

Service Manual

Hydraulic excavator
R964C - R974C

Document identification

Order number: 10359943
issue: 03 / 2008
Valid for: R964C - R974C
Author: LFR - Technical documentation department

Product identification

Manufacturer: LIEBHERR France SAS.
Machine: R964C - R974C
Type no.: R 964C : 448 / 1008 / 1009 / 1126
R 974C : 449 / 1010 / 1011 / 1057 / 1058 / 1059 / 1060
/1084/1120/1124/1037
Conformity: CE

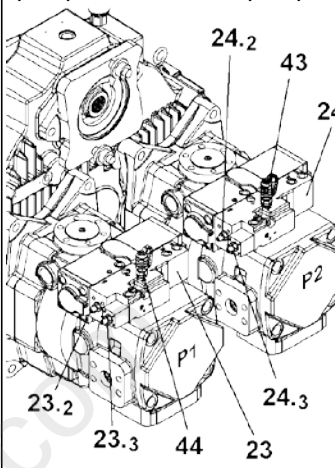
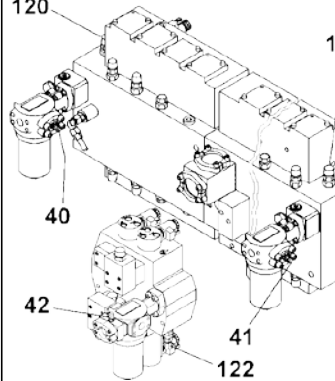
Address

Liebherr France SAS.
2 avenue Joseph Rey
B.P. 90287 F - 68005 Colmar Cedex

Maintenance / inspection at operating hours						WORK TO BE CARRIED OUT R 974 C / P 974 C		
On delivery	Every 8 - 10	Every 10 - 50	At 500, 1500	At 1000, 3000	At 2000, 4000	By maintenance personnel (machine owner) ■ First and only interval ● Repeat interval ◆ Special interval every 250 hours	By authorized specialist personnel ☐ First and only interval ☐ Repeat interval	Note
					☐	Clean the sieve filter in the fittings of the hydraulic hoses		
MECHANICAL QUICK-CHANGE ADAPTER								
	●	●	○	○	○	Visually check drawn out position of locking pins		
		●	○	○	○	Lubricate locking pins		

Tab. 1 Wartungsplan

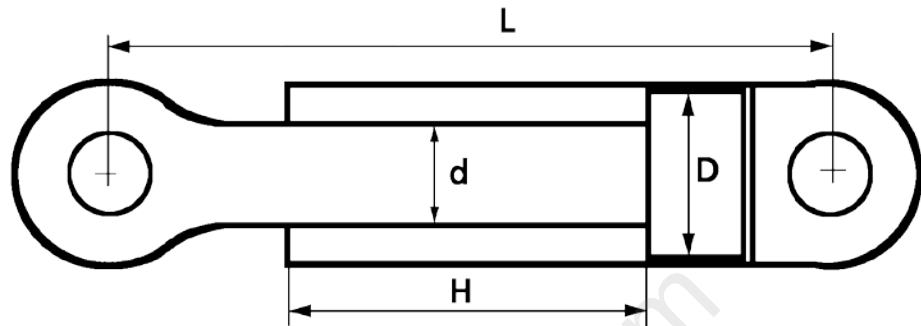
- 1 Depending on ambient temperature, fuel and oil qualities, the intervals for engine lube oil changes may be reduced.
- 2 Shorten the maintenance interval depending on conditions of use (eg. working in dusty conditions, barrel refuelling).

Test or adjustment	Nominal value	Test point	Actual value	Possible adjustm.	View Notes
5 Working pumps P1 (P2) 5.1 Hydraulic regulation begin at minimum Power = $p_{RB} (P_{min})$ Disconnect Y50 Set Diesel engine to ~1200 RPM (Step 4) Reduce to the minimum, then slowly increase the primary pressure at PRV 120 (121). Positioning pressure at 44 (43) must start to drop for following high pressure on: • pump P1 = $p_{RB} (P_{min}) =$ • pump P2 = $p_{RB} (P_{min}) =$	 110^{+5} bar 110^{+5} bar	 40 41	 	 	Adjustment at valves 23.2 of pump P1 and 24.2 of pump P2 
5.2 Pressure cut off of pumps P1 (P2) Reconnect Y50 Fully unscrew the screws 23.3 (24.3) Load both pumps (actuate stick cylinder to the stop) Adjust primary relief valves 120 (121*) to prescribed value for pressure cut-off p_{da} • PRV 120 • (PRV 121*) * resp. 122 with bottom dump shovel. Turn in the screws until the positioning pressures do not increase anymore Then turn out slowly the screws until the positioning pressures begin to decrease. Retighten the counter nuts at the screws 23.3 (24.3) Readjust primary relief valves, see thereafter Actuate stick cylinder to the stop and check that the pump positioning pressure $p_{(pos)}$	 340^{+10} bar 340^{+10} bar ~ 200 bars ~ 200 bars $p_{(pos)} > 90$ bar $p_{(pos)} > 90$ bar	 40 (41-42) 44 (43) 44 (43)	 	 	Adjustment at valves 23.3 (24.3) of the pump regulators  Ports Pst of the pump regulator must be pressureless.

Pos.	Denomination	
144	Suction valve / Travel right	
150	Check valve (Load holding valve)	
151	Check valve (Load holding valve)	
152	Check valve (Load holding valve)	
153	Check valve (Load holding valve)	
154	Check valve (Load holding valve)	
155	Check valve (Load holding valve)	
156	Check valve (Load holding valve)	
157	Pressure relief valve / pressure in control chambers	
158	Restrictor check valve	
159	High pressure filter P1	
169	High pressure filter P2	
181	Flow repartition throttle valve / Travel left	
182	Flow repartition throttle valve / Travel right	
183	Flow repartition throttle valve / bucket tilt	
190	Swing motor	
191	Two way check valve / discharge	
192	Discharge pressure flow regulator	
195	Swing brake	
200	Travel motor left	
201	Travel motor right	
202	Positioning piston / Travel motor	
203	Control piston / Travel motor displacement	
205	Travel brake valve complete	
206	Hydraulic brake piston	
207	Two way check valve / Brake control pressure	
208	Brake control pressure reducing valve	
209	Multi disc brake / Travel gear	
210	Boom cylinders	
211	Distribution block left for boom cylinders	
215	Distribution block right for boom cylinders	
216	Two ways check valve	
217	Control block / pressureless lowering of boom	
218	Hose Burst Safety valve (HBS valve) / Boom cylinders	
218.1	Secondary pressure relief valve in HBS valve / Boom cylinders	
218.2	Restrictor check valve in HBS valve / Boom cylinders	
220	Stick cylinder	
221	Distribution block / Stick cylinder	
222	Restrictor check valve / Stick cylinder	
230	Bucket cylinder	
231	Distribution block / Bucket cylinder	

Subgroup 7.37 List of the hydraulic cylinders

R 974 C from Serial number 15259



Boom cylinder

Use	Ident. Nr. / Drawing Nr.	Nb	D (mm)	d (mm)	H (mm)	L (mm)	WN 4121 Nr
Standard	95 93 294 / 29 781 2000 R	2	220	140	2050	2855	306
	95 94 052 / 29 781 1000 L						
	96 21 863 / 29 688 3200	2	220	140	1800	2640	306

Stick cylinder

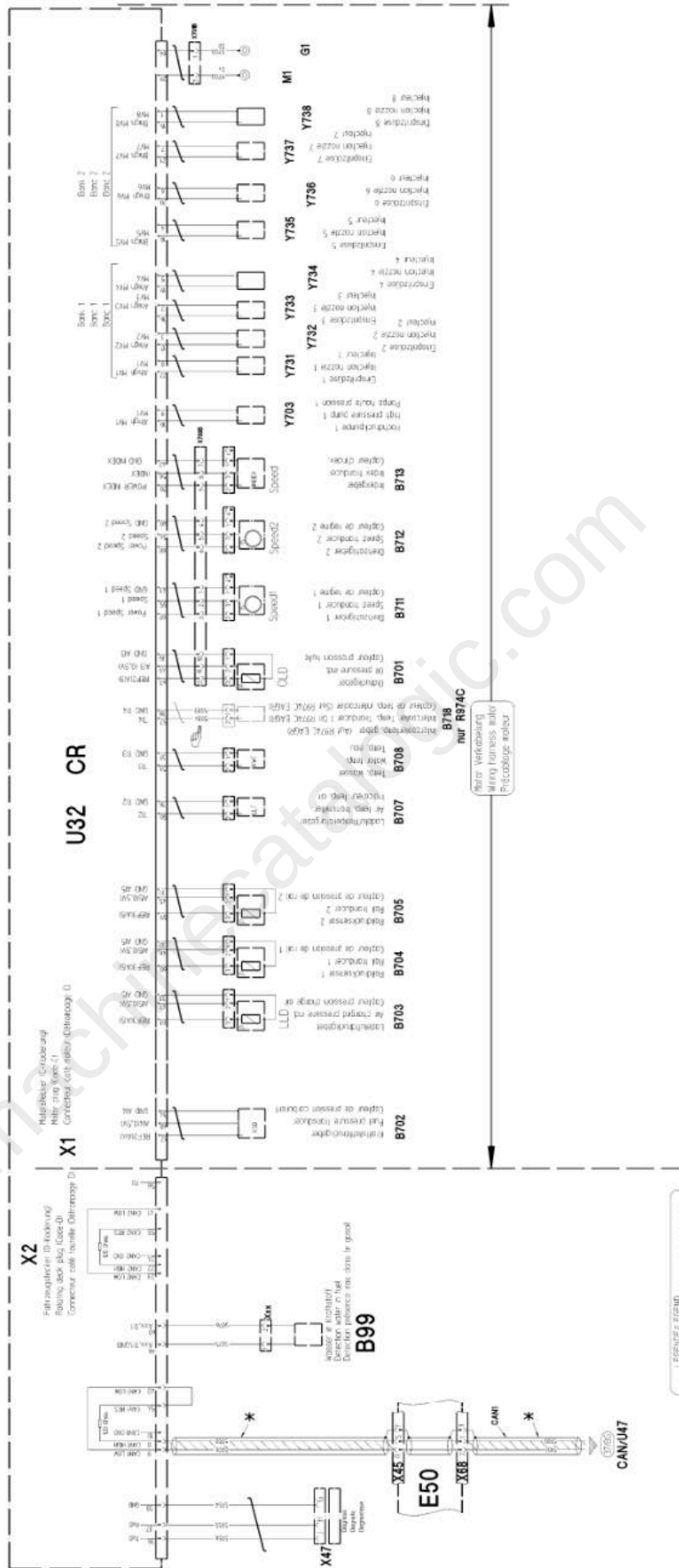
Use	Ident. Nr. / Drawing Nr.	Nb	D (mm)	d (mm)	H (mm)	L (mm)	WN 4121 Nr
Standard	93 08 856 / 29 538 1040	2	180	125	1670	2415	261
SME	99 52 123 / 29 975 1000	2	190	125	1670	2415	261

Bucket tilt cylinder

Use	Ident. Nr. / Drawing Nr.	Nb	D (mm)	d (mm)	H (mm)	L (mm)	WN 4121 Nr
Standart	95 94 826 / 29 539 1540	1	210	140	1430	2270	306
Long attachment	96 12 308 / 29 933 1008	1	170	125	1150	2010	234
SME	95 93 295 / 29 817 1000	1	220	140	1430	2270	306

Cable Motor Diagnostic Switch
Cable Motor Diagnostic Plug
Cable Motor Fuse Diagnostic

Global Motor Troubleshooting
Global engine control
Common Motor Control



LEGEND 1 (Left)
Legend 2 (Right)
Legend 3 (Bottom)
Legend 4 (Top)



Motor Diagnostic Switch
Motor Diagnostic Plug
Motor Diagnostic Fuse

Motor Diagnostic Switch
Motor Diagnostic Plug
Motor Diagnostic Fuse

LFR

ELECTRONIC MOTOR
ELECTRIC MOTOR
ELECTRIC MOTOR

400 900 00 001

10095003

Installation of the swing ring

- ▶ Lift the uppercarriage using the special tool and the crane above the undercarriage and the rotary connection.

**Note!**

The swing gear pinion must be properly engaged in the teeth of the inner ring and the bores for the bolts 13 must be aligned to the threads in the uppercarriage.

- ▶ Carefully lower the swing ring until it is about 1 cm from the swing ring
- ▶ Insert two mounting bolts 13 with washers 14 - one at front and one at rear - and set the uppercarriage down to the swing ring.
- ▶ Insert the remaining mounting bolts 13 with washers 14
- ▶ Tighten the mounting screws 5 complete with washers 6 with a torque wrench, crosswise and in a 90° tightening sequence, (For tightening torque refer to section "Technical data" in this subgroup).
- ▶ Lower lifting tackles and remove all lifting devices from the machine.
- ▶ Connect the oil lines to the rotary connections, observing the marks.
- ▶ Reinstall the driver of the oil rotary connections.
- ▶ If applying, reinstall the working attachment and the counterweight.
- ▶ Connect the lubrication lines.
- ▶ Renew the grease packing of the swing gear pinion.

**Note!**

When installing a new swing ring, remove all grease from the grease cap (housing enclosing the swing gear pinion) and clean it carefully. Thereafter refill the grease cap with the grease recommended for the swing ring teeth lubrication.

- ▶ Start the Diesel engine, check all functions of the undercarriage and inspect lines for leakage.
- ▶ Grease the swing ring teeth via the central lubrication, turn the uppercarriage by two turns and check the teeth for correct greasing.

**Note!**

With the installed central lubrication systems, the ball bearing races and the inner ring teeth are greased at regular intervals and with the optimal grease quantities during machine operation.

- ▶ Check the swing ring for correct function and clearances.

The complete software package includes:

- - Diagnose Software CD-ROM,
- - Data cable for the connection of the control unit to the serial interface of the PC,
- - Software manual,
- - License registration form

Each data cable is individually encoded, so that it is identified by the control unit each time data is transferred. This method of identification of the cable allows the control unit to compile a historic log showing all data transfers and the respective users details,

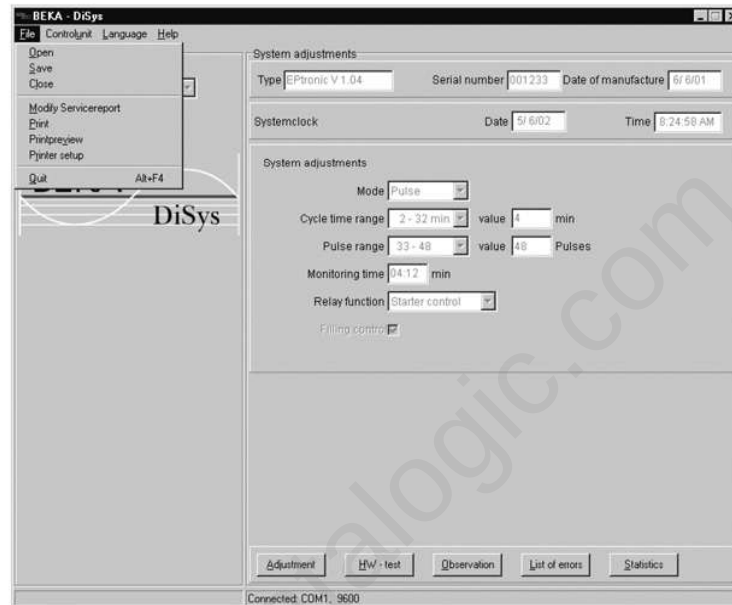


Fig. 7 Ausschnitt der Diagnosesoftware

Full Version Available

Liebherr R 964 C Excavator Service Manual

Liebherr R 964 C excavator service manual, covering repair procedures, adjustments and troubleshooting for the main systems. Instant PDF download.

VIEW THE FULL MANUAL

<https://machinecatalogic.com/liebherr-r-964-c-excavator-service-manual/>

Book No: 10359943 · File Pages: 322 · File Count: 1 · File Language: English