

# **Liebherr Service Tools**

## **for Excavator-Specific Maintenance**



# **LIEBHERR**



**Attachment Tooling**

- Cylinder Handling Tool
- Pin Puller 20t / 22 ton
- Pin Puller 30 t / 33 ton
- Cylinder Positioning Tool

**Uppercarriage Tooling**

- Jacking System
- Service Powerpack
- Pump Lifting Tool
- Vacuum Pump



# Liebherr Service Tools - Outline

## A Wide Range of Tools

Liebherr customer support delivers a wide range of service tools for excavator-specific maintenance: pump, cylinder, travel drive, track pad maintenance or replacement, ensuring optimal working conditions no matter the size of the component.

## OEM Certified Solution

The close collaboration between the excavator R&D engineering team and service tools development team ensures that the excavator design encapsulates best-practice serviceability. The tooling design and product range evolve with the excavators.

## High Operational Safety

Liebherr Service Tool development meets the most stringent EC and Australian standards and delivers the same quality synonymous with Liebherr mining excavators.

## Rugged Tooling

Before release, Liebherr tooling undergoes an intensive factory and field testing program to meet the challenges faced in the field and exceed the expectations of the end user.

## Customer Benefits

With the Liebherr service tools solution, customers will benefit from:

- An OEM-certified solution
- Maximized machine uptime
- Cost-efficient maintenance
- Easy machine serviceability
- Uncompromising operational safety



### Undercarriage Tooling

- Track Press
- Track Condition Monitoring
- Track Roller Mounting Tool
- Travel Drive Mounting Tool

### Customer Support

- Global network of Liebherr affiliates and exclusive representatives
- Customer specific requirement study
- Collaborative solution development





#### Pin Puller 20t / 22 ton

With this tool Liebherr has designed the safest solution for pressed pins extraction. This light version of the 30t/33 ton Pin Puller is delivered in own purpose built box for easy storage.

The extraction of the pin is done with the help of the hydraulic hand pump, delivered with the system.



# Attachment Tooling



## Cylinder Handling Tool

Specially designed to handle and replace heavy hydraulic cylinders on the Liebherr R 995 and R 996 B front shovels, the Cylinder Handling Tool offers a safer and more efficient alternative over cranes. The focus on maximum machine uptime underpins Liebherr's design philosophy.

### Optimized for Telescopic Handlers

The Cylinder Handling Tool (CHT) has been designed to fit telescopic handlers and can be easily adapted to various brands upon request. Its unique design removes cantilevered handling situations and provides a significant advantage; in fact, only a standard 10 t / 11 ton telescopic handler is required to handle hydraulic cylinders weighing up to 7,5 t / 8.3 ton. A side-shift function has been integrated into the CHT for improved maneuverability.

### Safe Maneuverability

The unique shape of the CHT enables easy, underside access to cylinders installed on the excavator attachment. Thanks to the adapted clamp jaws, the CHT enables secure cylinder handling while protecting the cylinder pipes during the entire component exchange operation. CHT makes cylinder handling easy.

### Easy Control and Operation

The CHT features a wireless remote control which enables unimpeded mobility and allows precision control for effortless component positioning. The system can be either controlled from the telescopic handler operator cabin or at ground level.

## Cylinder Handling Tool Specifications

Weight	2,5 t / 2.8 ton
Handling capacity (WLL)	7,5 t / 8.3 ton
Max. cylinder diameter	510 mm / 20.1 in

### Pin Puller 30 t / 33 ton

The Pin Puller provides unequaled safety and simplicity when extracting and inserting pressed pins into and from the excavator's attachment.

This tool is available in two other sizes to extract pins from the R 9100 up to the R 9800.



### Cylinder Positioning Tool

The Cylinder Positioning Tool (CPT) is an economical alternative to the sophisticated Cylinder Handling Tool while offering the same operational safety.

Available in two sizes to cover Liebherr mining excavators up to the R 9800, this tool offers easy and safe serviceability when handling heavy cylinders. Simple to use, the CPT is designed to fit to a standard crane hook.



### Service Powerpack

Fixed to the undercarriage and connected to a generator set, this additional module provides hydraulic power to separate the undercarriage from the uppercarriage.

The Service Powerpack offers full control of the undercarriage including track chain tensioning and release of the travel brakes.



# Uppercarriage Tooling



## Jacking System

With its all new Jacking System, Liebherr delivers a cost-effective solution to lift the excavator uppercarriage for easy swing ring maintenance or replacement. The jacking system is a safer and more efficient alternative to the complex crane lift.

### An OEM Certified Solution

This system includes four synchronous hydraulic columns with integrated power unit and mechanical locking system, a lifting frame and a bucket rolling device. These elements work in perfect harmony and provide optimal weight distribution resulting in safe load suspension.

### Easy Usability

Once the cylinder pins are removed, the lifting frame is installed and the swing ring bolts unfastened, the lifting operation can be carried out by a single person. In only 15 minutes, the uppercarriage reaches its maximum height which is sufficient to walk out the undercarriage.

### Safe Control

The ergonomic and compact wireless remote control provides unimpeded movement. Via the integrated LCD display, the user can view the health of the Jacking System on demand.

### Wide Compatibility

The Jacking System is compatible with Liebherr mining backhoes and face shovels from the R 9250 up to the R 9800.

## Jacking System Specifications

Lifting capacity	640 t / 705 ton
Cylinder stroke	1.133 mm / 3'8"
Power supply	24 kW / 32 HP

### For Even More Efficiency

To complete this innovative solution and increase machine uptime, Liebherr has developed the Service Powerpack to separate the undercarriage from the uppercarriage.

## Pump Lifting Tool

The Pump Lifting Tool has been specifically designed to handle hydraulic pumps installed on Liebherr mining excavators without removing the compartment housing or any components. This solution allows for fast and efficient maintenance.

The Pump Lifting Tool is available in two sizes:

- Pump Lifting Tool for 100t series
- Pump Lifting Tool for R 9250 up to R 9800 (with adapters to fit different sizes of pumps)



## Vacuum Pump

Connected to the hydraulic tank, the Vacuum Pump enables easy maintenance of the hydraulic system without the need to drain the tank of its oil.

This tool is available in three sizes across the entire range of Liebherr mining excavators:

- Vacuum Pump 30 for R 9100 and R 984 C
- Vacuum Pump 60 for R 9100 up to R 9400
- Vacuum Pump 120 for R 9100 up to R 9800



### Track Condition Monitoring

With the Track Condition Monitoring system, Liebherr provides all specialized electronic and mechanical measurement tools to monitor the wear of the track chain and its components.

This system is delivered with dedicated software to track wear of components and facilitate forecasting of spare parts.





# Undercarriage Tooling



## Track Press

The Liebherr-designed Track Press allows for easy, safe and efficient opening of the track chain by pushing out one of the pressed pins.

### Strong Design

Utilizing high performance hydraulics, the Track Press delivers a force up to 500 t / 551 ton enabling smooth and safe pin removal.

### Hydraulic Power Unit Options

The Track Press energy is supplied by the Hydraulic Power Unit available in either gasoline or electric variants. The electric version can be adapted to suit various voltages and frequencies in order to comply with your regions specifications.

### Wide Compatibility

To cover the Liebherr mining excavator product range up to the R 9400, Liebherr has developed two Track Press sizes:

- Track Press 200 t / 220 ton for the R 9100 up to the R 9150
- Track Press 500 t / 551 ton for the R 9100 up to the R 9400

In addition each Track Press is delivered with several adapters to fit various pin sizes.

### Track Press Specifications

Track Press size	200 t / 220 ton	500 t / 551 ton
Weight	500 kg / 1,102 lb	2.000 kg / 4,409 lb
Working pressure	700 bar / 10,152 psi	
Hydraulic Power Unit options	Electric: 400 V / 50 Hz, 220 V / 50 Hz, 115 V / 60 Hz	
	Gasoline: 3 kW / 4 HP	

## Track Roller Mounting Tool (TRMT)

Available in four sizes for the entire mining excavators range, the Track Roller Mounting Tool enables easy track roller replacement without the need to dismantle the track chain.

- TRMT 400 t for R 9250 up to R 9400
- TRMT 450 t for R 995
- TRMT 670 t for R 996 B
- TRMT 800 t for R 9800



## Travel Drive Mounting Tool (TDMT)

The Travel Drive Mounting Tool combined with the Hydraulic Sprocket Puller offer the safest way to assemble and maintain the travel drive and its components.

With the assistance of a crane, the TDMT offers easy handle of Liebherr mining excavator travel drives up to the R 9800.



### Liebherr Mining Training System

The most qualified workforce is the one that is best informed. The Liebherr Mining Training System increases learning retention by providing access to online content and assessments before and after class sessions.

- Online learning programs
- Factory sessions
- Simulator training
- On-site sessions



# Customer Support



As a global mining solutions provider, Liebherr is more than a mining equipment manufacturer. Ensuring a permanent dialogue with each machine owner, Liebherr provides tailored assistance to customer specific projects and site requirements.

## Proactive Service Supplying

### Liebherr Mining Network

With a truly global network composed of Liebherr affiliates and exclusive representatives, Liebherr's worldwide presence enables the highest level of service support irrespective of equipment location. Using advanced forecasting techniques and in-depth knowledge of regional populations, Liebherr service centers ensure that customers always have timely access to spare parts.

### Customized Service Support

Liebherr tailored support solutions integrate component exchange and management agreements, service and maintenance on site or maintenance management agreements. Liebherr's highly-trained service personnel ensure preventive and scheduled maintenance tasks and provide emergency service.

### Service Engineering Support

Machine and component reliability data are collected and monitored through the Liebherr maintenance management system. Liebherr's sales and service organization and product engineering groups provide fast and proactive support over the lifetime of the machine and promote mutual benefit for all involved.

## Customer Value Management

### Liebherr Mining Exchange Components

The Liebherr Mining Exchange Components program enables customers to minimize the total machine's Owning and Operating Cost while maintaining peak productivity and reliability. Through 15 Liebherr-certified component rebuild facilities worldwide, customers can take advantage of this program regardless of the equipment location or fleet size.

### Complete Training Programs

The Liebherr Mining Training System provides operator and maintenance staff blended training sessions that encourage productive, cost-effective and safe mining operation. The Liebherr Mining Training System employs online learning programs, factory and on-site sessions and simulator training.

### Liebherr Mining Exchange Components

Exchange and repair programs for components are conducted by Liebherr-certified rebuild facilities using the latest OEM rebuild specifications and the complete range of genuine Liebherr parts to ensure:

- Value: significantly reduce total cost of ownership
- Quality: guaranteed as-new performance and reliability
- Availability: global network of components rebuild facilities



### From-Cradle-To-Grave Support

- Customer specific requirement study
- Collaborative solution development
- On-site machine assembly
- On-site machine settings
- Training program on / off site
- Machine performance monitoring
- Spare parts supply
- Parts remanufacturing facilities

# The Liebherr Group of Companies



## Wide Product Range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's high-value products and services enjoy a high reputation in many other fields. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

## Exceptional Customer Benefit

Every product line provides a complete range of models in many different versions. With both their technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical application.

## State-of-the-art Technology

To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment.

## Worldwide and Independent

Hans Liebherr founded the Liebherr family company in 1949. Since that time, the enterprise has steadily grown to a group of more than 120 companies with over 35,000 employees located on all continents. The corporate headquarters of the Group is Liebherr-International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

**[www.liebherr.com](http://www.liebherr.com)**