ActionRam equipment, must only be carried out by trained personnel authorised by SafetyLiftinGear.
- A full inspection must be conducted every 12 months by a competent and qualified person in accordance with safety regulations.

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GENERAL SAFETY RULES

- The user must be familiar with the correct operation, maintenance, and use of the cylinder. Lack of knowledge in any of these areas may result in injury.
- Only use approved accessories and hydraulic fluid.
- Do not exceed rated capacities of the cylinders. Excess pressure may result in injury. ActionRam cylinders are designed with a hydraulic pressure rating of 700 bar.
- Do not use on poorly balanced or off-centre loads. The load may tip and result in injury.
- Before operating the pump. Tighten all hose connections using the correct tools. Do not over tighten the connections. Connections must be tightened securely and leak-free.
- Do not allow the hose to come into contact with hazards such as fire, extreme heat or cold, sharp surfaces or to be subjected to heavy impact.
- Do not allow the hose to kink, twist, curl or bend so tightly that the oil flow within the hose is blocked or reduced.
- Do not use the hose or coupler to move attached equipment. Stress may damage the hose or coupler and result in injury.
- Keep clear of raised loads.

PRECAUTIONS

- Avoid straight tubing connections in short runs. Straight-line runs do not provide for expansion or contraction due to pressure or temperature changes.
- Eliminate stress in the tube lines. Brackets or clips should support long tubing runs. Tube through bulkheads must have bulkhead fittings. This makes easy removal possible and helps support the tubing.
- If the hydraulic hose needs to be disconnected, immediately shut off the pump. **Never attempt to grasp a leaking hose under pressure with your hands. The force of the escaping hydraulic fluid could cause serious injury or death.**
- Periodically inspect the hose for wear because any of these conditions can damage the hose and may result in personal injury.
- Do not use the hose to move attached equipment. This can weaken or damage the hose or coupler.
- Hose material and coupler seals must be compatible with the hydraulic fluid used.
- Before painting a hose consult manufacturer.
- Never paint couplers.

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TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE
Cylinder will not advance	▪ Pump release valve open
	▪ Coupler not tightened fully
	▪ Pump oil level is low
	▪ Load is too great for cylinder
	▪ Pump malfunction
Cylinder advances part way	▪ Coupler not tightened fully
	▪ Pump oil level is low
	▪ Cylinder plunger binding
Cylinder advances in spurts	▪ Air in hydraulic system
	▪ Cylinder plunger binding
Cylinder advances slowly	▪ Leaking connection
	▪ Coupler not tightened fully
	▪ Pump malfunction
Cylinder advances but will not hold	▪ Cylinder seal damaged
	▪ Pump malfunction
	▪ Leaking Connection
	▪ Incorrect system set-up
Cylinder leaks oil	▪ Worn or damaged seals
	▪ Internal cylinder damage
	▪ Loose connection
Cylinder will not retract or retracts slowly	▪ Pump release valve is closed or not open enough
	▪ Coupler not tightened fully
	▪ Pump reservoir overfilled
	▪ Restricted oil flow
	▪ Broken or weak retraction spring
	▪ Internal cylinder damage
Oil leaking from external relief valve	▪ Coupler not tightened fully
	▪ Restriction in return valve

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