Original instructions

BG00307180 A.001.1 2014-04-01

Chain feed CF 100x32 / HEX1
Operation and maintenance

SANDVIK

Table of Contents

ID: BG00307180 en-US A.001.1 2014-04-01

This page is intentionally left blank

ID: BG00307180 en-US A.001.1 2014-04-01

1 SAFETY INSTRUCTIONS

1.1 Safety instructions

⚠ DANGER	
	**CRUSHING HAZARD!** **Unexpected boom movement will cause death or severe injury.** **Before removing the cylinders or their overcenter or non-return valves, support the boom, feed, and rock drill carefully so that they do not move during maintenance. Do not work under components that are supported only by hydraulics.**

⚠ DANGER	
 	**HYDRAULIC FLUID INJECTION HAZARD!** **High-pressure hydraulic fluid sprays can penetrate the skin and will cause death or severe injury.** **Search for leaks with a piece of cardboard or wood. Never try to locate a leak by feeling with your hand. Seek immediate medical attention if you are hit by a hydraulic fluid spray.**

⚠ WARNING	
 	**IGNORING INSTRUCTIONS HAZARD!** **False service and repair methods could cause death or severe injury.** **Always follow the safety instructions and be careful with your work.** **Only people who have been given specific service training are allowed to undertake service, adjustment and repair procedures. Read the instructions before undertaking any servicing, adjusting or repairing.**

⚠ WARNING	
	**ENTANGLEMENT HAZARD!** **Getting entangled with the moving or rotating parts of the machine could cause death or severe injury.** **Carry out service and repair work only when the rig is not running. Make sure that the rig cannot be accidentally started or moved when you are carrying out the service.**

ID: BG00307180 en-US A.001.1 2014-04-01

NOTICE

RISK OF DAMAGING THE HYDRAULIC SYSTEM!
Observe absolute cleanness when dismantling and reassembling hydraulic equipment. Whenever a cylinder has been removed, the hydraulic circuit must be vented and flushed. This is to prevent dirt and air in the cylinder from causing functional disturbances.

ID: BG00307180 en-US A.001.1 2014-04-01

2 GENERAL

2.1 General

The CF 100 x 32 feed is mainly used for integral steel drilling. The robust structure of the feed enables accurate and easily controlled drilling. The feed is designed with simple structure and easy maintenance in mind. In the following sections, the main components and the operating principle of the chain feed are described.

The CF 100 x 32 chain feed is intended for the HEX 1 series rock drill.

These instruction also explain the general maintenance procedures for the chain feed.

Sandvik Service is always willing to give advice and help with any maintenance--related problems. The qualified maintenance staff at Sandvik dealerships use modern, appropriate tools and instruments, and they have the necessary original Sandvik spare parts.

This page is intentionally left blank

ID: BG00307180 en-US A.001.1 2014-04-01

3 TECHNICAL DATA

3.1 Technical data

CF 100 x 32 chain feed properties:

The feed motor is an Orbit-type hydraulic motor. Its repair is discussed in the manual ‘Hydraulic Motor OMR Series 2, 3 and 4’.

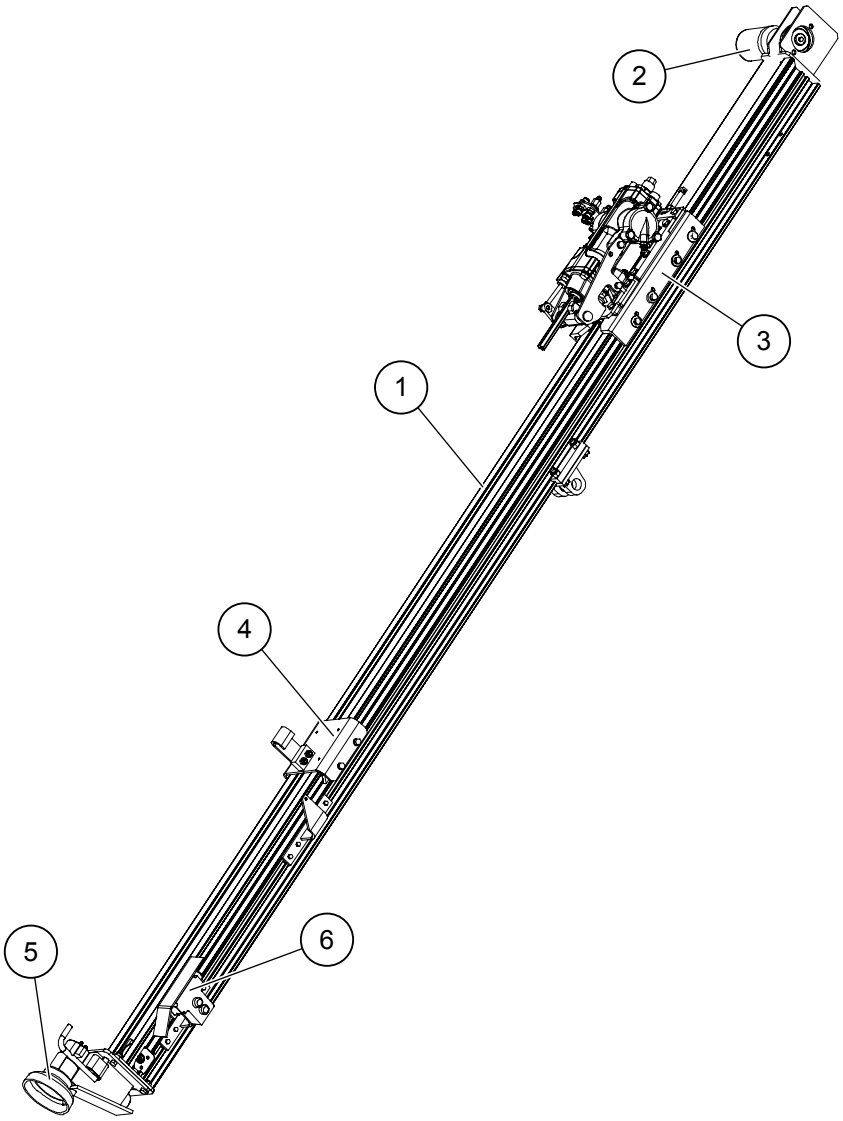
	CF 100 x 32
Total length:	4540 mm
Starter rod length (standard) Hole depth	3200 mm 2800 mm
Second rod length Hole depth	6400 mm 6000 mm
Max. starter rod length Max. hole depth	3700 mm 3300 mm
Weight	170 kg

This page is intentionally left blank

ID: BG00307180 en-US A.001.1 2014-04-01

4 MAIN COMPONENTS

4.1 Main Components



1 Feed rail
2 Feed motor
3 Carriage
4 Travelling centraliser
5 Suction head and front centraliser
6 Safety wire and switch

This page is intentionally left blank

ID: BG00307180 en-US A.001.1 2014-04-01

5 SAFETY WIRE

5.1 Safety wire

The safety wire is located at the lower end of the feed. When the safety wire is pulled with sufficient force or the wire loosens, the drilling and rod handling functions and the dust collector stop, and a red warning light on the operating panel comes on. The motor still runs. The system is reset by pressing the safety wire reset button. Check the operation of the stopping device daily.

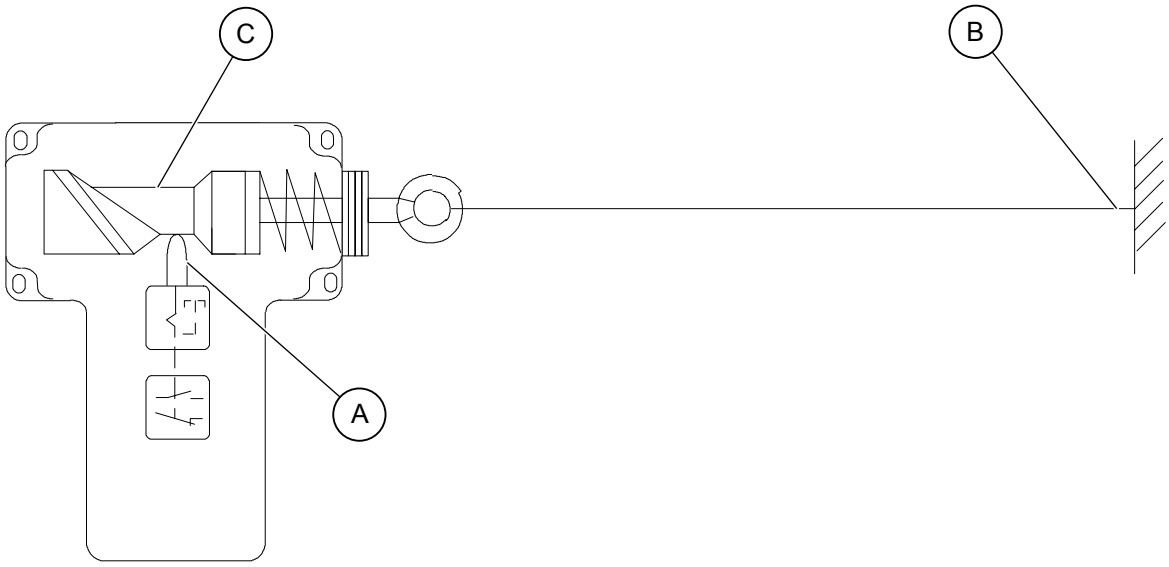
Before resetting, check that the rod handling and drilling joysticks are not in the operating position.

5.1.1 Adjusting the safety wire

1. During adjustment, the diesel engine must be stopped.
2. Open the switch cover.
3. Adjust the wire length from point **B** so that switch **A** is in the middle of the recess in the spool **C**.
4. Turn the power on with the ignition key and test the switch by pulling the wire. When the switch is activated, its indicator lights up and a ‘click’ sound is heard.
5. The switch is reset by pressing the button on the switch, and the indicator turns off after reset.

NOTICE

The switch is reset by pressing the button on the switch, and the indicator turns off after reset.



ID: BG00307180 en-US A.001.1 2014-04-01

This page is intentionally left blank

ID: BG00307180 en-US A.001.1 2014-04-01

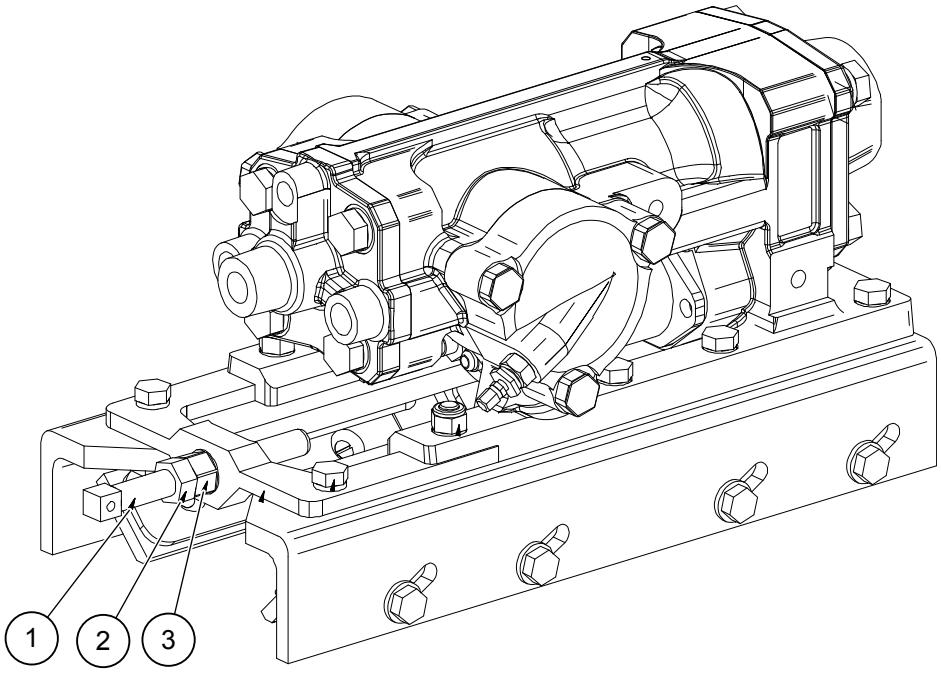
6 TIGHTENING THE FEED CHAIN

6.1 Tightening the Feed Chain

The tightness of the chain is checked as follows:

1. Turn the feed to horizontal position.
2. Run the rock drill to the front end of the feed.
3. The tightness of the chain is correct if the chain lightly touches the chain channel wall. If long sections of the chain rest on the chain channel wall, it must be tightened.

   The feed chain is tightened by moving the adjusting bolt (1) with the adjusting nut (3).



Tighten the chain as follows:

1. Open the lock nut (2) of the adjusting bolt (1).
2. Adjust the tightness of the chain by turning the adjusting nut (3).
3. Tighten the adjusting bolt lock nut (2).

NOTICE

Never turn the adjusting bolt. Otherwise, the chain will twist. Remember the locking after adjustment.

ID: BG00307180 en-US A.001.1 2014-04-01

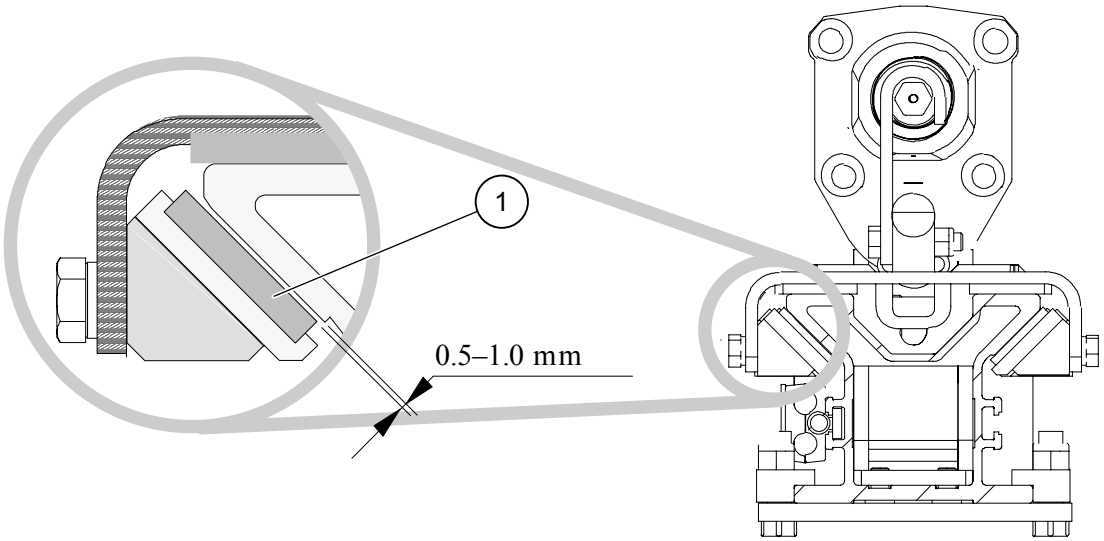
This page is intentionally left blank

ID: BG00307180 en-US A.001.1 2014-04-01

7 ADJUSTING THE SLIDING CLEARANCES

7.1 Adjusting the Slide Clearances

The carriage and travelling centraliser of the CF 100 x 32 feed are fitted with wear pieces that allow the adjustment of clearances without shims. The figure shows a cross--section of the wear pieces and their location in relation to the feed rail.



1 Wear piece

The correct sliding clearance is 0.5–1.0 mm. The clearance should be equal at each wear piece. When the device is operated, the total clearance will even out between both sides, but the easiest way to achieve correct clearance is to set all clearances to the correct value when performing adjustment.

Adjustment

1. Turn the rail to vertical position and run the rock drill near the front centraliser
2. Loosen the mounting bolts of the wear pieces on the rail so that the wear pieces can be moved by tapping them lightly.
3. Adjust the carriage and guides so that the centre of the drill rod is in the centre of the guides and there is no play.
4. Adjust the sliding clearance to 0.5–1 mm by loosening the wear pieces.
5. Tighten the mounting bolts of the wear pieces.
6. Recheck the clearances and perform a test run. Check that the carriage slides smoothly on the guides throughout its range.

NOTICE

Too small a clearance strains the chain and causes unnecessary wear to the rail. On the other hand, too large a clearance makes drilling more difficult and strains, for example, the rock drill shank. Clearances under the wear pieces should be equal.

This page is intentionally left blank

ID: BG00307180 en-US A.001.1 2014-04-01

8 ROUTINE MAINTENANCE

8.1 Each shift

1. Check the hoses and other equipment visually. Repair any damage **immediately**.
2. Lubricate all grease-lubricated items.

8.2 Daily

1. Check the tightness and condition of the feed chain. Adjust if necessary.
2. Check the tightness and condition of bolts and nuts. If a self-locking nut has loosened, it must be replaced. If a normal bolted joint loosens repeatedly, use a self-locking nut or chemical locking agent.

8.3 Weekly

1. Wash the feed.

8.4 Monthly

1. Check the sprocket wheel bearings.
2. Measure all sliding clearances and adjust if necessary.

This page is intentionally left blank

ID: BG00307180 en-US A.001.1 2014-04-01

www.sandvik.com