



OPERATOR'S MANUAL

HEJ100-50L

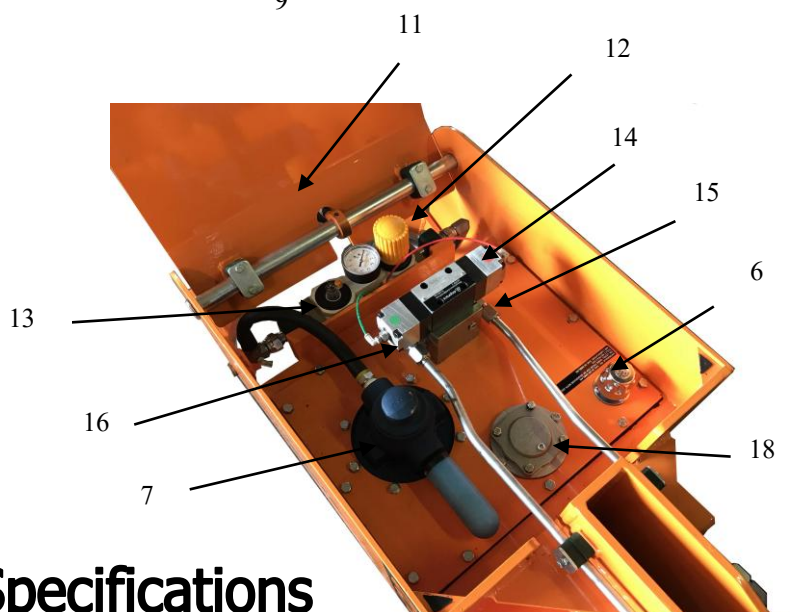
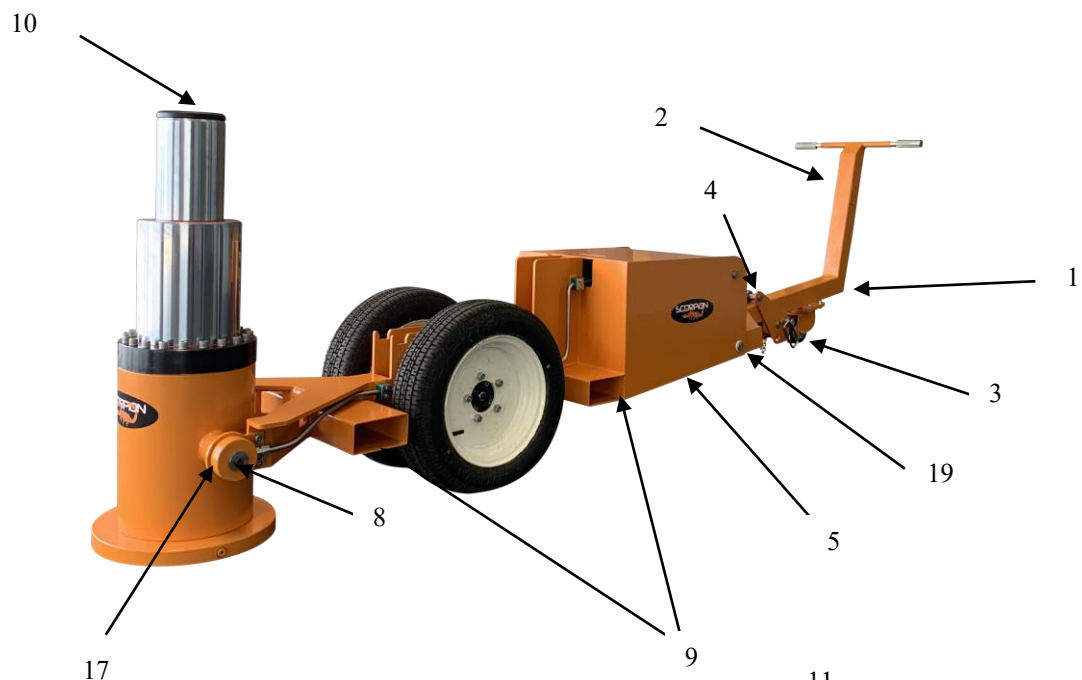
100/50 TONNE, LOW PROFILE
TELESCOPIC
Heavy Equipment Jack

Serial Number:

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1	Air Connection
2	"UP", "HOLD", "DOWN" Control
3	Castor
4	Handle Adjustment
5	Oil Reservoir
6	Filler/Breather
7	Pump
8	Test Point
9	Lifting Point
10	Load Cap
11	Hinged Cover
12	Air Filter / Regulator
13	Air Lubricator
14	Directional Control
15	Hydraulic Relief Valve
16	Counterbalance Valve
17	Trunnion
18	Hydraulic Return Filter
19	Pins

Specifications

Max. Air Pressure	620 kpa (90 psi)
Air Pressure Safety Relief	689 kpa (100 psi)
Hydraulic Pressure Relief	24,000 kpa (3,500 psi)
Counterbalance Valve	25,500 kpa (3,700 psi)
Tyre Pressure	344 kpa (50 psi)
Hydraulic Oil	SAE 20 Hydraulic oil/equivalent
Air Lubrication	SAE 20 Hydraulic oil/equivalent

Description

Reciprocating air operated hydraulic pump **(7)** mounted through lid delivering 24,317 KPA (3,300 PSI) hydraulic pressure at 620 KPA (90 PSI) air pressure (max recommended pressure).

Oil from the pump **(7)** is delivered to a subplate containing a pressure relief **(15)** set to 24,000 KPA (3,500 PSI). The directional control **(14)** is mounted to this subplate; it is a double air pilot operated with closed centre. The valve is activated with a toggle type air valve **(2)** located in the handle. A counterbalance valve **(16)** set at 25,500 KPA (3,700 PSI) is positioned in the "up" line between the directional control and cylinder.

Oil reservoir **(5)** is located behind the wheels, under the hinged lid **(11)**. The filler breather **(6)** is located in one corner of Reservoir lid. Oil level when unit is fully retracted should be about 50 mm (2") from the lid.

Air is supplied via the air connection **(1)** at the rear base of the handle, down the inside of the handle to the Air Filter/Regulator **(12)**, and Lubricator **(13)**.

DO NOT TAMPER WITH THIS RELIEF.

Assembly

Your Scorpion Jack has been freighted with its handle removed. Re-attach handle by removing lower handle pivot pins **(19)** position handle and refit pins to attach handle to chassis. Lastly attached turnbuckle to handle attachment pin.

The Air hose protruding from the inside of the handle attaches to the inlet of the air filter/regulator. Push hose onto the brass inlet barb and tighten the hose clamp.

The small white nylon tube "pushes into" the fitting on the outlet of the lubricator (white paint dot). The coloured nylon tubes "plug into" end of the black directional control. A coloured dot on each fitting will again match the colour of the tubes.

Operate the unit and check for air leaks.

Adjustments

Lubrication

With full airflow adjust the airline lubricator **(13)** by rotating the small yellow screwdriver slot in the top of the unit. Observe the oil drops forming in the sight dome (also on top of the lubricator). Rotate the adjustment clockwise for less, anti-clockwise for more, until you have approximately one drop every 30-60 seconds.

Air Pressure

- The air filter/regulator **(12)** should be set to 620 KPA (90 PSI) air pressure.
- **This device has been factory set and should not need adjustment.**
- It can also be capped and locked to ensure the device cannot be tampered with in site, should this be required.
- **If the jack is not making full system air pressure, contact Scorpion Jacks for further assistance.**

Hydraulic Pressure Relief Valve

- This valve **(15)** has been factory set to 24,150 KPA (3,500PSI) hydraulic pressure.
- This valve has been factory set, and press-fit capped to ensure the valve cannot be tampered with on-site.
- If the jack is not making full system air pressure, contact Scorpion Jacks for further assistance.

Counterbalance Valve

- This valve **(16)** has been factory set to 25,510 KPA (3,700PSI) hydraulic pressure.
- This valve has been factory set, and press-fit capped to ensure the valve cannot be tampered with on-site.
- If the jack is not making full system hydraulic pressure, contact Scorpion Jacks for further assistance.

Safe Operating Procedures

- Every site and or company will have its own specific set of SOPs for jacking heavy machinery. The below procedure is not intended to supplant those SOPs and is exclusively intended to outline how to operate the jack correctly. All other safety considerations concerning the physical environment in which the jack is being used will be determined by the operator's company or the work site's SOPs.
- To move this jack, first adjust the handle, using the Turnbuckle **(4)** to a convenient height for the operator. By pushing on the handle the self-levelling cylinder will be lifted clear of the floor for easy moving of the unit.
- For forklift lifting of the unit, box sections **(9)** are provided between the chassis just forward of the wheel axles.
- Select a solid level area on which to jack. Position the jack using the correct load cap, **(10)** or extension dolly.

DO NOT JACK DIRECTLY ON THE END OF THE ROD, as this could cause damage to the rod

Before engaging the load:

- Ensure the dolly or load cap cannot slip on the surface to be jacked
- Attach the airline to the jack

To Raise:

- Switch the toggle control to "up."
- When the desired height is reached, switch to "hold."
- Switch the toggle switch to "hold"***

To Lower:

- Switch the toggle control to "down". The unit must be powered down and will lower at a fixed rate regardless of the load.

****CAUTION:**

DO NOT WORK UNDER EQUIPMENT SUPPORTED ONLY BY A JACK.

- Either insert the steel load chocks provided using the procedure noted or,
- Place vehicle support stands under the equipment and lower onto the stands before working under machine.

EXTENSION DOLLIES ARE DESIGNED FOR USE WITH A LOAD CAP. Do not jack directly onto the dollies without having the correct load cap in place.

DO NOT STACK DOLLIES. Scorpion Jacks International has designed their range so that only one dolly can be used safely at a time with a jack. SJI believes this represents the highest level of safety achievable whilst jacking under load.

Maintenance

- Check the reservoir oil level. Fill out about 50 mm (2") from top of reservoir.
- Check oil in air lubricator. **(14)** Remove filler cap (round cap with 2 vertical Pins) located on top of lubricator, and add oil until bowl is 2/3 full.
- Drain water etc. from the air filter **(12)** on a regular basis. A small drain tap is located at the base of the filter. Open this valve while air is connected to the jack closing after all the moisture is exhausted
- Check tyre pressure. Low tyre pressure will make the unit difficult to move. SJI recommend maintaining tyre pressure at 50psi.
- Change return line filter **(19)** every 500 hours or twelve months.

CAUTION:

DO NOT USE HIGH PRESSURE CLEANERS ON THE RESERVOIR LID, AS THIS MAY CAUSE CONTAMINANTS TO ENTER THE SYSTEM AND AFFECT NORMAL OPERATION AND OR WARRANTY.

NOTES:

[illegible]

Periodic Service Checklist Template

SCORPION JACKS – SCOPE OF ANNUAL (OR PERIODIC)

ROUTINE OFF-SITE SERVICE WORKS

1. Schedule of Jack Tooling requiring annual service

- (Insert Jack Model and S/N here)

2. Scope of Works

- Jacks are sent one at a time on a custom steel skid to Scorpion Authorised repair and service workshop. The scope of this regular service is as per the below:

3. List of items to be Inspected / Serviced or Replaced

3.1 Items to Inspect:

- Input air pressure (via pressure gauge on FRL assembly) & FRL assembly.
- Lubricator Oil
- ID Stickers /Decals
- Tyre Pressure
- Check cylinder rod for damage
- Check Load chocks (when supplied) for damage
- General whole of jack visual assessment for damage including steel tubes, handle, Load Cap etc.
- Cylinder internal surfaces – Bore, Piston, gland.
- Pneumatic Relief and Counterbalance Valves.

3.2 Items to Service:

- Wheel Bearings
- Jack cylinder
- Jack reservoir. – Clean out.

3.3 Items to Replace:

- Hydraulic Filter Element
- Hydraulic Suction Strainer
- Hydraulic Oil
- Pneumatic Filter Element
- Jack cylinder seal kit.
- Hydraulic valve safety caps (if reset required)
- Cap screws - Base Plate (optional)
- Cap screws – Gland (optional)
- Cap screws – Piston (optional)

3.4 Items to test:

- SC Pump. – Ensure pump is generating full hydraulic system pressure at the nominated air input pressure.
- FRL assembly. Ensure the air regulator is generating system pressure, the filter auto-drain is working, and the lubricator is functioning.
- Hydraulic Relief Valve. Relieving at nominated pressure
- Hydraulic Counterbalance Valve. Opening at nominated pressure
- Jacking cylinder separately after re-seal, and prior to re-assembly to jack chassis.
- **Whole jack after completion. – Tonnage Load Test.**

NOTES:

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Service Notes – Harsh Environments

Daily/Weekly:

- Ensure there is oil in the pneumatic lubricator. This is vital to prolonging the life of the air equipment and reducing the possibility of premature failure.
- Oil should be filled to 2/3 full in the bowl
- Ensure the turnbuckle is greased and operating freely
- Ensure the folding hinge mechanism (ELP and HEJ100-50L Series) is greased and the hinge pin can be removed and replaced easily
- Ensure tyres are inflated to 50PSI

3-6 monthly:

- Change the air filter element
- Change the hydraulic filter element
- Ensure wheel bearings are greased

Annually:

- Change the suction strainer
- Check the pressure setting on Pneumatic Filter Regulator**
- Check the pressure setting on Pneumatic Relief
- Check the pressure setting on the hydraulic relief cartridge (or service exchange)**
- Check the pressure setting on the hydraulic counterbalance cartridge (or service exchange)**

** Anti-tamper devices are available for these items. Contact Scorpion Jacks for details and costing.

Biennially: (24 months)

- Replace hydraulic jacking cylinder seal kit
- Check the pressure setting (or service exchange) the internal cylinder counterbalance valve

Generally:

- Check the hydraulic oil level in the reservoir periodically. The oil level should be approx. 50mm below the level of the filler cap
- Ensure no dirt/dust buildup occurs in rod spigot
- Ensure all I.D. Stickers are visible and undamaged
- Return to Scorpion Jacks or a nominated service agent periodically for thorough inspection.

RECOMMENDED ON-SITE SPARE PARTS

REMOTE MINE SITES

- Cylinder Seal Kit's
- Hydraulic Relief Valve – Preset
- Hydraulic Counterbalance Valve – Preset
- Hydraulic Cross-Line Relief Valve - Preset (HEJ telescopic models only)
- Internal Cylinder C/B Valve – Preset (HEJ telescopic models only)
- Hydraulic Filter Element
- Hydraulic Suction Strainer
- Double air pilot control valve
- Pneumatic filter element
- Filter/Regulator/Lubricator Assembly
- Pneumatic Relief Valve
- Air/Hyd Pump Service kit
- Air/Hyd Pump Air seal kit
- Air/Hyd Pump Hyd seal kit
- Air/Hyd Pump APA valve
- Air/Hyd Pump O-Rings suit APA Valve (not part of soft seal kit or repair kit)
- Air/Hyd Pump Bumper seal (not part of soft seal kit or repair kit)
- Air/Hyd Pump (Optional)
- Sticker/I.D. Kit
- Wheel Bearing Kits
- Thread Sealing Washers

NOTE:

For specific part numbers see the spare parts manual or contact Scorpion Jacks for a quote.

Some items may have recommended replacement timelines – see service notes in operators manuals.

SCORPION JACKS INTERNATIONAL WARRANTY

Scorpion Jacks International guarantees for 12 months from date of purchase, to correct by repair of parts replacement, without charge, any defects arising from faulty workmanship or material. A Scorpion Jack subject to claim under this guarantee should be returned as a complete unit to Scorpion Jacks International, 7/66 Pilkington Street, Garbutt Qld 4814, Australia.

The Scorpion Jacks International Warranty set forth in the previous paragraph above does not apply...

- To any defect of failure attributable to accident, misuse, abuse, negligence, or non-observance of local regulations on the part of the user.
- If the Jack has been serviced by a person not authorised by Scorpion Jacks International to do so, or with non-approved parts.
- To freight costs to and from Scorpion Jacks International.

NOTE: While Scorpion Jacks International believes our Scorpion Jacks are amongst the safest built worldwide, *all normally accepted work and safety practices must be followed.*

