



LIFTING GEAR & SAFETY

SAFE USE OF HYRAULIC 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