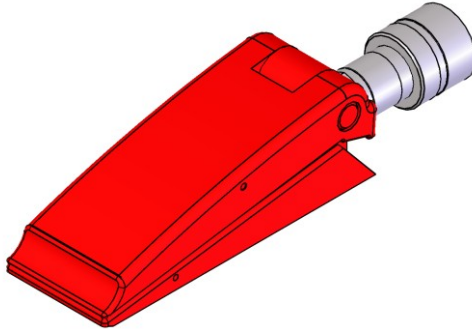


Prepared by:-	Matthew Hughes	Approved by:-	Mark Dalley	Date: 01/02/13
REV NO:-	001			
ECO:-	4029			

The JS4 hydraulic spreader is the ideal solution for spreading, wedging and prising operations in a wide variety of industrial applications. The compact, low weight, spring assisted return design enables the tool to fit into a gap of 9.7mm and offers a maximum spread of 94mm. Manufactured from high strength steel with a maximum pressure of 700 bar, the JS4 is supplied fitted with a quick connect female half coupler.



### **INSPECTION UPON RECEIPT OF GOODS**

On initial receipt of goods visually check for transit damage. If found contact the carrier immediately. Hi-Force does not necessarily know the circumstances of use of a particular tool. Always refer to operating instructions for pumps, valves etc. used with the tool. If in doubt consult your Hi-Force distributor.

### **SAFETY**

**Read these instructions and safety warnings fully.**

**Failure to do so could result in Death, Personal injury or equipment damage.**

- Wear suitable personal protection equipment when operating hydraulic equipment. Keep all body parts away from tool and work piece / load.
- Do not work on an assembly held open only by hydraulic means.
- Never disconnect a spreader from the pump while the hydraulic system is under pressure.
- Never subject the spreader to offset loads
- Do not exceed rated capacity of the tool. Hi-Force JS4 tool is designed for 700 bar maximum working pressure. Do not connect to a pump with a higher rated pressure. Ensure that all components in the system are rated for 700 bar.
- Use a pressure gauge in the system whenever possible.
- Do not handle pressurised hoses. Oil escaping under pressure from a ruptured hose can penetrate the skin. If oil is injected under the skin it is a serious medical emergency. See a doctor immediately.
- Avoid damaging hydraulic hoses. Always route hoses to ensure they are free from sharp bends and kinks.
- For further safety information and typical connection diagrams consult the Hi-Force catalogue or website. [www.hi-force.com](http://www.hi-force.com)

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## CONNECTION AND BLEEDING

Ensure that the pump being used is suitable for the tool. A pump with a 2 way or three way valve and one hose should be used for single acting tool such as this.

Connect hoses between the tool and pump ensuring that the couplers, where used are fully tightened – by hand only. A loose coupler will slow or stop the oil flow and is the most common cause of faulty operation.

Before putting the cylinder into service it is important to bleed air from the system. New hoses and cylinders are not always completely full of oil. Remove this air as follows. Single acting cylinders: Locate cylinder below the pump with the spreader pointing downwards (coupler uppermost) Operate the pump to fully extend and retract the tool several times.

**CAUTION:** In the case where very long hoses are used this procedure may not fully remove the air. Contact your Hi-Force distributor for advice on pre-filling of hoses with hydraulic oil.

## OPERATION

**Note:** A pump is used to advance and retract the tool. Refer to hydraulic pump operating instructions for details of operating the pump.

- Position the spreader between the objects to spread apart. Ensure the spreader has a secure grip.
- Operate the pump to expand the spreader to the desired width.
- Release.

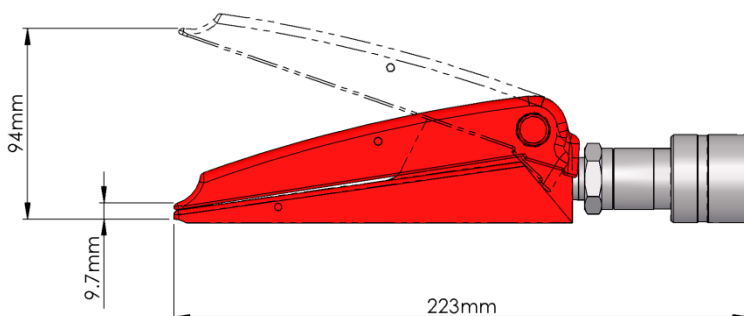
Always try to work with the spreader at right angles to the object and to keep the point of contact as far in from the tips of the jaws as possible in order to prevent the jaws from slipping and to ensure the maximum spreading force.



- If the spreader begins to twist – **STOP WORK!** Reposition the spreader and try again.
- Once the spreader begins to twist the situation will never improve, it will only get worse.

One common reason for the spreader to twist is that the load is sliding sideways. You should always secure the load before starting work.

## TECHNICAL INFORMATION



Capacity tonnes	Oil Capacity cm <sup>3</sup>	Weight kg
0.9	10	2.2

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### **CARE AND MAINTENANCE**

Before each use fully expand the tool and grease the exposed protruding wedge surfaces with molybdenum disulphide grease. This will help to ensure smooth operation and prolong the life of the tool.

Always use genuine Hi-Force hydraulic oil. The use of other fluids may invalidate your warranty.

After use, always fully retract the tool. When hoses are disconnected, always fit dust caps to couplers.

Protect tools from the elements when not in use. If storing for prolonged periods, grease exposed metal parts. Never store the tool in an expanded condition.

To protect your warranty, have your cylinder serviced and repaired by an authorised Hi-Force repairer. Only use genuine Hi-Force spare parts. Spare parts sheets can be downloaded from our website [www.hi-force.com](http://www.hi-force.com)

### **TROUBLESHOOTING**

Refer to the following table to help identify the most common faults:-

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>
Tool will not expand.	Coupler not fully tightened Pump release valve open Pump oil level too low Pump malfunctioning Pump pressure relief valve set too low Load too great for tool Tool already at full stroke
Tool only advances part way	Pump oil capacity insufficient External obstruction
Tool does not advance smoothly.	Air in system
Tool advances but will not hold load.	Leaking seals Pump or valve malfunctioning Leaking connection
Tool leaking	Cylinder damage Seal damage Loose connection
Tool slow to retract/does not retract	Broken retract spring Damaged wedge Valve malfunction Coupler not fully tightened

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