

SAFE USE OF HYDRAULIC HAND PUMPS

Applies to: Hi-Force, Enerpac, G-Force, Tangye, and similar hydraulic hand pumps

Purpose

Hydraulic hand pumps are used to generate controlled hydraulic pressure to operate cylinders, jacks, presses, pullers, and other hydraulic tools.

They provide portable high-pressure power for lifting, pushing, pulling, and tensioning operations.

This leaflet provides guidance for safe operation to prevent hose failure, oil injection injuries, uncontrolled load movement, or equipment damage.

Before Use

- Inspect the pump – Check body, handle, reservoir, pressure gauge, release valve, and couplers for cracks, corrosion, or leaks.
- Verify pressure rating – Ensure the pump is compatible with the connected equipment, typically 700 bar / 10,000 psi.
- Check oil level – Ensure hydraulic oil level is within the manufacturer's recommended range.
- Inspect hoses and couplers – Look for cracks, abrasion, blistering, kinks, corrosion, or loose fittings.
- Confirm compatibility – Pump, hose, couplers, and cylinder must all share the same pressure rating and thread type.
- Check release valve – Ensure it opens and closes smoothly.
- Inspect pressure gauge – Ensure gauge is readable, undamaged, and returns to zero.
- Test pump unloaded – Operate the handle with no load to confirm smooth pressure build-up and release.
- Ensure clean connections – Wipe couplers before connecting to prevent contamination.
- Confirm load support plan – Ensure the load will be mechanically supported once raised.
- Ensure operator competence – Only trained and authorised persons should operate hydraulic pumps.

During Operation

- Place pump on a stable, level surface.
- Connect hoses fully and securely before pressurising.
- Close the release valve before pumping.
- Pump slowly and evenly — avoid rapid or jerky strokes.
- Monitor pressure gauge continuously.
- Never exceed the rated pressure of the system.
- Keep hands and body clear of hoses and pressurised fittings.
- Ensure hoses are supported and protected from sharp edges or crushing.
- Stop pumping immediately if oil leaks, hose bulging, or abnormal noises occur.
- Use suitable cribbing or mechanical supports when lifting loads.
- Depressurise slowly using the release valve when lowering.

Do Not

- Exceed the pump's rated working pressure.
- Use damaged, leaking, or mismatched hoses and couplers.
- Disconnect hoses while under pressure.

- Use PTFE tape on hydraulic fittings unless specified by the manufacturer.
- Stand over pressurised hoses or fittings.
- Modify relief valves or pressure-limiting devices.
- Use contaminated or incorrect hydraulic oil.
- Allow hoses to become twisted, crushed, or tensioned.
- Lift or support people using hydraulic equipment.
- Leave pressurised systems unattended.

After Use

- Lower the load fully and release all hydraulic pressure.
- Open the release valve fully to depressurise the system.
- Disconnect hoses carefully.
- Wipe down pump, hoses, and couplers.
- Inspect for leaks, cracked fittings, or damaged components.
- Replace dust caps on couplers.
- Store pump upright in a clean, dry location.
- Tag out and report any defective equipment.
- Maintain PUWER and LOLER inspection records where applicable.

Safety Reminders

- Always follow manufacturer instructions (Hi-Force, Enerpac, G-Force, etc.).
- Never exceed 700 bar / 10,000 psi unless equipment is specifically rated for it.
- Never rely on hydraulic pressure alone — always support loads mechanically.
- Keep hydraulic systems clean and contamination-free.
- Wear appropriate PPE: gloves, eye protection, safety boots, and hi-vis.
- Conduct full pre-use inspections before every shift.
- Only trained personnel should operate hydraulic pumps.

Support & Maintenance

For servicing, inspection, hose replacement, testing, and repairs of hydraulic hand pumps, contact your local Lifting Gear & Safety Depot:

Depot List

Bristol: 0117 9714883

Avonmouth: 0117 9550456

Newport: 01633 334450

Port Talbot: 01639 540007

Pembroke: 01646 574000

Plymouth: 01752 474488

Fareham: 01329 550988

Redruth: 01209 703990