WORKSHOP SERVICE MANUAL

FENDT

FENDT 8370 P

FENDT 8370 P AL

FENDT 8400 P

FENDT 8400 P AL

AGCO International GmbH - Victor von Bruns-Straße 17 - 8212 Neuhausen am Rheinfall - Switzerland

D3151800M4 - S/N 580010001 - Issue 2 English

1.3 Dimensions and weight

1.3.1 Dimensions and weight

T008031

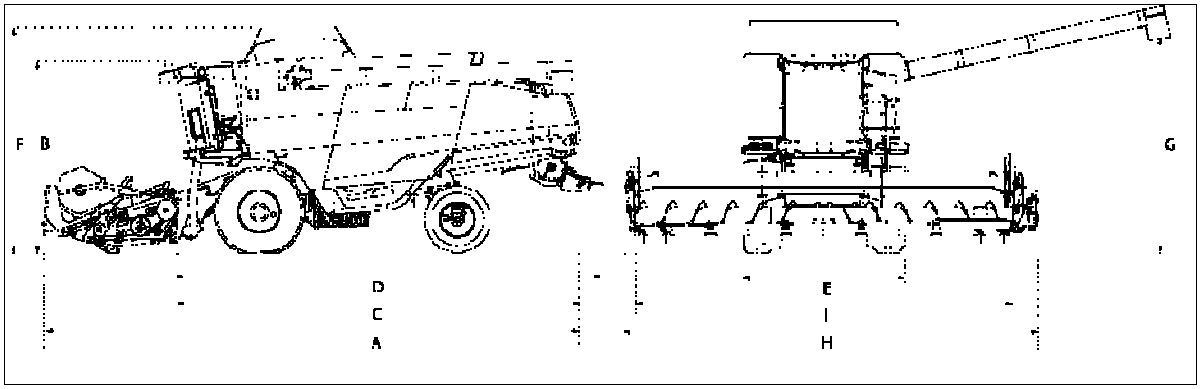


Fig. 1. I016940

Length	Unit	8370 P	8400 P
With PowerFlow table, w/o torpedo dividers **(A)**	mm	10203	10203
Machine w/o table and spreader hood **(C)**	mm	8266	8266
Machine with attached table trailer **(D)**	mm	max. 18750	max. 18750
Machine with spreader hood in working position	mm	+ 479	+ 479

Width (H/I)	Unit	8370 P	8400 P
Table, outside/cut PF 20'	mm	6626/6161	6626/6161
Table, outside/cut PF 22'	mm	7236/6771	7236/6771
Table, outside/cut PF 25'	mm	8150/7684	8150/7684
Table, outside/cut PF 30'	mm	9633/9200	9633/9200

Height	Unit	8370 P	8400 P
Total height, grain tank cover closed **(B)**	mm	4000	4000
Total height, grain tank cover open **(F)**	mm	4555	4555

Width with tyres (E) In transport without table, ladder turned in front of traction wheel	Unit	8370 P	8400 P
Traction wheels 620/75 R34 AL	mm	3480	3480
Traction wheels 650/75 R32	mm	3500	3500
Traction wheels 680/85 R34	mm	3495	3495
Traction wheels 800/65 R32	mm	3800	3800
Traction wheels 800/65 R32 AL	mm	3882	3882
Traction wheels 900/55 R32	mm	4020	4020
Traction wheels 900/55 R32 AL	mm	4020	4020
Traction wheels 900/60 R32	mm	4020	4020
Traction wheels 1050/50 R32	mm	4350	4350

Seals
The holes in flat seals must match up with the lubrication channels in the relevant parts. If the seals have to be made, choose a suitable type and thickness of material and make cuts in the right places. If seals are cut incorrectly, serious malfunctions can result.

Seal rings/lip seals "SPY"
Coat the lips of "SPY" seal rings with oil before fitting. Do not put grease on the seal rings unless they are grease seals.

The main elements of a "SPY" seal ring are the cap (1), the sealing part (2) and the spring collar (3).

In (*fig. 3*) you can see a single "SPY" seal ring. In the cross section you can see the "flange" (4) and "pin" (5), which sit on the outside and inside respectively in a seal ring with a lip. With a few exceptions, the pin on an oil ring with a lip faces the lubricant side. Certain seal rings have an extra lip without a spring.

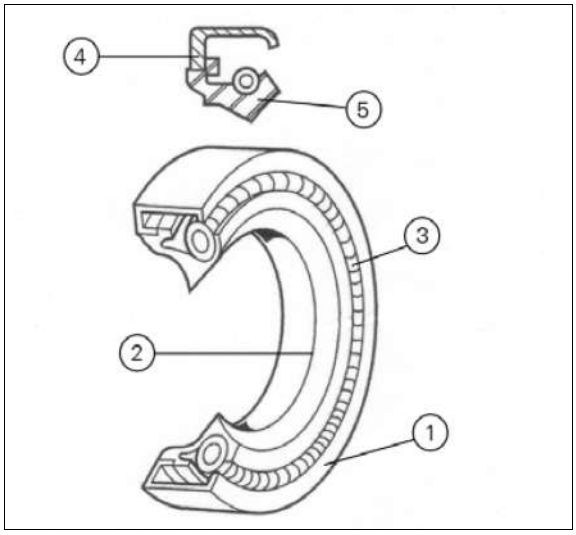


Fig. 3. I020431

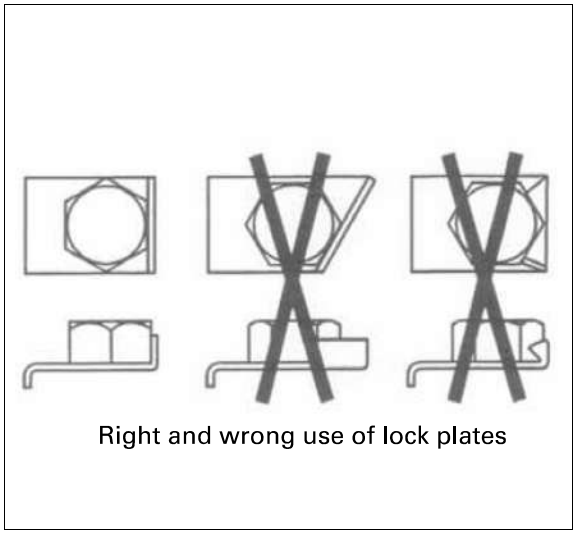
Securing and locking nuts and bolts
To prevent nuts and bolts working loose, use retaining washers, lock plates and split pins. In addition to these mechanical devices, use locking paste, e.g. Loctite.

In order to work effectively, the locking plate has to be bent down over the edge of the object. Bend the other end up against one of the surfaces of the nut or bolt head.

New locking plates must always be fitted in housings with moving parts. When fitting lock washers on aluminium housings, insert a spring washer between the lock washer and the housing.

NOTE: *Retaining washers (Grower, star washer, spring washer, etc.) must never be inserted under nuts or screw heads that have to be tightened to a specified torque.*

NOTE: *When using locking paste such as Loctite, the parts must always be degreased before the paste is applied.*



Right and wrong use of lock plates

Fig. 4. I020432

24 x 2	731	658	1030	928	1230	1110
27 x 3	984	910	1420	1280	1700	1530
27 x 2	1070	964	1500	1350	1800	1620
30 x 3.5	1280	1230	1950	1740	2310	2080
30 x 2	1480	1330	2080	1870	2490	2240

1.9.3 Nuts with metric threads

T008030

Max. torque values for metric threads in Nm.
NOTE: If special torques are required, they will be specified in the text in the relevant section.

Diameter x pitch d x p (mm)	Standard nuts galvanised		Lowered nuts galvanised	
	MAT. 5.S	MAT. 8G	MAT. 5.S	MAT. 8G
5 x 0.8	5.39	-	3.43	-
6 x 1	9.32	12.7	5.88	7.85
8 x 1.25	22.6	31.4	13.7	19.6
8 x 1	24.5	34.3	15.7	21.6
10 x 1.5	45.1	62.8	28.4	39.2
10 x 1.25	48.1	66.7	30.4	41.2
12 x 1.75	78.5	108	49	67.7
12 x 1.25	86.3	123	53.9	76.5
14 x 2	123	177	76.5	108
14 x 1.5	137	191	86.3	118
16 x 2	191	270	118	167
16 x 1.5	206	289	127	181
16 x 2.5	265	382	167	240
18 x 1.5	299	417	186	260
20 x 2.5	299	530	186	333
20 x 1.5	417	588	255	368
22 x 2.5	500	706	314	441
22 x 1.5	559	785	353	490
24 x 3	647	912	402	569
24 x 2	706	981	441	618
27 x 3	961	1370	598	863
27 x 2	1030	1470	647	922
30 x 3.5	1320	1810	834	1140
30 x 2	1420	2010	892	1260

18. Remove the ring nut with a special socket wrench.

NOTE: *The bolt is secured with Loctite. Therefore, it should be heated to approx. 100° C before it is loosened.*

19. Press shaft out of hub, bearing and gearwheel.

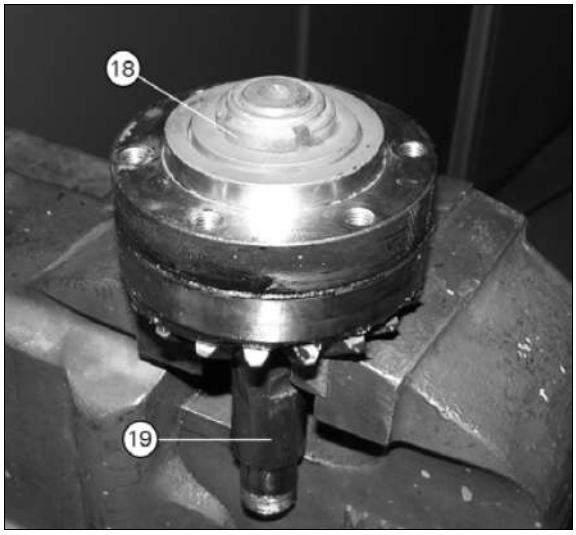


Fig. 15. I020601

Assembly - proceed in reverse order:

IMPORTANT: *Before starting assembly, clean old sealing material off all the contact surfaces. Check sprockets and bearings and replace where required. Check the bearing contact surfaces for loose fitting.*

IMPORTANT: *Lubricate all components with lithium grease during assembly.*

IMPORTANT: *When assembling the gear and rotor, make very sure that the marks (°) on the housing, rotor and crank match up exactly. Otherwise the gear will not work properly.*

20. Fill approx. 150 g lithium grease into the ring gear (*fig. 11*).
21. Fill approx. 250 g lithium grease into the angular head (*fig. 14*).
22. Apply Loctite 270 to the bolt pos. 1 and tighten to 360 Nm (*fig. 5*).
23. The bolts pos. 11 must be secured with Loctite 270 and tightened to 35 Nm (*fig. 11*).
24. The nut pos. 6 must be tightened to 280 Nm (*fig. 8*).
25. The nut pos. 15 must be tightened to 147 Nm (*fig. 14*).
26. The nut pos. 18 must be tightened to 147 Nm (*fig. 15*).

Fig. 16. I020602

The dimension (Z) must be 1420 mm.

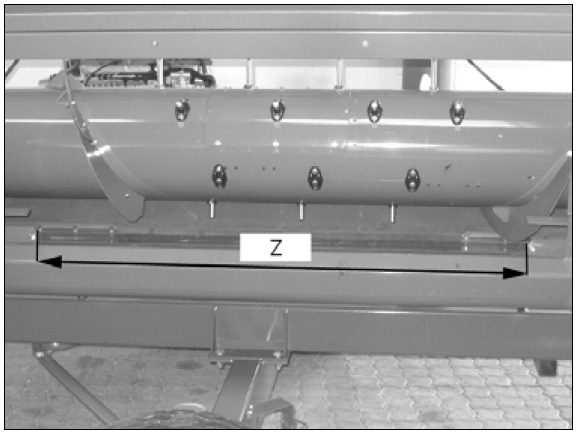


Fig. 3. I020611

2.4.2 Adjusting and positioning the ground sensor - PowerFlow

T008058

1. Remove the bolts (it will be necessary to tilt the ground sensors (A) all the way forwards in order to remove the plate (B)).
2. Remove bolts (C) and (D) and lift the plate (B) down.
3. Fit the bolts (1) again and check that the ground sensor has its full range of movement.
4. Make the adjustment on both sides. Raise the cutting table so that the ground sensor is in its lowest position.

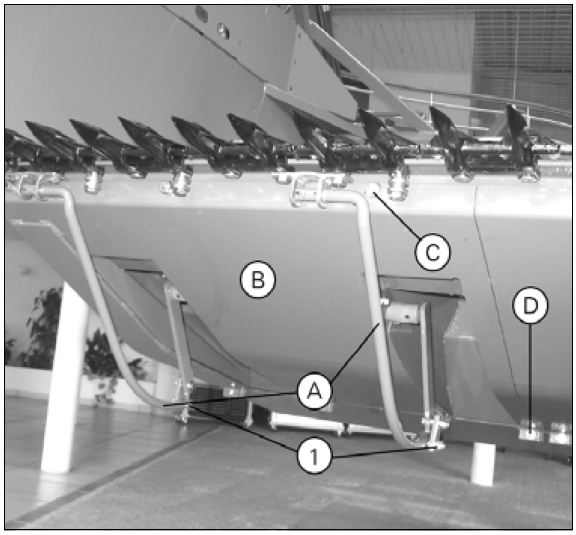


Fig. 4. I020603

5. Adjust the connector rod (E) to a dimension of 168 mm.
6. Unplug the connector and attach an ohmmeter to pins 1 and 2.
7. Undo nut (F) and rotate the potentiometer (G) until the resistance is 500 ohm ± 50, then tighten the nut.

NOTE: *When the cutting table has been fitted, the adjustment can be carried out in FIELDSTAR: "Diagnostics | Electric. diagnostics | Diagnostics RH | Diagnostics input". Adjust the potentiometer to a reading of approx. 2 V.*

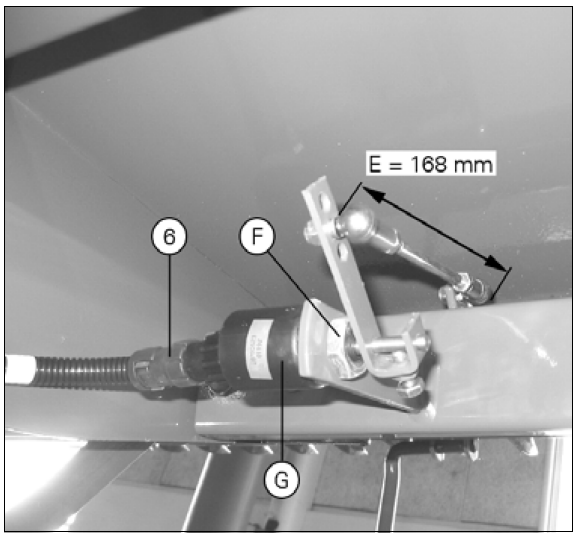


Fig. 5. I020604

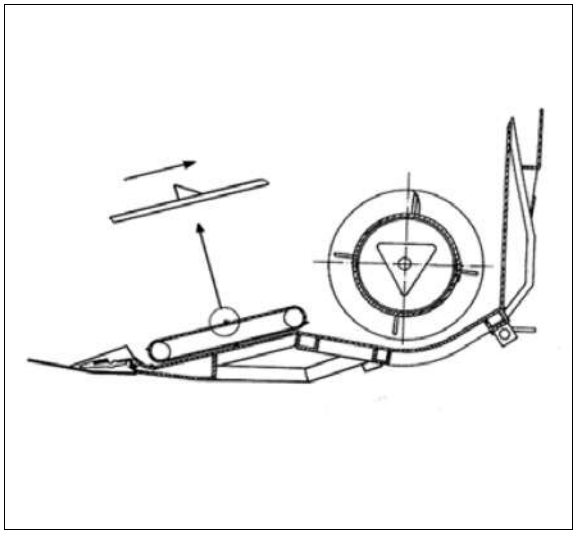


Fig. 12. I020659

– For assembly undo the screws (A) so that the guards can be adjusted to make full contact with the bearing brackets.

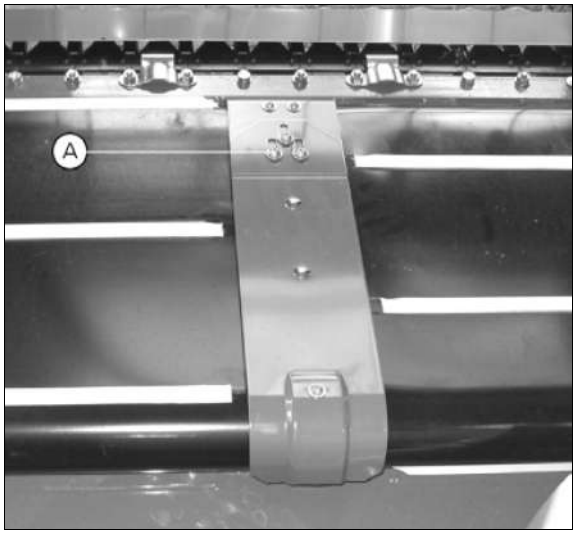


Fig. 13. I020629

2.7.4 Replacing the front rollers and bearings, scraper adjustment

T008065

1. Dismount the complete section, *see §2.7.2, page 67*.
2. Unscrew the scraper at bolts (B).
3. Pull the bearing bracket with bearing off the shaft.
4. Remove the locking ring and press the bearing out of the bearing bracket.

IMPORTANT: *Assemble and adjust the section as described below before fitting it in the cutting table.*

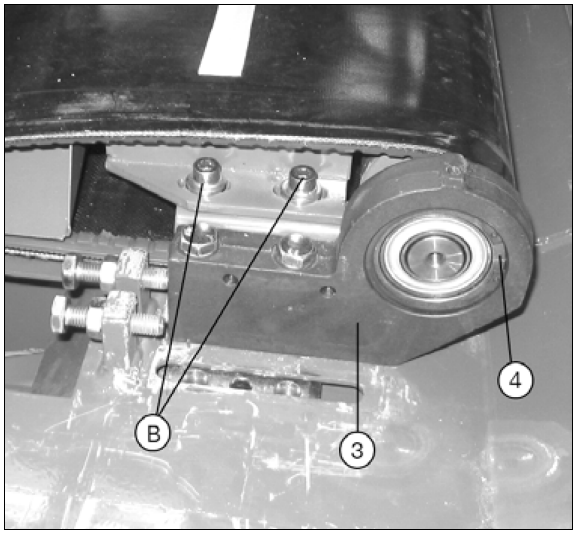


Fig. 14. I020644

3.1 Reel

3.1.1 Removal

T008070

1. Disconnect the oil hoses for the oil motor.
2. Disconnect the cable for the revolution sensor.
3. Disconnect the hydraulic cylinder at the cotter bolt on the right- and left-hand sides.
4. Support the reel with a forklift or crane and pull carefully out of the reel frame on both sides.

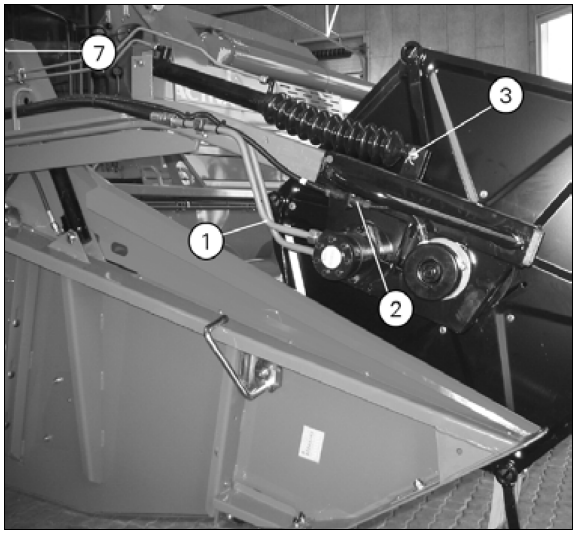


Fig. 1. I020567

5. Disconnect the oil hoses for the hydraulic cylinder.
6. Remove the bearing shell.
7. Disconnect the hydraulic cylinder at the cotter bolt (*fig. 1*).
8. Lift the reel arms off.

IMPORTANT: *Plug hydraulic hoses and screwed connections to avoid oil spillages. Make sure to mark the location of the hoses. The reel will not work properly if they are swapped over.*

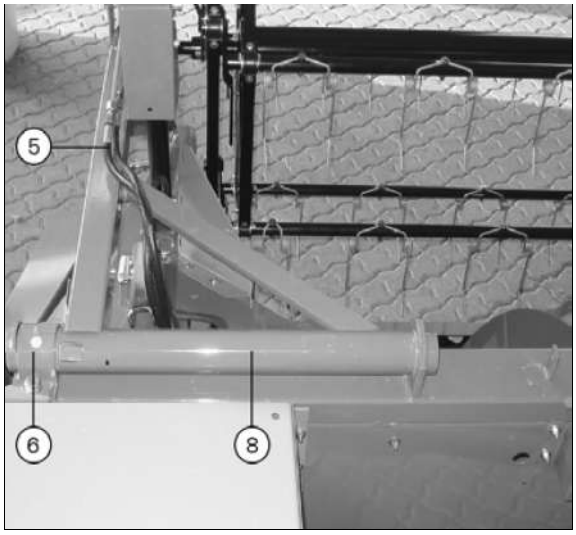


Fig. 2. I020551

3.3.2 Replacement of cylinder – reel forward/back

T008078

1. Disconnect the oil pipes for the cylinder.

IMPORTANT: *Plug hydraulic pipes and screwed connections to avoid oil spillages.*

2. Dismount the cotter bolts and remove the cylinder.
3. After mounting, bleed the cylinders. Lower the reel all the way down until the connecting piece with non-return valve is uppermost. Then move the reel all the way back and keep the hydraulic valve activated for 10 - 15 seconds, forcing the air back into the tank via the non-return valves in the cylinders. Move the reel forward and back a few times. Repeat the process if it sits askew in the cutting table.

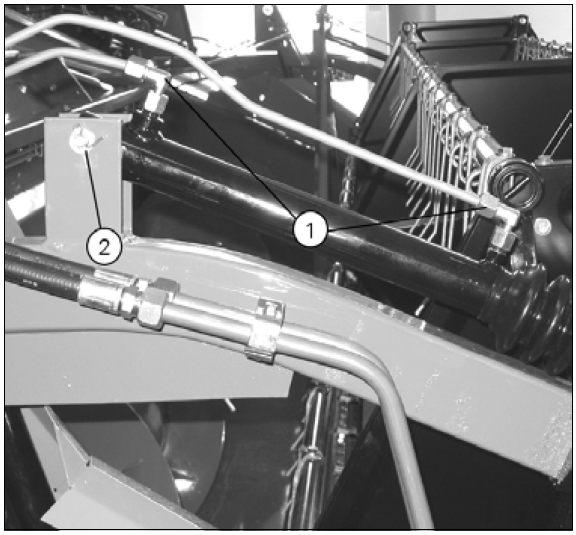


Fig. 3. I020556

3.3.3 Reconditioning of hydraulic cylinders

T008079

1. Carefully clean the outside of the cylinder.
2. Secure the cylinder in a vice with the hose connections pointing downwards.

IMPORTANT: *Do not overtighten the vice, as this will deform the cylinder tube and ruin the cylinder.*

3. Place a drip tray under the hose connections and move the piston back and forth several times to empty the cylinder of oil.
4. To dismantle cylinders that are screwed together, unscrew the cylinder top with a special spanner or pipe wrench.
5. To dismantle cylinders that are welded together, proceed as follows: Dismount the screw connection at hose connection (A). Position the piston so that locking ring (B) shows through the hole. Push the locking ring over into the deep groove with a screwdriver. Rotate the cylinder little by little until the locking ring sits in the groove all the way round.
6. Extend the piston.
7. Carefully clean all parts and inspect them for wear or defects.
8. Replace all seals supplied with the repair kit. New seals will be easier to fit if first softened by soaking in hot water.

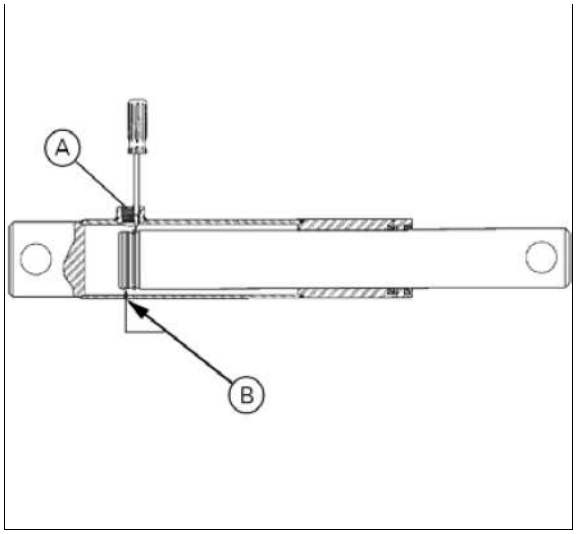


Fig. 4. I020558

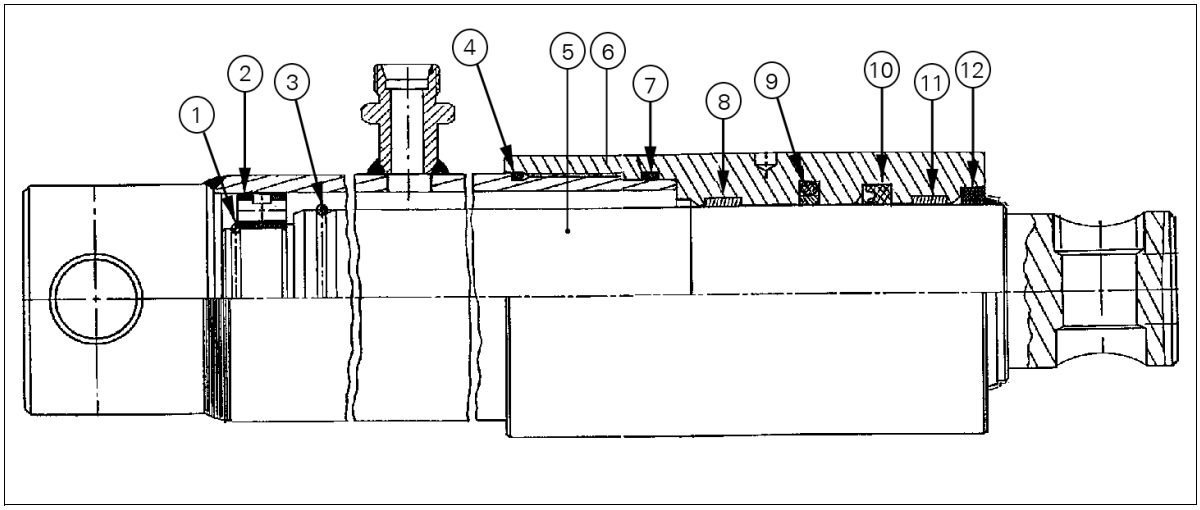


Fig. 9. I020841

1 Locking ring
2 Piston guide
3 Locking ring
4 O-ring
5 Piston rod
6 Cylinder top
7 O-ring
8 Slide ring
9 Cylinder seal ring
10 Cylinder seal ring
11 Slide ring
12 Scraper ring

4.2.6 Replacing the cutting height preset sensor

T008085

1. After replacement, fit the sensor in the bracket but do not tighten.
2. Fit the arm on the sensor and tighten.
3. Fit the linkage with the ball joints positioned as shown and adjust the length to 150 mm.
4. Raise the main crop elevator until the distance from the lifting ram to the centre of cotter bolt (A) (*fig. 11*) is: 115 mm.
5. Adjust the sensor by reading the voltage for "Cutting height preset. sensor" on the FIELD-STAR terminal.
   "Diagnostics | Electric diagnostics | Diagnostics RH | Diagnostics input | Next"
6. Rotate the sensor (1) until the voltage is between 1.5 and 1.6 V. Lock the sensor in this position.
7. Ensure that the linkage does not tip over the deadpoint, jam or rub on the machine frame when the main crop elevator is in its very top or bottom position.
8. Lower the table so that it just brushes the ground and zero the cutting height in FIELD-STAR.
   "Main menu | Coding | Table calibration | Zero cutting height | Zero"
9. Raise and lower the table and check that the bar showing the cutting height follows the table movements.

NOTE: *The machine must be raised into working position before zeroing.*

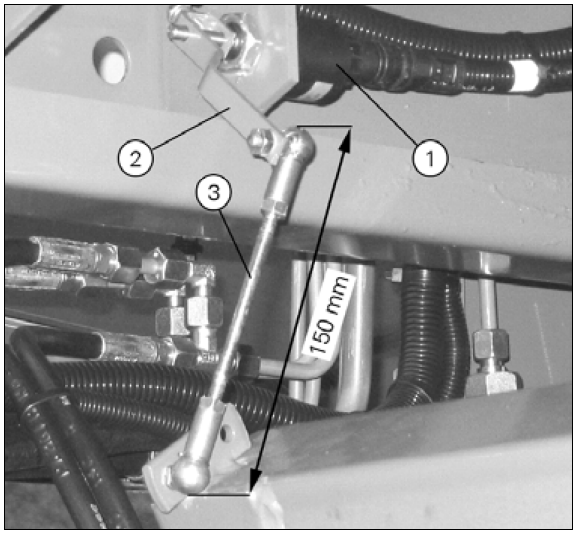


Fig. 10. I020836

4.5 Elevator chain front shaft

4.5.1 Removal

T007631

1. Dismount the adapter at the elevator opening, *see §4.8.1, page 117*.
2. Dismount the elevator chains, *see §4.3.2, page 103*.
3. Dismount the spring.
4. Unscrew the bolt (A) (*fig. 2*) in the side of the main crop elevator and dismount the bearing bracket.
5. Remove the elevator chain shaft and bearing brackets from the elevator.

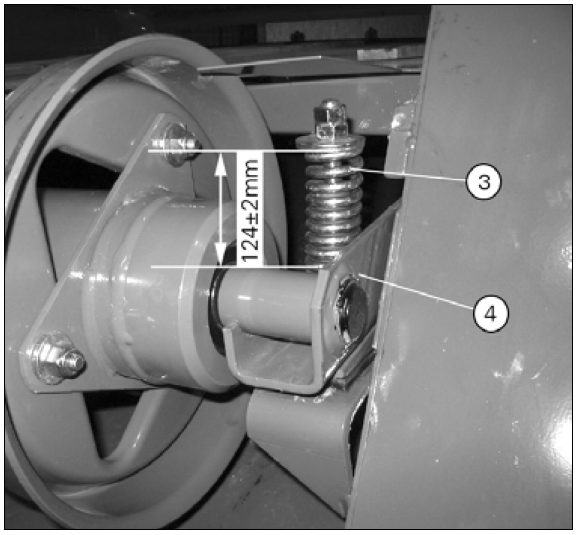


Fig. 1. I020849

4.5.2 Assembly

T008102

To assemble, follow points 1 - 5 in reverse order. Please note:

– Grease the surface on the inside of the crop elevator (C) where the bearing bracket moves.
– Fit the bearing bracket in the crop elevator. Tighten the nut (A) hard. Tighten the nut (B) enough to eliminate any play between the spring bracket and elevator side panel, but not so much that the spring bracket is unable to move.
– Compress the spring (3) (*fig. 1*) to a length of 124±2 mm.
– Fit the tension spring for the elevator chain. Adjust the tension to the correct value, *see §4.3.2, page 103*.

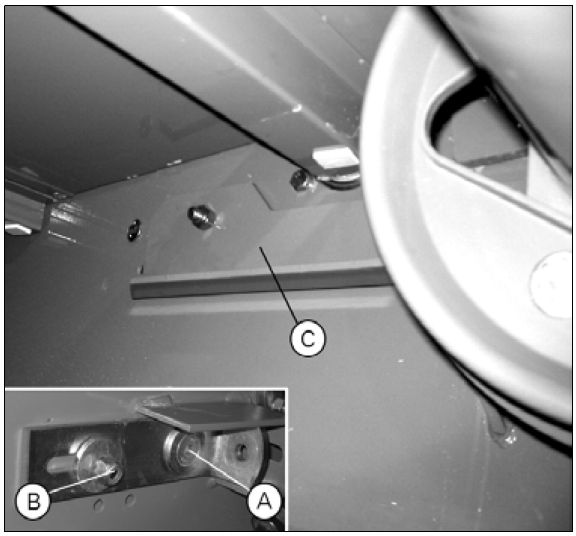


Fig. 2. I020850

5. Threshing unit

5.4 Threshing cylinder

5.4.1 Removal

T007658

1. Dismount the connecting rods for the concave suspension on the left-hand side.

NOTE: *Support the concave on the left-hand side, see 5.3, page 126.*

2. Dismount the sensor for the revolution counter using the special tool, *see §18.6.1, page 585*.
3. Remove the inspection cover.
4. Remove the flanged bearing. Loosen the locking collar at the bearing and pull the bearing off the shaft.
5. Dismount the side plate (bearing suspension).

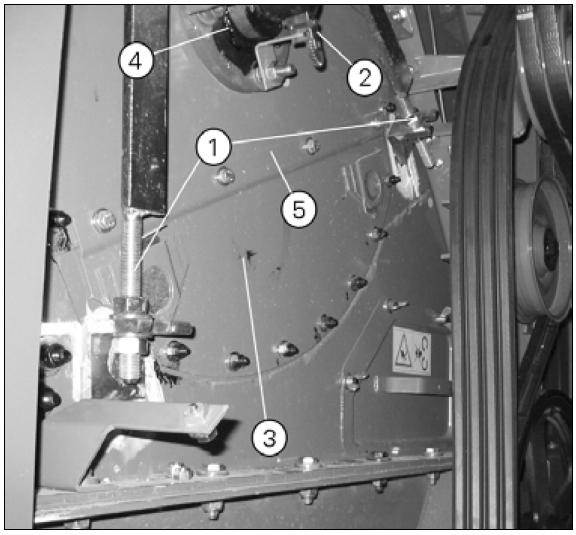


Fig. 1. I020755

6. Remove the guard.
7. Slacken the belt and remove, *see §12.3.2, page 291*.
8. Remove the flanged bearing. Loosen the locking collar at the bearing and pull the bearing off the shaft.
9. Dismount the supporting bracket for the bearing.
10. Dismount the belt pulley using a three-pronged puller.
11. Remove the flanged bearing. Loosen the locking collar at the bearing and pull the bearing off the shaft.
12. Lift out the threshing cylinder using a crane or other suitable lifting gear.

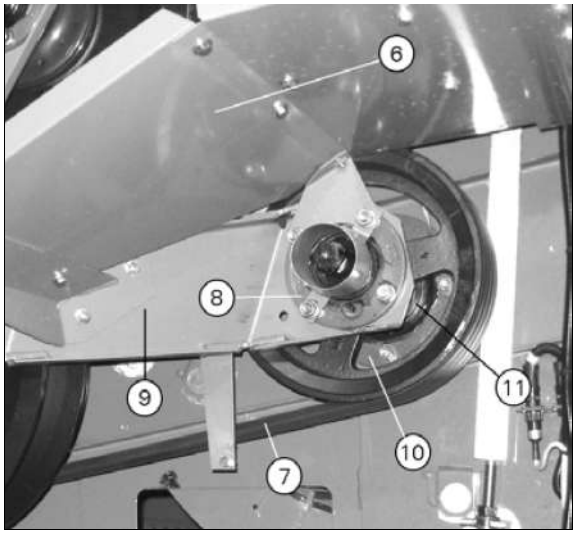


Fig. 2. I020761

NOTE: *Slide a tube with a suitable diameter in over both shaft ends. Sink a pointed screw into the tube to prevent it from sliding out.*

Fig. 3. I020763

5.5.7 Removal, magnetic clutch

T008155

1. Remove the bottom part at the unloading tube.
2. Dismount the sprocket and chain for the unloading auger shaft, *see §12.6.4, page 312*.

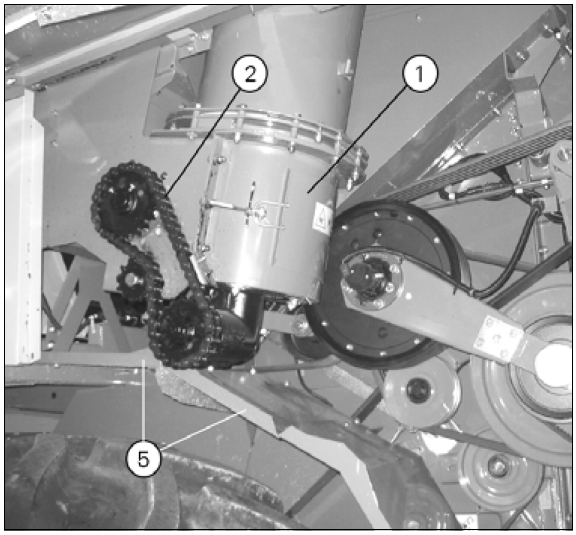


Fig. 13. I020760

3. Turn the vertical auger into position as shown at (A). Make sure that the auger cannot slide out by inserting a wooden block between the auger flight and the outer flange in the auger tube.
4. Remove the bottom flange with right-angle gear.
5. Dismount the guard (*fig. 13*).
6. Unscrew the commutator from the shaft.
7. Remove the locking ring at the bearing.

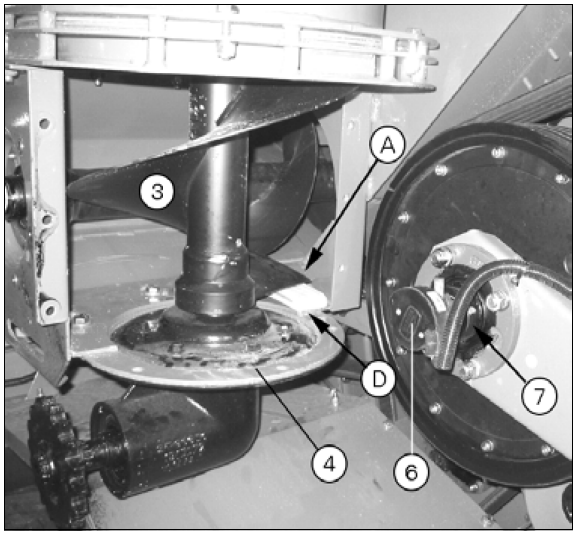


Fig. 14. I020765

8. Dismount belt (A) from the elevator top shaft, *see §12.5.8, page 305* - dismount belt (B) from the countershaft, *see §12.5.1, page 300* - dismount belt (C) from the counter drive, dismount shaker shoe, *see §12.5.5, page 303*.
9. Remove the supporting bracket, including bearing. Do not damage the wire to the magnet.

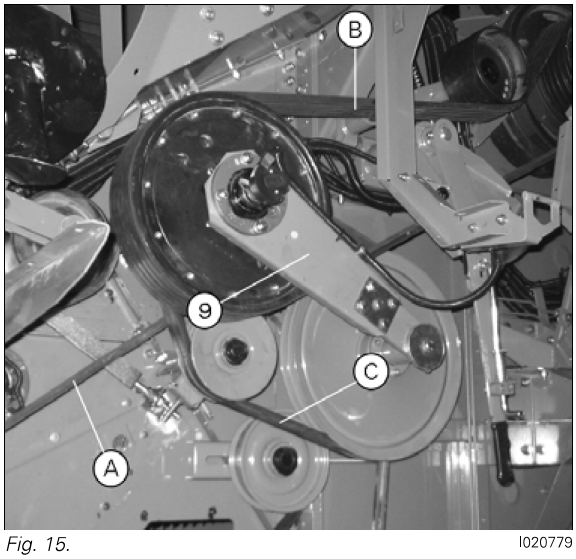


Fig. 15. I020779

5.8 Rear beater concave

5.8.1 Removal

T008173

1. Dismount the concave, *see §5.3.1, page 126*.
2. Loosen the bracket at the rotary separator concave. There is access through the inspection door at the concave.

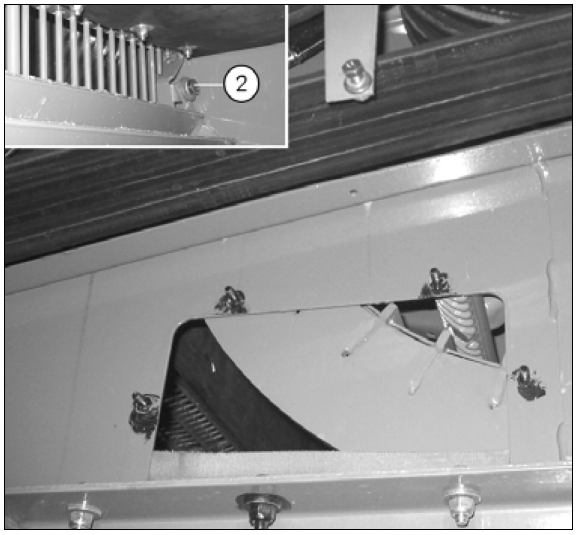


Fig. 1. I020756

3. Dismount the suspension bolts with bushing.
4. Lift the rear beater concave out of the machine.

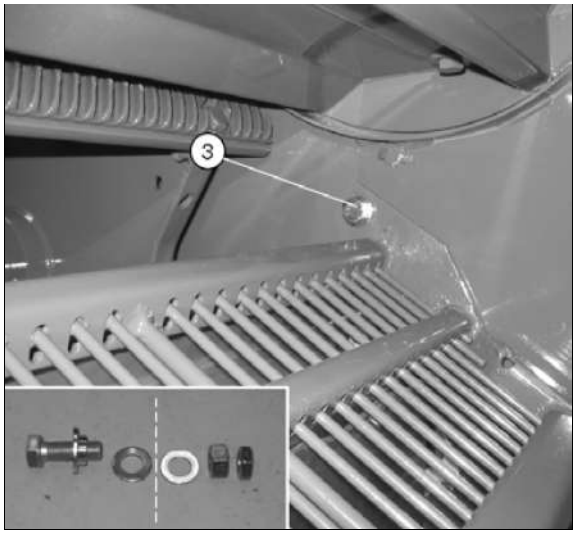


Fig. 2. I020806

5.8.2 Assembly

T009881

To assemble, follow points 1 - 4 in reverse order. Please note:

– The assembly order for the various elements is shown in (*fig. 2*).

6. Straw walkers

6

7. Shaker shoe - Fanning mill

7.3.5 Replacing the seals

T008198

For the seals along the side and in the centre of the machine to be replaced, the sieves must be removed as described in the operator's manual.

1. Dismount the main crop elevator, *see §4.2.1, page 98*.
2. Dismount the stone trap, *see §5.2.1, page 124*.
3. Unscrew the bolts that are accessible from the front at the seals.
4. The remaining bolts can be reached by crawling in through the rear of the machine.
5. Replace the seals at (G) and (H). Before fitting the new seals, check the edges for dents and damage.
6. Glue the sealing block (J) to the frame on both sides.

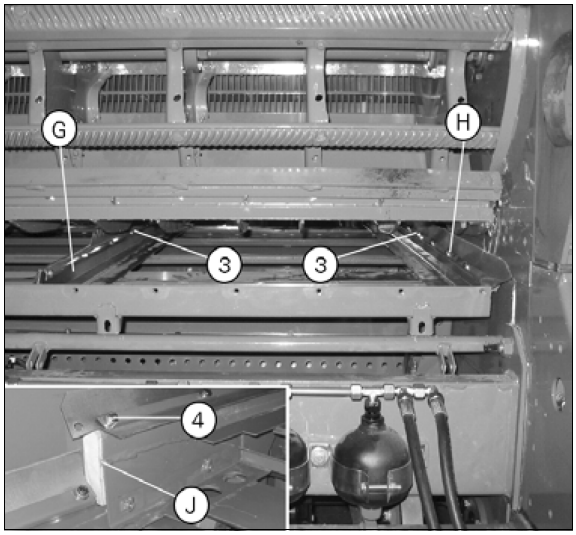


Fig. 7. I021008

7

7.6 Bottom shaker shoe

7.6.1 Removal

T007690

1. Top shaker shoe, *see §7.5.1, page 186*
2. Dismount the guard.
3. Dismount the rear swivel arm.
4. Dismount the transverse bearing suspension.

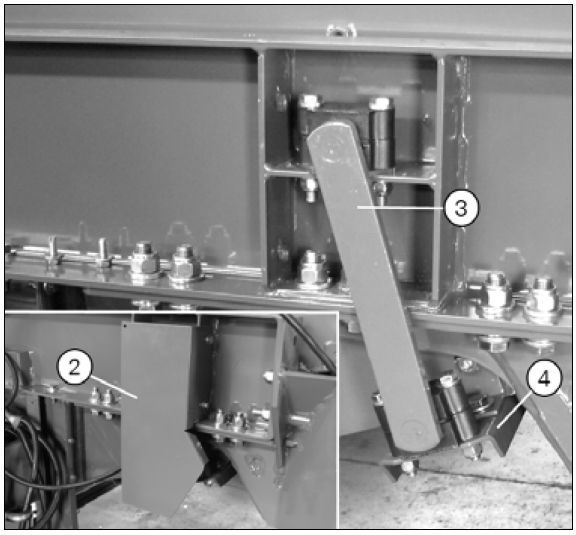


Fig. 1. I026523

5. Dismount the bearing.
6. Dismount the strut inside the machine.
7. Dismount the bearing bracket.
8. The shaker shoe can now be lifted backwards out of the machine.

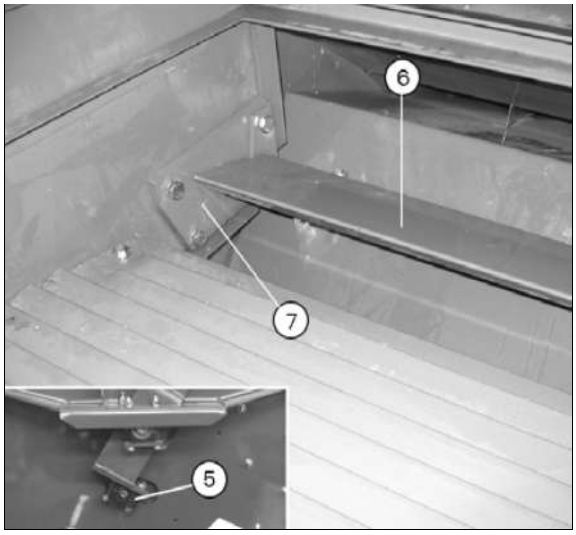


Fig. 2. I021014

7

7.9 Transmissions

7.9.1 Replacing and reconditioning the fanning mill variator

T008213

1. Slacken the belts for the variator (fanning mill) on both sides of the variator. Undo the tightening screws (A) completely. Remember to loosen the locking screw (B).
2. Loosen the supporting bracket and turn to the side. The variator can now be lifted down.

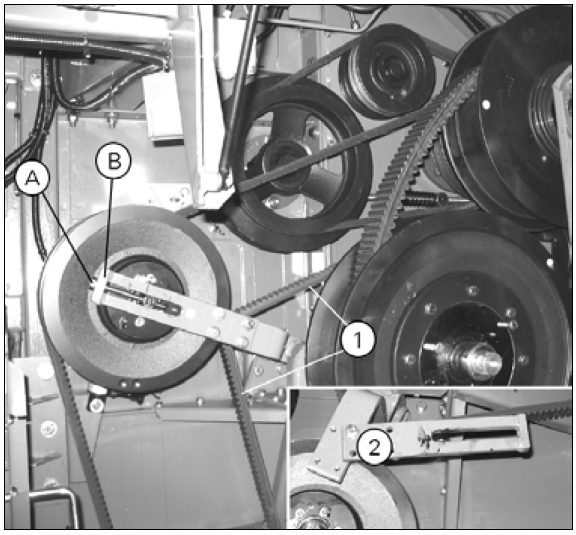


Fig. 1. I020984

3. Unscrew the two fixed parts.

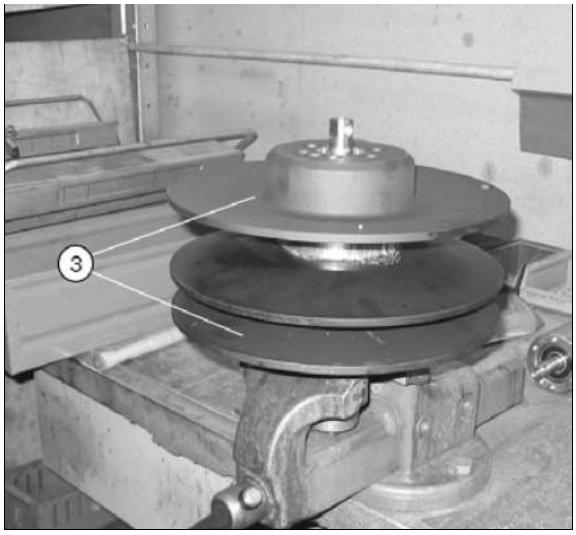


Fig. 2. I020986

4. Pull the central, loose part off the bearing housing.

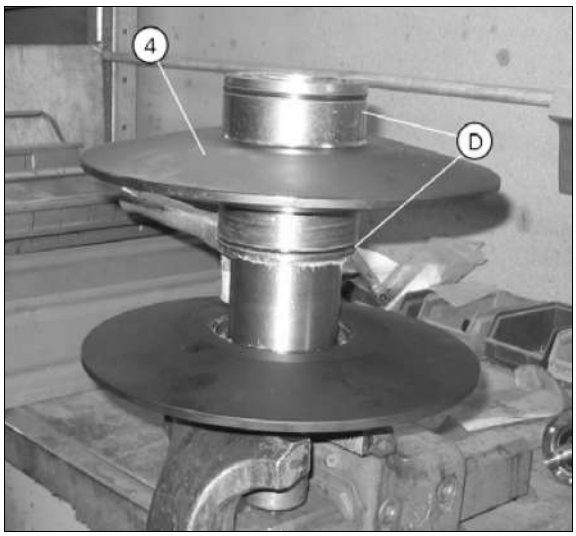


Fig. 3. I020985

8.1.6 Moisture sensor

T008218

1. Unplug the electrical connector.
2. Undo the bolts, push the sensor unit up and remove.

Defective components can now be replaced.

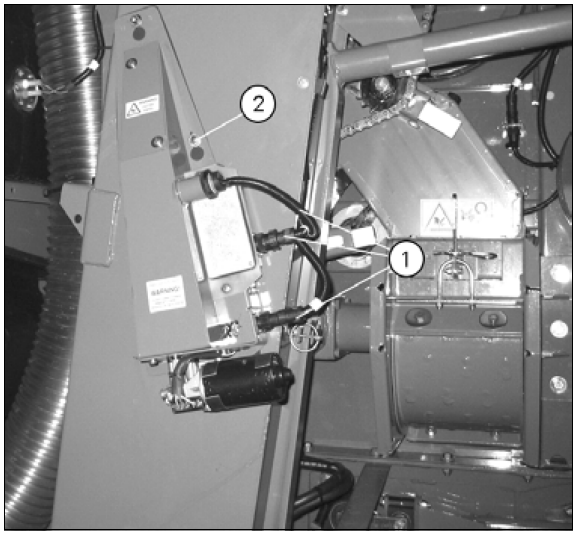


Fig. 10. I021071

8.1.7 Yieldmeter sensor

T007716

1. Unplug the electrical connector.
2. Dismount the inspection door with sensor.
3. Unscrew the sensor from the door and the sensor element can now be replaced.

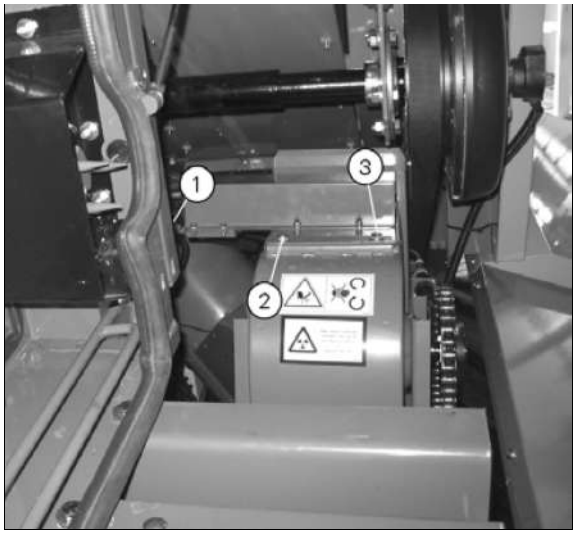


Fig. 11. I021072

8

8.5 Transmission

8.5.1 Replacing the shaft, bearings and sprockets

T007737

1. Remove the belt from the rear beater, *see §12.3.9, page 296*.
2. Dismount the chain from the returns elevator, *see §12.4.1, page 297*.
3. Dismount the chain from the tank filling elevator, *see §12.4.2, page 297*.
4. Dismount the chain from the tank filling auger, *see §12.4.3, page 298*.
5. Loosen the locking collar at the inner (C) and outer (D) bearings.
6. Push the shaft towards the side of the machine to make room at the hub of the belt pulley.
7. Undo the locking screw in the belt pulley and pull the shaft far enough out to allow the belt pulley to be pulled off the shaft.
8. Loosen the locking screws in the sprocket and pull the sprocket off the shaft.
9. Dismount flanged bearings (C) and (D).

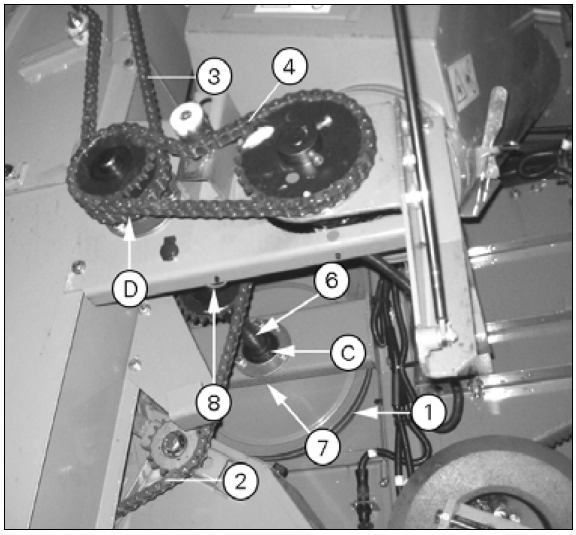


Fig. 1. I021054

8

10. Unloading auger - Grain tank

10

10.5 Unloading tube elbow

10.5.1 Removal

T008248

1. Dismount the horizontal unloading tube, *see §10.3.1, page 237*.
2. Dismount the vertical unloading tube, *see §10.4.1, page 238*.

WARNING:

Before the vertical unloading tube is removed, the unloading tube elbow must be secured against falling, as it is NOT locked in the top bearing (A).

3. Lift the unloading tube elbow down

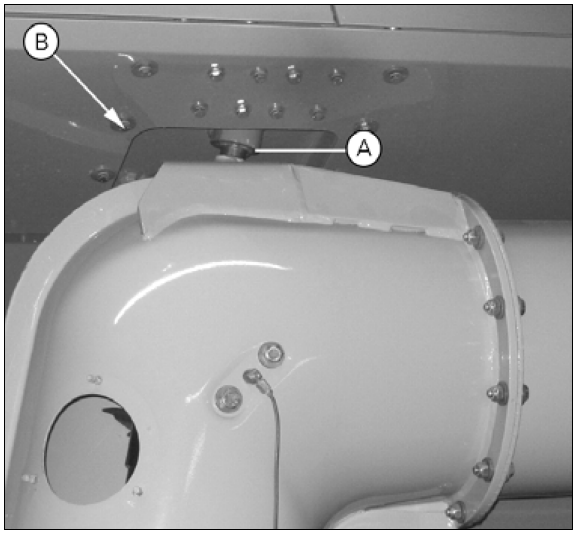


Fig. 1. I021098

10.5.2 Assembly

T009905

To assemble, follow points 1 - 3 in reverse order. Please note:

– Once the complete unloading auger has been fitted, the position of the top bearing (A) (*fig. 1*) should be adjusted. Undo the bolts (B) (*fig. 1*), check that the horizontal unloading tube is seated correctly in the supporting bracket (C), and tighten the bolts again.

Fig. 2. I021104

10

10.8.2 Assembly

T009910

To assemble, follow points 1 - 6 in reverse order. Please note:

- Lift the cover up and place it on top of the grain tank.
- Raise the cover into vertical position and place the two hinge parts on top of each other (A) (*fig. 2*). Fit the hinge bracket (5) (*fig. 2*).
- Fit the bolt in the gas strut (3) (*fig. 1*), then fit the cotter bolt (2) (*fig. 1*) in the linkages.
- Finally, climb through the hatch into the grain tank to check that the covers fit tight against the grain tank. Adjust the linkages (B) if required.
- The grain tank sides can be adjusted at (C).

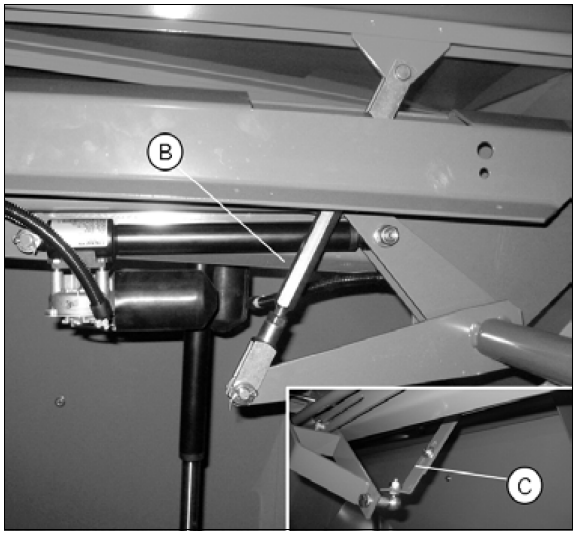


Fig. 3. I021113

11.5.2 Assembly

T008263

To assemble, follow points 1 - 9 in reverse order. Please note:

– Assemble shaft, flanged bearings, stop ring and blanking plate bracket and tighten loosely. Place the rotary screen shaft in a fork frame or secure in a vice.

– Position the flanged bearing (E) on the shaft in line with the shaft collar. Once the locking collar on the bearing (G) has been knocked into position, push the stop ring (H) in towards the bearing on the inside and fix to the shaft.

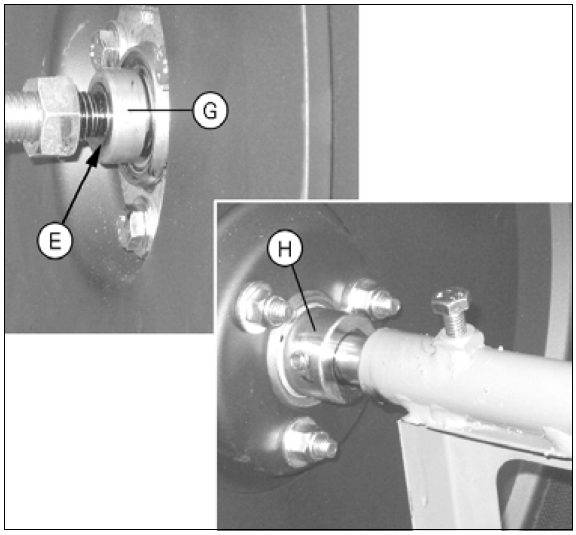


Fig. 4. I021222

– Check that the radial run-out (X) and axial run-out (Y) are max. 3,0 mm at the closed end of the rotary screen.

– Adjust the radial run-out at the open end (Z) of the rotary screen to max. 3,0 mm by adjusting the nuts (J).

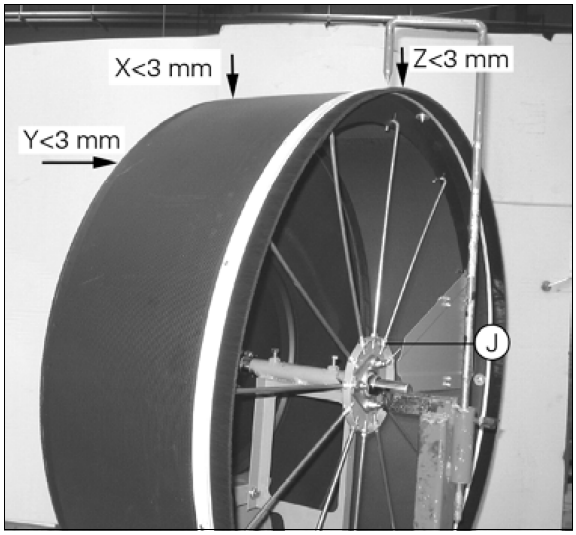


Fig. 5. I021225

– Adjust the blanking plate at the screws (H) so that the distance from the screen (P) is between 5 and 8 mm.

– Adjust the blanking plate at the screws (K) so that the distance from the screen (R) is between 5 and 8 mm.

– Remember to fit plate (M), which acts as a cleaning blade for the oil cooler.

– Once the rotary screen has been fitted in the rear frame, adjust it, *see §11.5.3, page 262*.

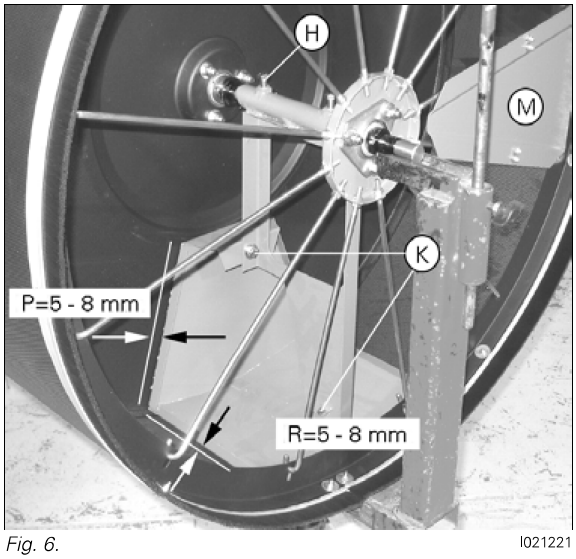


Fig. 6. I021221

11.7.3 Tensioning device

T008269

1. Slacken the belt and remove, *see §12.5.10, page 307*.
2. Dismount the tension pulley arm by knocking out the spring pin (A) and pulling the arm and tension pulley from the shaft.
3. Dismount the tension pulley at the centre bolt (B) (*fig. 10*). When replacing bearings, dismount the locking rings and press the bearings out. The assembly order for the various elements is shown in (*fig. 10*). Make sure the marks on the two eccentrics (D) match up.
4. Push the spring arm shaft out of the bracket.

NOTE: *It will be necessary to disconnect the hydraulic oil hose (E) to release the arm.*

5. Knock or press out the bushings in the bracket and press new ones in.

IMPORTANT: *Check that the belt runs centrally on the tension pulley. If necessary, adjust with the eccentric (D). Undo the nut (B) and rotate the two hexagons of the eccentric in relation to each other until the belt runs straight on the pulley.*

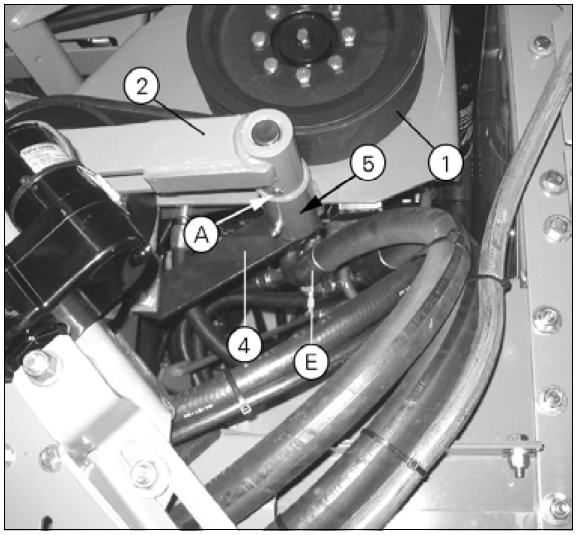


Fig. 9. I021193

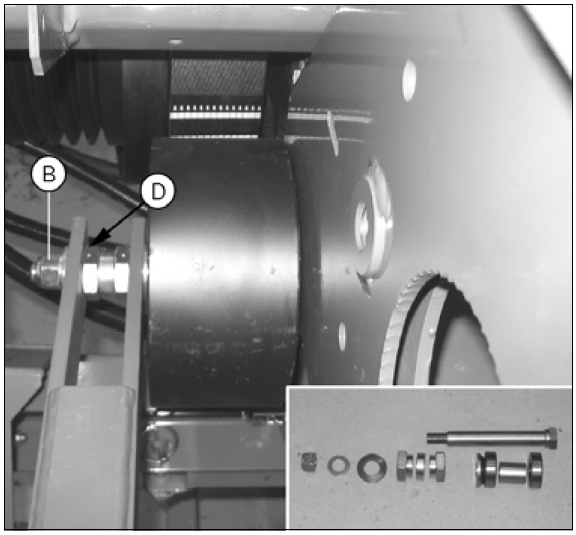


Fig. 10. I021194

11

11.14.4 Replacing the output shaft, bearing and hub

T008282

1. Dismount the complete power take-off, *see §11.14.1, page 279*.
2. Dismount the clutch disc (A), *see §11.14.3, page 280*.
3. Unscrew the centre nut (B) with the special tool (D86883401). Pull the hub (C) and bearing (D) off the shaft with a suitable two- or three-pronged standard puller.
4. After fitting the bearing, hub and clutch disc, tighten the centre nut (B) to 560 Nm with the special tool (D86883401).

IMPORTANT: *When fitting the bearing (D), make sure that there is a clearance of (X) = 0,2-0,7 mm between bearing and shaft collar..*

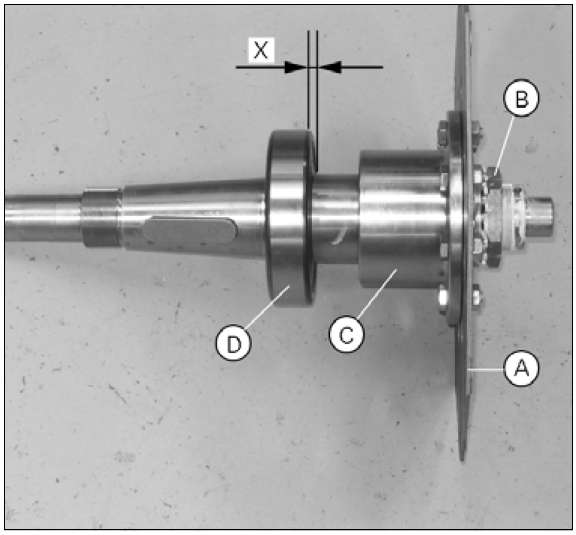


Fig. 5. I021236

NOTE: *The shaft can be secured by clamping the clutch disc in a vice as shown in the picture.*

5. Fit the shaft with bearings in the bearing housing, *see §11.14.3, page 280*.
6. Refit power take-off and belt pulley, *see §11.14.2, page 279*.

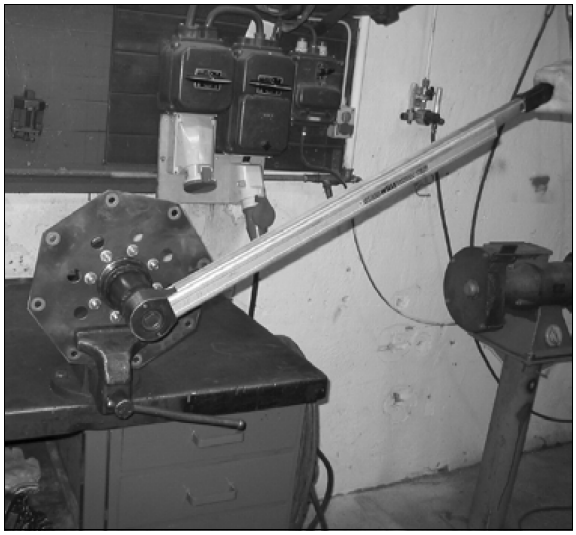


Fig. 6. I021232

12.3.2 Counter drive, variator - threshing cylinder

T008291

1. Adjust the fanning mill variator to maximum fan speed to make room to remove the belts for the threshing cylinder. Alternatively, slacken the variator belts (fanning mill) and remove the top belt, *see §12.3.4, page 292*.
2. Remove the hydraulic oil coupling.

IMPORTANT: *Protect the coupling from dirt and drips of oil with a plastic bag. Cover the hole in the variator with a lint-free cloth.*

3. Slacken the variator belt (cylinder), *see §12.3.1, page 290* and take it off the pulleys.
4. Dismount the supporting bracket at the centre bolt (H) in order to remove the belt.
5. Slacken the belts for the threshing cylinder by loosening the spring (A).

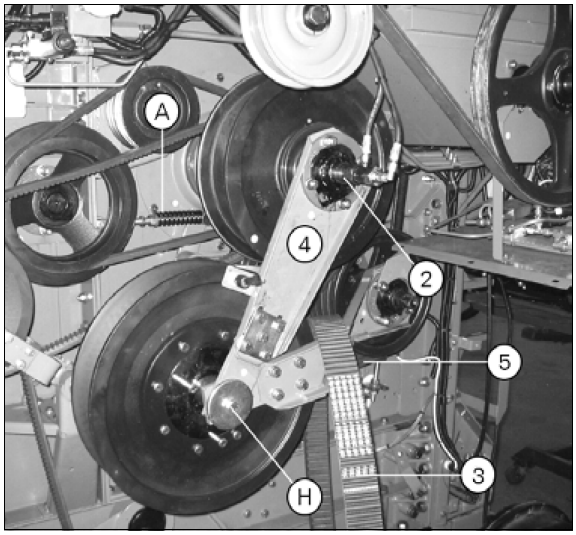


Fig. 3. I021383

6. Replace the belts by pulling them out individually over the mechanical variator pulley and reassemble in reverse order.

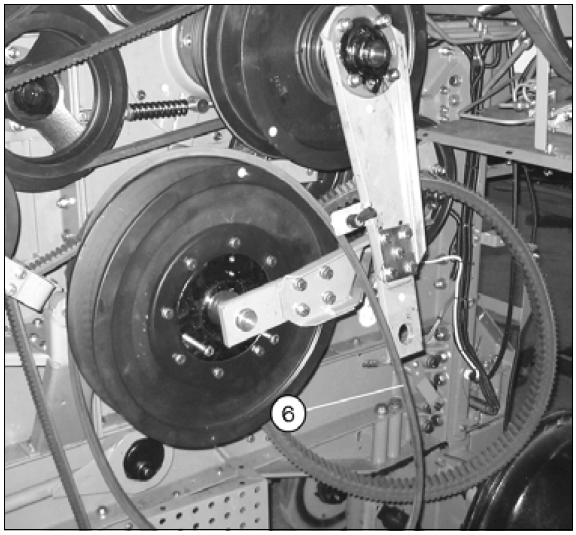


Fig. 4. I021384

7. Adjust the spring (A) (*fig. 3*) on the belt tensioner to 100 mm and counter-tighten the nut.

NOTE: *Check the spring tension with measuring tool 28780689, which is supplied with the machine. The belt must be tightened when the measurement exceeds 105 mm.*

8. Readjust the other slackened belts in accordance with specifications.

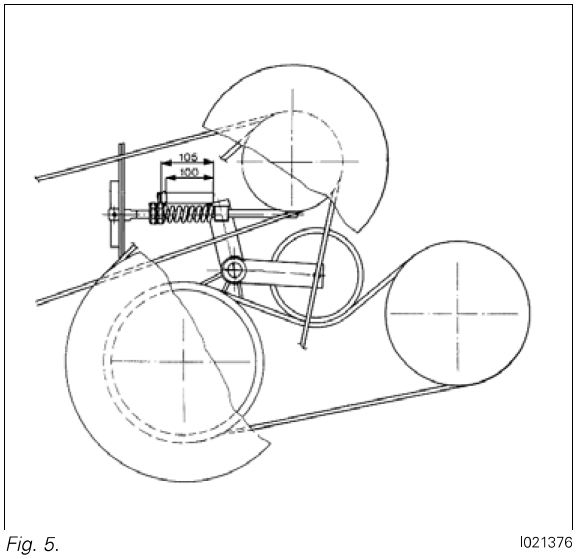


Fig. 5. I021376

12

12.5.3 Counter drive - straw chopper

T008299

1. Slacken the belt from the countershaft and take it off the belt pulley, *see §12.5.2, page 300*.
2. Slacken the belt by means of the spring (G).
3. Replace the belt and reassemble in reverse order.
4. Adjust the spring on the belt tensioner (G) to 100 mm and counter-tighten the nut. When a new belt is being fitted, the spring can be adjusted to 97 mm, as a new belt will stretch slightly after being used for a short time.

NOTE: *Check the spring tension with measuring tool 28780689, which is supplied with the machine. The belt must be tightened when the measurement exceeds 105 mm.*

5. Readjust the other slackened belts in accordance with specifications.

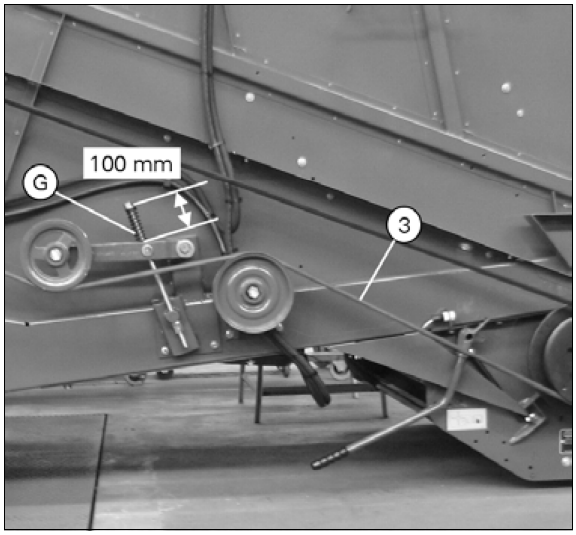


Fig. 3. I021401

12.5.4 Engine - countershaft

T008300

The threshing mechanism must be disengaged when a belt is being replaced.

1. Slacken the belt for the rear beater and take it off the belt pulley, *see §12.5.1, page 300*.
2. Slacken the belt for the straw chopper counter drive and take it off the belt pulley, *see §12.5.2, page 300*.
3. Dismount the belt guides.
4. Unscrew the actuator at (A).

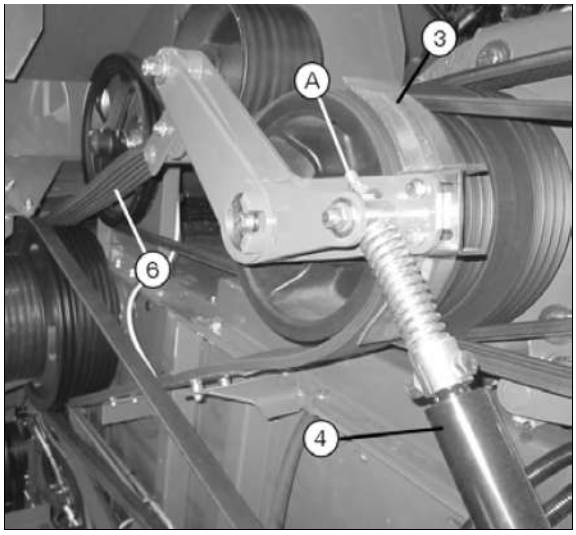


Fig. 4. I031253

12

12.6.3 Hydraulic motor, reversing - elevator countershaft

T008308

1. Remove the guard.
2. Slacken the chain by loosening the bolts in the hydraulic motor (A) and support (B).
3. Separate the chain at the joint link and fit new chain.
4. Adjust the chain by pushing the hydraulic motor out with a crowbar, and tighten bolts (A) and (B).
5. Finally, run the chain at least one turn and make sure it is not too tight anywhere.

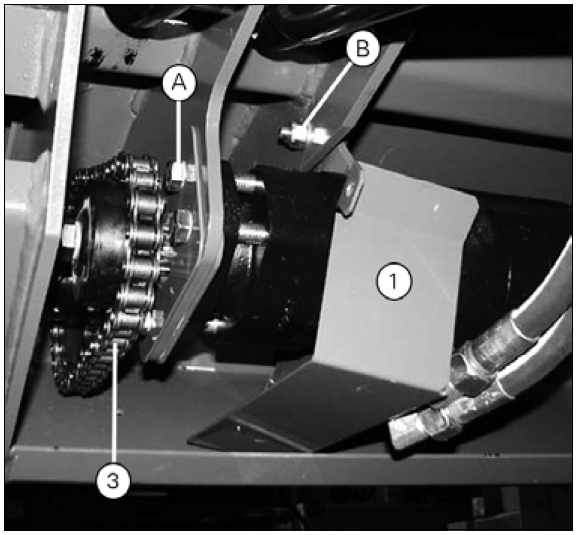


Fig. 3. I021366

NOTE: *The chain is adjusted correctly if it can be moved approx.. 5 mm between its extreme points.*

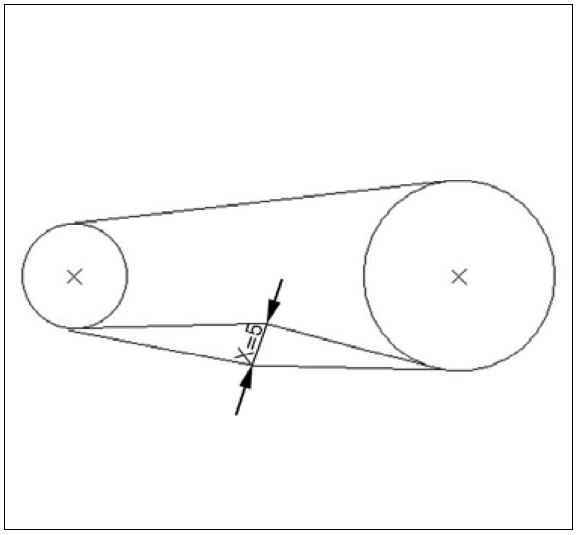


Fig. 4. I021355

12

13.2 Final drives

13.2.1 Removal

T007865

STANDARD COMBINE

1. Dismount the traction wheels and chock up the machine in a safe and secure manner.
2. Drain off the gear oil.

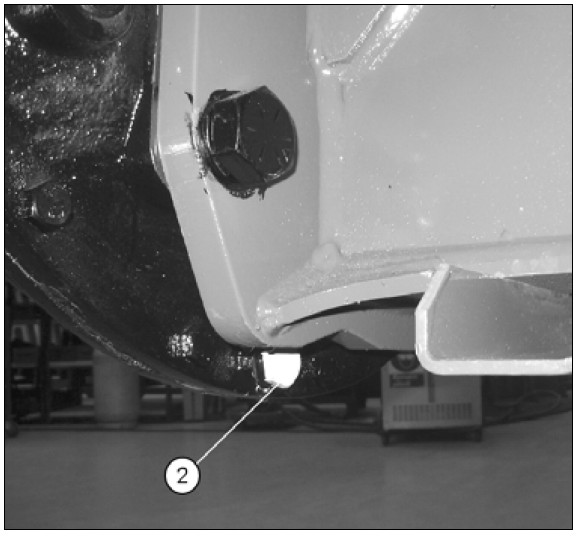


Fig. 1. I021477

3. Fit the lifting chain at bolt (B), which is positioned closest to the oil filling plug (C) in driving direction, and in one of the holes in the wheel hub (D). This will bring the unit into balance when it needs to be lifted off.
4. Using a crane or suitable lifting gear, relieve the load on the final drive.
5. Remove bolts (A) (*fig. 3*) and lift the final drive off.

AUTO LEVEL COMBINE

6. Dismount the final drive, *see §13.1.1, page 315*.

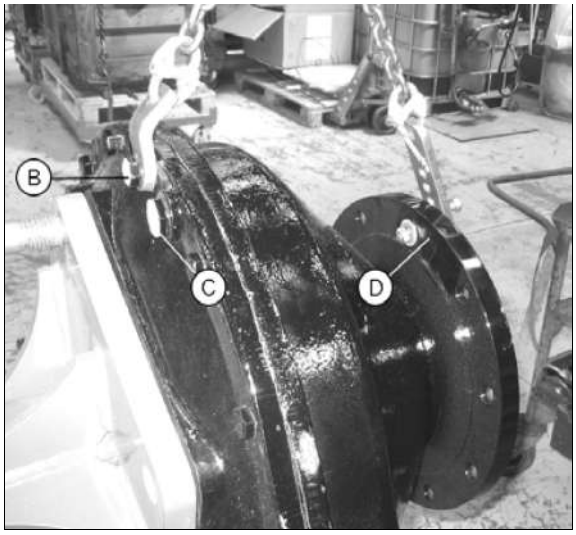


Fig. 2. I021493

13

4. Adjust the sensor in relation to the magnets (5) using the screws (T).
5. Adjust the magnets in relation to the sensor (4) by means of the screw (U).
6. Make the adjustment with the gearbox in “neutral” position, i.e. with shifter shaft (J) (*fig. 10*) in extreme position and shifter shaft (G) (*fig. 10*) in central position.

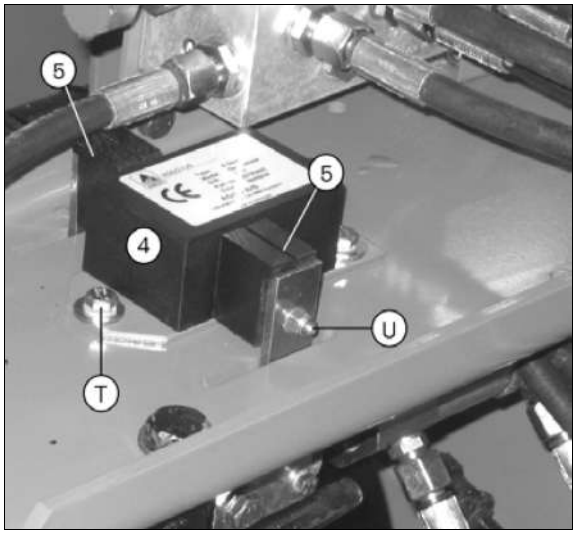


Fig. 11. I021475

7. Read the sensor signals from FIELDSTAR "Main menu | Diagnostics | Electric. diagnostics | Diagnostics LH | Diagnostics input | Page 3" as indicated in the "Neutral" table. If necessary, adjust the sensors as described in points 4 and 5.

Neutral				
Shifter shaft	J	OUT		
	G	MID		
Shifter cylinder	K	IN		
	H	IN		
	L	OUT		
Gear sensor	A		HI	8 volts
	B		HI	8 volts
	C		LO	
	D		HI	8 volts
	E		LO	

8. Check the sensor signals in the other gears in relation to the tables.

1. gear				
Shifter shaft	J	IN		
	G	IN		
Shifter cylinder	K	OUT		
	H	OUT		
	L	OUT		
Gear sensor	A		HI	8 volts
	B		LO	
	C		HI	
	D		LO	
	E		LO	8 volts

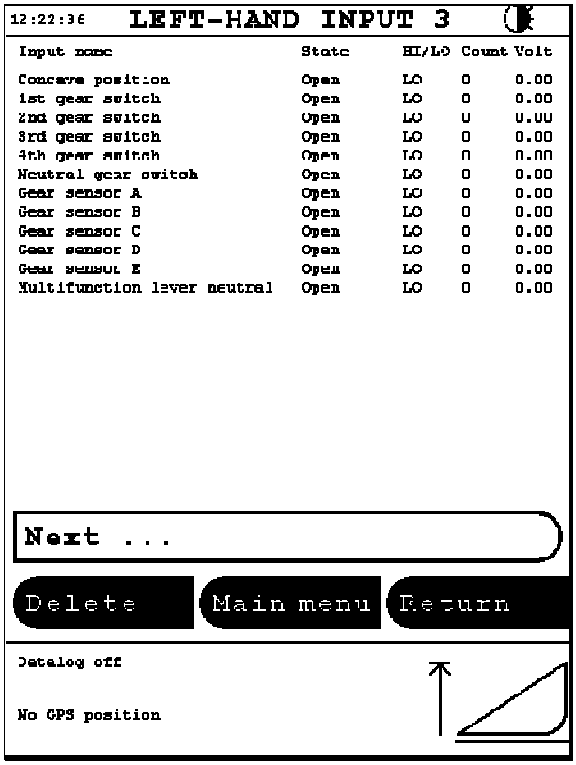


Fig. 12. I022845

13

16. Loosen the bearing bracket (F) (*fig. 34*) again. Apply sealant, Loctite 518, to the flange, lock the bolts with Loctite 270 and tighten to 52 Nm.
17. Fit the flange for the oil motor, *fig. 27*.
18. Fit the differential, *see §13.3.7, page 335*.
19. Fit the shifter forks, *see §13.3.6, page 334*.
20. Fit the lubrication pump, *see §13.3.5, page 333*.
21. Fit the gearbox, *see §13.3.2, page 328*.

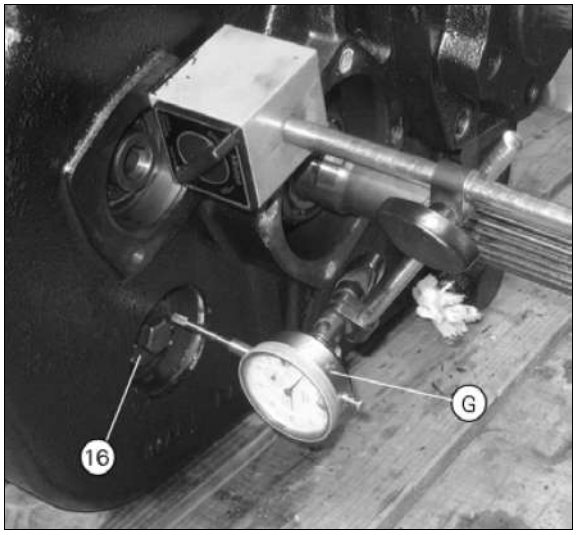


Fig. 35. I021474

13

13.6 Rear axle

13.6.1 General

T008334

Raise the machine with a jack beneath the rear axle and chock up on both sides in a safe and secure manner.

WARNING:

Secure chocking up means strong supports under the machine frame and jacks positioned under the side members at the fanning mill. Use strong wooden beams to protect the side members and distribute the weight.

Fig. 1. I021419

13.6.2 Removal

T008335

1. Remove the wheels.

Fig. 2. I036980

13

14.1 Multi-function lever and control panel

14.1.1 Control panel

T007869

1. Undo the snap-screws and carefully lift the control panel.

Fig. 1. I021532

2. This provides access to the components in the control panel.

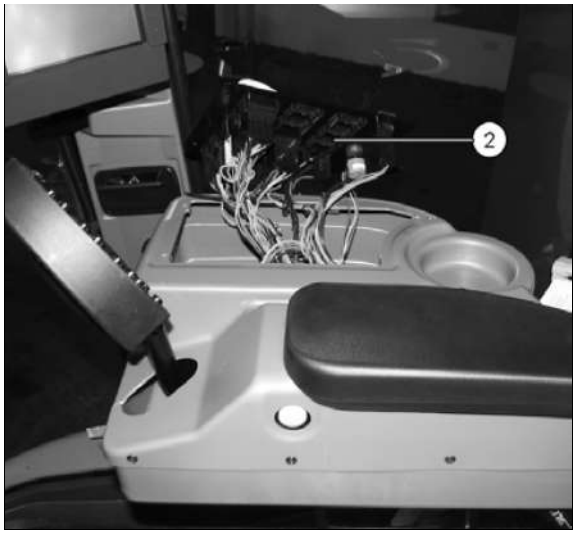


Fig. 2. I021531

14

14.5 Troubleshooting – Climate control

14.5.1 Climate control faults in general

T008345

If the automatic climate control system is not functioning correctly, it is important to carry out systematic troubleshooting to ascertain whether the malfunction is caused by mechanical, electrical or hydraulic failure.

NOTE: *In the case of electrical troubleshooting, first read any failure codes on the ECS electronic control unit. Locating components with reference to the wiring diagram, see chapter 16.*

IMPORTANT: *The system must always be empted before repairs are carried out or components replaced. Emptying and filling must only be done by personnel who have the necessary training and authorisation.*

IMPORTANT: *Whenever the AC system is dismantled, the openings must be closed immediately and with care to avoid moisture in the system.*

14.5.2 ECS – Electronic control unit

T008346

The ECS unit provides fully automatic control of the temperature selected in the cab based on signals from temperature sensors.

- One sensor that measures the current temperature in the cab.
- One sensor that measures the temperature of the air the system extracts from the cab.
- One sensor that measures the temperature of the air that the system injects into the cab.
- One sensor that measures the temperature of the evaporator's lamellas (frost protection).

If faults occur in the sensors, one of the following failure codes will appear on the ECS display:
E1: External temperature sensor off.
E2: External temperature sensor short-circuited.
E3: Cab temperature sensor off.
E4: Cab temperature sensor short-circuited.
E5: Supply air temperature sensor off.
E6: Supply air temperature sensor short-circuited.
AC symbol flashing frost protection sensor off.

14.5.3 Troubleshooting table

T008347

Failure	Possible cause	Check / repair
Blower not running.	Fuse defective.	Change the fuse. If the fuse blows again, check whether there is a short circuit or the blower is blocked.
	No blower current / earth.	Check the wires and connectors.
	Blower motor defective.	Replace the blower.
	ECS control panel defective.	Replace the control panel.
Blower running constantly.	Short circuit in wiring or control panel.	Check the wiring, connectors and control panel.
Blower running at reduced power.	Loose or corroded connectors.	Check the wires and connectors. Clean the connectors and protect with contact spray.
	Heating element / evaporator blocked with dust.	Clean the elements carefully so as not to damage the lamellas.

8. With the diesel engine idling, move the multifunction lever to almost max. driving speed for about 15-20 secs Return the multifunction lever to neutral position and stop the engine. When no further bubbles are observed in the transparent hoses, start the engine again and move the multifunction lever to almost max. driving speed for about 15-20 secs. Repeat until there are no air bubbles in the hoses, then stop the diesel engine.
9. Replace the hydraulic oil filter and refill to the max. level mark on the hydraulic tank.

15.1.4 Running in and bleeding the auxiliary hydraulics

T008415

The auxiliary hydraulics system is driven by three separate hydraulic pumps, which are combined in a triple pump:

– The first drives the auxiliary hydraulics via the main valve.
– The second drives the reel via the flow divider.
– The third drives the steering.

Whenever the system has been disassembled or a component has been replaced, air will enter the system. Generally the system can be bled by operating all functions in their full control range about 3-5 times while the engine is running.

If special bleeding is required, it will be described in the relevant section.

15.7 Cutting table

15.7.1 Cutting table

T008428

Hydraulic cylinders - table up/down
Hydraulic cylinder, RH (1)
Designation on diagram: L

Hydraulic cylinder, LH (2)
Designation on diagram: L

Hydraulic cylinder, additional (3)
Designation on diagram: L

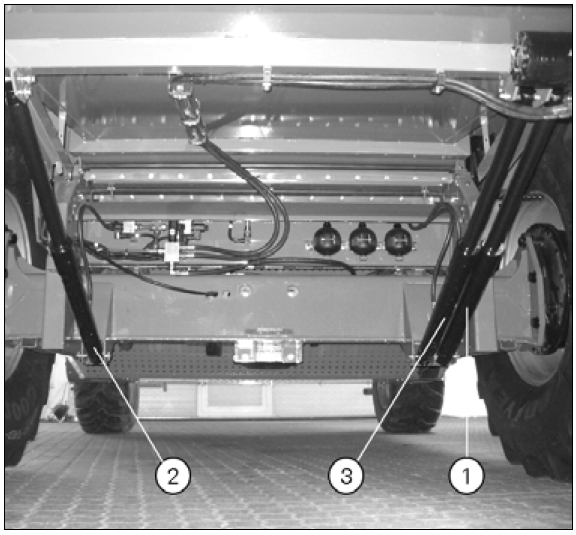


Fig. 1. I021562

Pressure accumulators - cutting table
Pressure accumulator (4)
Designation on diagram: I1

Pressure accumulator (5)
Designation on diagram: I2

Pressure accumulator (6)
Designation on diagram: I3

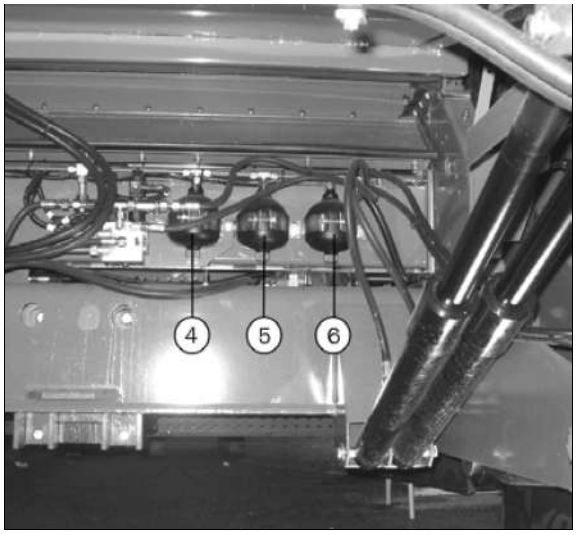


Fig. 2. I021566

Hydraulic valve - table up/down (standard machine)
Hydraulic valve (7)
Designation on diagram: F3

Magnetic coil, table up/down (8)
Designation on diagram: HOM01

Hydraulic valve (9)
Designation on diagram: F4

Magnetic coil, table up/down (10)
Designation on diagram: HOM02

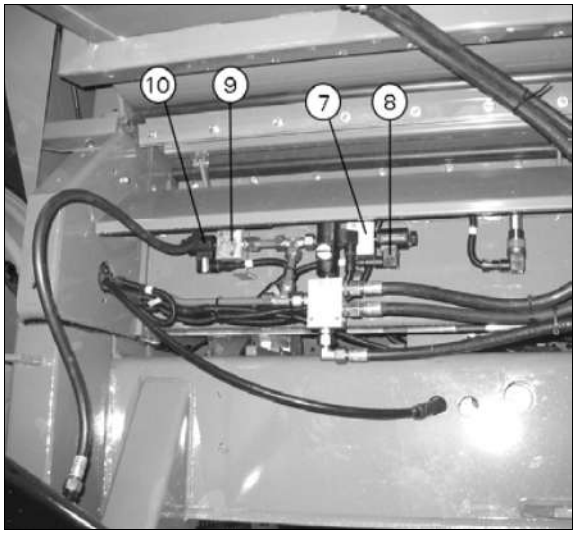


Fig. 3. I021574

15

15.13 Reversing

15.13.1 Reversing - hydraulics

T008452

Oil motor
Oil motor, reversing (1)
Designation on diagram: E3

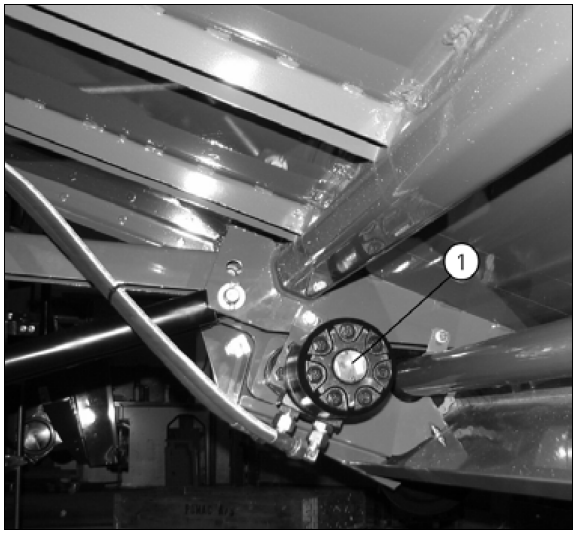


Fig. 1. I021548

Hydraulic valve - reversing

AUTO LEVEL COMBINE
Hydraulic valve (2)
Designation on diagram: F20

Magnetic coil, reversing (3)
Designation on diagram: HOM 13

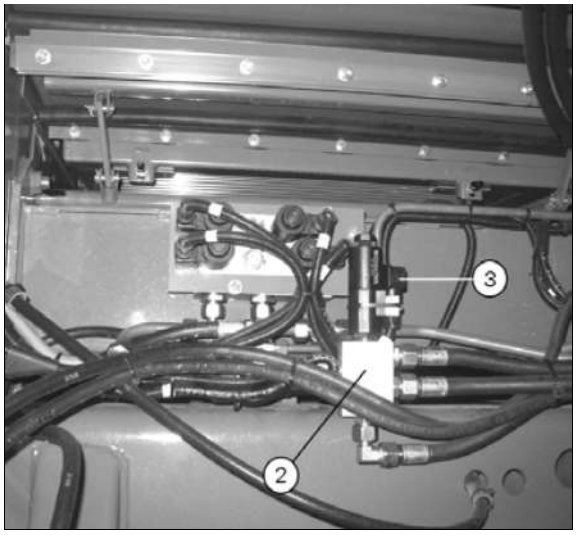


Fig. 2. I021568

STANDARD COMBINE
Hydraulic valve (4)
Designation on diagram: F20

Magnetic coil, reversing (5)
Designation on diagram: HOM 13

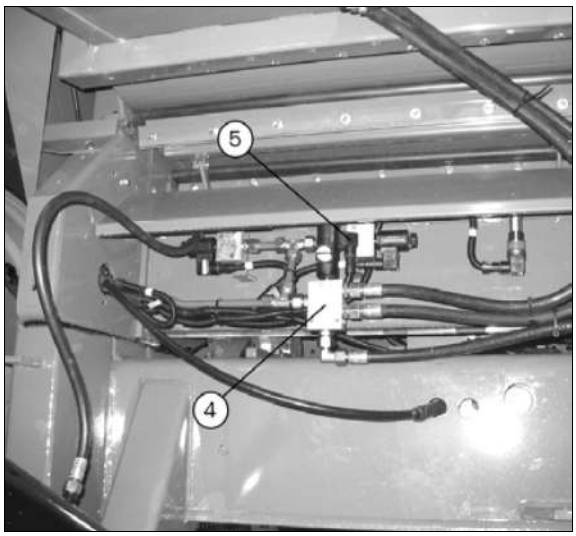


Fig. 3. I021575

15

15.16.9 Checking the servo control

T010943

Troubleshooting	Repair
DANGER: ***Before starting troubleshooting on the servo control, the machine MUST be chocked up so that the traction wheels are free to turn.*** 1. Check the electric function of the multifunction lever, *see §14.1.3, page 363*. 2. Disconnect the electric plug from the solenoid valve and check that the solenoid is energised. 3. Check that the solenoid is working by connecting 12V voltage directly to the solenoid. 4. Proceed as follows to check that the control is functioning correctly: – Connect a pressure gauge (0-25 bar), *see §15.16.4, page 408*. – Insert an ammeter in the positive cable of the solenoid. – Put the transmission in gear, start the engine and bring it to approx. 1500 rpm. – Move the lever slow and steadily forward and check on the pressure gauge and ammeter that pressure and current are increasing continuously without sudden leaps. – The pressure must move from 0 to approx. 8 bar while the power consumption increases from approx. 360 mA to approx. 760 mA.	In case of control failure, the other functions of the hydrostatic pump must be checked. If these functions are in order, the hydrostatic pump must the shipped to a LINDE service workshop for further inspection and repair.

15

"Settings | Harvest settings"

– Set the electrical concave position

"Settings | Machine settings"

– Constant Flow: Set the values
– Adjust the straw deflectors
– Check the function "Grain tank top opening"

Replacing the LH job computer

1. Dismount the bottom plate in the electric box.
2. Disconnect the plugs from the RH job computer and dismount the computer from the frame.
3. Carry out the installation of the new job computer in reverse order.

Having completed the replacement, carry out the following in FIELDSTAR:

"Harvesting data"

– Zero the trip data
– Zero the field data

"Diagnostics | System setup | Speed calibration"

– Calibrate the multifunction lever
– Calibrate the transmission pump
– Adjust the max. speed

"Coding"

– Area measuring: Enter table width and wheel size
– Table calibration: All points
– Adjust the sensitivity of the returns volume sensor
– Calibrate the shaft speeds
– Constant Flow: Zero the cylinder load

"Settings | Harvest settings"

– Enter crop type - check yield meter and moisture meter calibration

"Settings | Table settings"

– Check/set all points

NOTE: *Some of the point cannot always be carried out, as they may refer to the optional equipment for the specific machine.*

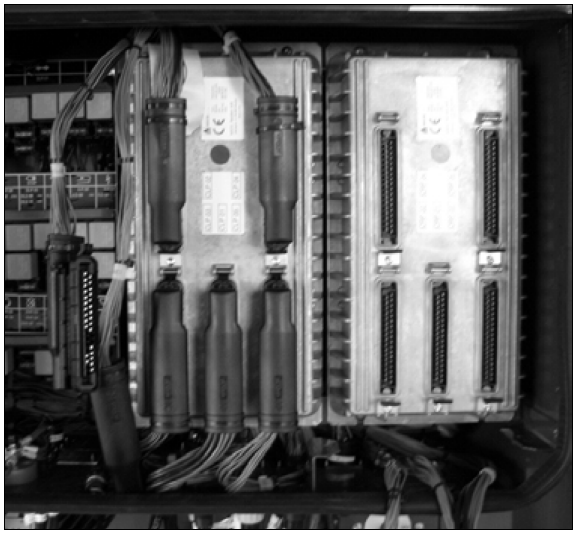


Fig. 5. I021825

16

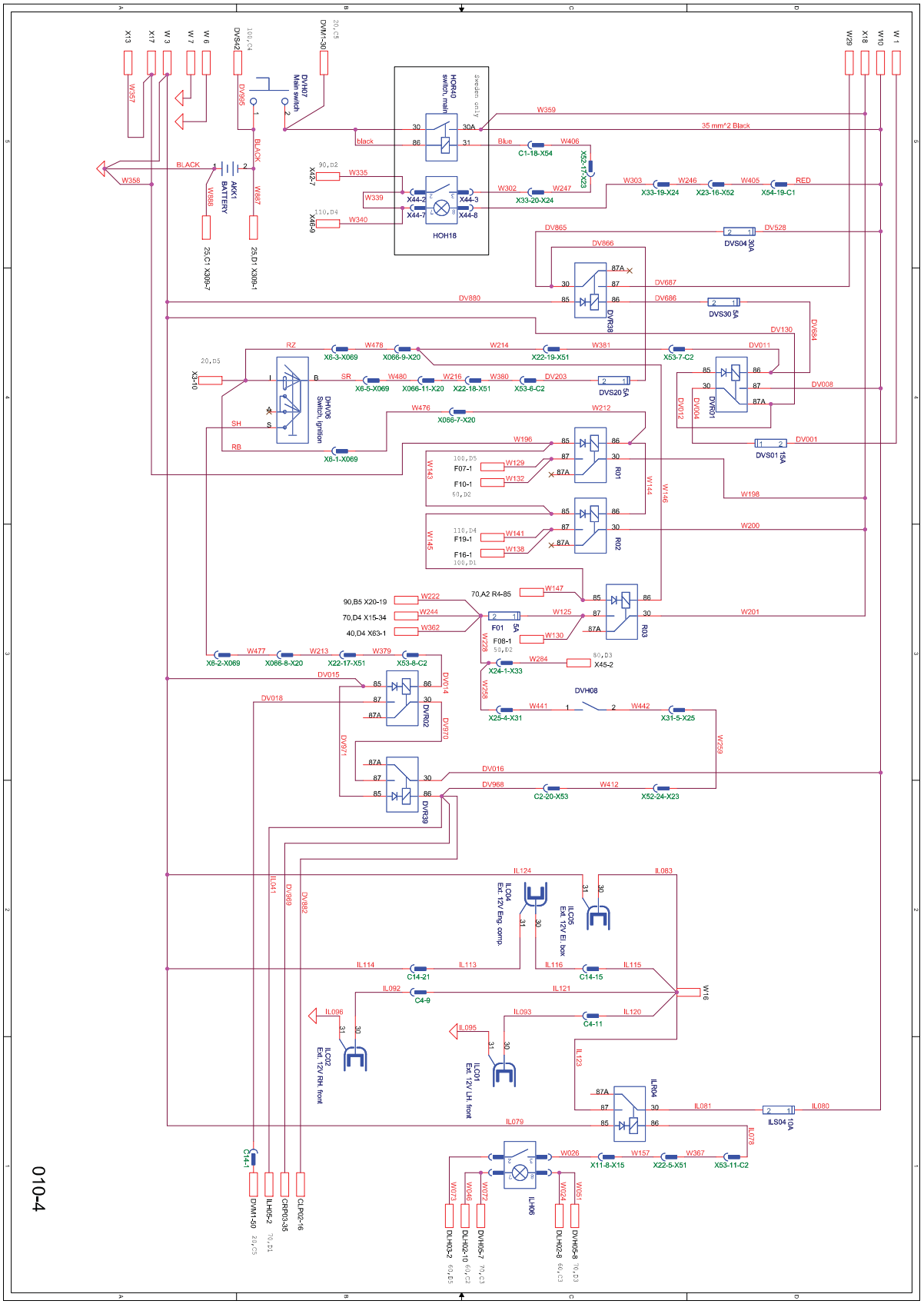


Fig. 1. 010-4 Power network

I017065

16

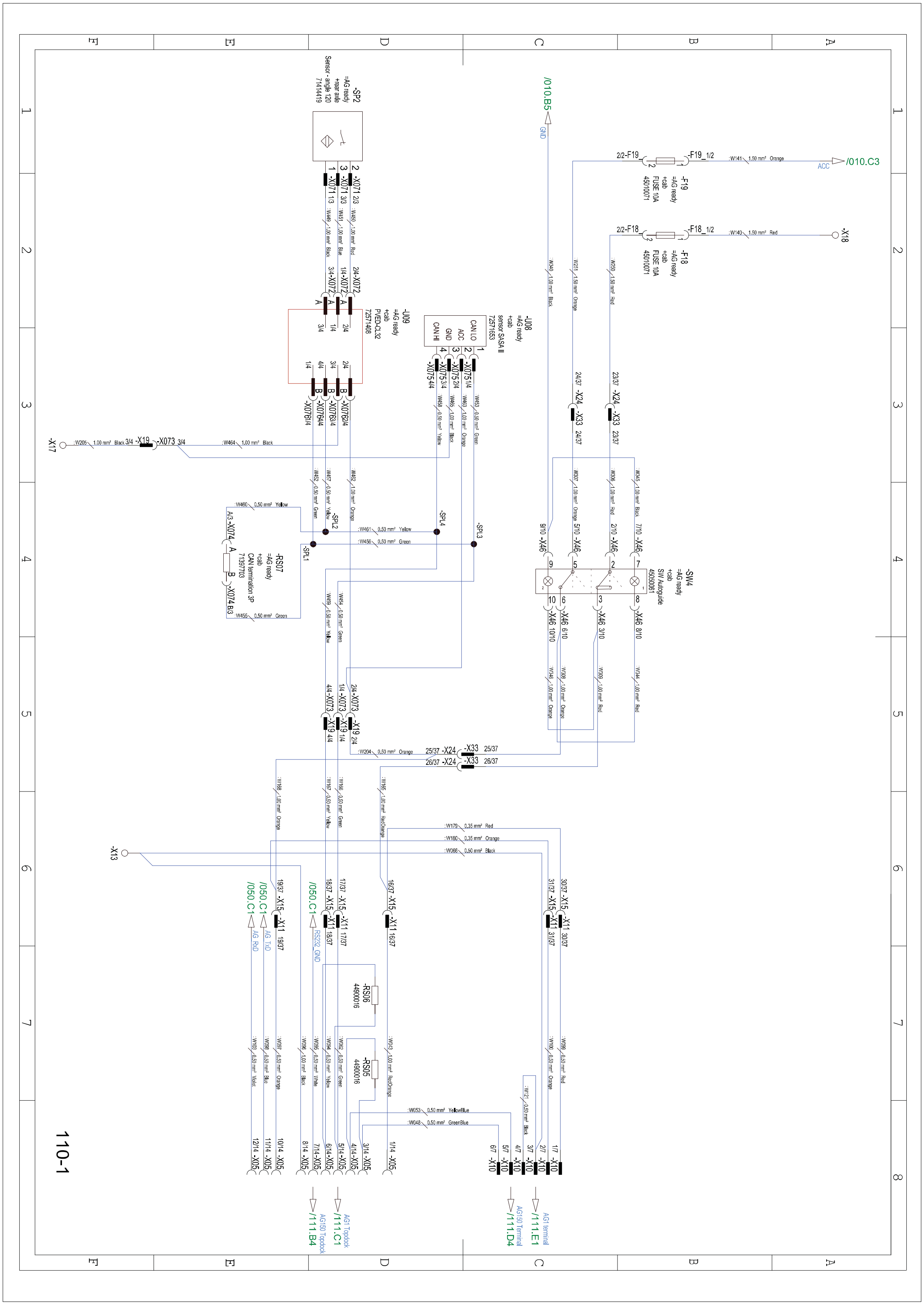


Fig. 11. 110-1 Auto-Steering ready

I030814

16

Connector	Diagram	Position
C51	80	Filling elevator revolution sensor DND04
C52	80	Returns elevator revolution sensor DNF03.
C53	80	LH machine side, to the left of the electric box, above the fanning mill.
C54	80	RH machine side, in the middle of the machine, to the left of the fanning mill.
C55	80	LH machine side, to the left of the electric box, above the fanning mill.
C56	80	Threshing cylinder RPM sensor
C57	90	Main crop elevator, cutting height potentiometer, DNF15
C58	90	Unloading auger revolution sensor, RH machine side at counter drive DNF11
C59	80	RH machine side, to the right of the cylinder variator
C60	80	RH machine side, to the right of the cylinder variator
C62	30	Forward speed RPM sensor.
C64		On table, RH side at the reel RPM sensor.
C66	90	Main crop elevator.
C67	90	Above the front axle at the field pressure sensor.
C68	26+80	Engine compartment
C70	80	RH machine side on the filling elevator.
C71	80	RH machine side on the filling elevator.
C74	80	RH machine side behind the filling elevator.
C76	80	RH machine side on the filling elevator.
C79	80	In the electric box beneath the bottom cover plate
C79	80	RH machine side, approx. in the middle of the machine side. On the reinforcement behind the filling elevator.
C83	80	LH machine side. To the left of the electric box at the rotary separator.
C88	26+40+50+90	Right beneath the electric box.
C89	90	RH machine side, in the guard above the front wheel
C90	90	RH machine side, in the guard above the front wheel.
C93	90	Right beneath the electric box.
C95		At the vertical knife.
C96		At the vertical knife.
C97	90	LH machine side, to the left of and behind the electric box.
C99	90	RH side of the main crop elevator.
C100	90	RH machine side, on the motor for the reel pump, in the guard to the left of the front wheel.
C102	80	Straw deflector. On straw chopper.
C103	80	Straw deflector. On straw chopper.
C105	80	Straw deflector. On straw chopper.
C109	40+90	Right beneath the electric box.
C110	40	Front axle, valve block with 4 valves
C111	40	Front axle, valve block with 4 valves
C112	40	Front axle, valve block with 4 valves
C113	40	Front axle, valve block with 4 valves
C114	40	AL wheel potentiometer connector DNP09.

Component	Description	Diagram	Picture reference
DVK13	Rearview mirror LH	100-7	fig. 82
DVK14	Horn	100-7	fig. 83
DVL01	Light, interior LH	070-4	fig. 84
DVL02	Light, interior RH	070-4	fig. 84
DVL04	Pilot lamp, oil pressure	026-1	fig. 85
DVL08	Indicator, high beam	060-4	fig. 86
DVL14	Indicator, engine preheater	026-1	fig. 86
DVM02	Starter motor	026-1	fig. 87
DVM04	Wiper motor	100-7	fig. 88
DVM07	Valve, 4-wheel drive	030-6	fig. 89
DVM10	Valve, AL	040-3	fig. 90
DVM11	Valve, AL	040-3	fig. 90
DVM12	Valve, AL	040-3	fig. 90
DVM13	Valve, AL	040-3	fig. 90
DVM15	Valve, gearshift 1	030-6	fig. 91
DVM16	Valve, gearshift 1B	030-6	fig. 91
DVM17	Valve, gearshift 2	030-6	fig. 91
DVM18	Valve, gearshift 2B	030-6	fig. 91
DVM19	Valve, gearshift 3B	030-6	fig. 92
DVM20	Valve, gearshift 3	030-6	fig. 92
DVR01	Relay, W10, 12 V ignition	010-4	fig. 93
DVR02	Relay, starter motor	010-4	fig. 94
DVR03	Relay, engine	026-1	fig. 94
DVR04	Relay, engine error cut off	026-1	fig. 94
DVR05	Relay, horn	100-7	fig. 94
DVR07	Relay, vertical knife LH	090-6	fig. 95
DVR09	Relay, valve for 4-wheel drive	030-6	fig. 95
DVR14	Relay, vertical knife RH	090-6	fig. 95
DVR22	Relay, Auto Level valves	040-3	fig. 95
DVR38	Relay, computer system	010-4	fig. 93
DVR39	Relay, starter motor	010-4	fig. 94
DVR46	Relay, DENOX supply module (heater)	026-1	fig. 95
DVS01	Fuse 15A, ignition circuit	010-4	fig. 96
DVS04	Fuse 30A, ignition circuit	010-4	fig. 96
DVS07	Fuse 5A, horn	100-7	fig. 96
DVS13	Fuse 5A, valve, 4-wheel drive	030-6	fig. 97
DVS17	Fuse 30A, LH vertical knife	090-6	fig. 97
DVS18	Fuse 30A, RH vertical knife	090-6	fig. 97
DVS20	Fuse 5A, ignition switch	010-4	fig. 96
DVS30	Fuse 5A, ignition circuit	010-4	fig. 96
DVS42	Fuse 5A, radio	100-7	fig. 96
DVS47	IGN signal to engine, fuse 5.0 A	026-1	-
F01	Fuse 5A, ignition circuit	010-4	fig. 98
F02	Fuse 5A, parking brake	030-6	fig. 98

Component: DLL04
Direction indicator, rear RH (7)

Component: DLL16
Parking light, rear RH (8)

Component: DLL19
Brake light, rear RH (9)

Fig. 14. I021844

Component: DLL05
Direction indicator, RH (10)

Component: DLL06
Direction indicator, external RH (11)

Component: DLL20
Parking light, light bracket RH (12)

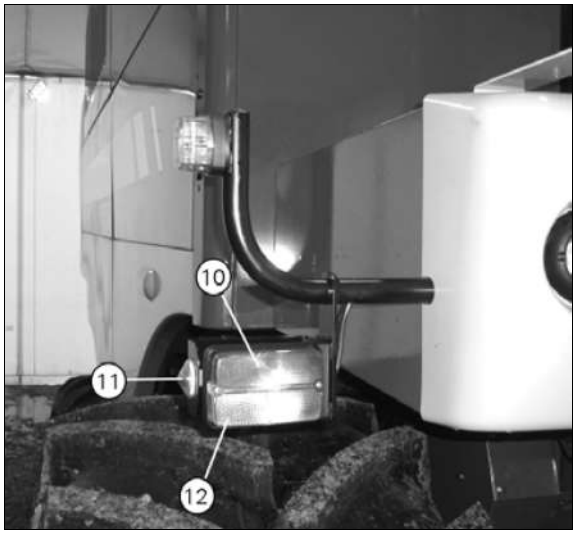


Fig. 15. I036923

Component: DLL07-L
Pilot lamp, direction indicator LH (13)

Component: DLL07-R
Pilot lamp, direction indicator RH (14)

Component: DLL08
Direction indicator on table trailer 1 (15)

Component: DLL13
Direction indicator on table trailer 2 (16)

Fig. 16. I021721

16

Component: DNF30
Grain loss sensor, top and bottom sieves (24)

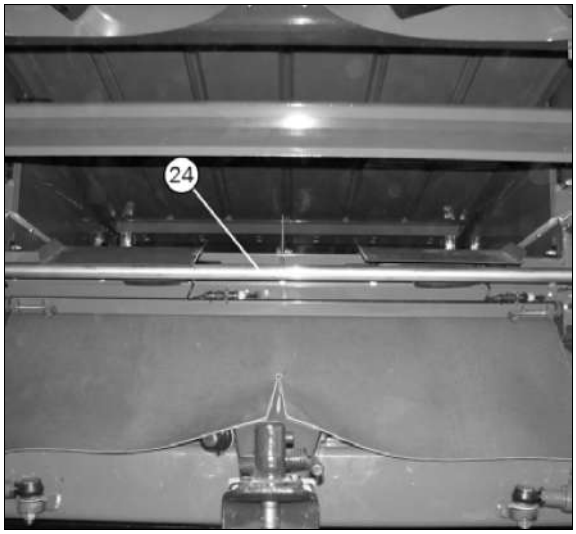


Fig. 44. I026779

Component: DNF31
Revolution sensor, countershaft (25)

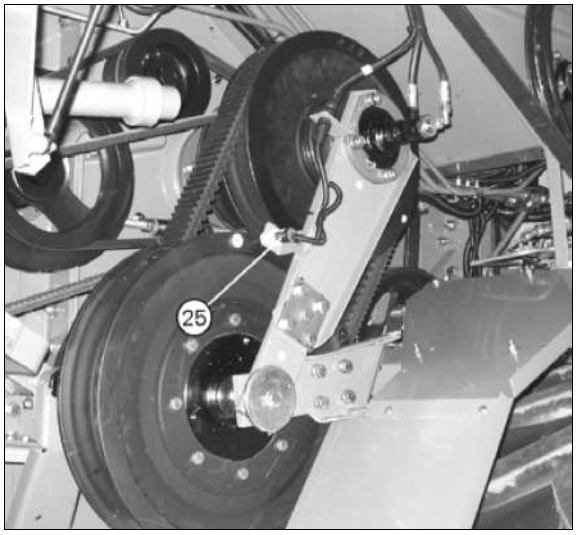


Fig. 45. I026794

Component: DNF33
Sensor, field pressure (26)
Positioned over the front axle.

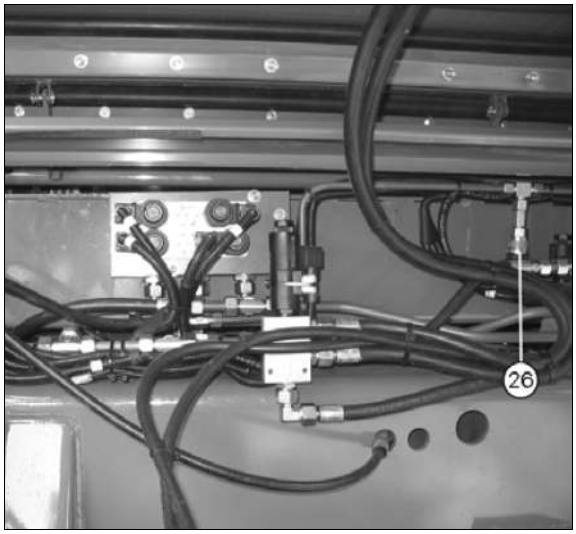


Fig. 46. I026785

16

Component: DVK04
Actuator, straw deflector RH (2)

Component: DVK05
Actuator, straw deflector LH (3)

Fig. 74. I021737

Component: DVK06
Cab 12V, cool box (4)

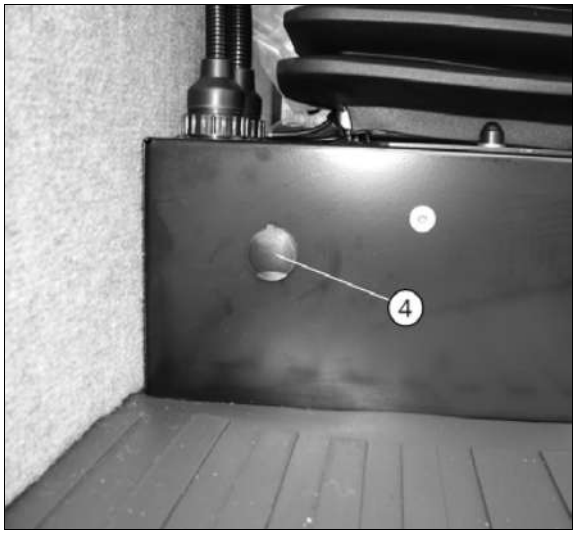


Fig. 75. I021772

Component: DVK07
Air-suspended seat (5)

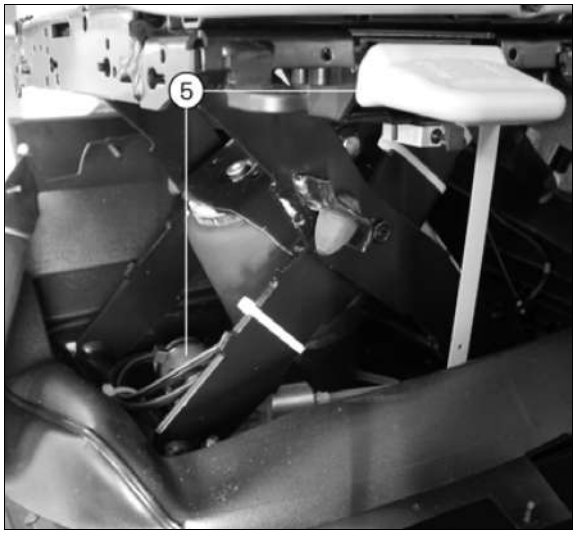


Fig. 76. I021771

16

Component: HOH03
Switch, reel up/down (7)

Component: HOH04
Switch, reel fore/aft (8)

Component: HOH07
Switch, table on/off (9)

Component: HOH09
Switch, table up/down/automatically (10)

Component: HOH12
Switch, unloading auger in/out (11)

Component: HOH16
Reel speed up/down (12)

Fig. 102. I021701

Component: HOH14
Switch, unloading auger on/off (13)

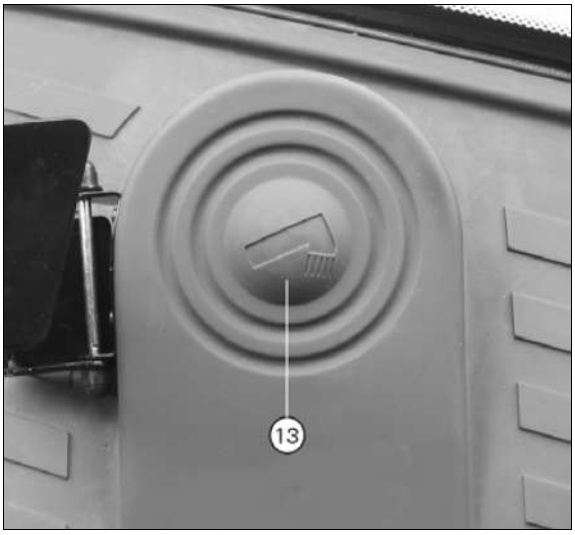


Fig. 103. I021731

Component: HOH19
Switch, Maxi Spreader on/off (14)

Fig. 104. I026573

16

Component: ILC05
External 12V connector in electric box (4)

Fig. 132. I021865

Component: ILD01
Diode (5)
Positioned at the front of the cab roof.

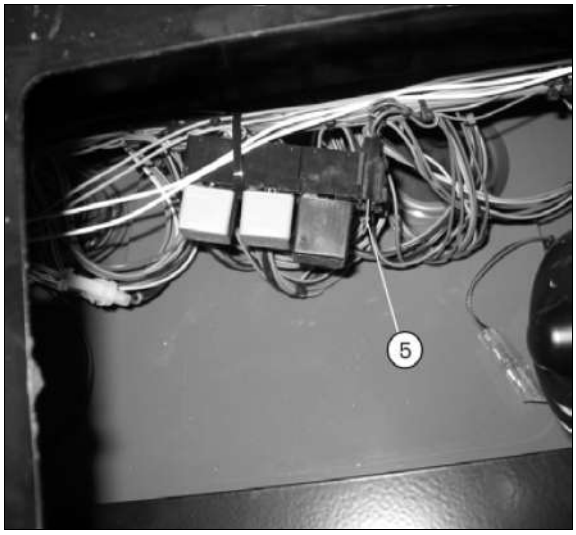


Fig. 133. I021799

Component: ILD02
Diode, parking brake (6)
Positioned in the electric box in the cab floor

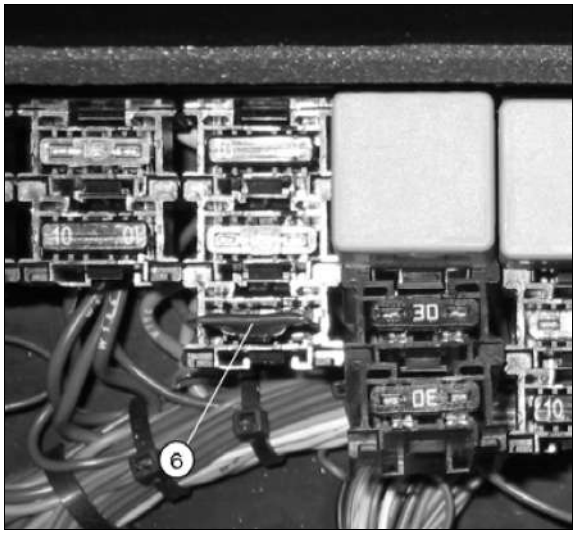


Fig. 134. I021815

Component: SW3
Switch, parking brake (7)

Component: SW4
Switch, Auto-Steering (8)

Fig. 162. I036694

Component: TS1
Anti-icing sensor (1)
Positioned in the cab roof.

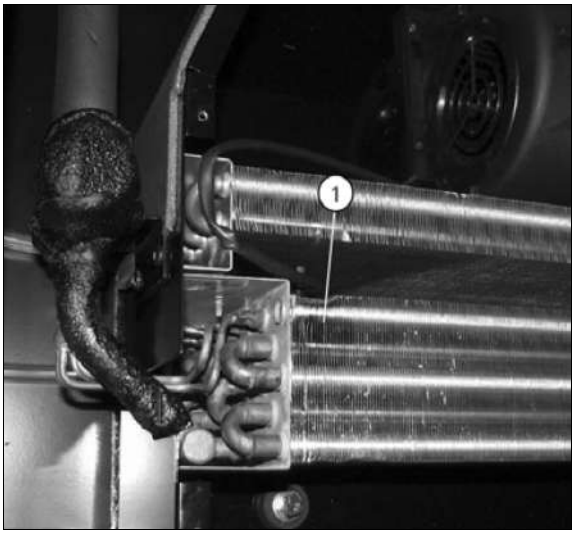


Fig. 163. I021790

Component: TS2
Sensor, cab temperature (2)
Positioned in the left-hand cab pillar

Fig. 164. I021787

16

DL100	60	DLR05	86	W1			6247877M91	4
DL101	60	C1	35	DLR05	85	BLACK	28782994	4
DL101	60	C1	35	DLR05	85	BLACK	6247877M91	4
DL104	60	DLR05	30	W10		RED	28782994	4
DL104	60	DLR05	30	W10		RED	6247877M91	4
DL105	60	DLS09	2	C3	16	BLACK	28782994	4
DL105	60	DLS09	2	C3	16	BLACK	6247877M91	4
DL106	60	DLR05	87	DLS09	1	BLACK	28782994	4
DL106	60	DLR05	87	DLS09	1	BLACK	6247877M91	4
DL107	60	DLR05	87	DLS10	1	BLACK	28782994	4
DL107	60	DLR05	87	DLS10	1	BLACK	6247877M91	4
DL109	60	DLS09	2	C3	6	BLACK	28782994	4
DL109	60	DLS09	2	C3	6	BLACK	6247877M91	4
DL112	60	DLS10	2	C3	7	BLACK	28782994	4
DL112	60	DLS10	2	C3	7	BLACK	6247877M91	4
DL114	60	C3	15	W3		BROWN	28782994	4
DL114	60	C3	15	W3		BROWN	6247877M91	4
DL120	60	DLR06	86	C1	27	BLACK	28782994	4
DL120	60	DLR06	86	C1	27	BLACK	6247877M91	4
DL121	60	C1	28	DLR07	86	BLACK	28782994	4
DL121	60	C1	28	DLR07	86	BLACK	6247877M91	4
DL122	60	DLR06	85	W3			28782994	4
DL122	60	DLR06	85	W3			6247877M91	4
DL123	60	DLR06	85	DLR07	85	BROWN	28782994	4
DL123	60	DLR06	85	DLR07	85	BROWN	6247877M91	4
DL125	60	DLR08	30	DLS02	2	BLACK	28782994	4
DL125	60	DLR08	30	DLS02	2	BLACK	6247877M91	4
DL126	60	C1	29	DLR08	86	BLACK	28782994	4
DL126	60	C1	29	DLR08	86	BLACK	6247877M91	4
DL127	60	DLR08	85	W3		BROWN	28782994	4
DL127	60	DLR08	85	W3		BROWN	6247877M91	4
DL151	60	DLL20+		DLL17+		BLACK	28782999	2
DL152	60	DLL17 -		DLL20 -		BROWN	28783226	2
DL153	60	DLL21+		DLL14+		BLACK	28783226	2
DL154	60	DLL14	-	DLL21-		BROWN	28783226	2
DL196	10	GND06	1	GND13	1	BROWN	28783226	2
DL197	10	GND13	2	GND07	1	BROWN	28783226	2
DL198	60	C3	13	C13	58R	BLACK	28781729	2
DL198	60	C3	13	C13	58R	BLACK	6247719M91	2
DL199	60	C3	2	C191	2	BLACK	28783219	2
DL199	60	C3	2	C191	2	BLACK	6247719M91	2
DL200	60	C3	14	C13	58L	BLACK	28783219	2
DL200	60	C3	14	C13	58L	BLACK	6247719M91	2
DL201	60	C3	3	C192	2	BLACK	28783219	2
DL201	60	C3	3	C192	2	BLACK	6247719M91	2
DL202	60	C3	6	C192	3	BLACK	28783219	2

DV889	90	C168	2	CLP03	35	BLACK	28782542	3
DV890	90	C168	1	HOK16		BLACK	28782472	0
DV891	90	C168	2	HOK16		BLACK	28782472	0
DV957	30	C1	12	CRP03	17	BLUE	28782541	0
DV958	30	C1	13	CRP03	22	BLUE	28782541	0
DV959	30	C1	7	CRP03	21	BLUE	28782541	0
DV960	30	C14	11	C232	1	BLACK	28787259	2
DV960	30	C14	11	C232	1	BLACK	28783202	2
DV961	30	C14	9	C232	2	BROWN	28787259	2
DV961	30	C14	9	C232	2	BROWN	28783202	2
DV962	30	C14	12	C231	1	BLACK	28787259	2
DV962	30	C14	12	C231	1	BLACK	28783202	2
DV963	30	C14	10	C231	2	BROWN	28787259	2
DV963	30	C14	10	C231	2	BROWN	28783202	2
DV964	30	C14	11	CRP03	11	BLACK	28783015	0
DV965	30	C14	9	CRP03	7	BROWN	28783015	0
DV966	30	C14	12	CRP03	10	BLACK	28783015	0
DV967	30	C14	10	CRP03	8	BROWN	28783015	0
DV968	10	C2	20	DVR39	86	BLACK	28782994	4
DV968	10	C2	20	DVR39	86	BLACK	6247877M91	4
DV969	10	DVR39	86	CRP03	35	BLUE	28783015	0
DV970	10	DVR02	30	DVR39	87	BLACK	28782994	4
DV970	10	DVR02	30	DVR39	87	BLACK	6247877M91	4
DV971	10	DVR02	85	DVR39	85	BROWN	28782994	4
DV971	10	DVR02	85	DVR39	85	BROWN	6247877M91	4
DV972	30	C3	10	C192	5	BLACK	28781729	2
DV972	30	C3	10	CRP04	23	BLACK	28783015	0
DV973	80	C79	4	CRP04	26	BLUE	28782541	0
DV974	80	C79	2	CRP04	27	BLUE	28782541	0
DV975	80	C79	1	CRP04	10	BLUE	28782541	0
DV976	80	C79	3	CRP04	17	BLUE	28782541	0
DV977	80	C79	9	CRP04	18	BLUE	28782541	0
DV978	50	W10		CRP01	3	RED	28782701	0
DV979	50	W10		CRP01	4	RED	28782701	0
DV980	50	W3		CRP01	8	BROWN	28782701	0
DV981	50	W3		CRP01	9	BROWN	28782701	0
DV982	50	W10		CLP01	20	RED	28782701	0
DV983	50	W10		CLP01	21	RED	28782701	0
DV984	50	W3		CLP01	23	BROWN	28782701	0
DV985	50	W3		CLP01	24	BROWN	28782701	0
DV995	10+100	DVH07	1	DVS42	1	RED	28782706	0
DV996	100	DVS42	2	C2	17	RED	28782994	4
DV996	100	DVS42	2	C2	17	RED	6247877M91	4
EM002	26	C14	1	DVM02	50	BLACK	28787259	4
EM002	26	C14	1	DVM02	50	BLACK	6247785M91	4
EM003	26	C14	6	DVG01	61	BLACK	28787259	2

W128	100	X18	2	F06	1	RD	28782980	3
W128	100	X18	2	F06	1	RD	6247767M91	3
W129	10+100	R1	87	F07	1	OR	28782980	3
W129	10+100	R1	87	F07	1	OR	6247767M91	3
W130	10+50	R3	87	F08	1	OR	28782980	3
W130	10+50	R3	87	F08	1	OR	6247767M91	3
W131	50+100	F08	1	F09	1	OR	28782980	3
W131	50+100	F08	1	F09	1	OR	6247767M91	3
W132	10+60	F10	1	R1	87	RD	28782980	3
W132	10+60	F10	1	R1	87	RD	6247767M91	3
W133	60	F11	1	X18	2	RD	28782980	3
W133	60	F11	1	X18	2	RD	6247767M91	3
W134	60+70	F10	1	F12	1	BROWN/OR	28782980	3
W134	60+70	F10	1	F12	1	BROWN/OR	6247767M91	3
W135	70	F13	1	R5	87	BROWN	28782980	3
W135	70	F13	1	R5	87	BROWN	6247767M91	3
W136	70	R4	87	F14	1	BROWN	28782980	3
W136	70	R4	87	F14	1	BROWN	6247767M91	3
W137	70	R6	87	F15	1	BROWN	28782980	3
W137	70	R6	87	F15	1	BROWN	6247767M91	3
W138	10+100	R2	87	F16	1	OR	28782980	3
W138	10+100	R2	87	F16	1	OR	6247767M91	3
W139	100	F17	1	X18	1	RD	28782980	3
W139	100	F17	1	X18	1	RD	6247767M91	3
W140	110	X18	1	F18	1	RD	28782980	3
W140	110	X18	1	F18	1	RD	6247767M91	3
W141	10+110	R2	87	F19	1	OR	28782980	3
W141	10+110	R2	87	F19	1	OR	6247767M91	3
W142	100	F20	1	X18	1	RD	28782980	3
W142	100	F20	1	X18	1	RD	6247767M91	3
W143	10	R2	85	R1	85	BLACK	28782980	3
W143	10	R2	85	R1	85	BLACK	6247767M91	3
W144	10	R1	86	R2	86	OR	28782980	3
W144	10	R1	86	R2	86	OR	6247767M91	3
W145	10	R3	85	R2	85	BLACK	28782980	3
W145	10	R3	85	R2	85	BLACK	6247767M91	3
W146	10	X20	9	R3	86	YE	28782980	3
W146	10	X20	9	R3	86	YE	6247767M91	3
W147	10+70	R4	85	R3	85	BLACK	28782980	3
W147	10+70	R4	85	R3	85	BLACK	6247767M91	3
W148	70	R4	85	R5	85	BLACK	28782980	3
W148	70	R4	85	R5	85	BLACK	6247767M91	3
W149	70	R5	86	R4	86	OR	28782980	3
W149	70	R5	86	R4	86	OR	6247767M91	3

W361	40	X65	1	X22	27	BLACK	28782980	3
W361	40	X65	1	X22	27	BLACK	6247767M91	3
W362	40	X18	3	X63	1	RD	28782980	3
W362	40	X18	3	X63	1	RD	6247767M91	3
W363	60	X54	31	X51	1	BL	28782987	2
W363	60	X54	31	X51	1	BL	6247768M91	2
W364	60	X51	2	X54	32	BROWN	28782987	2
W364	60	X51	2	X54	32	BROWN	6247768M91	2
W365	60	X51	3	X54	28	WH/YE	28782987	2
W365	60	X51	3	X54	28	WH/YE	6247768M91	2
W366	60	X54	29	X51	4	OR/BL	28782987	2
W366	60	X54	29	X51	4	OR/BL	6247768M91	2
W367	10	X53	11	X51	5	BL/RD	28782987	2
W367	10	X53	11	X51	5	BL/RD	6247768M91	2
W368	70	X51	6	X53	3	WH	28782987	2
W368	70	X51	6	X53	3	WH	6247768M91	2
W369	100	X53	12	X51	7	WH	28782987	2
W369	100	X53	12	X51	7	WH	6247768M91	2
W370	70	X51	8	X53	4	PK	28782987	2
W370	70	X51	8	X53	4	PK	6247768M91	2
W371	40	X55	21	X51	27	BL	28782987	2
W371	40	X55	21	X51	27	BL	6247768M91	2
W372	50	X55	32	X51	10	GN	28782987	2
W372	50	X55	32	X51	10	GN	6247768M91	2
W373	50	X51	11	X55	31	YE	28782987	2
W373	50	X51	11	X55	31	YE	6247768M91	2
W374	60	X53	16	X51	12	BL	28782987	2
W374	60	X53	16	X51	12	BL	6247768M91	2
W375	60	X51	13	X54	27	BL	28782987	2
W375	60	X51	13	X54	27	BL	6247768M91	2
W376	100	X53	17	X51	14	RD	28782987	2
W376	100	X53	17	X51	14	RD	6247768M91	2
W377	60	X51	15	X54	25	PK	28782987	2
W377	60	X51	15	X54	25	PK	6247768M91	2
W378	100	X53	9	X51	16	PU	28782987	2
W378	100	X53	9	X51	16	PU	6247768M91	2
W379	10	X53	8	X51	17	PK/GY	28782987	2
W379	10	X53	8	X51	17	PK/GY	6247768M91	2
W380	10	X53	6	X51	18	PK	28782987	2
W380	10	X53	6	X51	18	PK	6247768M91	2
W381	10	X53	7	X51	19	OR	28782987	2
W381	10	X53	7	X51	19	OR	6247768M91	2
W382	26	X55	15	X51	20	WH/BL	28782987	2
W382	26	X55	15	X51	20	WH/BL	6247768M91	2
W383	60	X51	21	X54	24	RD/PK	28782987	2
W383	60	X51	21	X54	24	RD/PK	6247768M91	2

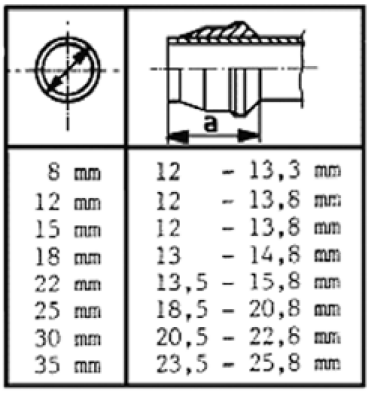
W863	26+80	DVM02	31	X307	2	BROWN	6247785M91	2
W864	26	C255	1	X115	58	RED	28783202	2
W864	26	C255	1	X115	58	RED	6247785M91	2
W865	26	C255	4	X115	55	BLACK	28783202	2
W865	26	C255	4	X115	55	BLACK	6247785M91	2
W866	26	C255	5	X115	16	BLACK	28783202	2
W866	26	C255	5	X115	16	BLACK	6247785M91	2
W867	26	C255	22	X115	59	RED	28783202	2
W867	26	C255	22	X115	59	RED	6247785M91	2
W868	26	C255	6	X115	40	BLACK	28783202	2
W868	26	C255	6	X115	40	BLACK	6247785M91	2
W869	26	C14	5	X115	39	BLACK	28783202	2
W869	26	C14	5	X115	39	BLACK	6247785M91	2
W871	26	C255	8	X115	15	BROWN	28783202	2
W871	26	C255	8	X115	15	BROWN	6247785M91	2
W872	26	C255	11	X115	48	BLUE	28783202	2
W872	26	C255	11	X115	48	BLUE	6247785M91	2
W873	26	C255	9	X115	49	BLUE	28783202	2
W873	26	C255	9	X115	49	BLUE	6247785M91	2
W874	26	C255	10	X115	46	BLUE	28783202	2
W874	26	C255	10	X115	46	BLUE	6247785M91	2
W875	26	C255	13	X115	31	BLACK	28783202	2
W875	26	C255	13	X115	31	BLACK	6247785M91	2
W876	26	C255	19	X115	32	BLACK	28783202	2
W876	26	C255	19	X115	32	BLACK	6247785M91	2
W878	26	DVM02	31	X115	60	BROWN	28783202	2
W878	26	DVM02	31	X115	60	BROWN	6247785M91	2
W879	26	DVM02	31	X115	61	BROWN	28783202	2
W879	26	DVM02	31	X115	61	BROWN	6247785M91	2
W880	26	DVM02	31	X115	62	BROWN	28783202	2
W880	26	DVM02	31	X115	62	BROWN	6247785M91	2
W883	26	C255	1	X115	57	RED	28783202	2
W883	26	C255	1	X115	57	RED	6247785M91	2
W887	26	X309	1	AKK1	2	BLUE	28783202	2
W887	26	X309	1	AKK1	2	RED	6247785M91	2
W888	10	X309	7	AKK1	1		28783202	2
W891 GN	26	C255	21			GREEN	28783202	2
W891 RD	26	C255	20			RED	28783202	2
W892 GN	26	X304	7	C258	31	GREEN	28783202	2
W892 RD	26	X304	1	C258	30	RED	28783202	2
WHITE	80	C01	8	C79	9	WHITE	28781736	0
WHITE	80	C175	5	C70	4	WHITE	28786603	1
WHITE	80	SLOPE	B	B		WHITE	28782928	1
WHITE	80	C79	9	C79	9	WHITE	28786574	0
WHITE	80	C175	5	C70	4	WHITE	28786603	1
YELLOW	80	C01	1	C79	1	YELLOW	28781736	0

18.3 Fitting hydraulic pipes and screw connections

18.3.1 Fitting hydraulic pipes and screw connections

T008389

1. When cutting rings are fitted on hydraulic pipes, the dimension (a) for various pipe sizes must be as specified in the table .
2. Check that the pipe has been flushed.
3. There must be no scratches in the cutting ring.



8 mm	12 - 13,3 mm
12 mm	12 - 13,8 mm
15 mm	12 - 13,8 mm
18 mm	13 - 14,8 mm
22 mm	13,5 - 15,8 mm
25 mm	18,5 - 20,8 mm
30 mm	20,5 - 22,8 mm
35 mm	23,5 - 25,8 mm

Fig. 1. I021880

4. The pipe length tolerance must be as specified in the table (*fig. 2*). Example: The tolerance for a pipe of a length between 120 mm and 315 mm is ±2 mm.
5. The bending angle for pipes must be ±1°.
6. Cutting angles must be 90°, ±0.5°.
7. Burring must be max. 0.2 x 30°.

6	6 30	+ 0,3 + 1
30 120	120 315	+1,5 +2
315 1000	1000 2000	+3 +4
2000 4000	4000 8000	+8 +8

Fig. 2. I021881

8. Fit a cover plug with an outside thread (C) on all union nuts with an inside thread.
9. Fit a plastic bag on all pipe ends without a thread, see (D).
10. Fit a cover plug with an inside thread (E) on all screwed connections with an outside thread.

IMPORTANT: *Dirt is like poison to a hydraulic system!*

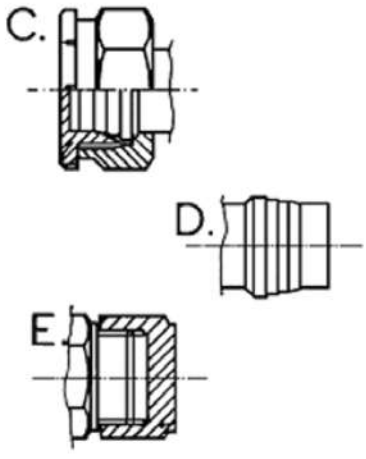


Fig. 3. I021882

18

19.3 Maintenance

19

19.3.1 Lubrication chart, intervals

T009352

Daily/10 hours (red)

Machine side	No.	Description	Qty	Grease	Oil
V	1	Feathering fingers	19		X
V	29	Straw chopper, rotary knives (6	X		X

50 hours (blue)

Machine side	No.	Description	Qty	Grease	Oil
V	4	Chain drive, table auger and PowerFlow belts	2		X
V	5	Bearing for PowerFlow belt roller	1	X	
V	8	Slide, transmission shaft for table	1	X	
V	8	Transmission shaft for table	4	X	
V	9	Crop elevator chain (2	4		X
V	10	Transmission chain for table (1	2		X
V	11	Crop elevator pivot	1	X	
V	12	Top right-angle gear, unloading auger	1	X	
V	13	Bottom right-angle gear, unloading auger	2	X	
V	16	Splined bushings, lateral shafts	3	X	
V	19	Bearing for eccentric shaft	1	X	
V	20	Tension pulley for threshing unit clutch	1	X	
V	23	Spring actuating rod, threshing unit clutch	1		X
V	27	Straw chopper clutch (5	1	X	
RH	33	Chain drive, elevator / filling auger (1	2		X
RH	33	Chain drive, elevator / returns thresher (1	2		X
RH	34	Slip clutch, elevators	1	X	
RH	37	Universal joint, filling auger (1	2	X	
V	44	Swivel bearing for ladder	1	X	
RH	45	Bearing for eccentric shaft	1	X	
RH	46	Splined bushings, lateral shafts	3	X	
RH	49	Crop elevator pivot	1	X	
V	50	Chain drive, reversing	1		X
RH+LH	57	Ball joint for Auto Level hydraulic ram	1+1	X	
RH+LH	58	Bearing for swivel traction wheel suspension (4	2+2	X	
RH+LH	60	Bearing for final drive shaft	1+1	X	
RH	61	Chain drive for rape auger	1		X
V	69	Knife Drive Gearbox	1	X (5 strokes)	
RH	70	Reel (30' PowerFlow tables only)	1	X	
V	71	Reel (30' PowerFlow tables only)	1	X	

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Bottom right-angle gear, unloading auger (13)
Qty: 2
Colour: Blue
Interval: 50 Hours
Lubricant: Grease

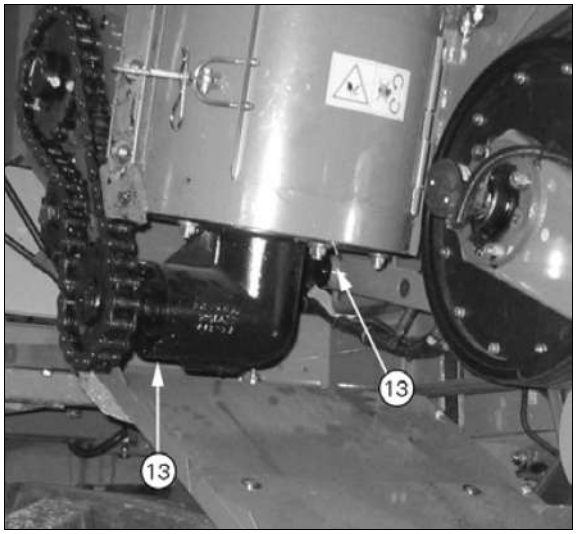

Fig. 16. I019392

Slip clutch, elevator chain top shaft (14)
Qty: 1
Colour: Yellow
Interval: 100 Hours
Lubricant: Grease

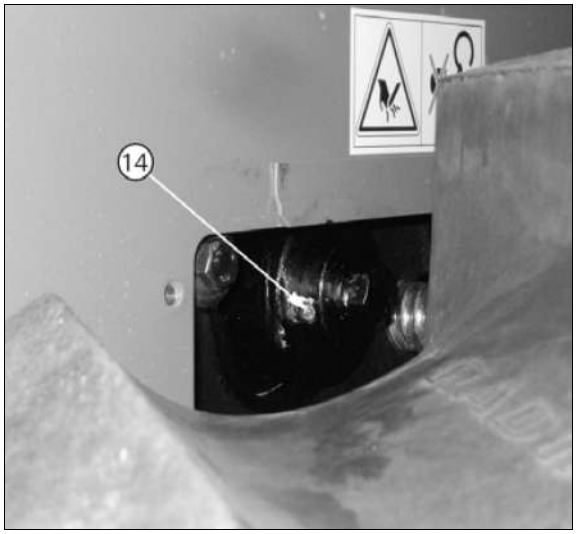

Fig. 17. I019393

Splined bushings, lateral shaft (standard machine) (16)
Qty: 3
Colour: Blue
Interval: 50 Hours
Lubricant: Grease

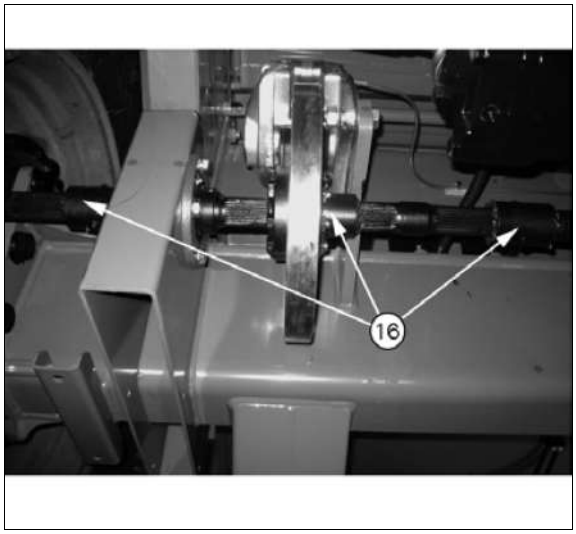

Fig. 18. I019394

19

19.3.5 Lubrication points, right-hand machine side

T009361

NOTE: *The numbers in brackets refer to the numbers indicated in the lubrication chart, see §19.3.1, page 591, and on the illustrations, see §19.3.2, page 594 and see §19.3.3, page 596.*

King pins (31)
Qty: 1
Colour: White
Interval: 250 Hours
Lubricant: Grease

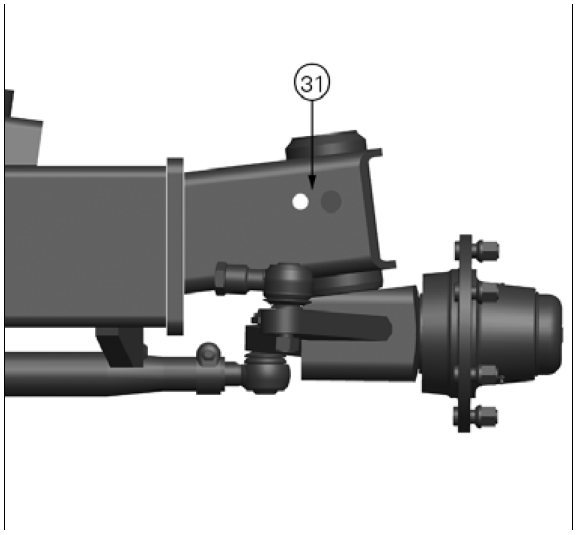

Fig. 46. I019347

King pins and tie rods (four-wheel drive) (31)
Qty: 5
Colour: Yellow
Interval: 100 Hours
Lubricant: Grease

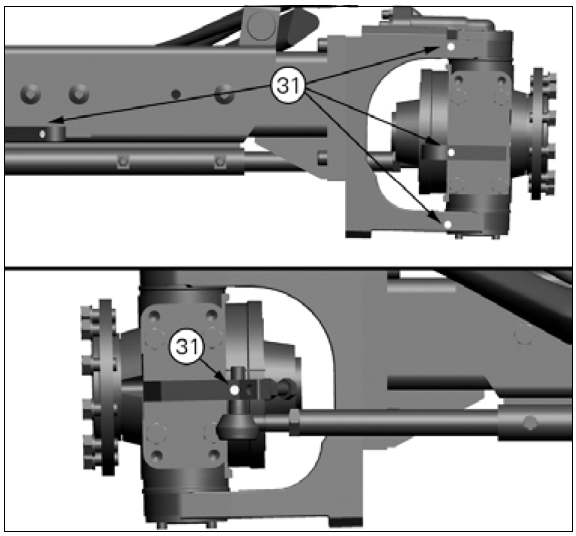

Fig. 47. I036384

Hubs, rear wheels (32)
Qty: 1
Colour: White
Interval: 250 Hours
Lubricant: Grease

Fig. 48. I019349