

en

Operator's manual

Liebherr quick coupler for CAT wheeled excavator

SWA 22, SWA 33, SWA 48, SWA 66, SWA 77,
SWA 92, SWA 105

Document ID

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Manufacturer:	Liebherr-Hydraulikbagger GmbH
Product type:	Liebherr quick coupler for CAT wheeled excavator SWA 22, SWA 33, SWA 48, SWA 66, SWA 77, SWA 92, SWA 105

Conformity:



Contact

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1 Product description

1.1 Technical description

1.1.1 Mechanical quick coupler

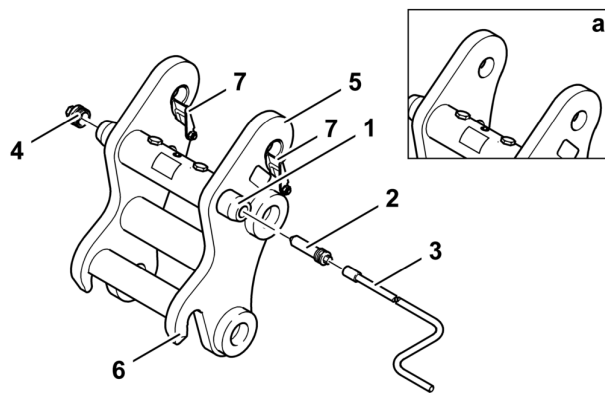


Fig. 3: Mechanical quick coupler

- | | | | |
|---|------------------------|---|--|
| 1 | Locking pin (extended) | 5 | Load lift hook |
| 2 | Locking screw | 6 | Pick-up hook for working tool |
| 3 | Crank | 7 | Safety flaps |
| 4 | Screw plug | a | Version without load lift hook and safety flap |

1.1.2 Hydraulic quick coupler

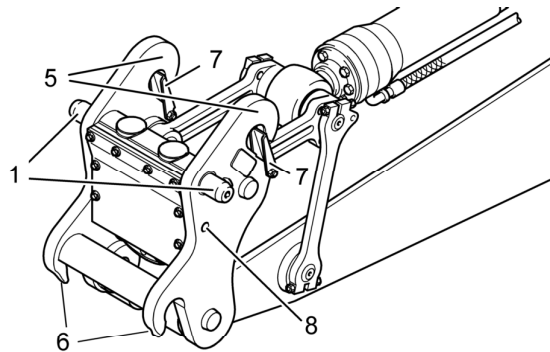


Fig. 4: Hydraulic quick coupler

- | | | | |
|---|------------------------|---|--------------|
| 1 | Locking pin (extended) | 7 | Safety flaps |
|---|------------------------|---|--------------|

[See next page for continuation of the image legend](#)

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- Is not under the influence of alcohol.
- Is not under the influence of drugs.

2.3.5 Maintenance staff

Responsibility

The maintenance staff has following tasks:

- Read operator's manual.
- Read supplied documentation.
 - Operator's manual for basic machine
 - Operator's manuals for components
 - Operator's manuals from third party manufacturers
 - Additional instructions
- Maintain working tool for safe and reliable function.
- Perform all prescribed maintenance tasks.
- Wear personal protective equipment.
- Adhere to safety regulations at place of use.
- Report all changes to working tool that affect safety to operating company.
- Exclusively perform retrofittings of working tool after consultation with manufacturer.
- Exclusively use original Liebherr spare parts.

Requirement

The maintenance staff has following qualification and skills:

- Has completed the legally specified minimum age.
- Is physically and mentally capable of maintaining the working tool.
 - Satisfactory eyesight
 - Satisfactory hearing ability
 - Quick reactions
- Has the authorisation necessary for maintenance of working tool.
- Is able to estimate distance, height and gaps.
- Has knowledge of the working tool and the hazards.
- Knows all procedures and precautions for maintenance.
- Has knowledge of handling special tools for maintenance and repair.
- Is not under any physical or mental impairment that limits one of the prescribed requirements.
- Is not under the influence of alcohol.
- Is not under the influence of drugs.

2.3.6 Electrical engineer

Responsibility

The electrical engineer has following tasks:

- Read operator's manual.
- Read supplied documentation.
 - Operator's manual for basic machine
 - Operator's manuals for components
 - Operator's manuals from third party manufacturers
 - Additional instructions
- Maintain and repair working tool for safe and reliable function.
- Perform all prescribed maintenance tasks and repair work.
- Isolate main circuit breaker of power supply system and secure it against switching on again.

3 Control and operation

3.1 Control

3.1.1 Quick coupler control unit

The quick coupler control unit in the operator's cab controls the Liebherr quick coupler.

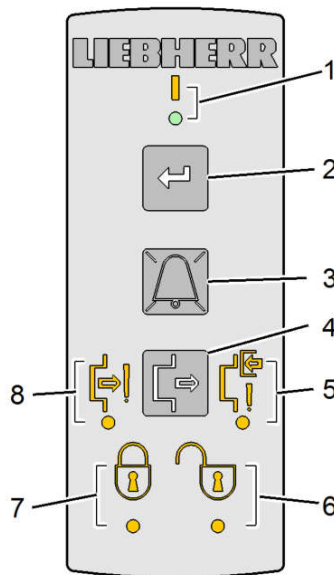



Fig. 17: Quick coupler control unit

- | | |
|---|--|
| <ul style="list-style-type: none"> 1 Function display 2 Confirmation button of quick coupler control unit 3 Mute button 4 Activating quick coupler button | <ul style="list-style-type: none"> 5 No working tool in locking position symbol 6 Quick coupler unlocked symbol 7 Quick coupler locked symbol 8 Locking pin not in end position symbol |
|---|--|

Status bar	Meaning	LED colour
	Quick coupler locked.	Yellow

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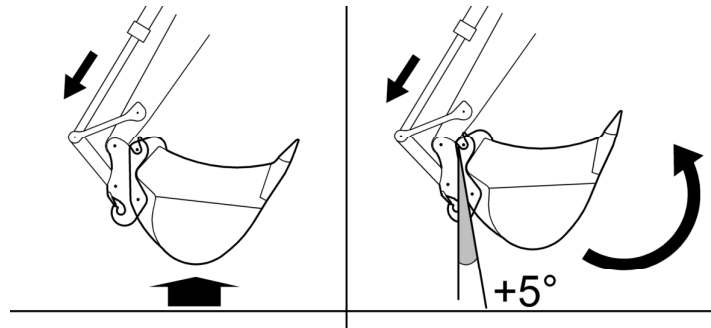


Fig. 53: Picking up working tool, step 3

- ▶ Lift working tool off the ground.
- ▶ Extend bucket cylinder at least 5° further.
 - ▷ Working tool lies securely against quick coupler.
 - ▷ Bores in the working tool and locking pins of the quick coupler line up.
 - ▷ Red LED of *no working tool in locking position* symbol goes out:

Locking working tool on quick coupler

Make sure the following preconditions are met:

- Yellow LED of *quick coupler unlocked* symbol lights up.
- Red LED of *locking pin not in end position* symbol lights up.
- Red LED of *no working tool in locking position* symbol does not light up.

Manually locking working tool on quick coupler



- ▶ Switch off *quick coupler* button.
 - ▷ *Quick coupler* button engages and is locked.



- ▷ Yellow LED of *quick coupler unlocked* symbol goes out.

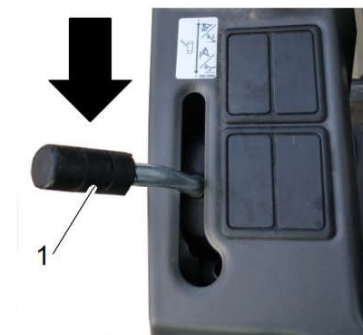


Fig. 56: Control lever 1 for dozer blade in left console.

- ▶ Move control lever 1 for dozer blade backwards.
 - ▷ Locking pins of quick coupler extend:

NOTICE

Incorrect settings!
Damage to working tool.

- ▶ Observe technical data for the working tool.
- ▶ Make sure that pressure and oil flow are set correctly.

Installing working tool

- ▶ Remove protective cover **5** from working tool **2**.

If hydraulic and electrical connections are required:

- ▶ Depressurise hydraulic lines. (For more information see: [5.3.1 Depressurising hydraulic lines, page 68](#))
- ▶ Have hydraulic and electrical lines installed exclusively by specialist staff.
- ▶ Install working tool **2**. (For more information see: [3.3.2 Installing working tool on hydraulic quick coupler, page 36](#))

Removing working tool

If hydraulic and electrical connections exist:

- ▶ Depressurise hydraulic lines. (For more information see: [5.3.1 Depressurising hydraulic lines, page 68](#))
- ▶ Have hydraulic lines and electrical cables removed exclusively by specialist staff.
- ▶ Remove working tool **2**. (For more information see: [3.3.3 Removing working tool from hydraulic quick coupler, page 45](#))
- ▶ After finishing work and before transporting working tool: Install protective cover **5** on working tool **2**.

3.3.6 Lifting loads

For load-lifting work, loads are attached to the working attachment with lifting tackle for the following work:

- Lifting and lowering loads
- Transporting loads

**DANGER**

Machine tipping over!
Danger to life.

- ▶ Make sure that maximum load capacity of machine is not exceeded.
- ▶ Exclusively operate machine with prescribed and functional safety devices for load-lifting work in line with EN 474-5 (Europe) or ISO 20474-5 (international).

**DANGER**

Falling loads!
Danger to life.

- ▶ Make sure that maximum load capacity of lifting accessory is not exceeded.

4 Malfunctions

The machine reports malfunctions through following warnings:

- Warning symbols on the display.
- Messages on the display.
- Warning sounds in operator's cab.

In case of malfunction perform following steps:

- Identify meaning of warning.
- Identify effects and property of malfunction.
- Rectify malfunction.



Note

Contact customer service.

- ▶ Specify machine type, serial number and year of manufacture.
- ▶ Have work performed exclusively by trained personnel.

4.1 Fault - Cause - Remedy

4.1.1 Locking quick coupler with working tool

Status symbol	Error / malfunction	Cause	Remedy
	Locking pins are not fully extended.	Locking process aborted by user	Lock quick coupler again.
		Mounting plate on working tool does not match Liebherr specifications.	Use working tool in line with Liebherr specifications.
		Dirt present in bores of working tool.	Remove dirt from bores.
		Mechanical or hydraulic damage	Contact customer service.
	Bores in working tool and lock pins are not aligned.	There is dirt between working tool and quick coupler.	Put down working tool.
			Remove contamination.
			Pick up working tool.
			Lock working tool.
		Mounting plate on working tool does not match Liebherr specifications.	Use working tool in line with Liebherr specifications.
Mechanical or hydraulic damage	Contact customer service.		

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5.4.5 Checking condition of locking pins in extended position

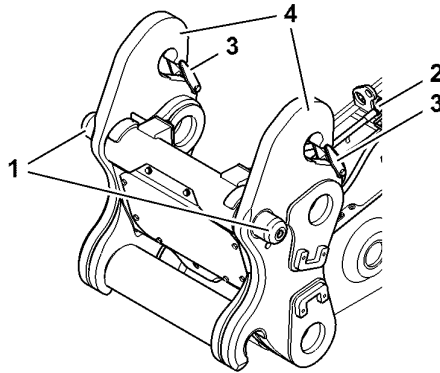


Fig. 100

1	Locking pin (in extended position)	3	Safety flap ²⁾
2	Hydraulic hose and electrical cable	4	Load hook

- ▶ Fully extend locking pins 1.
- ▶ Check locking pins 1 in extended position.

5.4.6 Hydraulic hoses: Checking condition

- ▶ Check hydraulic hoses for cracks and leaking fluids.
- ▶ Replace defective hydraulic hoses.

5.4.7 Checking condition of electrical cables and tightness of plug connections

- ▶ Check electrical cables and plug connections for damage.
- ▶ Have damaged electrical cables or plug connections repaired by specialist staff.
- ▶ Check plug connections are firmly seated.
- ▶ Tighten loose plug connections.

²⁾ Option

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