



HEAVY EQUIPMENT JACKS

OPERATOR'S MANUAL

MEJ50-25-2

50/25 TONNE, Telescopic
Heavy Equipment Jack

Serial Number:

Scorpion Jacks International

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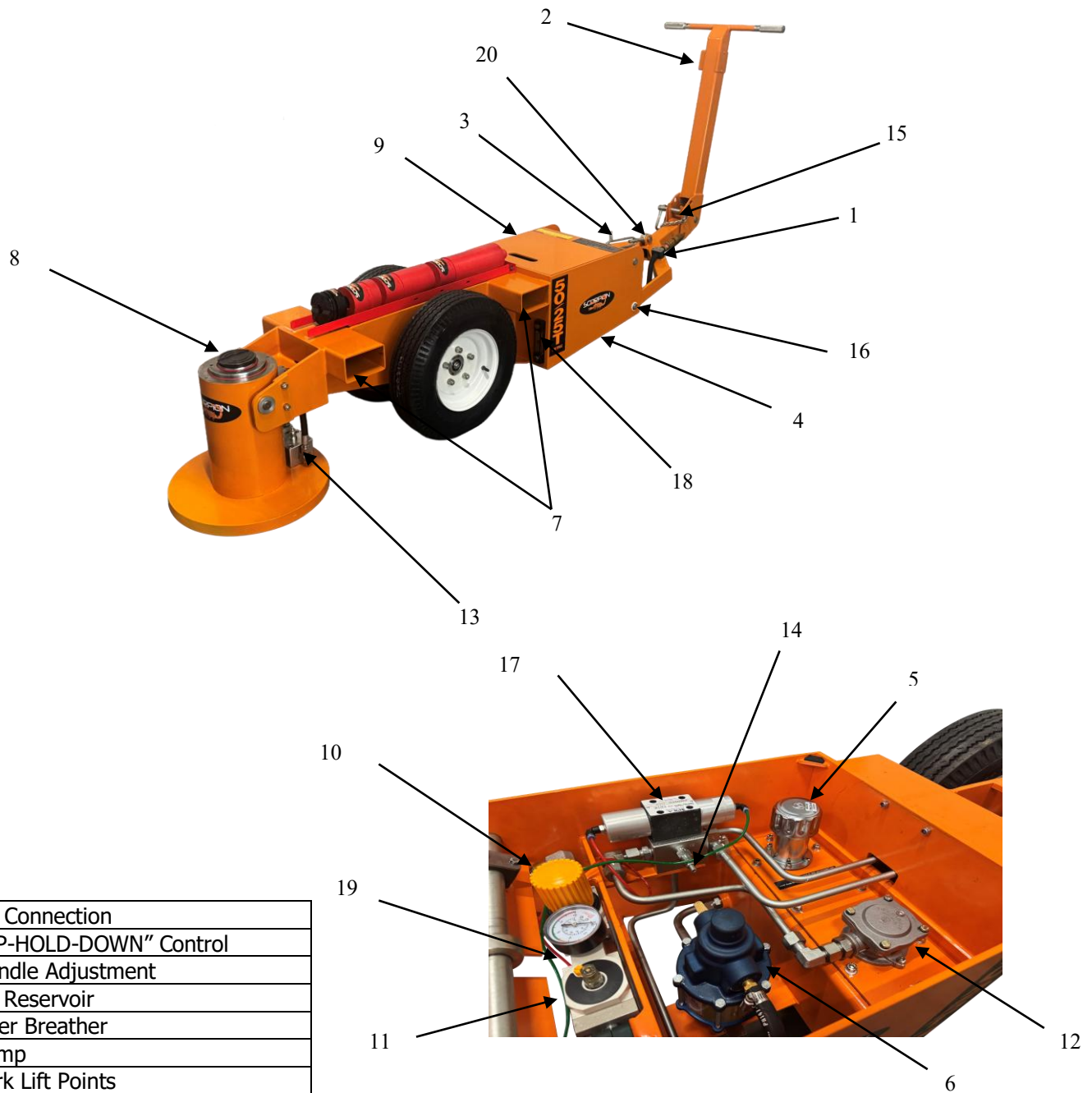
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MEJ50-25-2



1	Air Connection
2	"UP-HOLD-DOWN" Control
3	Handle Adjustment
4	Oil Reservoir
5	Filler Breather
6	Pump
7	Fork Lift Points
8	Load Cap
9	Hinged Cover
10	Air Filter/Regulator
11	Air Lubricator
12	Return Filter
13	Counterbalance Valve
14	Hydraulic Relief Valve
15	Handle Hinge Pin
16	Turnbuckle/Handle pins
17	Directional Control Valve
18	Oil Reservoir Level Guage
19	Air Relief Valve
20	Top Turnbuckle Mount Pin

Specifications

Cylinder Max. Lift Stage 1	50 tonne @22,750 KPA (3,300 psi)
Cylinder Max Lift Stage 2	25 tonne @22,750 KPA (3,300psi)
Max. Air Pressure Required	620 kpa (90 psi)
Air Pressure Safety Relief	689 kpa (100 psi)
Hydraulic Pressure Relief	24,000 kpa (3500 psi)
Counterbalance Valve	25,000 kpa (3700 psi)
Tyre Pressure	344 kpa (50 psi)
Hydraulic Oil	SAE 20 Hydraulic Oil or Equivalent)
Air Lubrication	SAE 20 Hydraulic Oil or Equivalent)

Description

Reciprocating air operated hydraulic pump **(6)** mounted under the hinged cover delivering 22,750 KPA (3,300 PSI) hydraulic pressure at 620 KPA (90 PSI) air pressure (max recommended pressure).

Oil from the pump **(6)** is delivered to a directional control containing a pressure relief **(14)** set to 24,000 KPA (3,500 PSI). The air switch in the handle **(2)** controls "UP Hold – Down).

A counterbalance valve **(13)** set at 25,500 KPA (3,700 PSI) is mounted directly to the base of the Jacking Cylinder.

Oil reservoir **(4)** is located behind the wheels, under the hinged lid **(9)**. The filler breather **(5)** is located in one corner of Reservoir lid. Oil level when unit is fully retracted should be about 50 mm (2") from the lid. A reservoir oil level guage **(18)** is located on the vertical front edge of the reservoir.

Air is supplied via the air connection **(1)** midway along the handle to the Air Filter/Regulator **(10)**, and Lubricator **(11)**. Air pressure can be adjusted, **but should not exceed 620 KPA (90PSI)**. Should this pressure be exceeded the safety valve between the regulator and lubricator will crack and will release air at 689 KPA (100PSI).

DO NOT TAMPER WITH THIS RELIEF.

Assembly

Your Scorpion Jack has been freighted with its handle removed. Position handle and install pins **(16)** (2 of), in the lower chassis pin holes. Lift handle up, position turnbuckle (handle adjustment) and fit pin **(20)**.

Three nylon handle airlines, attached to the air switch **(2)**, must be connected to the jack. The small white nylon tube "plugs into" the fitting on the outlet of the lubricator **(11)** (white paint dot). The coloured nylon tubes "plug into" either end of the black directional control **(17)**. A coloured dot on each fitting will again match the colour of the tubes.

Attach an airline to air connection **(1)**. Thread for the airline is ½" BSPT.

Operate the unit and check for air leaks.

Adjustments

Lubrication

- With full airflow adjust the airline lubricator **(11)** by rotating the small yellow screw on the top of the sight bowl.
- 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 **(10)** should be set to 620 KPA (90PSI) 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 on 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 **(14)** 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 hydraulic pressure, contact Scorpion Jacks for further assistance.

Counterbalance Valve

- This valve **(13)** 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 **(3)** 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 **(7)** 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, **(8)** 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:**

- 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 oil in air lubricator. **(11)** Release pressure on bowl by turning yellow bleed screw on top of cap. Remove threaded bowl from the bottom of lubricator, and add oil until 2/3 full, in lubricator bowl

This is vital for prolonged service life of all air system components.

- Check the reservoir oil level. Fill out about 50 mm (2") from top of reservoir.
- Check air filter/regulator **(10)** bowl. Filter regulators bowls feature an auto-drain float mechanism. Ensure bowl is empty or is at least below "MAX" line on filter bowl, and that auto-drain is operational.
- Check tyre pressure. Low tyre pressure will make the unit difficult to move. SJI recommend maintaining tyre pressure at 65psi.
- Change return line filter **(12)** element every 6 months, or more regularly in harsh service environments. (See attached schedule)
- Change the pneumatic filter element every 6 months.
- Change the hydraulic suction strainer every 12 months.
- Replace the hydraulic oil every 12 months.
- Annual off-site service is recommended for jacks in high use. This decision is solely at the discretion of the operator. Contact Scorpion Jacks for a scope of work for these services.

NOTES:

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:

[illegible]

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 turnbuckle is greased and operating freely.
- Ensure folding hinge mechanism (ELP Series) is greased and hinge pin can be removed and replaced easily.

Every 3-6 months:

- Change the pneumatic filter element
- Change the hydraulic filter element
- Change the hydraulic suction strainer

Every 6 months:

- Ensure wheel bearings are greased

Generally:

- Check the hydraulic oil level in the reservoir periodically. Oil level should be approx. 50mm below the level of the filler cap.
- Ensure tyres are inflated to 65psi.
- Ensure no dirt/dust buildup occurs in the rod spigot
- Ensure all I.D. Stickers are visible and undamaged.

Recommended on-site spare parts

Remote mine sites

- Cylinder Seal Kit
- Hydraulic Relief Valve – Preset
- Hydraulic Counterbalance Valve – Preset
- 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)
- 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 site 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.

