

**ENERPAC** 

**TRACK JACKS**  
**ESSENTIAL GUIDE**

**Key features, considerations,  
and recommendations**



**THE RIGHT TOOL MAKES ALL THE DIFFERENCE**

# LIFTING TRACK MAINTENANCE PRODUCTIVITY



Track jacks are indispensable tools for lifting, levelling, and aligning rail tracks during essential maintenance and repair work. These tools enable quick lifting and precise adjustments, minimizing the downtime of the railway line.

In this brochure, to help you make the right choice we cover their key features, how they work and highlight recommended tools.

Common applications include lifting track sections when replacing rails, sleepers (ties), ballast maintenance, and adjusting track geometry and alignment.

Addressing issues such as deviations in track geometry, such as dips or humps, and horizontal alignment helps to maintain a smooth ride, ultimately preventing derailment and ensuring safe travel experience for passengers and freight.

## HOW HYDRAULIC TRACK JACKS ARE USED

### ↑ LIFTING

Close the pressure release valve by turning it clockwise until hand tight. Operate the handle-socket by hand until the jack engages with the load. At this point insert your lever bar (circular cross-section) into the socket and rotate 1/4 turn clockwise so that it engages. Use the lever bar within the socket until the desired amount of lift has been reached.

### ↓ LOWERING

Slowly open the pressure release valve by turning it counterclockwise. For a slow retraction speed simply open the pressure release valve by a slight amount.

## HOW MECHANICAL TRACK JACKS ARE USED

### ↑ LIFTING

Using the Enerpac A-Series as an example, to raise the jack, insert a rail lever bar into the square drive socket and make repeated downstrokes until the desired height is reached.

### ↓ LOWERING

The load is lowered by engaging the lifting pawl in the retaining pawl and completing just one down-stroke using a lining bar.



# KEY FEATURES AND CONSIDERATIONS

## CONSTRUCTION AND DURABILITY

Any track jack should be robustly constructed to exert the required powerful force efficiently and safely. For the ultimate in strength, choose track jacks constructed using heat treated steel, or for a more portable alternative, an aluminum track jack can offer the optimum combination of strength, portability, and resistance to corrosion.

## TRIP MECHANISM

The trip mechanism enhances the functionality of track jacks by enabling a rapid lowering of the track under load. It provides a quick way to release the load, either in emergency situations or to minimize maintenance downtime. This feature allows the tracks to drop instantly.

## VERSATILITY

Track jacks are available in various sizes with different lifting strokes. A track jack that can lift from the head as well as from the toe provides additional possibilities for use.

Some models can also be used for spreading horizontally as well as jacking.

## TONNAGE CAPACITY

You can expect a single track jack to exert forces of around 10 or 15 tons, which is enough for many projects. However, when lifting complex track sections, such as crossings, a hydraulic track lift system such as the TL248 can be more productive and accurate than using a large team of workers with multiple jacks.

## MECHANICAL VS HYDRAULIC

The choice between mechanical and hydraulic track jacks comes down to your preferences for simplicity, physical effort, weight, and cost.

**Mechanical track jacks** are simpler, they're usually lighter, and feature a toothed ratchet mechanism. With fewer moving parts and no hydraulic fluid or seals to worry about they are generally robust, simple to maintain and cost-effective.

**Hydraulic track jacks** require less physical effort thanks to an integral hydraulic cylinder that applies the lifting force. Operation is smoother and additional features such as anti-kickback and overload protection are often included. Conveniently, the jack can be advanced by the handle to the point where the toe engages with the load. After this point the lever bar is used.



TJ-Series Track jack can also be used horizontally for spreading



TJ-Series Track Jack with toe positioned under the track.



Handle on the TJ-Series Jack can be used at the first stage to advance the toe until resistance is felt.

## RECOMMENDED EQUIPMENT

### A-SERIES MECHANICAL TRACK JACKS

Robust, versatile, and portable, A-Series Track Jacks feature heat-treated, forged components, simple mechanical operation, and a trip mechanism for instant lowering while under load.

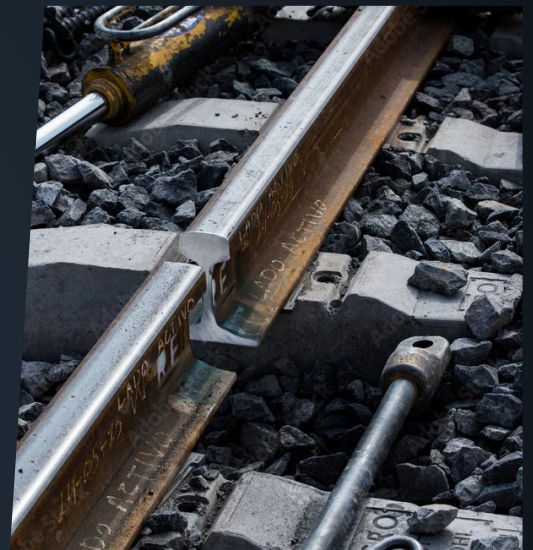
- Simple mechanical operation.
- Aluminum construction for easier portability.
- Large solid cast base and large grooved toe ensures stable jacking.
- Quick-trip mechanism allows the track jack to be instantly tripped while under load.
- Heat-treated forged components for extra strength and longer life.
- Rust-proof tension spring to maintain full pawl engagement.
- Features square drive sockets for use with 1 1/2 inch square by 5-foot-5 inch standard railroad lining bars.



### TJ-SERIES "POW'R-CLAW" HYDRAULIC TRACK JACKS

These hydraulic track jacks are ideal for tough rail lifting applications such as frogs, turn-outs, diamonds, and concrete tie sections. All models can lift from the toe or cap making them ideal for spreading and jacking applications. The integral hydraulics deliver powerful force with minimal handle effort required from just one operator. Safety is enhanced by overload protection and anti-kickback features. The pistol-grip handle on TJ105Ls and TJ109Ls models enable balanced carrying and fast setup.

- Low handle effort allows one-man operation when lifting heavy loads.
- All models can lift from the toe or cap - ideal for spreading and jacking.
- Anti-kickback design reduces risk of injury to operator if load is inadvertently released.
- Exclusive overload protection from load shifts.
- Large solid cast base and large grooved toe ensures stable jacking.
- Inverted hard chrome piston design keeps water and dirt out - extending the life of the jack.
- Pistol-grip handle for balanced carrying and easier setup (TJ105Ls and TJ109Ls models).



### TRAINING



Any workers using track jacks should be provided with relevant training and information on safe operation, manual handling techniques, and the risks involved.



Scan to find out more about Enerpac tools for track maintenance