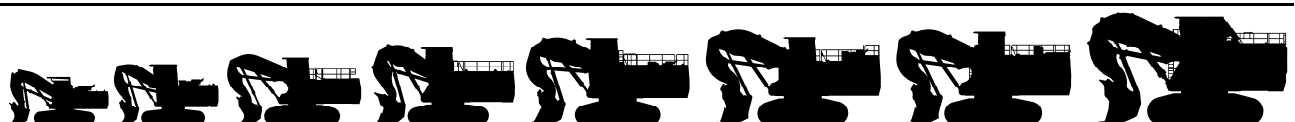


Operating Instructions

Hydraulic Excavator

RH90C Electric No.

Bucyrus HEX GmbH



CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

1 INTRODUCTION

| | Operating instructions | Target group |
|---------------|---|---|
| Part 1 | INTRODUCTION FUNDAMENTAL SAFETY INSTRUCTIONS | Operating personnel + Inspection and servicing personnel + Repair personnel |
| Part 2 | OPERATION | Operating personnel The operating personnel must have know-how relevant to the operation and the application of this or comparable machines. |
| Part 3 | INSPECTION AND SERVICING | Inspection and servicing personnel The inspection and servicing personnel must have know-how relevant to the inspection and servicing of this or comparable machines. |
| Part 4 | REPAIR WORK | Repair personnel The repair personnel must have know-how and experience relevant to the repair of this or comparable machines. |
| Part 5 | ANNEX | Operating personnel + Inspection and servicing personnel + Repair personnel |
| Part 6 | INDEX | Operating personnel + Inspection and servicing personnel + Repair personnel |



Gas, dust, steam and smoke

Always start and operate the engine in a well-vented area;

If in an enclosed area, vent the exhaust to the outside;

Do not modify or tamper with the exhaust system

Diesel engine exhaust and some of its constituents are known to cause cancer, birth defects, and other reproductive harm

Operate fuel-operated heating systems only on adequately ventilated premises. Before starting the machine on enclosed premises, make sure that there is sufficient ventilation.

Observe the regulations in force at the respective site.

Carry out welding, flame-cutting and grinding work on the machine only if this has been expressly authorized, as there may be a risk of explosion and fire.

Before carrying out welding, flame-cutting and grinding operations, clean the machine and its surroundings from dust and other inflammable substances and make sure that the premises are adequately ventilated (risk of explosion).

Hydraulic equipment

Check all lines, hoses and screwed connections regularly for leaks and obvious damage. Repair damage immediately. Splashed oil may cause injury and fire.

Depressurize all system sections and pressure pipes to be removed in accordance with the specific instructions for the unit concerned before carrying out any repair work.

Hydraulic lines must be laid and fitted properly. Ensure that no connections are interchanged. The fittings, lengths and quality of the hoses must comply with the technical requirements.

Noise

During operation, all sound baffles of the machine must be closed.

Always wear the prescribed ear protectors.

Oil, grease and other chemical substances

When handling oil, grease or other chemical substances, observe the product-related safety regulations (see safety specifications).

Be careful when handling hot consumables (risk of burning or scalding).

Transporting and recommissioning

The machine must be loaded and transported only in accordance with the operating instructions.

Use only appropriate means of transport and lifting gear of adequate capacity.

The recommissioning procedure must be strictly in accordance with the operating instructions.

FIRE AND EXPLOSION HAZARD



Safety instructions

Prior to commencing work, obtain information on the national and corporate rules for the prevention of accidents.

Pay particular attention to hazards caused by combustible and easily flammable substances. on the safe handling of the fire extinguishers to be used.

Avoid smoking and open fire on, next to and below the excavator.

Combustible and easily flammable substances or liquids increase the fire and explosion hazard.

Do not store or handle any flammable substances during operation.

Clean the excavator thoroughly, if possible, with a steam jet (rubber parts and electric components with compressed air - refer to information label), when, for example, oil, grease, solvent or cleaner was spilled.

Such substances may spontaneously ignite if they get into the vicinity of hot units or objects.

Even battery gases can ignite in open flames or fire.

Avoid parking the excavator in places where

- combustible substances such as coal dust or tar are present.
- open or smouldering fire may occur.

Remove the excavator from such an area where combustible or easily flammable liquids have spilled from the excavator onto the ground.

Flying sparks (caused by welding, flame cutting, grinding, electrical short-circuit) may cause fire on the ground that can spread to the excavator.

Place suitable fire guardings (fire barriers) if open fire or flying sparks cannot be avoided during repair work.

Apply special protection to cables, cable ducts as well as to hose and pipe lines.

If necessary, also cover the ground with fire-protective blankets.

Ensure sufficient ventilation.

Clean the excavator before starting a job.

Do not keep any fire extinguishers that are not suitable or have not been tested.

Do not extinguish flammable liquids with water. Use:

- dry-powder,
- carbon-dioxide or
- foam extinguishing compounds.

When getting into contact with burning substances, the fire-fighting water would abruptly evaporate and distribute the substance such as burning oil over a wide area. Water causes short-circuits in the electrical system thus possibly entailing new hazards.

DANGER TO LIFE

Call the fire brigade.

Have all your welding, flame cutting and grinding work approved.

Swinging ladder

Raising resp. lowering the swinging ladder (Fig. 2-12:).

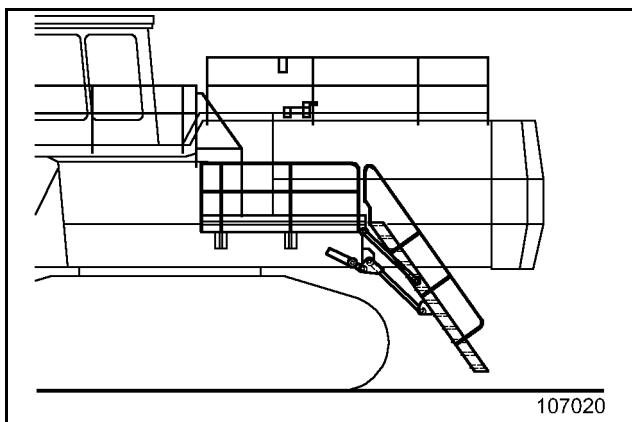


Fig. 2-12:

Raising the swinging ladder (from the upper carriage)

- Start electric motor.
- Pull lever (1, , Fig. 2-13:) on control valve (2) upwards to position "I".
The swinging ladder is raised (Fig. 2-14:).

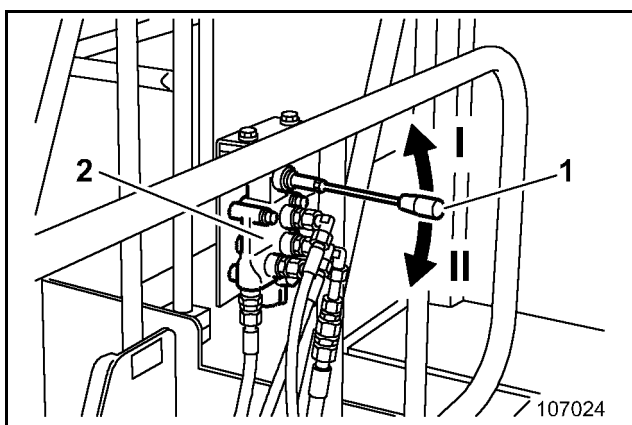



Fig. 2-13:

 **The upper carriage can only be swung when the folding ladder is raised completely (Fig. 2-14:).**

Lowering the swinging ladder (from the upper carriage)

- Start electric motor.
- Push lever (1, Fig. 2-13:) on control valve (2) downwards to position "II".
The swinging ladder is lowered (Fig. 2-12:).

The swinging ladder can also be lowered when the electric motor ist stopped.

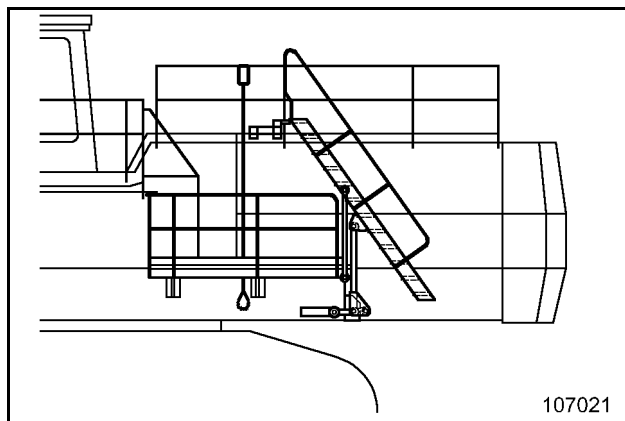


Fig. 2-14:

Lowering the swinging ladder (from the bottom)

- Pull down rope (3, Fig. 2-15:).
The swinging ladder is lowered (Fig. 2-12:).

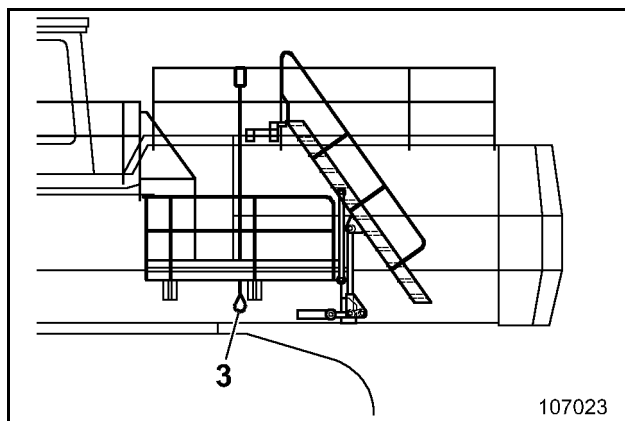


Fig. 2-15:

Emergency escape device (optional)

Elements of the harness

(Fig. 2-36:- Fig. 2-38:)

| Pos. | Designation |
|------|----------------------|
| 1 | Back support |
| 2 | Shoulder belt |
| 3 | Shoulder belt |
| 4 | Loop (chest belt) |
| 5 | Loop (chest belt) |
| 6 | Loop (back support) |
| 11 | Holding device |
| 12 | Fall arrester |
| 13 | Guidance line |
| 14 | Hanging up line |
| 15 | Handbag with harness |
| 16 | Snap hook |
| 17 | Hook safety device |

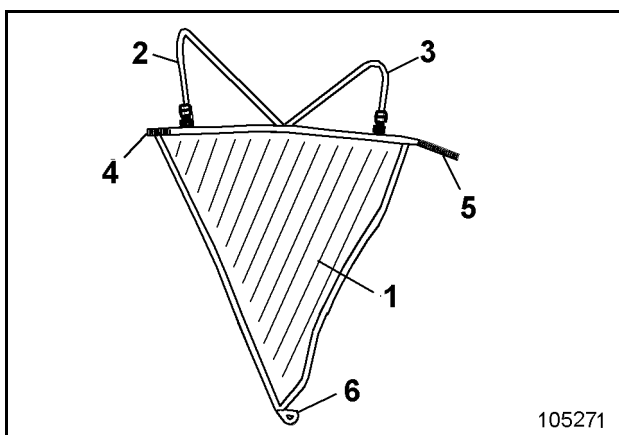


Fig. 2-36:

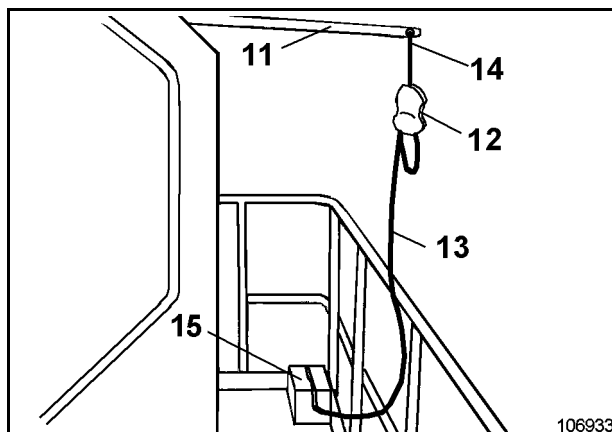


Fig. 2-37:

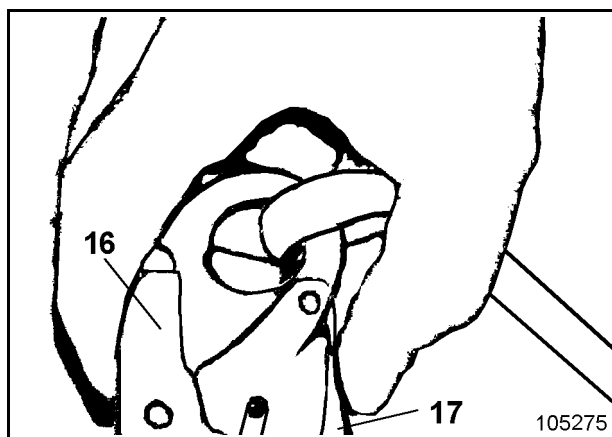


Fig. 2-38:



See Description of the supplier.

Important hints

Before using operator shall have received adequate training.



The harness must be used by one person only.

He is responsible for the appropriate use and maintenance.

Visual inspection is recommended prior to each use; if necessary it must be checked by an expert.

Harness must be checked annually (every 12 month) by an expert.

(Fig. 2-50:)

| No. | Element | Function | Symbol |
|-----|--|--|---|
| 41 | Indicator lamp Medium voltage | Lamp is lit up when the circuit breaker is switched on. Medium voltage 6.3 kV applied. | |
| 42 | Indicator lamp Rotary field monitoring | Lamp is lit up when the rotary field (phasing) is correct. | |
| 51 | Button Electric motor ON | Switches on the electric motor. |  |
| 52 | Button Electric motor OFF | Switches off the electric motor. |  |

(Fig. 2-55:) **Optional equipment**

| No. | Element | Function | Symbol |
|-----|--|---|--------|
| 121 | Rotary switch Fan | Selects the intensity level of the blower (3 levels). | |
| 122 | Rotary switch Mode | Selects the desired control function (heating, cooling, ventilation, defrosting). | |
| 123 | Knob Thermostat | Sets the desired temperature inside the cab. | |
| 125 | Control Additional heating (optional equipment) | Controlling the additional heating device via touch screen, see Back-up heating manufacturers manual. | |
| 126 | Momentary switch | Switches additional heating control OFF. | |
| 127 | Momentary switch | Switches additional heating control ON. | |
| 128 | Momentary switch | Not used on this machine. | |
| 129 | Momentary switch | Not used on this machine. | |
| 130 | Momentary switch | Reset fault monitoring. | |

Switching the electric motor off

During breaks in operation and at the end of each shift, the working equipment must be lowered onto the ground.

The electric motor must NOT be switched off until the equipment is resting on the ground.



To avoid straining the vacuum contactor, the electric motor should be shut down only when load-free, i.e. without any of the hydraulic units being activated at the same time via the control valve.

- Actuate switch-key (52, Fig. 2-66:). The electric motor starts running down.
- Turn key in key-switch (32) counter-clockwise and withdraw.
The control voltage is switched off.

The electric motor only can be switched on again, after the time-out period (30 minutes after last switching on) is over (see: "Time-out before restart", "Before switching on the electric motor" and "Switching on the electric motor").

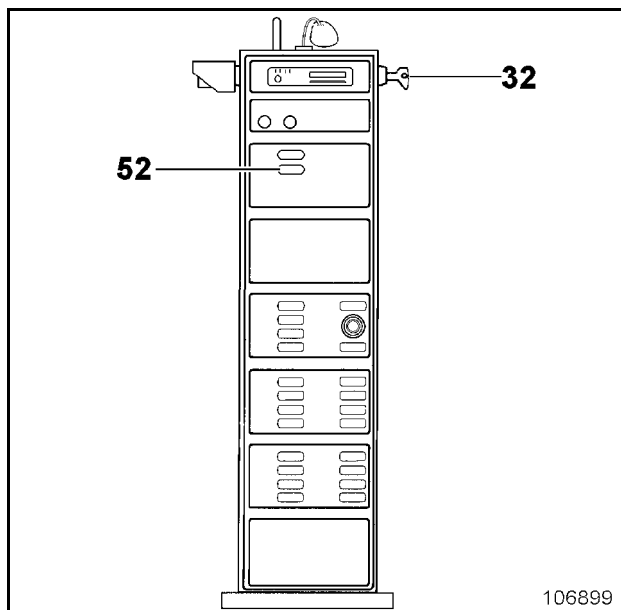


Fig. 2-66:

Time-out before restart

During starting period the electric motor heavily warms up. Therefore it is not allowed to switch it on and off at will. By means of an electrical time-out circuit (PLC) the electric motor can be switched on only three times a hour (time-out period is 30 minutes).

The 30 minutes period means the time from switching on the electric motor up to the next switching on, e. g.

Electric motor is switched on, runs 20 minutes and then is switched off. Now the time-out period is 10 minutes before restart.

After running more than 30 minutes without interruption the electric motor can be switched on without any time-out period.

PLC prohibits switching on the electric motors until they are cooled down.

Monitoring lamp (14, Fig. 2-67:) on the BCS display is flashing in yellow colour until the time-out period is over. The remaining time is displayed also.

Monitoring lamp lit up in green colour when the time-out period is over and PLC enables switching on the electric motor.

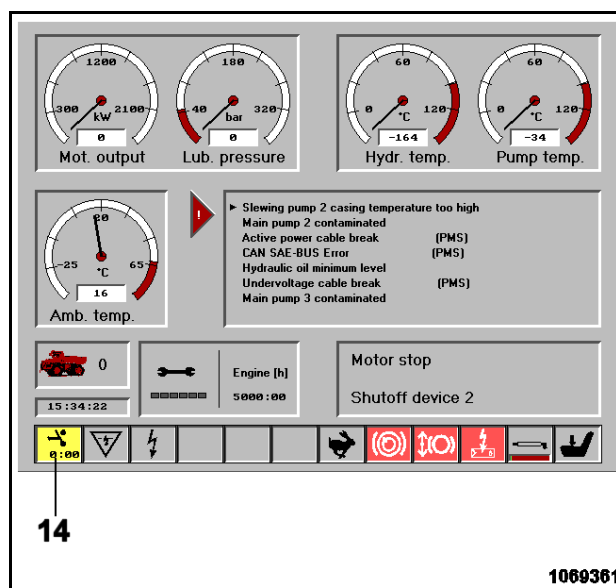


Fig. 2-67:

Cornering

To take a right-hand corner forwards -
 ➔ depress only pedal (112, Fig. 2-83:) forwards.

To take a lefthand corner forwards -
 ➔ depress only pedal (113) forwards.

Turning

To turn to the right -
 ➔ depress pedal (112) forwards and pedal (113) backwards.

To turn to the left -
 ➔ depress pedal (113) forwards and pedal (112) backwards.

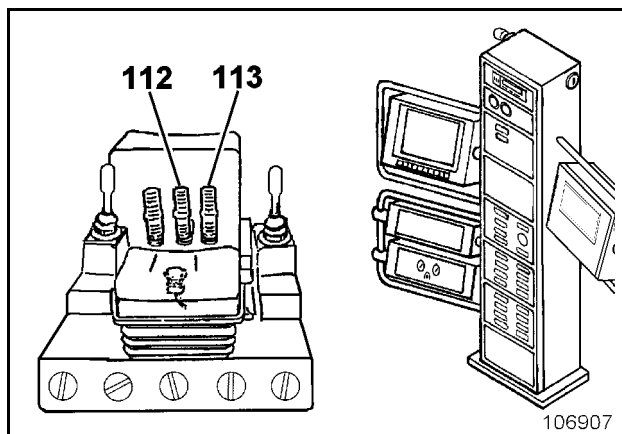


Fig. 2-83:

Note

Change the position of the undercarriage - parallel or perpendicular to the working face - only by cornering forwards/backwards (Fig. 2-84:).

Cornering to the left:

- forwards from pos. 1 to pos. 2
- backwards from pos. 2 to pos. 3
- forwards from pos. 3 to pos. 4

The same procedure should be adopted if the excavator is to be driven out of depressions (Fig. 2-85:):

- Cornering to the left from pos. 1 to pos. 2
- Cornering to the right from pos. 2 to pos. 3

Never use the working equipment to raise one side of the undercarriage and then turn the undercarriage by initiating the swing and/or the travelling function.

This way of working is contrary to the excavator's designated use.

There is a risk of accident. Moreover, the tracks, swing gear, roller bearing swing ring or bucket back-wall and the front part of the bucket are subjected to inadmissibly high stresses.

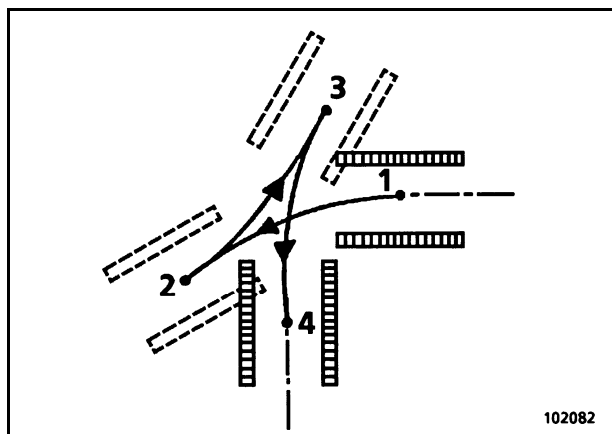


Fig. 2-84:

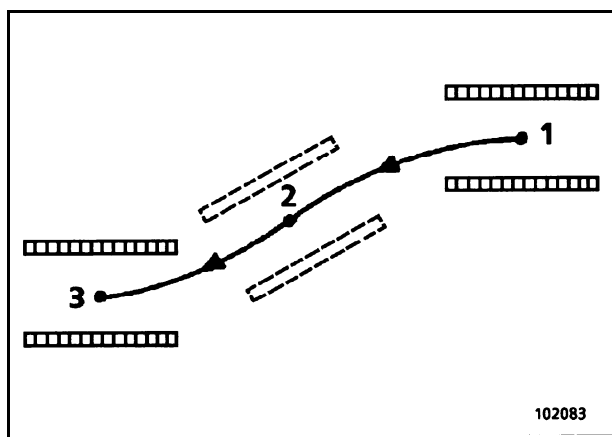


Fig. 2-85:

Securing the machine

Risk of injury

The machine must not be started by unauthorized persons.

Therefore, secure the machine.

Observe the accident prevention regulations.

Protective shrouds of moving machine parts may only be opened or removed when the drive unit is stationary and protected against inadvertent starting.

Before carrying out fitting works, the machine and the equipment must be protected against inadvertent starting by placing chocks under the tracks and by standing the working equipment on the ground.

Secure the machine as described below:

- before carrying out any fitting and modification work on the working equipment,
 - before carrying out any servicing and repair work on the machine.
- Park the machine on level and stable ground.
 - Lock the superstructure.
 - Stand the working equipment on the ground.
 - Switch off the electric motor.
 - Depressurize the hydraulic system.
 - Withdraw the key from the key-switch.

Hydraulic and lubricating systems

Depressurize pipeline systems, on which work is to be carried out, by appropriate measures.

Close all open bores, pipe and hose connections with pressure-resistant plugs.

Refill collected hydraulic oil back into the hydraulic system only through the return-flow filters. Dispose of non re-usable oils without polluting the environment.

All components of Bucyrus HEX machines have been carefully purpose-coordinated. Trouble-free operation and a long service life can only be achieved with original Bucyrus HEX spare parts.

Respect the sequence of working operations when fitting or replacing the attachments. The sequence has been determined and tested by qualified experts.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

Relieving residual pressure in the hydraulic system

Only unpressurized hydraulic systems may be opened. Even when a machine is parked on a horizontal surface with its attachments supported on the ground and its electric motor switched off, there may still be substantial residual pressure in parts of the hydraulic system, e.g. primary pressure from the last hydraulic movements prior to stopping the machine.

Residual pressure is reduced only gradually. If an intervention into the hydraulic system is to be undertaken

immediately after stopping, the system must be depressurized:

(do not leave the driver's seat)

- ➔ Stand working equipment on the ground
- ➔ Switch off the electric motor
- ➔ Move all control levers and pedals repeatedly into all directions.

Screwed connections, piping, hydraulic hoses

Repair any leakage in the piping and hose system immediately.

A fine, highly pressurized jet of hydraulic oil can penetrate the skin.

Never search for leakages with the fingers, but use a piece of cardboard and always wear goggles.

If oil has penetrated into the skin, consult a doctor immediately.

Never repair damaged piping; always replace them.

Replace hydraulic hoses immediately on detecting any damage or moist areas.

Tighten leaking screw plugs only when the system is depressurized.

Escaping oil is an environmental hazard.

Plan N

Plan N – After initial commissioning and during the running-in period (After 100 OH)

Page 1 von 1

| Location | Servicing work | Quantity/ No. |
|---|---|------------------|
| Electrical system Medium-voltage cells - mechanical connections - lines - terminals and plug connections | Check for tightness Check for tightness Check for tightness | |
| Hydraulic system Oil cooler - Bearing - Fastening screws Return-flow filter Magnetic rod Pressure accumulator – emergency lowering | Check for tightness Replace Clean Check function | 4 1 1 |
| Pump transfer gearbox | Change oil | 1 ³ |
| Swing gearbox Fastening screws | Change oil Check for tightness | 2 ³ |
| Travel gearbox Fastening screws | Change oil Check for tightness | 2 ³ |
| Swing ring Fastening screws (swing ring, undercarriage and superstructure) | Check for tightness (cf. Technical handbook) | |
| Superstructure Fastening screws, especially at superstructure / pedestal / driver's cab | Check for tightness | |
| Undercarriage Fastening screws - carbody - trackframe - bottom rollers - trackframe - top rollers - trackframe | Check for tightness (see Technical handbook for tightening torques) | |
| Cable guide for power supply cable - Fastening screws cable guide / machine | Check for tightness (cf. Technical Handbook) | |
| All lines, fittings and connections | Inspect visually for leaks, wearing marks | |

³ cf. "Refilling quantities – Oil" table



Lubricating chart – Grease (legend)

| No. | Greasing point | Number | Lubricant properties | Grease every ... operating hours |
|-----|---|---------------------|-------------------------|---|
| 1 | Central lubricating system – grease container | 1 | V ¹¹ | 10 |
| | Hydraulic ladder (optional) | 1 | | 1000 |
| 2 | Electric motor | 2 | | 1000 (refer also to the lubrication plate at the electric motor) |
| 3 | Monitoring, warning and control elements | | II ¹¹ | |
| | - Joystick | 2 x 4 ¹² | | 1000 |
| | - Pedal | 3 x 2 ¹² | | 1000 |

All other greasing points are supplied with grease by the central lubricating system.

Filling quantities - Grease

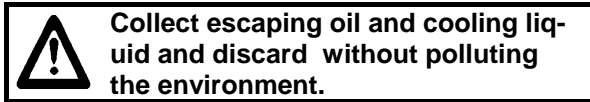
| Greasing point | Lubricant properties | Filling quant. in | |
|--|---|-------------------|-----------------|
| | | kg | lb |
| Central lubricating system – grease container (depends on the type of container built in) | V ¹¹ | approx. 200 | approx. 441 |
| Internal gearing – Roller-bearing swing ring | | approx. 150 | approx. 220.5 |
| Idler (permanent grease filling) | Tribol Bucyrus HEX part no. 2764564 | 2 x approx. 3.3 | 2 x approx. 7.3 |
| Track rollers (permanent grease filling only when not connected to the central lubrication system) | | 16 x appr. 2 | 16 x appr. 4.4 |
| Support rollers (permanent grease filling) | | 4 x appr. 1.3 | 4 x appr. 3 |

¹¹ cf. "LUBRICANTS" section

¹² apply a thin layer of low temperature grease

SERVICING WORK

Hose line for oil changes



Filling and draining is can be done by means of a hose through the service station (tanklift) (Fig. 3-14:).

For filling and draining, a flexible hose is connected to the express coupling on the service station and to the service vehicle at the other end.

The filling operations require an overpressure, whereas the draining operations require low pressure.

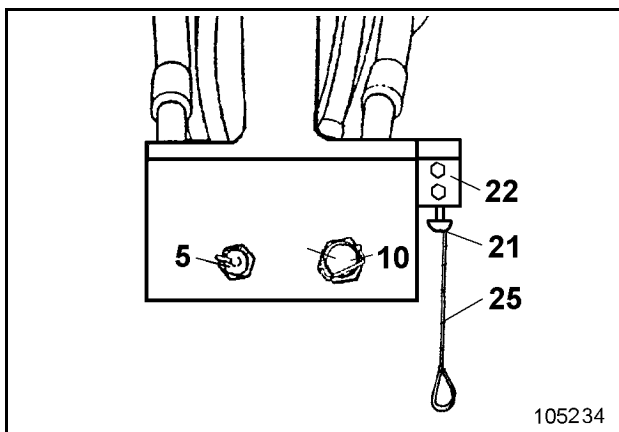


Fig. 3-14:

The hydraulic oil reservoir, the pump transfer gearbox and the swing gearboxes are moreover equipped with automatic drain valves (1, Fig. 3-15:)

These automatic drain valves permit oil changes without polluting the environment.

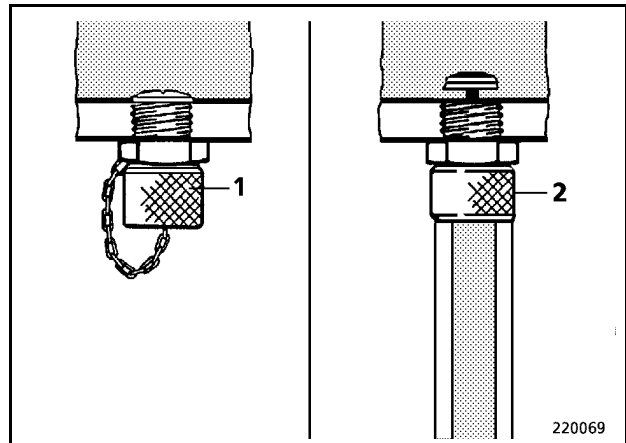


Fig. 3-15:

Change oil as follows:

- Place a collecting recipient for used oil under the corresponding automatic drain valve. For the recipient capacity refer to the "Refilling quantities - Oil" table or to the "Refilling quantities - Other" table.
- Unscrew protective cap from automatic drain valve.
- Screw on hose line (2) to open the valve, so that the oil or the cooling liquid can flow out.
- When the oil has drained away, unscrew hose line to allow the valve to close automatically.
- Screw protective cap back in place.

Replacing filter mats

Two filter mats (4, Fig. 3-34:) are installed at the sidewall of switchgear cabinet (field I).

- ➔ Check filter mats (4) visually and replace if necessary.

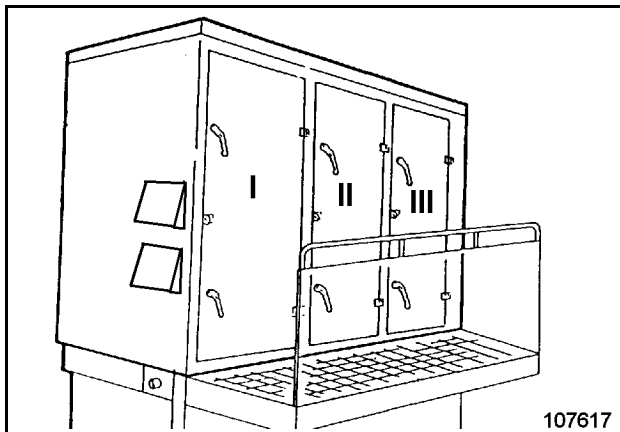


Fig. 3-34:

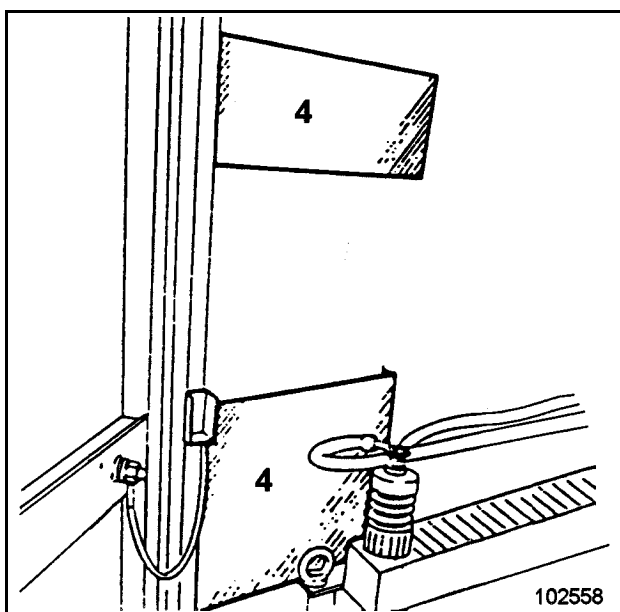


Fig. 3-35:

Slip ring maintenance

See (Fig. 3-36:)



High tension, Danger to Life.

Switch off power supply at the transformer station.

Check that the slip ring assembly is without tension before opening it.

Read and observe the "Inspection and servicing – Safety instructions" chapter as well as the chapter "Electrical system, safety instructions".

Observe the Servicing Instructions of the slip ring manufacturer.

- ➔ Remove all tracks of dirt.
- ➔ Press in grease into the greasing nipples on the bottomside of the slip ring assembly (if supplied with, see Servicing Instructions of the slip ring manufacturer).
- ➔ There is a transparent sideplate at the housing. Check the housing inside for wear debris coming from the brushes and for grease. Remove if necessary.
- ➔ Clean insulators and check for damage.
- ➔ Check condition of slip ring contact surfaces; remove any sign of oxydation, "splatter" or burn spots. Then coat with contact grease.
- ➔ Check carbon brushes for signs of wear. See Servicing Instructions for the slip ring.

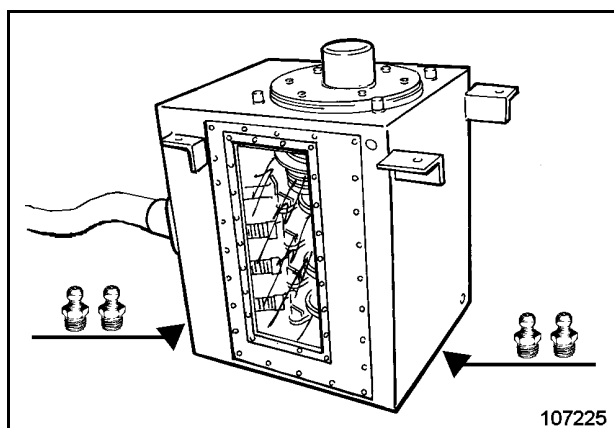


Fig. 3-36:

High-pressure filter for working hydraulics

To filter the hydraulic oil on the high-pressure side of the working hydraulic system, the machine is equipped with four high-pressure filters (9, Fig. 3-56:).

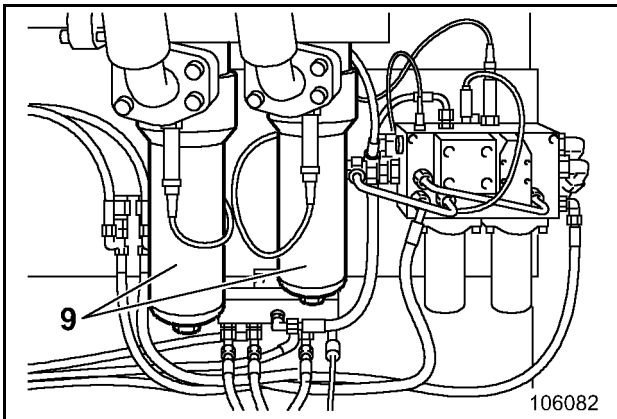
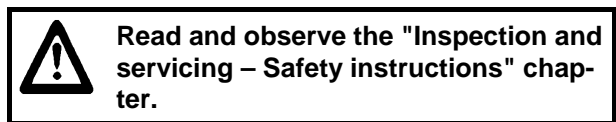


Fig. 3-56:



Switch off the electric motor.

Risk of scalding caused by hot hydraulic oil.

The filter housings themselves may also be hot.

Avoid skin contact.

Skin contact with hydraulic oil may cause skin injury.

Wear protective gloves and firm working clothing.

Collect escaping hydraulic oil and discard without polluting the environment.

Checking/cleaning the filter elements

- Unscrew drain plug (11, Fig. 3-57:) and drain the hydraulic oil from the filter housing (9). (Place a suitable recipient under the filter housing).
- Unscrew filter housing (9).
- Disengage filter element (15) with a slight turn from its retaining catch and withdraw from filter housing (9).
- Clean filter element (15) in white spirit or paraffin oil.
- Replace filter element (15) if it is damaged.
- Check seals (10 and 14) and replace, if required.
- Re-assemble the filter element in reverse order.
- Check for leaks after putting the filter into operation.

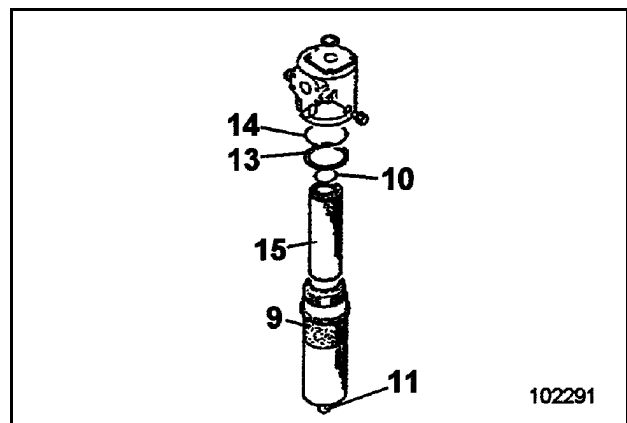


Fig. 3-57:

Replacing the filter elements

- Detach the filter element as described under "Checking the filter elements".
- Clean filter housing (9, Fig. 3-57:) and the sealing faces at the filter head with white spirit or paraffin oil.
- Insert new filter element into filter housing (9) and refit to the filter head with new, lightly oiled sealing rings (10 and 14) and a new retaining ring (13).

Check high-pressure filter for leaks after putting it into operation.

Pressure accumulator - Emergency lowering

To permit the working equipment to be lowered in an emergency, the machine is equipped with a pressure accumulator (1, Fig. 3-74:).

The pressure accumulator (1) is located in the superstructure and is accessible from the ground.

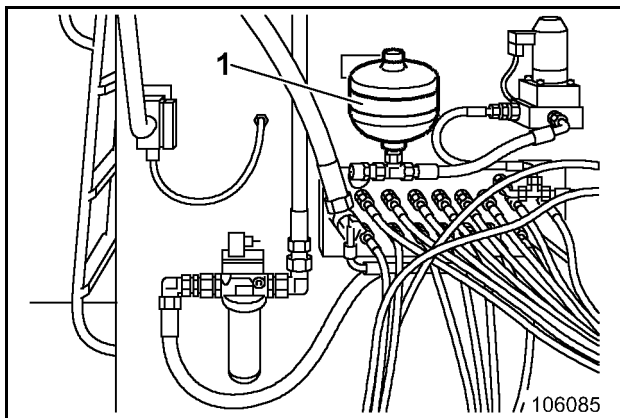


Fig. 3-74:

Pressure-accumulator inspection regulations



The following regulations are applicable only in Germany. Please observe the relevant regulations in force in your own country.

Extract from the German regulations

The accumulator vessel must not be subjected to welding, soldering or any other mechanical work. Work on systems containing accumulators (repairs, connection of pressure gauges or similar work) may be carried out only when the fluid pressure has been released

| Group | Inspections prior to commissioning | | Regular inspections |
|---|---|--|---|
| | at the factory | at the place of use | |
| II $p \geq 1 \text{ bar}$ and $p \cdot x \cdot l \leq 200$ | Pressure testing Prototype and pressure test certified by the manufacturer | Inspection certificate (Check of correctness and correct installation) issued by an expert | Inspection schedule to be drawn up by end user, based on experience with type of operation and fluid. |

Extract from the German acceptance regulations

Hydraulic accumulators are pressure vessels and are therefore subject to the "Druckbehälterverordnung (DruckbehV)" [Pressure Vessel Regulations]. Their installation, equipment and operation are governed by the "Technische Regeln Druckbehälter (TRB)" [Technical Rules for Pressure Vessels]. The pressure vessels of hydraulic accumulators are classified by the admissible operating pressure p in bars, the capacity l in liters and the product of pressure and capacity $p \cdot l$. Depending on the class to which the accumulator belongs, the following inspections are mandatory:

Checking the gas charging pressure in the pressure accumulator

After commissioning (new installation or repair), the gas charging pressure in the pressure vessel must be checked at least once during the first week. If no pressure loss is detected, the second pressure test must be performed after ca. 3 months. If no pressure loss is detected in this test either, the testing interval can be fixed at once pressure test each year.

Pressure-accumulator inspection regulations

 **The following regulations are applicable only in Germany. Please observe the relevant regulations in force in your own country.**

Extract from the German regulations

The accumulator vessel must not be subjected to welding, soldering or any other mechanical work. Work on systems containing accumulators (repairs, connection of pressure gauges or similar work) may be carried out only when the fluid pressure has been relieved.

Extract from the German acceptance regulations

Hydraulic accumulators are pressure vessels and are therefore subject to the "Druckbehälterverordnung (DruckbehV)" [Pressure Vessel Regulations]. Their installation, equipment and operation are governed by the "Technische Regeln Druckbehälter (TRB)" [Technical Rules for Pressure Vessels]. The pressure vessels of hydraulic accumulators are classified by the admissible operating pressure p in bars, the capacity l in liters and the product of pressure and capacity $p \times l$. Depending on the class to which the accumulator belongs, the following inspections are mandatory:

Checking the gas charging pressure in the pressure accumulator

After commissioning (new installation or repair), the gas charging pressure in the pressure vessel must be checked at least once during the first week. If no pressure loss is detected, the second pressure test must be performed after ca. 3 months. If no pressure loss is detected in this test either, the testing interval can be fixed at once pressure test **each year**.

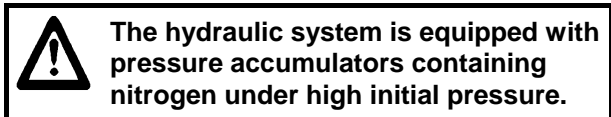
The above-mentioned pressure tests are required to ensure the functioning of the track tensioner. They are **no substitute** for the inspections as required by the "Pressure Vessel Regulations".

Before checking the gas charging pressure (nitrogen filling pressure) in the pressure accumulator, the track must first be slackened, i.e. the hydraulic part of the tensioning system must be depressurized. Cf. under "Function".

Tab. 3-1

| Group | Inspections prior to commissioning | | Regular inspections |
|---|--|------------------------------------|---|
| | at the factory | at the place of use | |
| IV $p \geq 1 \text{ bar}$ $p \cdot x \cdot l \geq 1000$ | Preliminary inspection by an expert Prototype and pressure test certified by the manufacturer (type approval) or the expert | Acceptance inspection by an expert | Internal inspection: every 10 years for non-corrosive fluids; otherwise pressure testing every 5 years: every 10 years by an expert |

PRESSURE ACCUMULATORS - SAFETY INSTRUCTIONS



Even when the hydraulic pressure in the system is reduced, the nitrogen in the accumulator will remain under pressure.

The accumulators are completely safe in operation. If incorrectly handled, however, there is a risk of explosion.

So:

- Never handle accumulators mechanically, never weld or solder.
- Testing and servicing work must be carried out by experts only.
- Prior to any testing and servicing work, depressurize the hydraulic part of the system.
- To dismantle the accumulator, always wear goggles and working gloves.
- Fill accumulator with nitrogen only, never with compressed air or oxygen.
- Report any defects or damage to the machine owner without delay.
- Prior to recommissioning, an inspection by a specialist or expert is essential if the accumulator was damaged or if the admissible operating temperature or operating pressure was exceeded.

Never remove or paint over warning and information plates, rating plates or type identification markings. Replace illegible or damaged plates immediately

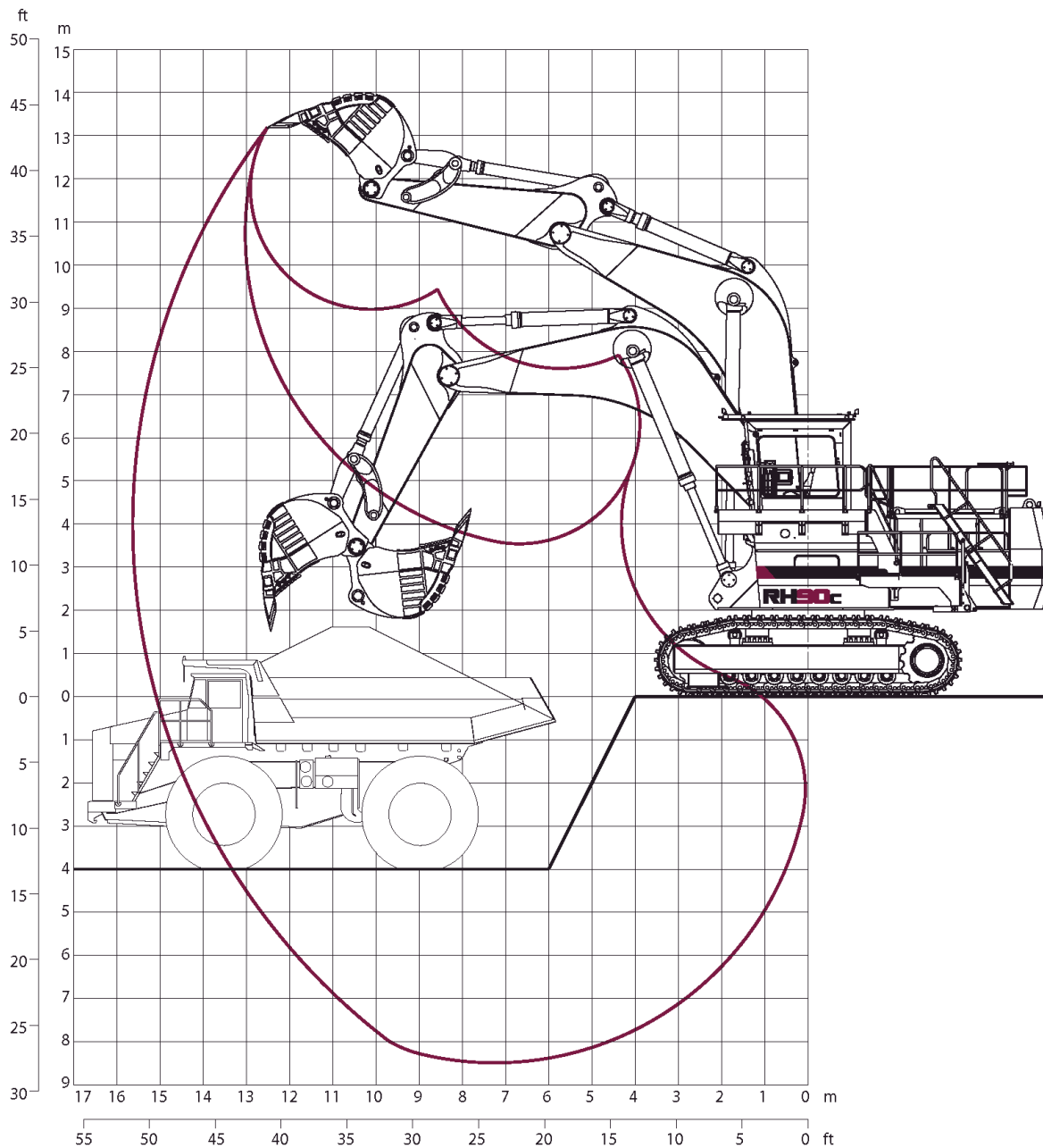


Central lubricating system – Fault table

| Fault | | | | Remedial action |
|--|---|---|---|------------------------------------|
| Grease pump not working, the BCS does not indicate a warning Automatic circuit breaker on | | | | Check P |
| Grease pump not working, pilot lamp lit | | | | Adjust E |
| Grease pump working, no grease delivered | | | | Replace W |
| Greasing pressure too high or too low | | | | Top up A |
| | | | | Reduce S |
| | | | | Clean R |
| | | | | Vent L |
| | | | | 1) Contact the Bucyrus HEX Service |
| Cause | | | | Chapter ref. |
| • | • | | Timer defective | P/W |
| • | | | Lines between timer and hydraulic motor defective | P/W |
| • | • | | Hydraulikmotor defektive | P/W |
| • | • | • | Grease pump defective | P/W |
| | | • | Grease sieve clogged | P/R |
| | | • | Distributor defective | P/W |
| | | • | Grease container empty | P/A |
| | | • | Grease pump does not suck grease | P/L |
| | | • | Leaky lines | P/L |
| | | • | Non-return valve defective | P/W |
| | | • | Pressure switch defective | E |

Backhoe Attachment (BH)

Working Diagram - Boom 8.5 m (27 ft 11 in) - Stick 4.5 m (14 ft 9 in)



Working Range

| | | |
|---------------------|--------|-------------|
| Max. digging depth | 8.5 m | 27 ft 11 in |
| Max. digging reach | 15.6 m | 51 ft 2 in |
| Max. digging height | 13.2 m | 43 ft 4 in |

Digging Forces

| | | |
|---------------------|--------|------------|
| Max. crowd force | 550 kN | 123,600 lb |
| Max. breakout force | 550 kN | 123,600 lb |

Backhoes

| Type | Heavy rock bucket | Standard rock bucket |
|---------------------------------|--|--|
| Tooth system | ESCO V 71 | ESCO V 71 |
| Capacity SAE 1:1 | 8.5 m ³ (11.1 yd ³) | 10.0 m ³ (13.1 yd ³) |
| Capacity CECE 2:1 | 7.5 m ³ (9.8 yd ³) | 8.9 m ³ (11.6 yd ³) |
| Capacity struck | 6.6 m ³ (8.6 yd ³) | 7.7 m ³ (10.1 yd ³) |
| Total width | 2,760 mm (9 ft 1 in) | 3,210 mm (10 ft 6 in) |
| Inner width | 2,550 mm (8 ft 4 in) | 3,000 mm (9 ft 10 in) |
| No. of teeth | 5 | 6 |
| Weight incl. universal wear kit | 9,600 kg (21,160 lb) | 11,200 kg (20,940 lb) |
| Max. material density (loose) | 2.1 t/m ³ (3,540 lb/yd ³) | 1.8 t/m ³ (3,030 lb/yd ³) |

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL