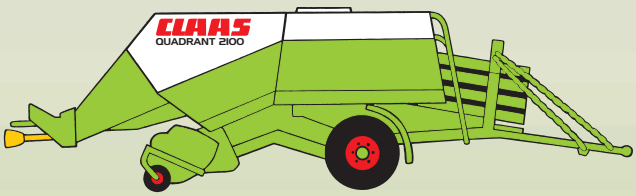
CLAAS



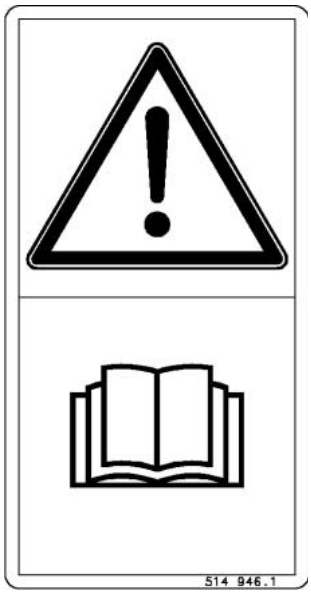
QUADRANT 2100 N
QUADRANT 2100 ROTO FEED
QUADRANT 2100 ROTO CUT

Operator's manual

SERVICE & PARTS

4
Safety rules

6



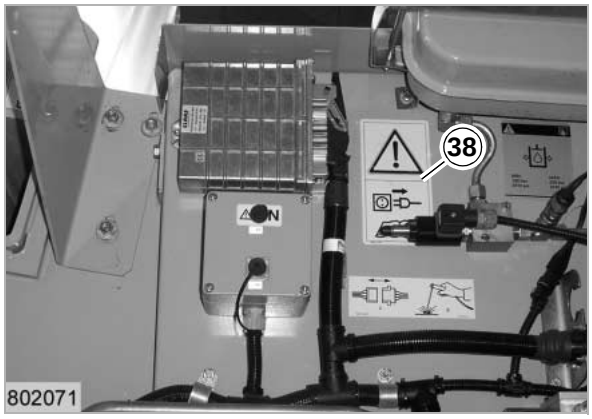
7

514 946.1 (2)

Before putting the machine into operation, read and observe the operator's manual and follow the safety instructions.

(Fig. 6, 7)

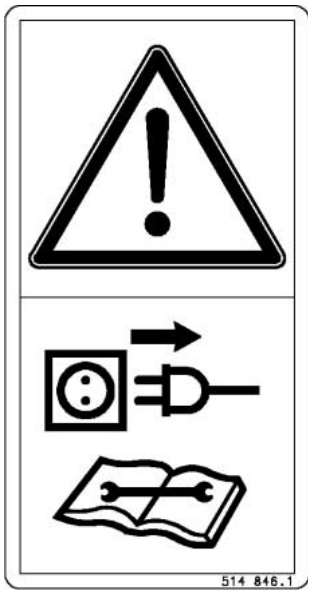
QUADRANT 2100 RF/RC



36

37

38



39

514 846.1 (38)

Always disconnect the electric supply from the tractor before performing welding or starting work in the electric system. Disconnect plug connections on the central electrics

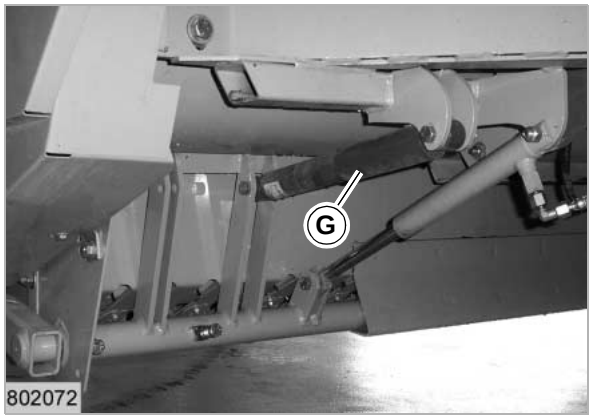
(Fig. 36, 37, 38, 39)

CLAAS QUADRANT 2100 N / 2100 RF / 2100 RC

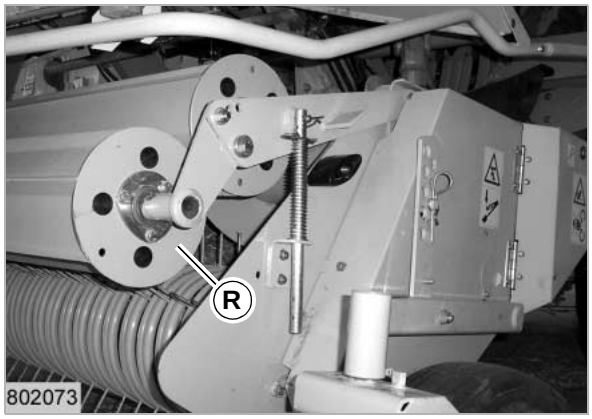
Tying mechanism		Twine tying, start of tying automatic or manual by push button operation via CLAAS COMMUNICATOR, on QUADRANT 2100 RF/RC.
Knotters		4 CLAAS knotters
	Cleaning	two electric fans or hydraulically driven turbo blower
Twine	Synthetic	110 to 200 m/kg
Twine boxes		For 12 balls of twine each on left and right-hand side of machine
Electric twine monitor		When the twine end is reached or the twine is broken a signal will sound on QUADRANT 2100 N and a fault message is displayed in the CLAAS COMMUNICATOR on QUADRANT 2100 RF/RC.

Brakes		
Compressed air actuation	Depending on country	a) up to 40 km/h with dual-line brake system b) up to 60 km/h with dual-line brake system with tandem axle c) up to 25 km/h with single-line brake system b) up to 60 km/h with dual-line brake system with steered tandem axle
	Connections on tractor	Connections for the corresponding compressed air braking system required
Hydraulic actuation		Connection for the hydraulic brake system required
Parking brake		Crank handle operation

Wheels	Tyres	Tyre pressure
	600/50-22.5 156 A8	2,50 bar
	500/50-17.0 140 D	2,75 bar
	520/50-17.0 F + 14 PR	2,75 bar
	560/45-22.5 154 A8	2,50 bar
Pick-up gauge wheels	16 x 6.50 - 8 4 PR	2,10 bar
Tightening torques for wheel nuts	black (M 20 x 1,5)	343 Nm
	galvanized nuts (M 20 x 1,5)	377 Nm
	black (M 18 x 1,5)	265 Nm
	galvanized nuts (M 18 x 1,5)	291 Nm



5



6

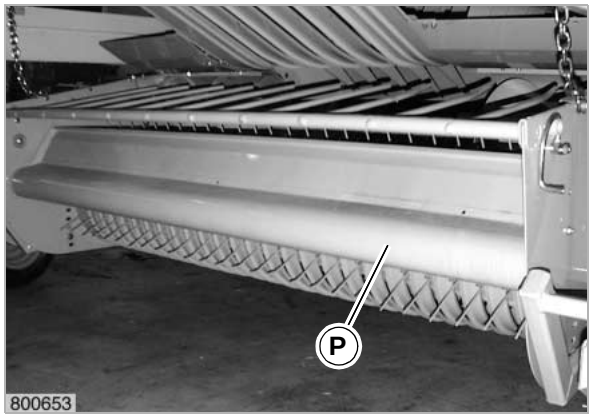
Roller crop press (QUADRANT 2100 RF/RC)

Even with unfavourable harvesting conditions, uneven swaths and short crop, the roller crop press (R) guarantees even feed to the continuous conveyor screw.

The roller crop press (R) is adjustable in height.

The roller crop press can pivot upward and, due to its spring suspension system, adapt to swath conditions.

(Fig. 6)



7

Short crop baffle (QUADRANT 2100 N)

A short crop baffle (P) may additionally be mounted to pick up short crop, light swaths and second cut hay.

The short crop baffle prevents the crop to be picked up from rolling up before the pick up.

(Fig. 7)

8

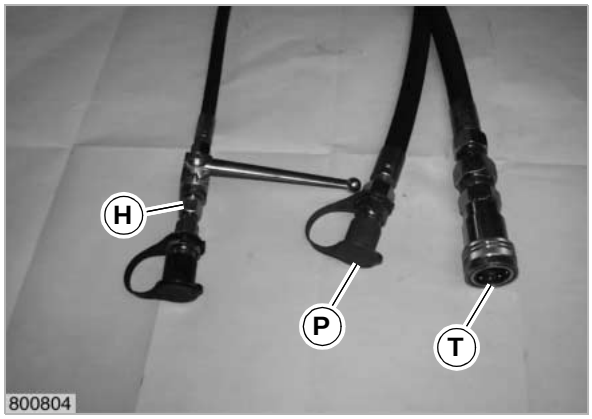
Cutting facility (QUADRANT 2100 RC)

The cutting unit can be switched on and off by pressing a push button on the CLAAS COMMUNICATOR.

The cutting unit cuts the crop to lengths of approx. 45 mm or 90 mm before it is delivered to the rake.

(Fig. 8)

7
Before operation

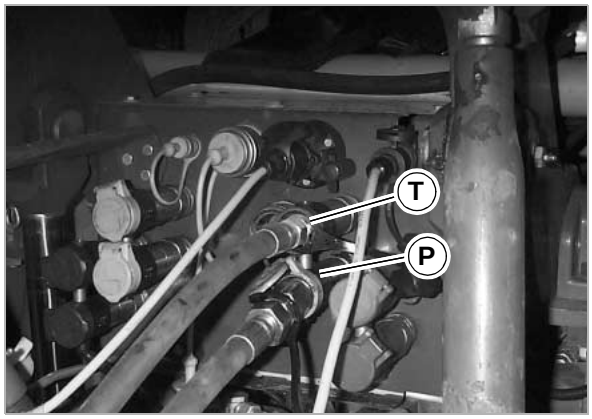


13

QUADRANT 2100 RF/RC

Connect the hydraulic hose (H) for hydraulic jack stand operation to a single-acting control valve on the tractor.

(Fig. 13)



14

Tractor with hydraulics system and constant delivery rate or load sensing system without "Power-Beyond"

Connect coupling (P) to tractor's control valve.

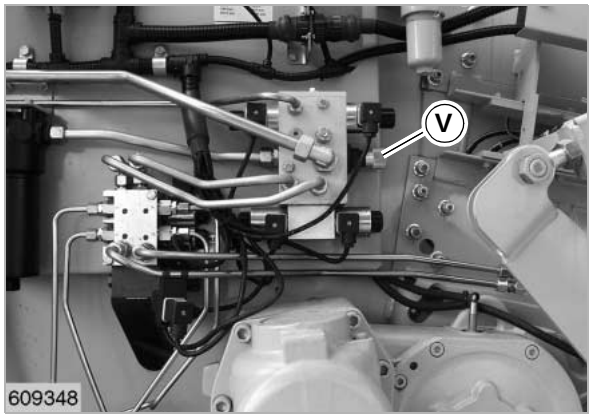
Unscrew screw (V) of hydraulic control block until stop is reached to activate baler pressure compensation.

Connect coupling (T):

- with the "depressurised" connection (direct return to rank) if the tractor permits this (gearbox lubrication is ensured).
- with the dual action return of the tractor control valve.

Note!

If the tractor has a control valve with an adjustable delivery rate, set the rate to a throughflow volume of between 35 and 50 l/min. If the tractor does not have a control valve with an adjustable delivery rate, you must ensure that the throughflow volume does not exceed 50 l/min.

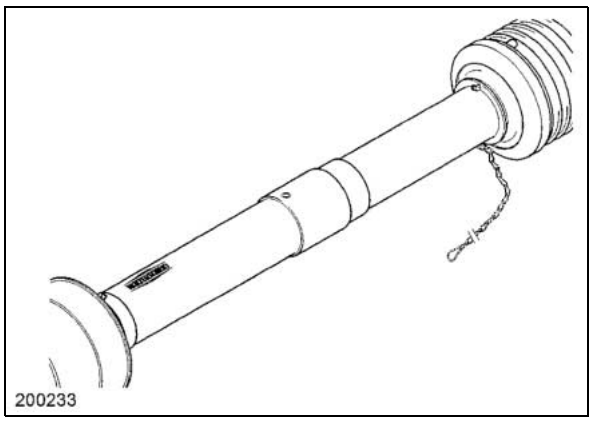


15

Note!

The load sensing hose (LS, signal of operating hydraulics) is not used for this connection variant.

(Fig. 14, 15)



13

Assemble both halves of the propshaft together ensuring they have been greased.

(Fig. 13)

Attention!

Not greasing the star profiled shafts when they are assembled will drastically reduce the life expectancy of the propshaft.

Whilst the propshaft is in use, the lubrication hole must always remain covered.

Preventing the propshaft at the protection funnel from rotating with the drive shaft

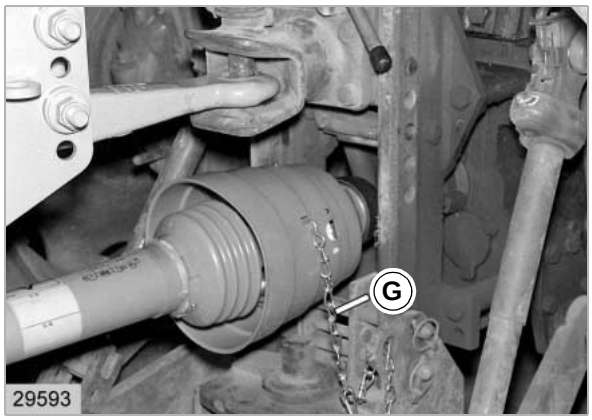
Danger!

Never operate the baler without the propshaft guards – risk of injury.

☞ Replace damaged protection tubes immediately. Engage the PTO gradually to prevent stress on the drives.

Attention!

Safety retaining chains must only transfer radial forces to the protection and should only be of such a length that they sling around the protection tubes by 90 degree.



14

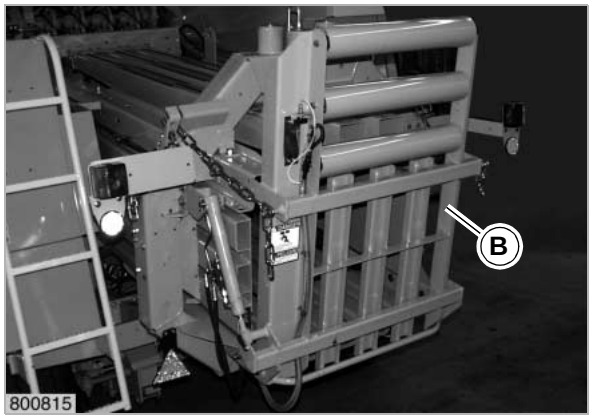
On tractor:

The retaining chain protects the propshaft guard from rotating, thus causing accidents.

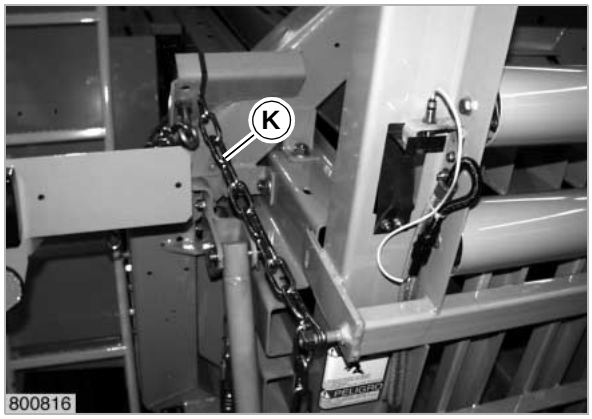
Attach the retaining chain (G) so that enough swashing range for the propshaft is ensured in all operating positions. The retaining chain may not catch on the swinging drawbar or other components.

The retaining chain of the funnel guard must be attached to the wide angle propeller shaft in such a way that it lies on approx. 1/4 of the funnel circumference in all operating positions (even through curves).

(Fig. 14)



7



8

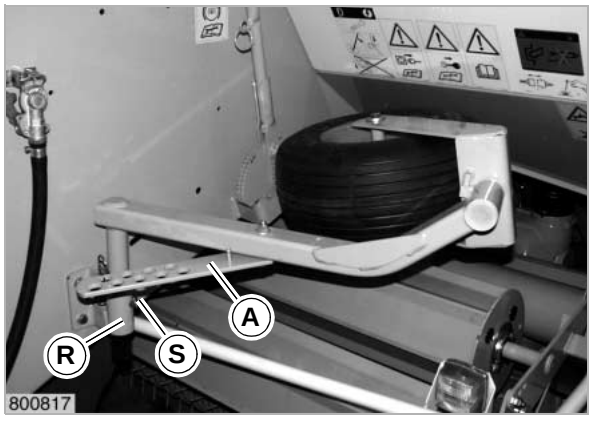
Hydraulic bale chute (QUADRANT 2100 RF/RC)

Transport with and without large size bale in baling channel.

Danger!

When driving on public roads and lanes the bale chute (B) must be secured with chains (K) in vertical position. For this purpose it may be necessary to empty the bale channel.

(Fig. 7, 8)



9

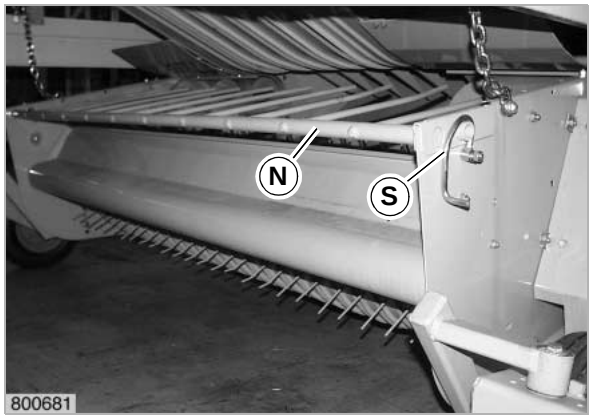
Pickup gauge wheels

Always remove gauge wheels when transporting the baler or when driving on roads in case the maximum permitted width for road travel is exceeded (see »Before transporting the baler«).

On QUADRANT 2100 RF/RC the removed gauge wheels can be inserted into the tubes (R) provided for this purpose.

Secure the gauge wheels with locking bolts (S) and lock plate (A) with springs.

(Fig. 9)



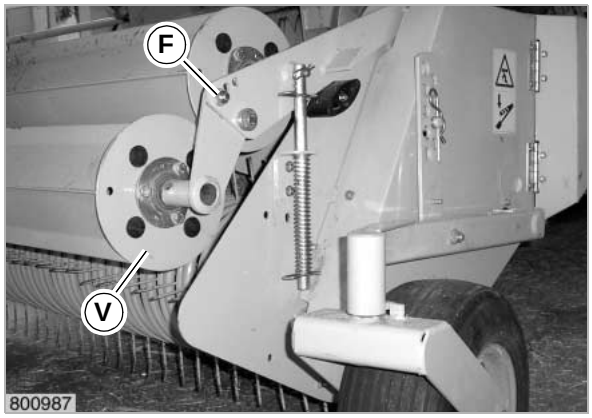
16

Crop guard with short crop baffle (QUADRANT 2100 N)

Crop guard (N) can be removed after folding back locks (S).

(Fig. 16)

QUADRANT 2100 RF/RC up to serial-no. 74100040



17

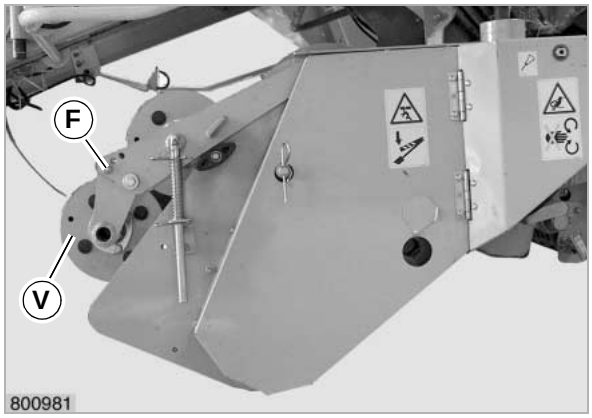
Adjustment of roller crop press (QUADRANT 2100 RF/RC)

The front roller (V) of the roller crop press can be adjusted in height by displacing the pan head bolts (F) on both sides to match swath conditions.

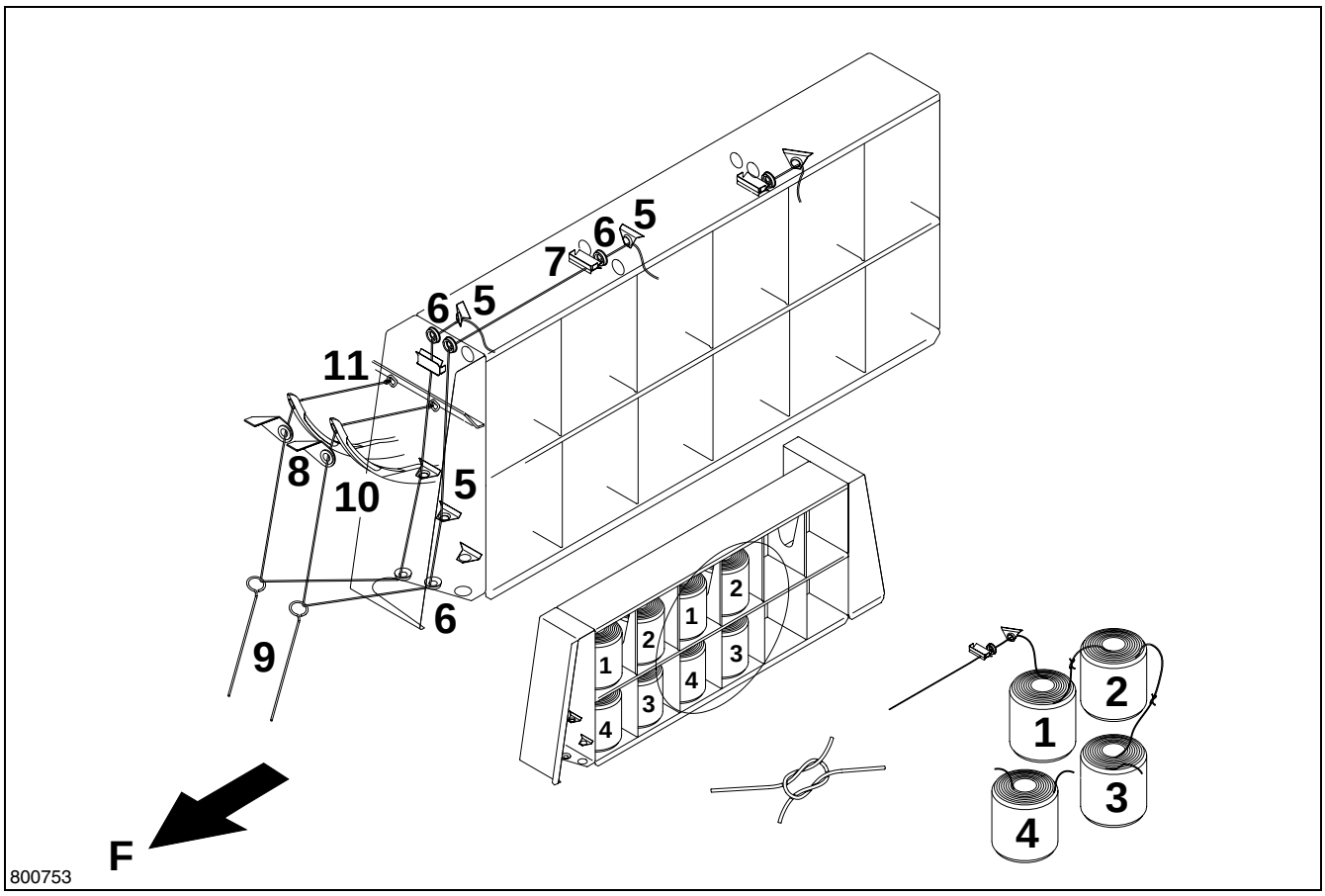
Firmly retighten pan head bolts (F) after the adjustment.

(Fig. 17, 18)

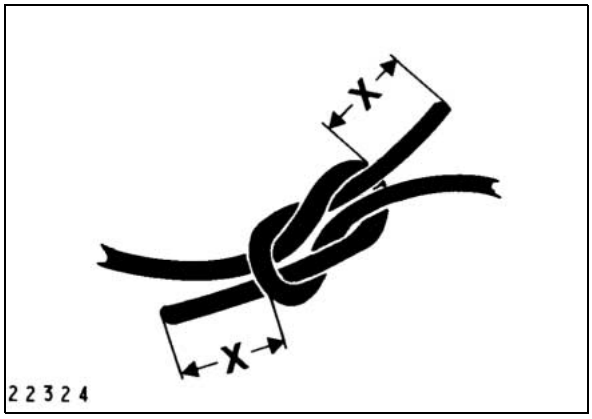
QUADRANT 2100 RF/RC from serial-no. 74100041



18



6



7

Tie the outer end of twine roll (1) with the inner beginning of twine roll (2) to a knot as shown in Fig. 6.

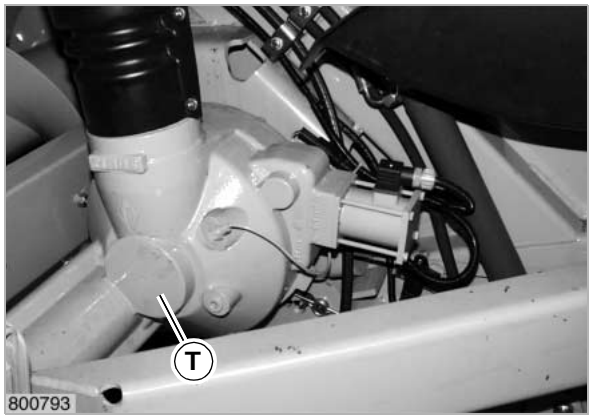
Shorten both ends at the knot, leaving a measurement (X) of approx. 15...20 mm.

Connect ball (2) to ball (3) in the same way as ball (1).

Note!

Twine balls (4) are spare balls, do **not** tie.

(Fig. 6, 7)



5

When the rake is restarted (visual control), increase the speed until the feeder duct is free and the symbol »Feeder error« in the CLAAS COMMUNICATOR goes out. Now the CLAAS COMMUNICATOR will display »Rotor error«.

The cutting blades swing back and the cutting floor opens automatically.

After having reduced the speed again, the integrated overload clutch (T) of the rotor drive automatically reengages.

The knives are automatically reengaged and the cutting floor closed.

(Fig. 5)

Rotor overload

Attention!

In case of a rotor problem (overload) do **not** switch off the CLAAS COMMUNICATOR.

The integrated overload clutch (T) disengages the rotor drive, should the rotor become overloaded. The rotor and the pick up stop. The feed rake drive keeps on running. The display of the CLAAS COMMUNICATOR shows the symbol for rotor fault.

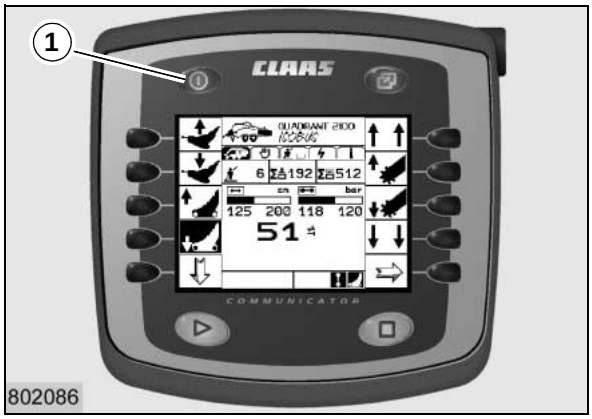
Stop the tractor immediately, back the machine away from the crop and reduce main drive speed. The knives are automatically disengaged. At the same time, the hydraulic cylinder lowers the cutting floor.

The overload clutch (T) then reengages automatically.

The knives are automatically reengaged and the cutting floor closed.

(Fig. 5)

CLAAS COMMUNICATOR - OVERVIEW



1

The CLAAS COMMUNICATOR must be switched off before starting the tractor engine.

Note!

This chapter describes the functions that are controlled by the CLAAS COMMUNICATOR. The functions depend on the version of the machine.

Switching on the Claas Communicator

Press the On/Off-key (1).
The »application menu« is started automatically.

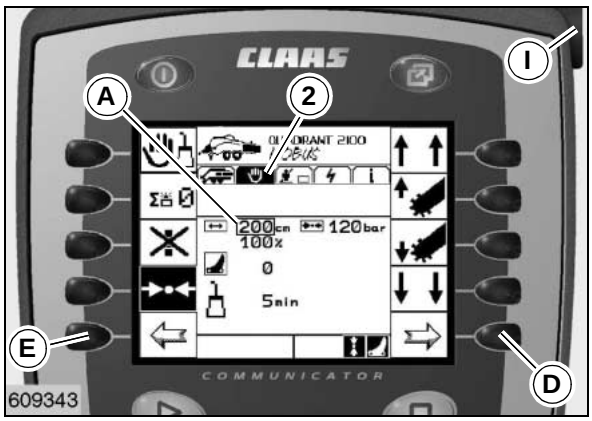
Note!

When establishing a connection between the baler and the CLAAS COMMUNICATOR for the first time, the menu configuration is transferred from the baler computer to the CLAAS COMMUNICATOR. The loading process may take several minutes, until the first control menu of the baler is displayed.
During the loading process the menus are saved to the memory of the CLAAS COMMUNICATOR. After switching the CLAAS COMMUNICATORS off and on again the menus are displayed after approx. 5 sec.
The CLAAS COMMUNICATOR has sufficient memory for five machine configurations. In order to be able to save another machine, you must first delete a machine configuration, see »Service menu«.

Note!

Never switch off the CLAAS COMMUNICATOR when working as **all** the control functions will fail.

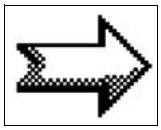
(Fig. 1)



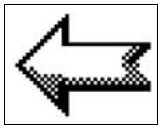
1

OPERATOR SETTINGS

Opening the adjustment menu



Press softkey (D) to jump from the »application menu« to the »adjustment menu« (2).



Press softkey (E) as often as required to jum from the »counter menu«, »fault menu« or »system information menu« to the »adjustment menu«.

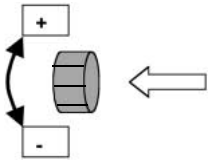
(Fig. 1)

Setting the bale length

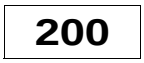
Note!

The bale length is adjustable from 100 to 250 cm.

Opening the »adjustment menu«



Turn the incremental encoder (I), until the setpoint (A) appears surrounded by a frame.



Press the push button in the incremental encoder, the frame appears enlarged.

Keep turning the incremental encoder, until the desired bale length is displayed. Press the push button to confirm the set bale length (it is thereby stored).

(Fig. 1)

3

Tying fault (Claas Communicator without ISOBUS)

The following work steps show how to rectify a wrapping fault, depending on the time of its occurrence.

When starting the Claas Communicator

- Turn the straw wheel backwards until the measured bale length shown on the Claas Communicator is less than the set bale length.
- Wait for 10 seconds.
- Switch the Claas Communicator off and on again.

During work

There are two possibilities:

- The measured bale length (displayed on the Claas Communicator) is shorter than the pre-adjusted bale length: Press key (R) to delete the fault.
- The measured bale length (displayed on the Claas Communicator) is longer than the pre-adjusted bale length: Turn the straw wheel back, until the measured bale length is shorter than the pre-adjusted bale length, then press key (R) to delete the fault.

(Fig. 1, 2, 3)

4

Tying fault (Claas Communicator with ISOBUS)

The different types of tying faults are depicted differently: a number (26, 27, 28 or 29) will appear in the tying fault symbol (Z).

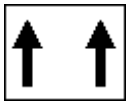
(Fig. 4)

OPERATION ACCORDING TO SETTINGS

The CLAAS COMMUNICATOR enables operation of the machine by pressing softkeys.

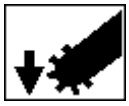
1

Pick-up up/down

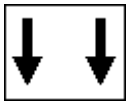


Press softkey (A) for continuous lifting of pick-up.

Press softkey (B) to lift the pick-up.



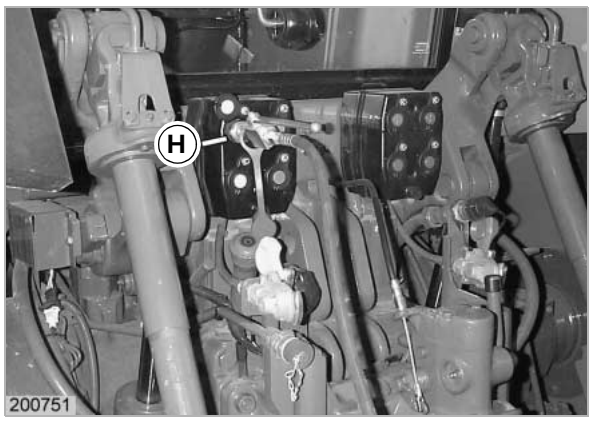
Press softkey (C) to lower the pick-up.



Press softkey (F) for continuous lowering of the pick-up.

The switching times for continuous lifting/lowering of pick-up are adjusted to the required volumetric quantity of the circulation hydraulics.

(Fig. 1)



7

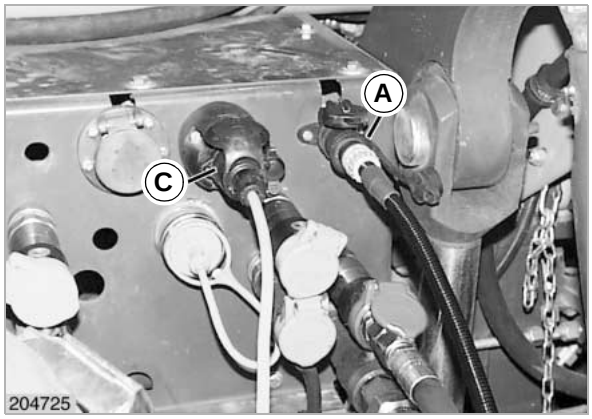
Disconnecting hydraulic oil hoses

Close hydraulic shut off valve (H) and disconnect hose.

Disconnect the hydraulic oil hoses when the brake is applied hydraulically.

Disconnect hydraulic hose for the jack stand and hydraulic pick-up lift or hydraulic circulation.

(Fig. 7)



8

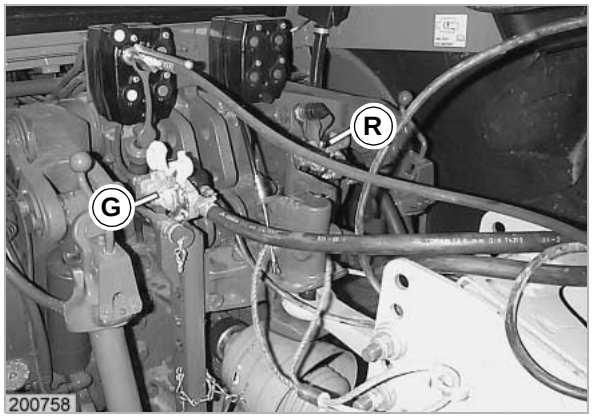
Electrical connections

Disconnect 2-pin connector (A) and 7-pin connector (C) from the tractor sockets.

Attention!

Pull out the electric cables while the tractor engine is running (on QUADRANT 2100 N) to prevent the battery from discharging.

(Fig. 8)

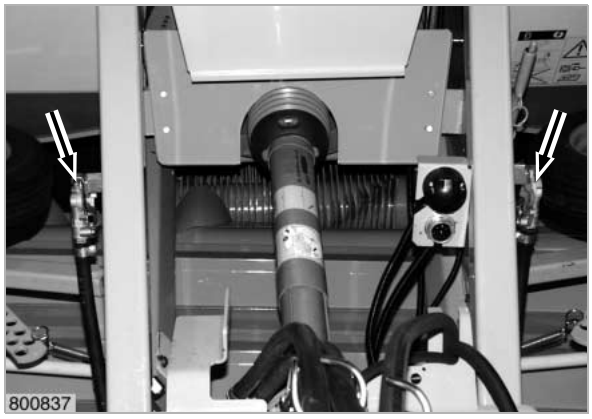


9

Disconnecting the compressed air hoses

Disconnect the red (R) coupling head first and then the yellow one (G) after.

(Fig. 9)



10

Attention!

Hang hydraulic oil and compressed air hoses in the brackets provided for this purpose in order to avoid soiling of quick release couplings.

(Fig. 10)

Welding

When performing electric welding work on the round baler proceed as follows:

1. Remove the cable to the tractor.
2. Disconnect the plug connections to the CLAAS COMMUNICATOR.
3. On QUADRANT 2100 RF/RC disconnect the plug connection to the module.
4. Always fasten the ground clamp of the welding unit in the immediate vicinity of the welding location.

Bolts

Check all bolts for tightness, retighten if necessary.

TYRES

Check tight fit of wheel nuts

After the first 10 to 15 working hours and after the first 50 working hours, all wheel nuts (8 pcs.) of each tyre shall be checked for a tight fit.

Repeat this check every 100 working hours and then every 1000 working hours (once a year).

Procedure:

Tighten wheel nuts progressively, working from the first nut to the one opposite, using a torque wrench.

Tightening torques:

Black nuts:	(M 20 x 1,5)	343 Nm
Galvanized nuts:	(M 20 x 1,5)	377 Nm
Black nuts:	(M 18 x 1,5)	265 Nm
Galvanized nuts:	(M 18 x 1,5)	291 Nm

Checking wheel hub backlash

Attention!

Jack up baler and apply wheel chocks to prevent baler from moving.

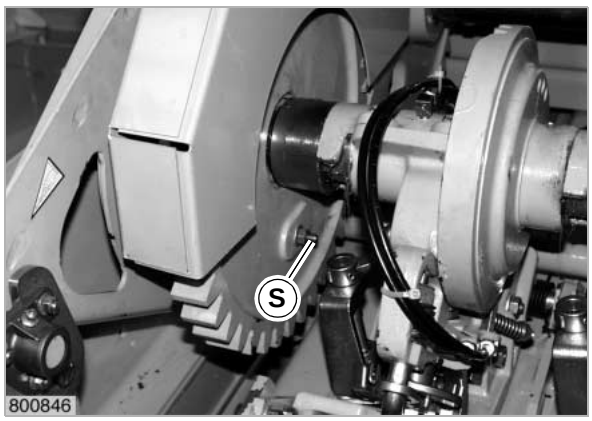
Check wheel hub backlash every 100 operating hours.

Lift axle until tyres rotate freely. Release the brake Apply lever between tyres and ground and check backlash. If backlash is noticeable, readjust backlash.

Adjusting the backlash

Procedure:

1. Remove dust cap.
2. Remove cotter pin from axle nut.
3. Tighten axle nut while rotating the tyre at the same time until the wheel hub is slightly decelerated.
4. Turn the axle nut back (max. 30 degrees) to the next position where the cotter pin can be located in the hole.
5. Insert new cotter pin.
6. Fill some grease into the dust cap and force or screw it into the wheel hub.



12

Knotter shaft drive

The knotter shaft is protected from damage by a shear bolt (S).

(Fig. 12)

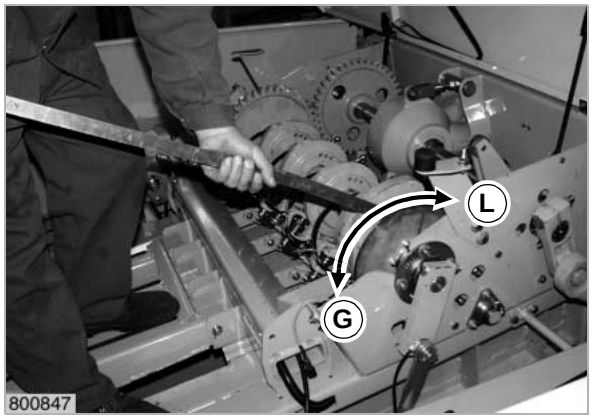
Note!

When this shear bolt has sheared, the cam-type cut-out clutch for the main drive (flywheel) will also respond

Changing the shear bolt for the knotter shaft:

Open the baler duct.

Remove the twin from the knotters and loose ends from the knotter beds.



13

Check the position of the needles.

Should the shear bolt break when the needles are travelling up, then using a suitable lever (□ 20 x 1000 mm), the needles need to be totally raised in direction (L) and then to the end stop.

Should this occur during the down stroke, then using a suitable lever (□ 20 x 1000 mm) the needles need to be returned to their end stops in direction (G).

(Fig. 13)

Check the needles and knotters for damage and repair if necessary.

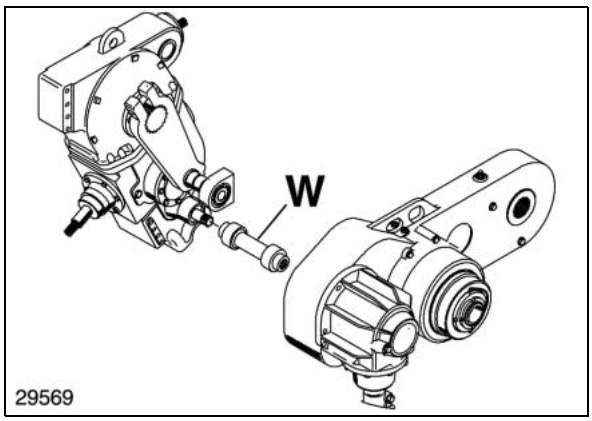
Check the baler for foreign objects or damage. Remove any foreign objects that might be found or repair the damage.

Fit back the shear bolt (S) to the knotter drive shaft and fit a new nut.

Attention!

Only use the correct bolt (see »technical data«).

(Fig. 12)

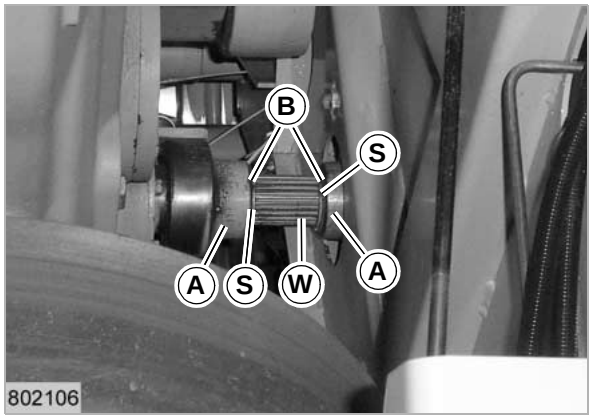


8

This setting can be adjusted by moving the drive shaft (W) between the main drive gearbox and the transfer gearbox.

(Fig. 8)

QUADRANT 2100 N



9

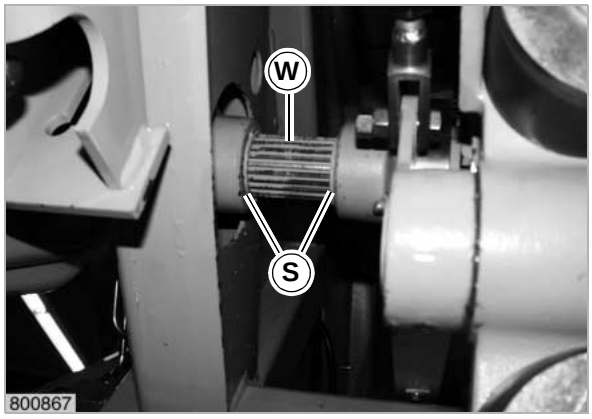
Procedure:

Unclip circlip (S) at both end from the groove and push to the middle of the shaft.

Push discs (B) and hollow wheels (A) to the middle of the shaft, take off shaft (W).

(Fig. 9, 10)

QUADRANT 2100 RF/RC



10

Set the dimension (X) between the upper edge of the tine tube and the centre of the bolts to 328 ± 15 mm.

Fix the feed rake tube with a suitable device, e.g. a chain (K), belt or strap.

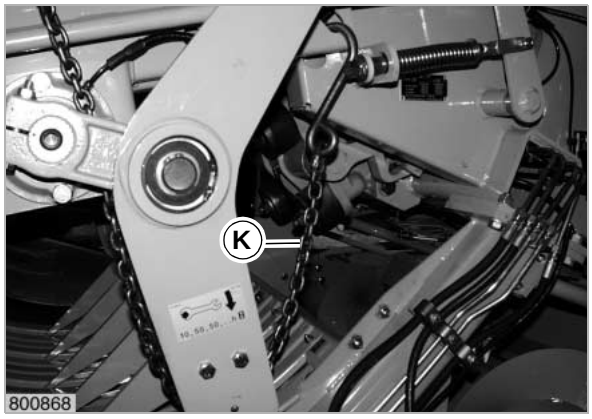
Reinstall drive shaft.

Due to the differing pitch of the two ends, turn shaft until the installation position is found. If required, the dimension (X) between the tine tube and the centre of the bolts may be varied by ± 15 mm.

Finally re-fit the circlip (S).

(Fig. 7, 9, 10, 11)

Check the standard for the setting 328 ± 15 mm again.



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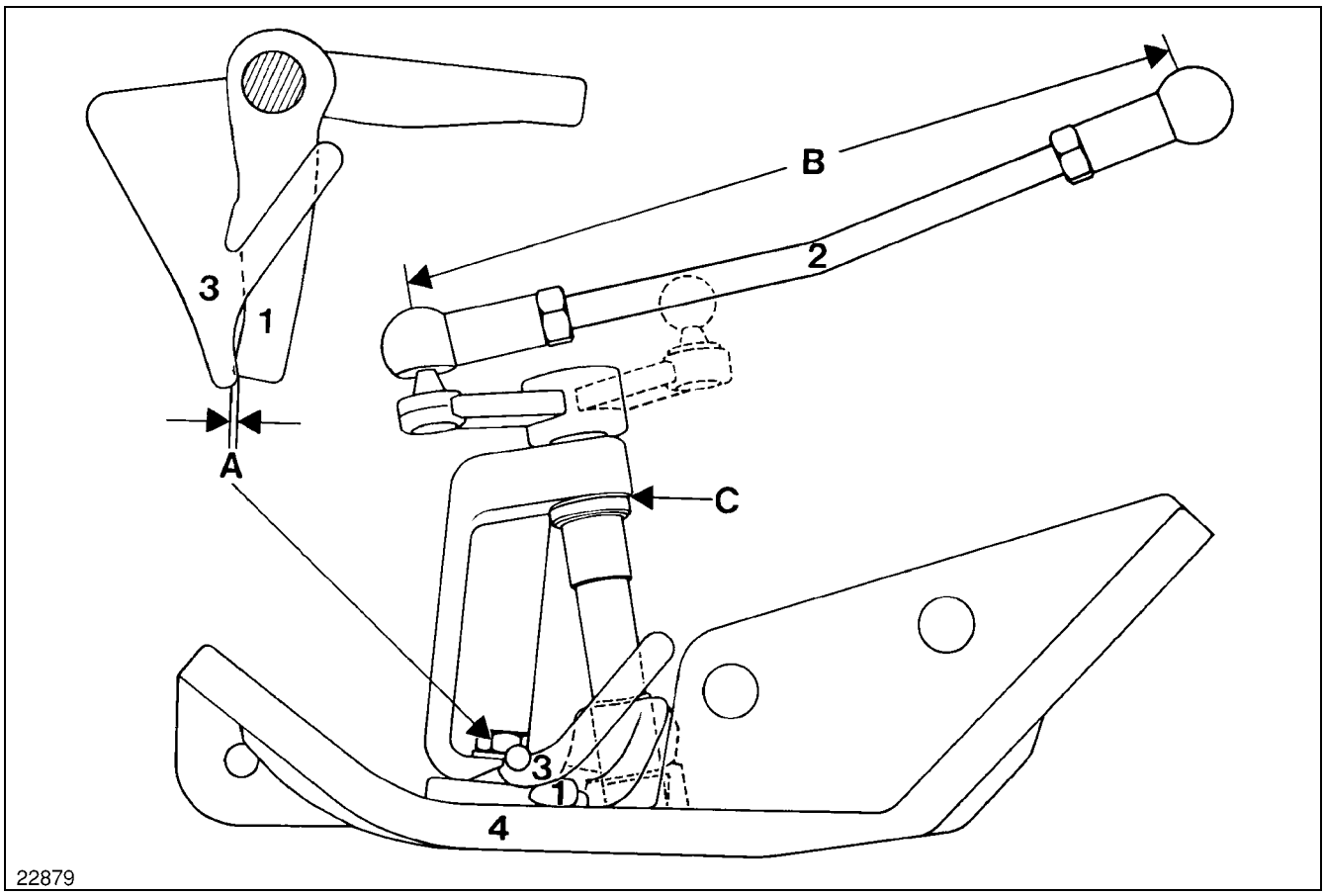


15

Twine fingers

Twine fingers (1) are actuated by linkages (2). When the needles are on their tying stroke, the fingers place the twine close to guides (3) to ensure that the knotter hooks get hold of the twine.

Adjusting the twine fingers:

Adjust linkage (2) so that distance (B) between the centres of the ball heads is approx. 200 mm.

When adjusting the twine fingers (1) the point must rest on knotter plate (4). If necessary compensate any axial clearance (C) of the twine fingers with shims.

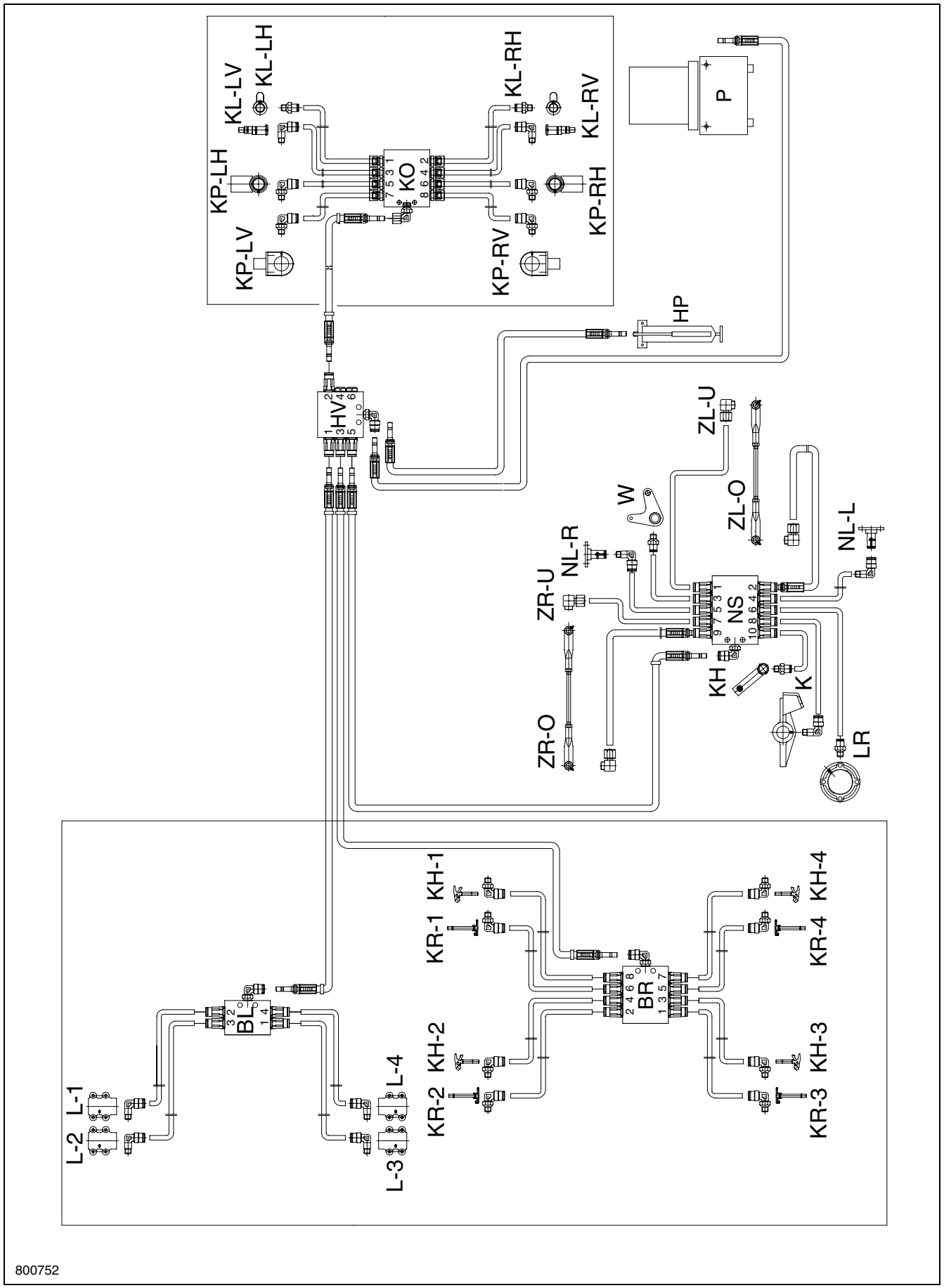
In this position, clearance (A) between twine finger (1) and the tip of twine guide (3) must be 0 ± 1 mm.

If necessary, correct the clearance by adjusting linkage (2).

(Fig. 15)

13

Central lubrication system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HV
ZL-U
ZL-O
W
NL-R
NL-L
ZR-U
ZR-O
NS
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K
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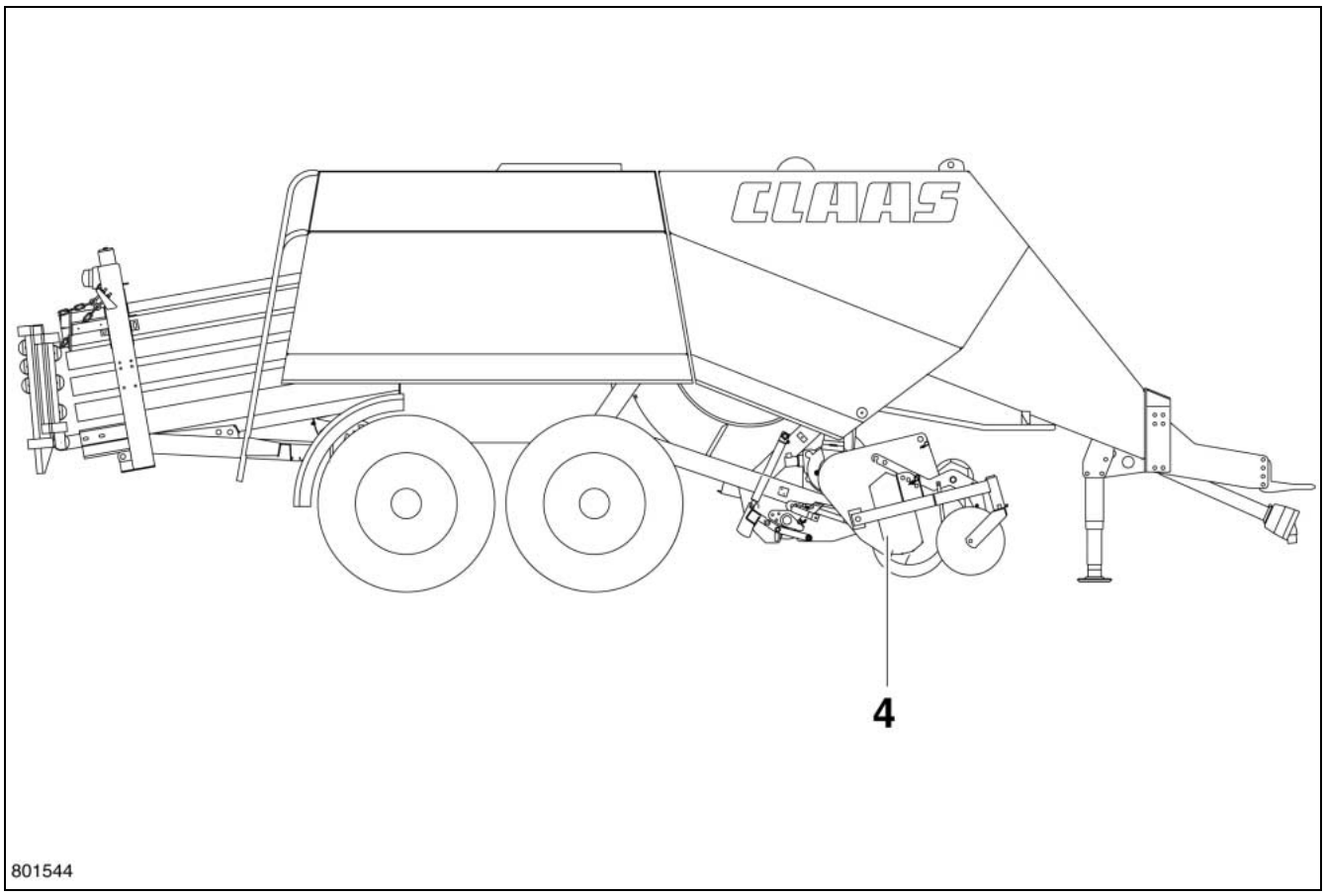

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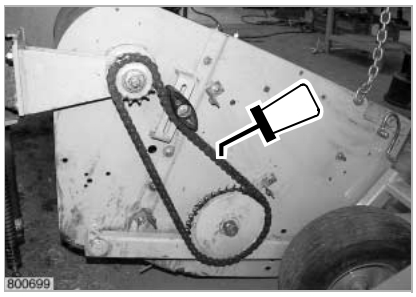

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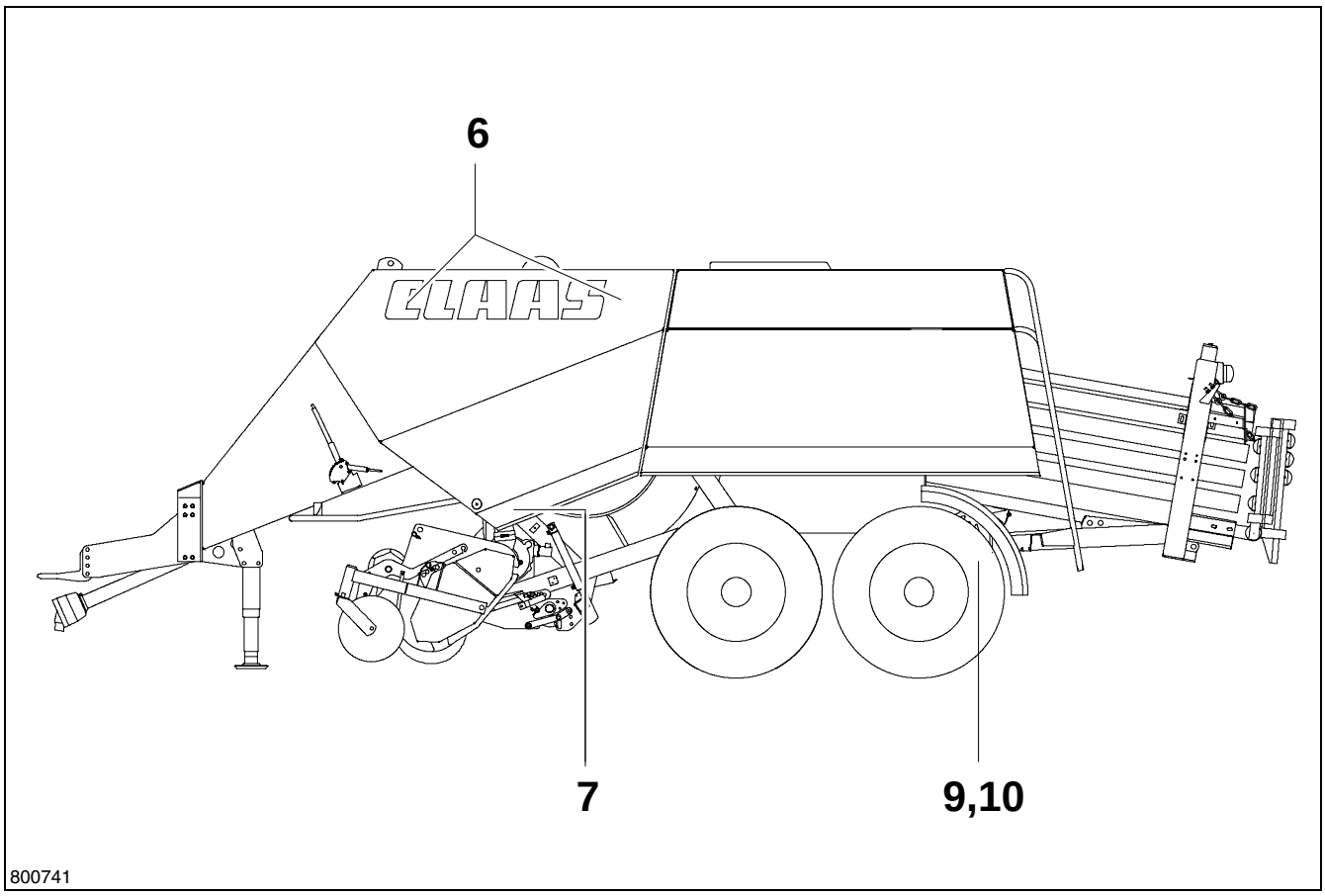
h10



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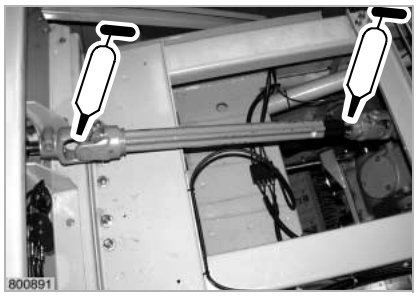
a-h250



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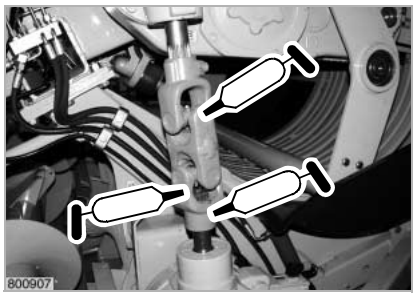

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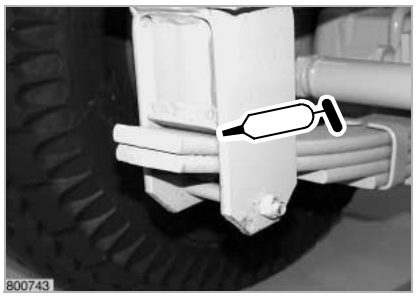

G
10

Fault	Cause	Remedy
Central lubrication system		
Pump motor does not run (electric central lubrication)	Cable connection loose	Fasten the cable connection
	Module defective	Replace by new one
	Motor defective	Check voltage supply to the motor and replace motor, if necessary
Pump does not deliver	Grease container empty	Fill container with clean grease and start the central lubrication system by hand until grease emerges at all the lubrication points. See page 13.2.4 **Note!** Depending on the ambient temperature and/or type of lubricant, the pump elements may require up to one minute running time to achieve the full delivery rate.
	Air pockets in the lubricant	Loosen outlet fitting or main line and start the central lubrication system. Grease must emerge without air bubbles.
	Unsuitable grease used	Change lubricant Permissible grease types: See »Filling the grease container«
	Intake bore of pump element clogged	Remove the pump element, check suction bore for foreign matter. If necessary remove foreign particles.
	Pump plunger worn	Replace pump plunger
	Non return valve in pump element defective	Replace non return valve
	Non return valve in pump element clogged	Clean non return valve