Combine MF 7200 CEREA Series

Workshop Manual

Engine	Unit	MF 7256	MF 7272	MF 7274/78	MF 7274/78
Rotary screen	units	1	1	1	1
Exhaust-aspirated air cleaner on air intake		yes	yes	yes	yes
Fuel tank, capacity	litres	600	600	750	750
Coolant	litres	50	60	60	60
* Gross power according to ISO 14396					
** Power Boost ensures additional capacity during tank unloading. Through a signal from the unloading system the engine output is increased by 30 HP / 22 kW during unloading.					

Gear oil	Unit	MF 7256	MF 7272	MF 7274/78
Gearbox contains	litres	10.5	10.5	9.5
Coupler housing for oil motor	litres	-	-	1.5
Final drives contain	litres	7.5	7.5	6.0

Transmission			Unit	MF 7256	MF 7272	MF 7274/78
Hydrostatic transmission				yes	yes	yes
3-speed, mechanical gearshift				yes	yes	-
4-speed, electrical gearshift				-	-	yes
Speed	1st gear	Forward	km/h	0-7	0-7	0-6
		Reverse	km/h	0-5	0-5	0-3
	2nd gear	Forward	km/h	0-13	0-13	0-12
		Reverse	km/h	0-9	0-9	0-6
	3rd gear	Forward	km/h	0-26	0-26	0-20
		Reverse	km/h	0-18	0-18	0-10
	4th gear	Forward	km/h	-	-	0-25
		Reverse	km/h	-	-	0-12

Brakes	MF 7256	MF 7272	MF 7274/78
Hydraulically activated independent brakes	yes	yes	yes
Mechanically activated parking brake	yes	yes	yes

0.5 Practical advice

Safety
When working on any machine, the first thing you must be aware of is your own safety and that of others. In order to work without risk, it is important to understand what the work actually involves, to use implements and any equipment needed correctly, and, finally, to use your head at all times.

Troubleshooting
The following method can be used to help locate faults in the machine based on the information in the workshop manual.

The method involves going through a number of logical steps in order to identify, localise and repair the fault:

- Establish the nature of the problem.
- List possible causes.
- Rule out causes.
- Carry out the checks in the right order in order to find the right cause.
- Compare the approximate useful life remaining with the cost of spare parts and labour.
- Carry out the repair that was found to be necessary.
- Check that the components and functions affected are working correctly.

Handling heavy objects
Unless otherwise indicated, adjustable lifting tackle must always be used for disassembly. All lifting straps or chains must be parallel with each other and hang as vertically as possible in relation to the object being lifted. If the straps or chains are designed for a much higher lifting capacity than the weight of the current load, it is permitted to use straps and chains in a triangular arrangement (2, 3 or 4 straps or chains from the same ring under the tackle hook).

Please note that when a tilted component is removed, the lifting eye will have a much smaller capacity if the angle between the load-bearing elements and the object is less than 90° (right and wrong lifting method). The lifting eye must never be bent. The same applies to the yokes, which must only be subjected to tensile stress. A length of pipe and a disc can be used to reduce the load on the lifting eye.

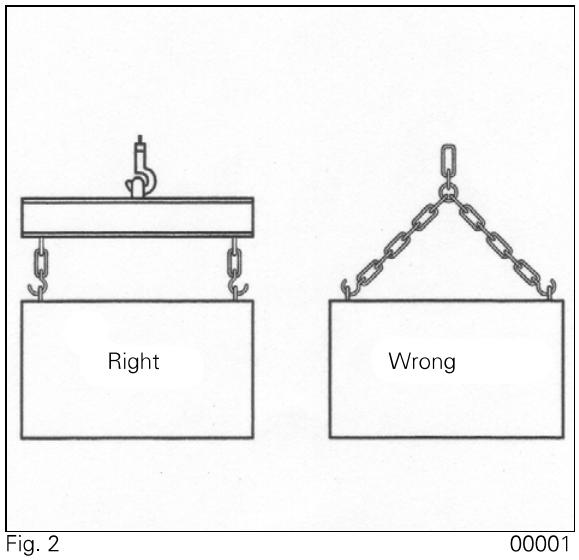

Fig. 2 00001

0.8 Locking and sealing agents

The products are called Loctite in this manual for original fitting.

The trade names or AGCO's equivalent part numbers as set out in the following table are used for repairs:

Original fitting name	*Trade name*
270	Strong thread locking
242	Normal thread locking
AS 310 silicone	Colourless silicone
5910 black silicone seal for rear axle tube	Blacktite
510 sealing agent for flat surfaces	Formajoint/Masterjoint
518 sealing agent for flat surfaces	Unijoint/Masterjoint

The products can be ordered from the following address:

Henkel Loctite France S.A.

10, avenue Eugène Gazeau

BP 40090

F-60304 Senlis Cedex

Procedure for using Loctite products

1. Remove all old product residues and rust.
- By mechanical means: Brush, abrasive cloth
- By chemical means: "DECAPLOC 88"
- Allow the product to work, scrape and wipe.

2. Degrease the parts with a dry solvent.
- Preferably "LOCTITE 706 Super Dry Solvent".

3. Allow the solvent to evaporate.

4. Coat the parts with the recommended LOCTITE product:
- In non-through holes put the product on the last few grooves in the bottom of the hole.
- In the case of cylindrical knock-ins, coat both contact faces with the product using a clean brush.
- With bearing surfaces put a stripe on one of the two surfaces and round the holes, then press the surfaces together as quickly as possible.

Note: *Limit the amount of product used to avoid jamming adjoining parts.*

Note: *The fit must not be changed after 5 minutes of hardening so as not to "break" the product film.*

Note: *If the ambient temperature is less than +10°C, LOCTITE T 747 activator should be used on at least one of the workpieces after the second stage in order to make the LOCTITE product harden faster (except for SILICOMET). Excess product outside the joint will not harden (the products are anaerobic, i.e. they harden when there is no oxygen present).*

Grease

If components that are in contact with the hydraulic oil are lubricated with grease, oil-miscible grease must be used to prevent the hydraulic filters from becoming blocked.

Use: "Amber Technical" grease, which is available from WITCO, 76320 Saint-Pierre des Elfes, France.

- Check that there is some play (F) between the knife back and the fingers when the swivel arm is in mid position and in both extreme positions.
- Tighten bolts (B) by 275 Nm.
- Tighten bolt (E) by 81 Nm.
- Tighten nut (G) by 190 Nm.
- Tighten bolts (H) by 130 Nm.

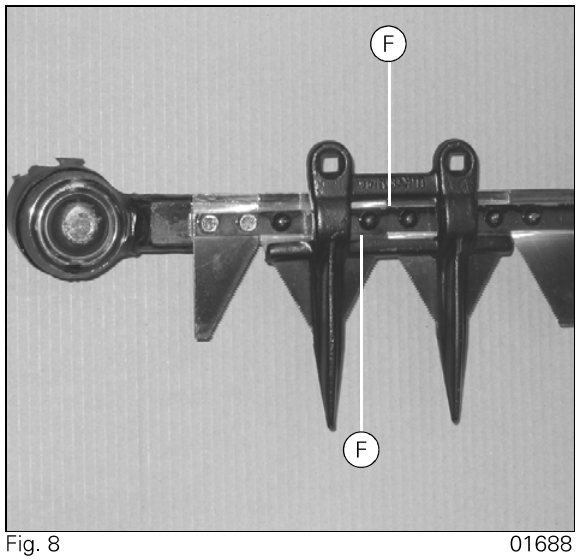

Fig. 8 01688

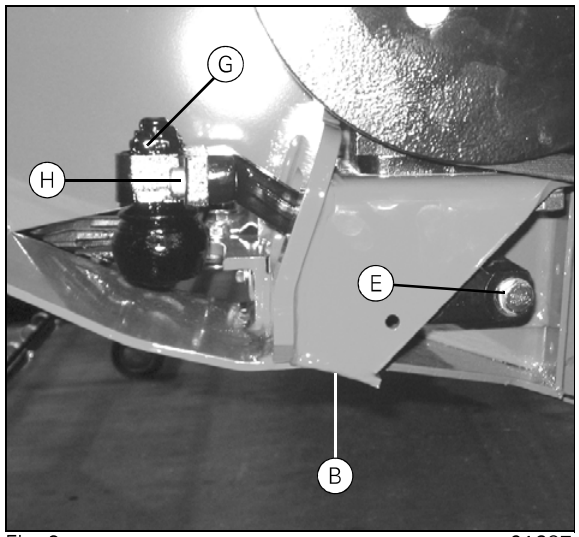

Fig. 9 01687

1.3.7 Adjustment of table auger and feathering fingers

Note: *Depending on geographical area and varying harvesting conditions, different adjustments may be necessary to give the best results. The indicated adjustment dimensions are the factory recommendation. Local conditions and experience may suggest changes to the adjustments.*

1. Dismount the bolts in the end cover on both sides. By turning the adjustment bolt (A) set the clearance between the auger flights and the bottom to (X) = 10 mm ± 2.
2. Tighten bolts (1) and (A).
3. Release the nuts on the right-hand side: By turning the adjustment bracket (B), set the clearance between the feathering fingers and the table bottom to (Z) = 23 mm +2/-3 when the feathering fingers are at right angles to the bottom.

Note: *When the removable cut-off strip is mounted (as described in section 1.4.1 on page 48), set the clearance between the auger flights and the cut-off strip to (Y) = 3 mm ± 1, and the clearance between the feathering fingers and the table bottom to (Z) = 33 mm +2/-3 whenthe feathering fingers are at right angles to the bottom.*

IMPORTANT: *The clearances must be checked across the full width of the cutting table and the indicated dimensions must be adjusted where the clearances are smallest.*

Note: *The permitted play on the table auger depends on the width of the cutting table and appears from the table below. Control measurements can only be taken when the cutting table has been parked indoors or in the shade for at least four hours. If the cutting table is allowed to rest in the sun for a good while, the table auger will deflect due to the temperature difference between the front and rear. This applies particularly to cutting tables over 6 m:*

Table	Permitted play, max.
12´ - 3,7	4 mm
14´ - 4,3	4 mm
16´ - 5,0	5 mm
18´ - 5,6	5 mm
20´ - 6,2	6 mm
22´ - 6,8	6 mm
25´ - 7,7	6 mm

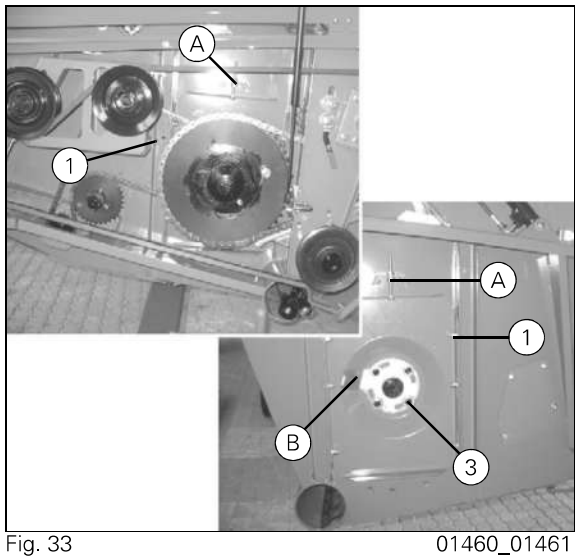

Fig. 33 01460_01461

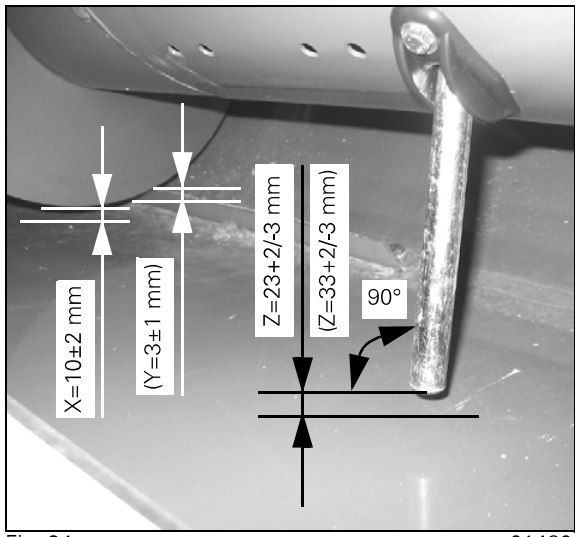

Fig. 34 01482

1.7 PowerFlow table

Note: *Before removing belts, rollers, bearing housings, scrapers, etc., always start by removing the outermost section on the right- or left-hand side. Then remove the next section and continue in the same way until the faulty section is reached.*

IMPORTANT: *Before dismounting, mark the bearing brackets, their location and the various shims sothat they can be put back in their original position. This is very important if the belts are going to run correctly.*

IMPORTANT: *After any repair or replacement, and before every new season, it is important to run in the belts as described in section 1.7.6 on page 66 to ensure that they run correctly.*

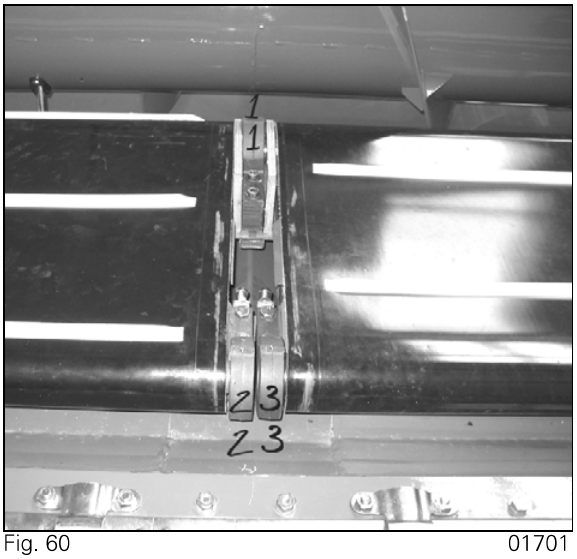

Fig. 60 01701

4. Once the tension has been adjusted on both sides, use the belt gauge (D) to check that the parallelism between the front and rear rollers displays a max. deviation of 1 mm (the gauge block is supplied with the cutting table).
5. If the parallelism needs adjustment, slacken the belt on one side, as it must never be overtightened.
6. Finally tighten all the bolts, tighten and countertighten the adjustment screws.

Note: *Run the belts in with the cutting table off the ground and without the cover plates on the bearing housings.*

DANGER: Under no circumstances adjust or go near the reel and table auger while the machine is in operation.

7. Let the belts run slowly. Check that they are running with the same distance to the guide blocks on both sides.
8. If the belt is running to one side, slacken it on the opposite side until it runs in the middle.
9. When all the belts are running straight, increase the speed to maximum and make sure that the belts are still running in the middle and the carriers are not slanting in relation to the rollers.

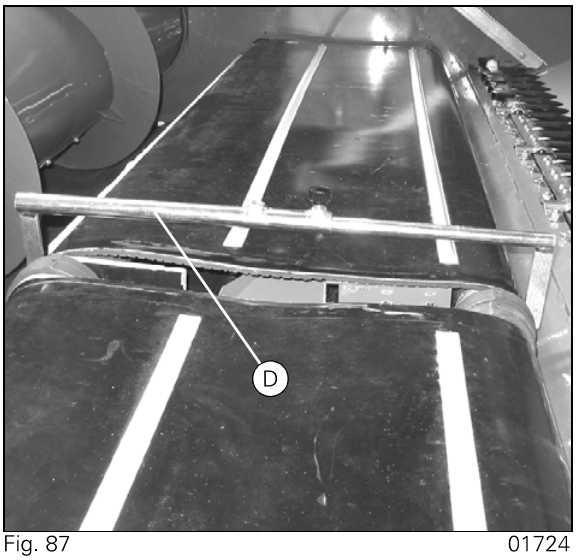

Fig. 87 01724

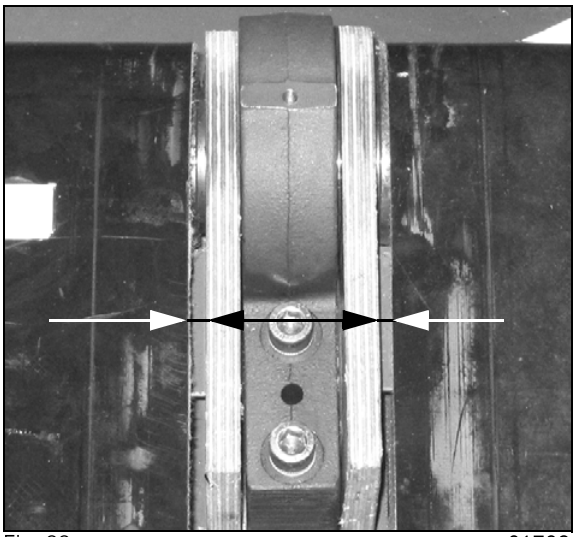
Fig. 88 01729

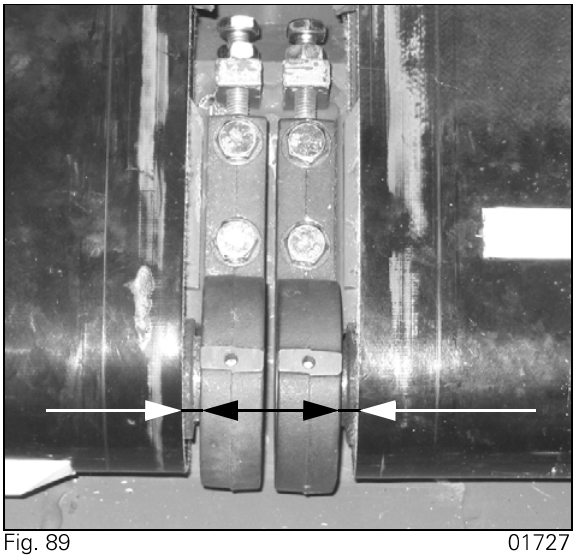
Fig. 89 01727

2.3 Hydraulic cylinders

2.3.1 Replacement of cylinder – reel up/down

1. Disconnect the cylinder guard.
2. Disconnect the oil hoses for the cylinder.

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

3. Dismount the cotter bolts and remove the cylinder.

IMPORTANT: *The two hydraulic cylinders operate on the master and slave principle, and in order to ensure correct function, new or reconditioned cylinders must be bled as described below before being mounted on the cutting table.*

Position the master cylinder (M) at an angle so that the hose connection (P1) is higher than (P2). Pull the piston all the way out and connect the pressure hose (T) from the hydraulic valve to (P2). Activate the valve until the piston is pressed all the way in and oil without any air bubbles emerges at (P1). Disconnect the pressure hose (T) and plug up (P1) and (P2) to prevent oil from escaping.

Push the piston in the slave cylinder (S) right home and remove the bleed screw (U). Then fill the cylinder with oil by coupling the pressure hose (T) to the connecting hose (t) and activating the valve until oil without any air bubbles emerges at (U). Fit the bleed screw and connect the hoses to the right places: (T) at (P1) and (t) at (P2).

Raise and lower the reel all the way to extreme position 5 - 6 times and leave it 2 - 3 cm from bottom position. Bleed at (U) until oil without any air bubbles emerges.

If the reel bounces or rises lopsidedly, repeat bleeding until it works correctly.

4. Once mounted, the reel should be adjusted using the threaded rod (A) until the distance from the top edge of the knife to the tip of the reel spring tines is 27 ± 7 mm with the reel pulled all the way back.

Check at the same time that the reel stays parallel when it rises. If necessary, adjust with the threaded rod (A).

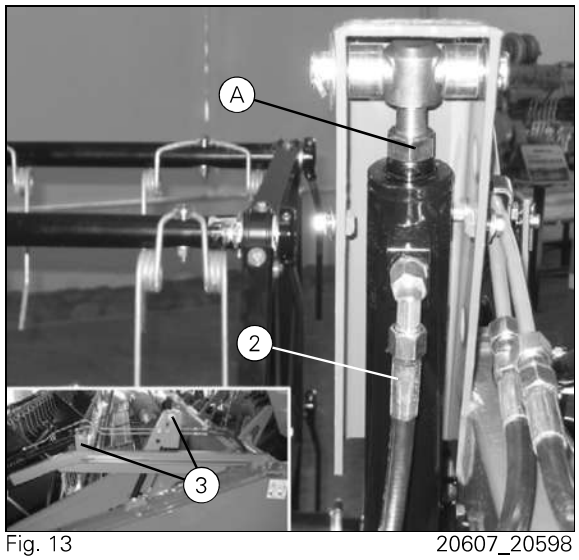

Fig. 13 20607_20598

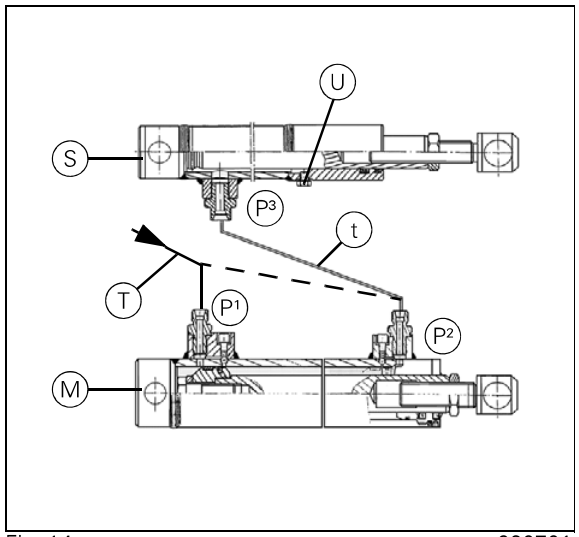

Fig. 14 020701

7. Dismount electric cable for revolution sensor.
8. Dismount electric cable for sensor
9. Dismount linkage for preset cutting height (Fig. 1).
10. Dismount the belt as described in section 11.5.9 on page 261.
11. Dismount the split pins in the lifting rams(Fig. 3).
12. Dismount the locking key on both sides.

Remove the main crop elevator using suitable lifting gear or a crane.

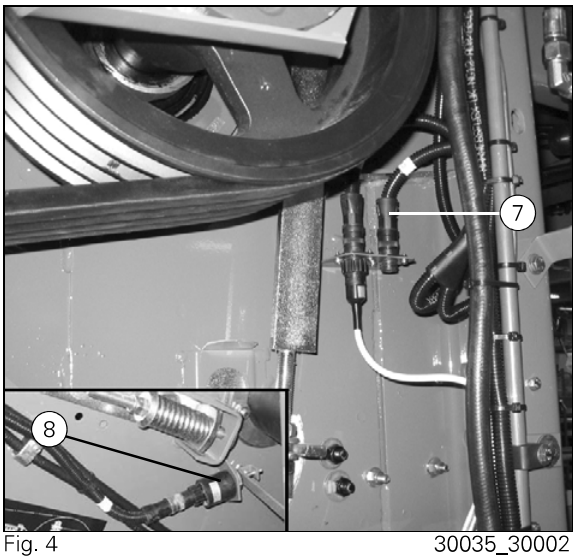

Fig. 4 30035_30002

3.2.2 Mounting

Follow points 1 - 12 in reverse order when mounting.

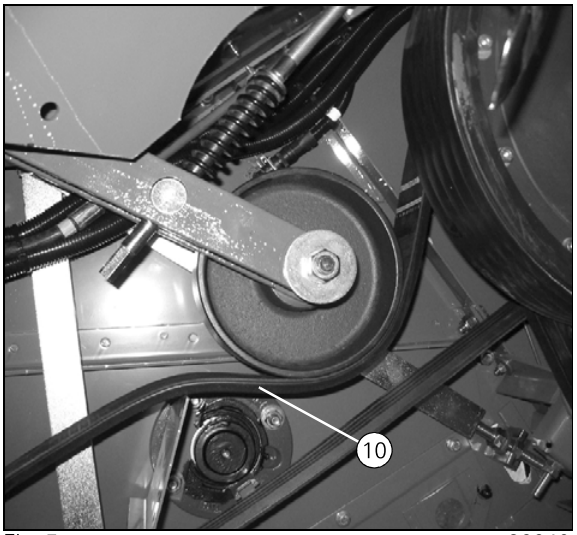

Fig. 5 30040

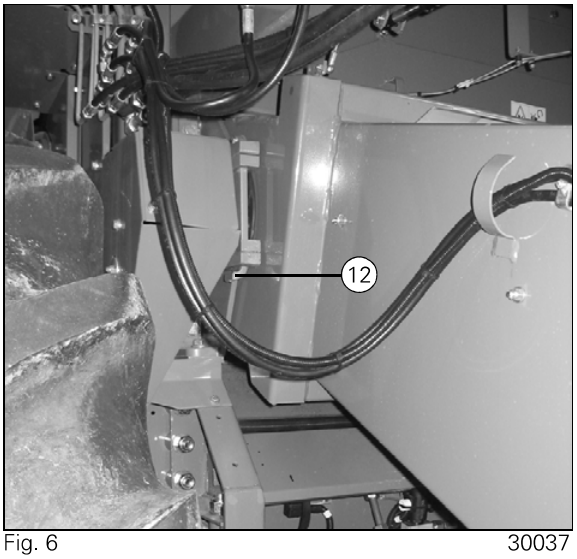

Fig. 6 30037

3.5 Elevator chain front shaft

3.5.1 Removal

1. Dismount the adapter at the elevator opening as described in section 3.8.1 on page 102.
2. Dismount the elevator chains as described in section 3.3.1 on page 91.
3. Dismount the spring.
4. Dismount the bearing bracket.
5. Remove the elevator chain shaft and bearing brackets from the elevator.

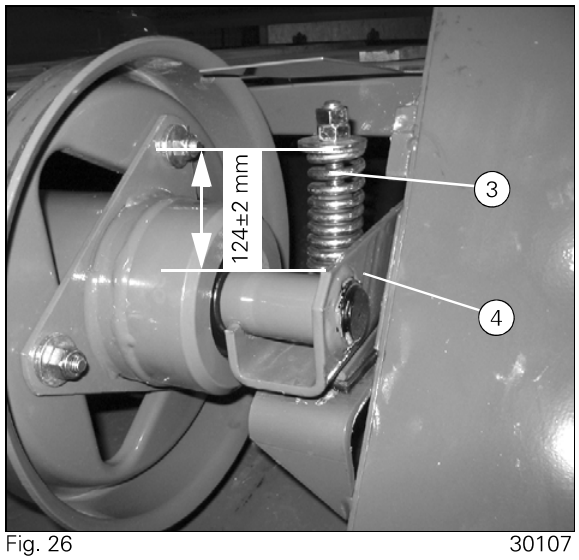

Fig. 26 30107

3.5.2 Mounting

Follow points 1 - 5 in reverse order when mounting. Please note:

- Grease the surface on the inside of the crop elevator (C) where the bearing bracket is moving.
- Mount 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 only so much that the spring bracket is able to move.
- Compress the spring (3) at a length of 124±2 mm.
- Mount the tension spring for the elevator chain. Adjust the tension to the correct value as described in section 3.3.2 on page 91.

Note: *The mounting order for the various elements is shown in (Fig. 28).*

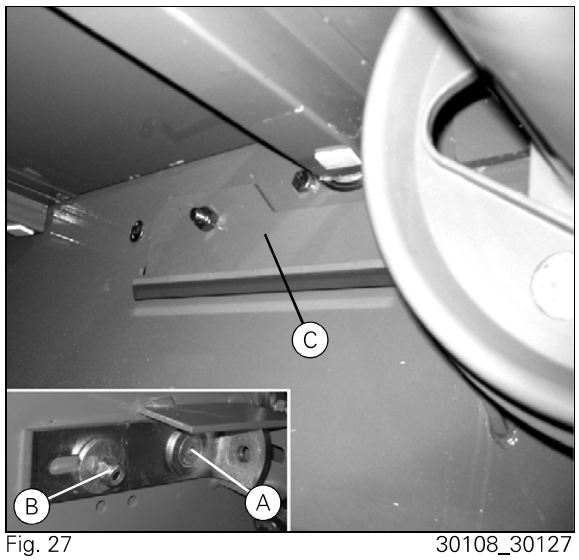

Fig. 27 30108_30127

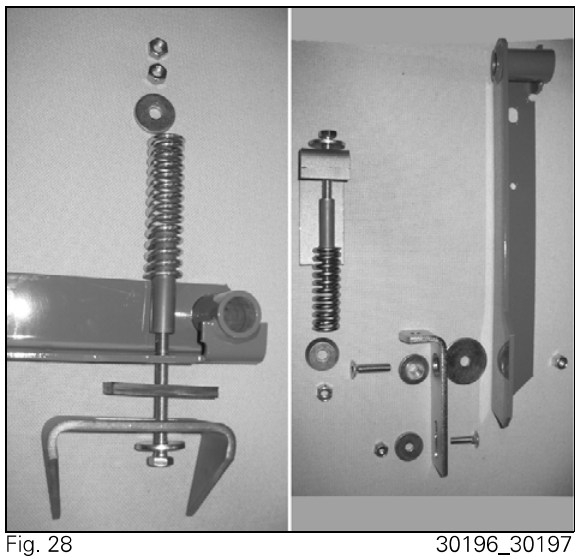
Fig. 28 30196_30197

3.10 Electrical Reversing

3.10.1 Removal

1. Dismount the guard.
2. Separate the chain at the joint link and take it off the sprocket.
3. Dismount the revolution sensor using the special tool as described in section 18.6 on page 585.
4. Dismount the locking ring and pull the sprocket off the shaft.
5. Remove the bolts from the flanged bearing.
6. Dismount the bearing bracket.
7. Dismount flanged bearings, Loosen the locking collar (A) for the bearing and pull the bearing off the shaft.

3.10.2 Mounting

Follow points 1 - 7 in reverse order when mounting.
Please note:

- Check that the distance between the sprocket and the bracket at (B) and (C) does not vary by more than 2 mm.
- Adjust the chain as described in section 11.4.6 on page 255.

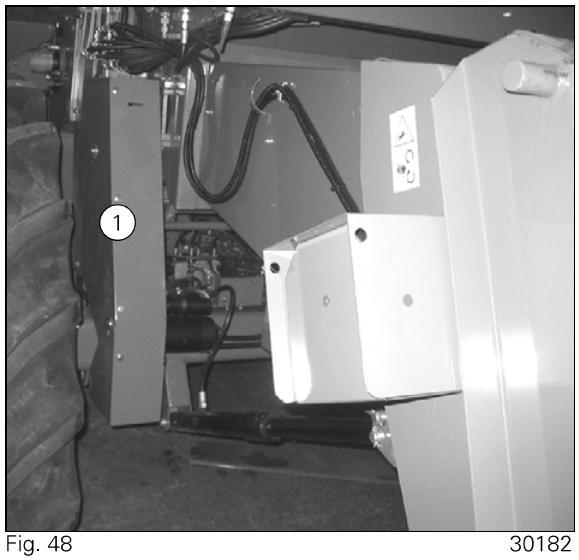

Fig. 48 30182

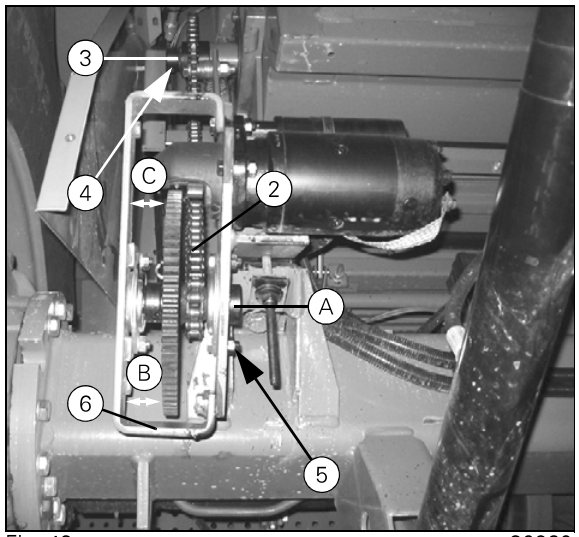

Fig. 49 30260

4.4 Threshing cylinder

4.4.1 Removal

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

Note: *Support the concave on the left-hand side as described in section 4.3 on page 113.*

2. Dismount the sensor for the revolution counter using the special tool as described in section 18.6 on page 585.
3. Dismount 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).
6. Dismount the guard.
7. Slacken and remove the belt as described in section 11.3.2 on page 246.
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.

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. 18).*

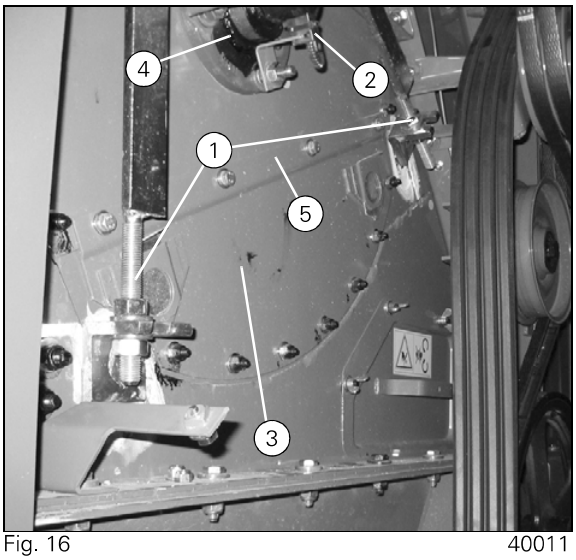

Fig. 16 40011

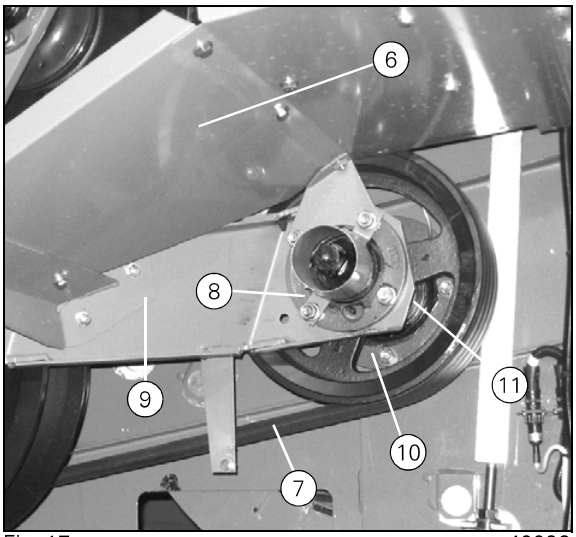

Fig. 17 40026

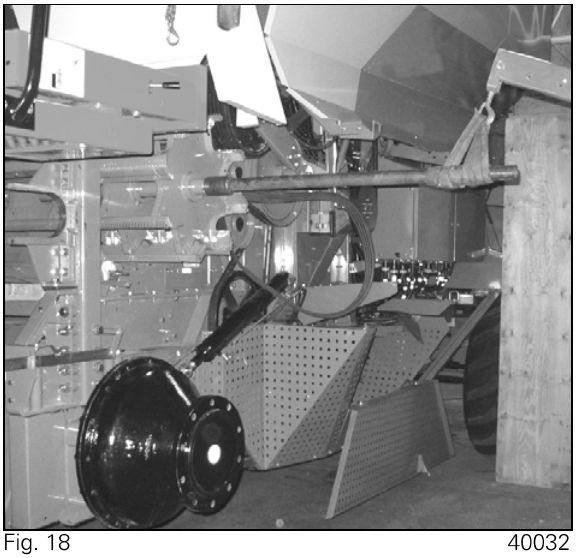
Fig. 18 40032

10. Unscrew the nut from the shaft using the special tool (D 86883386).
11. Pull the magnetic clutch off the shaft and lift down using suitable lifting gear, see (Fig. 42).

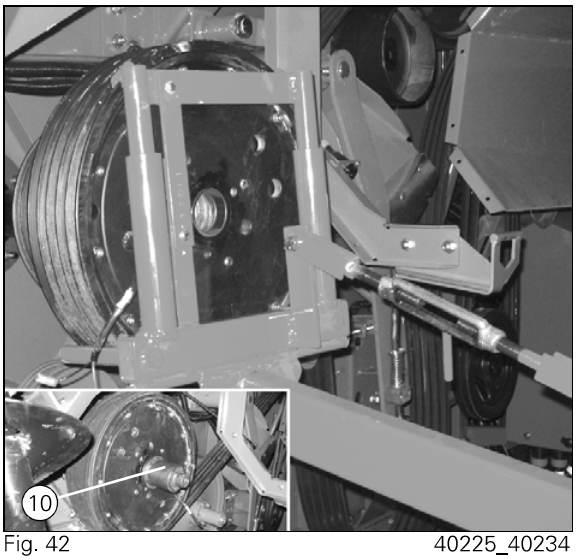

Fig. 42 40225_40234

4.5.8 Mounting, magnetic clutch

Follow points 1 -11 in reverse order when mounting.
Please note:

- Lubricate the shaft, tightening elements and nut with hydraulic oil before assembly.
- Fit the two sets of tightening elements (D), spacing sleeve (E), lock plate (F) and centre nut (G) in the order shown in (Fig. 43).
- Tighten the centre nut (G) by 600 Nm.

IMPORTANT: *After fitting the magnetic clutch, but before fitting the supporting bracket and belts, make sure that the shaft play at the shaft end is max. 0.4 mm*

- When mounting the supporting bracket (9) (Fig. 41), run the wire through the bearing in the groove in the shaft before fitting the locking collar of the bearing.
- Connect the wires to thecommutator (Fig. 40): Red to + and black to –.
- Finally adjust all belts as instructed.

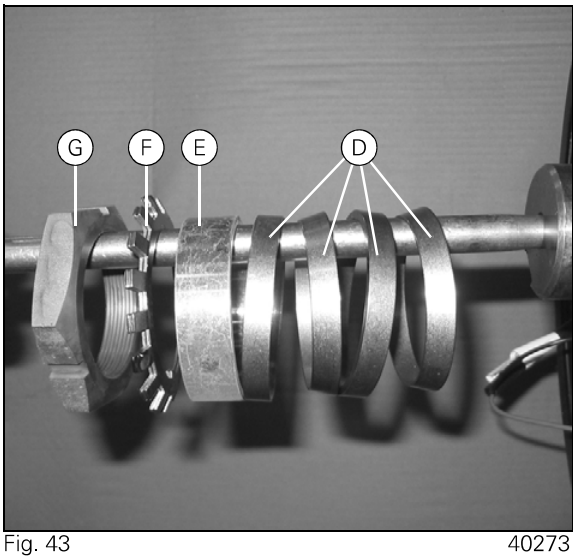

Fig. 43 40273

4.9.3 Replacement of bearings

Once the bearing and bearing housing have been removed, replace the bearing as described in section 18.4 on page 583.

Right-hand side:

1. Slacken the belt and take it off the belt pulley as described in section 11.3.3 on page 247.
2. Pull the belt pulley off the shaft using a three-pronged puller.
3. Loosen the locking collar, unscrew the bearing housing and pull the bearing off the shaft.

Left-hand side:

4. Dismount the revolution sensor using the special tool as described in section 18.6 on page 585.
5. Loosen the locking collar, unscrew the bearing housing and pull the bearing off the shaft.

Follow the above points in reverse order to reassemble.

4.9.4 Replacement of rasp bars

1. Dismount the rasp bars as described in section 4.9.1 on page 135.
2. Mount the rasp bars on the cylinder spiders alternately so that the pins are offsetto each other (A) (Fig. 67).

IMPORTANT: *The cylinder is electronically balanced from the factory before being fitted in the machine. The necessary counterweights are screwed onto the outer cylinder spiders and may not normally be removed.*

When reconditioning the rotary separator cylinder by aligning it or replacing rasp bars, weigh all the rasp bars precisely in pairs. Any weight differences can be equalised by grinding the rear edge of the heaviest or welding a weight onto the lightest bar of each pair. Then mount them on the cylinder in opposing pairs.

3. Check the initial setting of the rotary separator concave as described in section 4.10.3 on page 139.

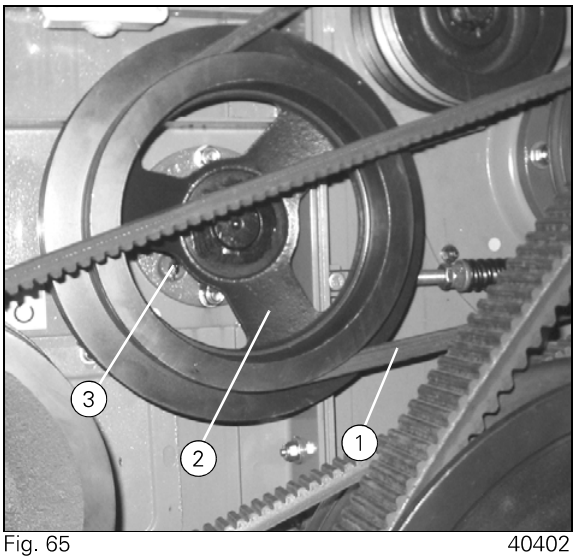

Fig. 65 40402

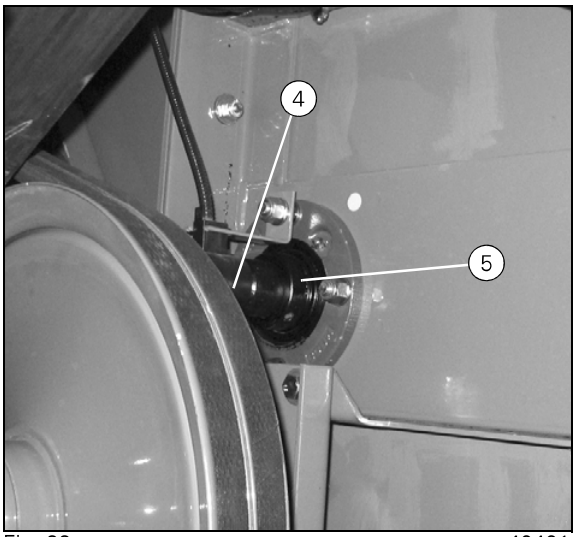

Fig. 66 40401

Fig. 67 40411

5.4 Crank - rear

5.4.1 Removal

1. Dismount the second grain pan as described in section 6.4.1 on page 159.
2. Dismount the straw walker bearings on the straw walkers.
3. Support the straw walkers by putting a wooden beam under them and blocking it up on the ground behind the machine.
4. Dismount the flanged bearing on the right-hand side. Loosen the locking collar (A) for the bearing and pull the bearing off the shaft.
5. Loosen the bolts in the bearing flange on the left-hand side without dismounting the bearing. Loosen the locking collar for the bearing and pull the shaft out of the bearing.
6. Pull the crank out of the bearing on the left-hand side, then edge it out of the right-hand side of the machine.

5.4.2 Mounting

Follow points 1 - 6 in reverse order when mounting. Please note:

- Mount the flanged bearings (C) externally on the sides of the machine with a locking collar on the inside.
- After positioning the crank on the sides of the machine, tighten the bolts in the bearing flanges loosely.
- Adjust the crank laterally so that the distance (B) from the outer bearing to the side of the machine is the same on both sides, and tighten the locking collar on the right-hand bearing.
- Tighten the bolts in the bearing flanges.
- Turn the crank a couple of times and tighten the locking collar on the left-hand bearing.

5.4.3 Replacement of bearings

Replace the bearings in the same way as for the front crank as described in section 5.3.3 on page 146.

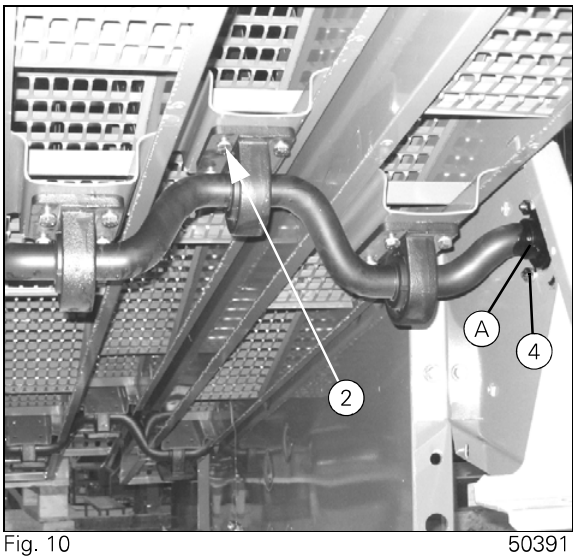

Fig. 10 50391

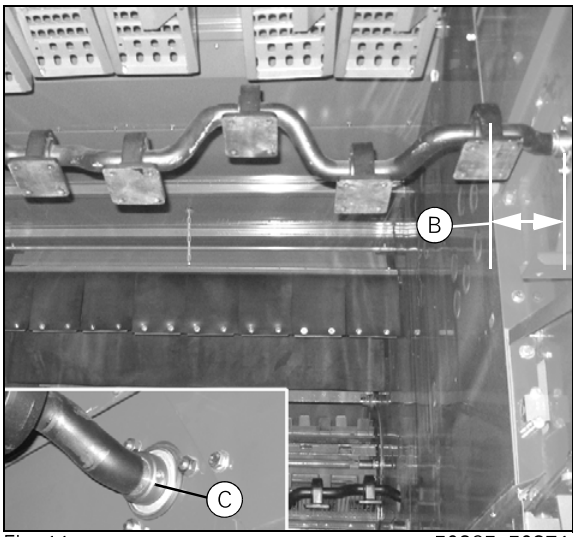

Fig. 11 50385_50371

6.3.2 Mounting

Follow points 1 - 7 in reverse order when mounting. Please note:

- When reassembling, hold the two bearing shells together by putting a seal ring on each bolt (A), as there is no room to assemble the parts when the main grain pan is being mounted in the machine. Remember to fit the shim (B) under the bottom bearing shell.
- Check that the clearance (C) between the side of the machine and the main grain pan is the same on both sides ± 2 mm, and that the side seals bear against the side of the machine along the full length of the pan.
- Check that the sealing block (D) is in place and undamaged.

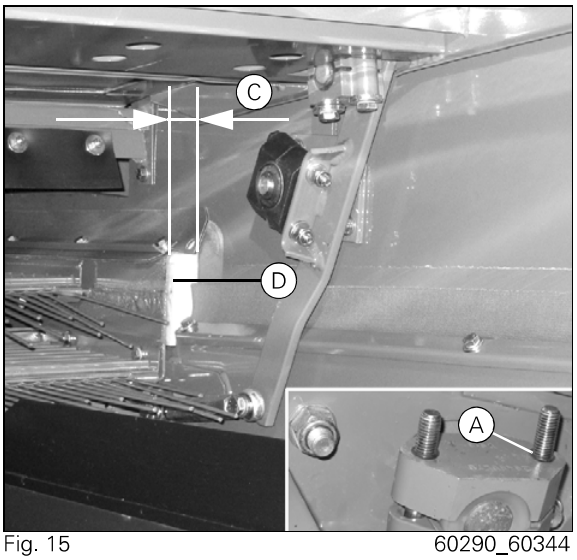

Fig. 15 60290_60344

6.3.3 Replacement of swivel arm and bearings

1. Replace the rubber bearings (A) and (B) in the front swivel arm by dismantling the bearing shell. Remove the old element by cutting it into pieces. Clean the journal and press a new element on. Distance (X) from centre of bearing to swivel arm = 29 mm.

   In order to replace the rear plastic bearing at the shaker shoe, the sieves and stepped plates must be removed as described in the operator's manual. This provides access from the rear of the machine.
2. Dismount the bearing housing as described in section 6.3.1 on page 156.
3. Raise the main grain pan and hold it in place with a wooden block (D). Remove the old element with a puller or by cutting it into pieces. Clean the journal and press a new element on. Soften the element in hot water before fitting. Distance (F) from centre of bearing to bracket = 43 mm.
4. Mount the bearing housing as described in section 6.3.2 on page 157.

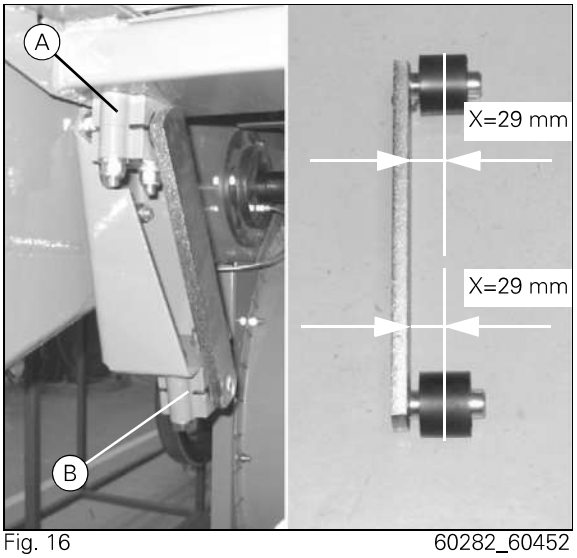

Fig. 16 60282_60452

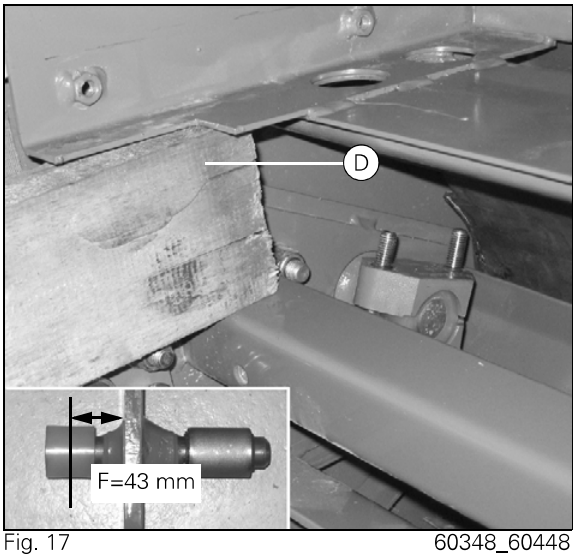

Fig. 17 60348_60448

6.6 Bottom shaker shoe

6.6.1 Removal

1. Dismount top shaker shoe as described in section 6.5.1 on page 163.
2. Dismount the guard.
3. Dismount the rear swivel arm.
4. Dismount the transverse bearing suspension.
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.

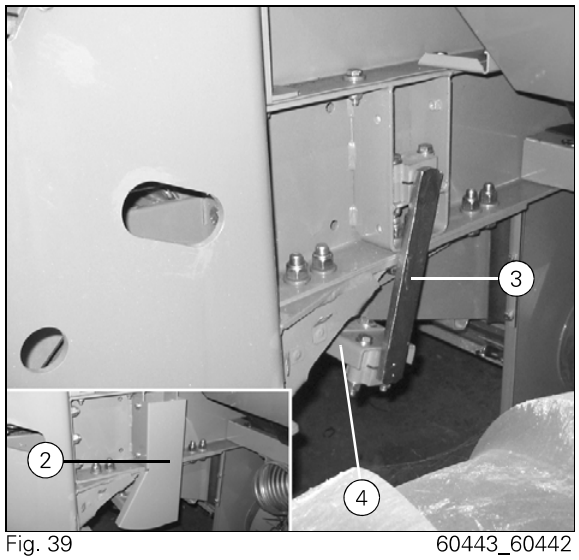

Fig. 39 60443_60442

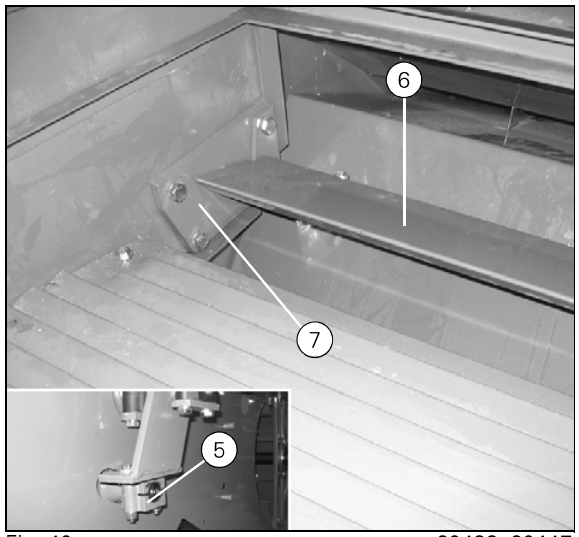

Fig. 40 60433_60447

5. Support the bearing housing and press the bottom bearing (C) out. Pull the bearing off the shaft, then turn the bearing housing and press the other bearing out.
6. Check the moving parts of the variator for wear and seizures.

Clean the parts thoroughly and polish with fine emery cloth if necessary. Fit new O-rings (D) (Fig. 64) and clean all the threaded holes with compressed air. Make especially sure that the oil groove in the bearing housing for lubricating the moving parts of the variator is clear. Grease all the sliding surfaces before reassembly.

7. Assemble and fit the variator by following points 1 – 5. Cross-tighten the bolts (E) by a torque of 23 Nm.

Fig. 65 60238_60235

6.9.2 Adjustment of fanning mill variator

1. Adjust the actuator all the way out to its extreme position.
2. Loosen the bolts (A) in the bracket.
3. Push the intermediate pulley (B) into its extreme position so that the belt from the fanning mill (C) is at max. diameter and the belt from the rear beater (D) is at min. diameter.
4. In this position, tension the belts using the adjusting bolts (E) on both sides of the variator.
5. Fasten the bracket (S).
6. Check the speed in the extreme positions by adjusting the actuator.

   Min. = 460 ± 25 Max. = 1150 ± 50

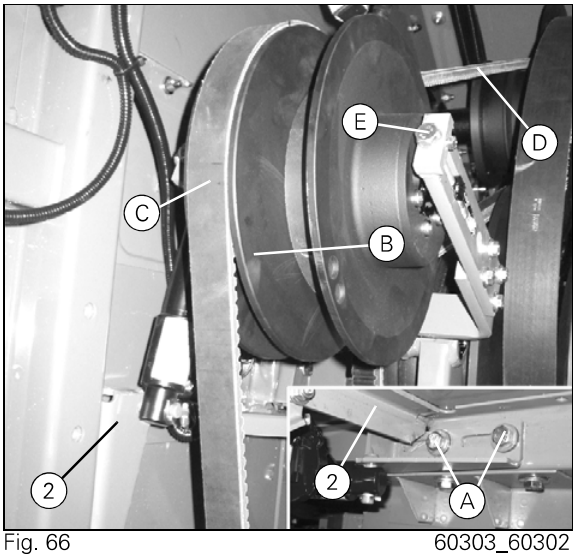

Fig. 66 60303_60302

7.3 Returns thresher

7.3.1 Removal

1. Dismount the chains as described in section 11.4.4 on page 254.
2. Unscrew the bolts at (A), (B) and (C). Remember to support the returns thresher.
3. Lift the returns thresher free of the machine.

7.3.2 Mounting

Follow points 1 - 3 in reverse order when mounting.

7.3.3 Replacement of sprockets

Note: *The returns thresher has to be removed to make space to replace the sprockets.*

1. Dismount the centre bolt (A) and pull the sprocket off the shaft.
2. When reassembling, insert 5 x 2 mm spacers (B).

7.3.4 Replacement of threshing cylinder

Note: *The returns thresher has to be removed in order to replace the threshing cylinder.*

1. Remove the centre bolt.
2. Remove the bolts in the right-angle gear.
3. Pull the threshing cylinder off the shaft while pushing the right-angle gear to one side.

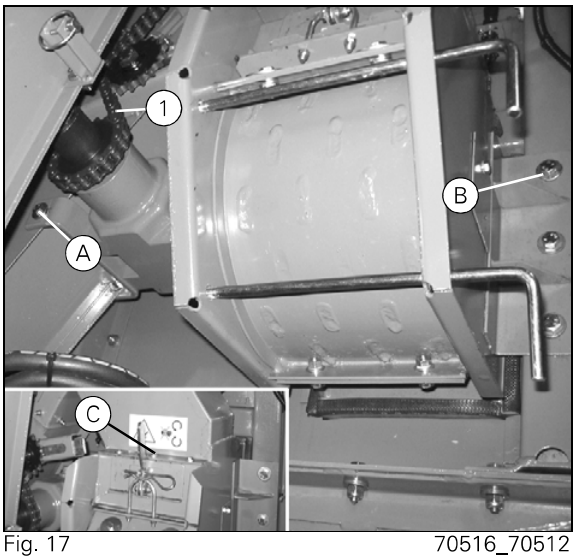

Fig. 17 70516_70512

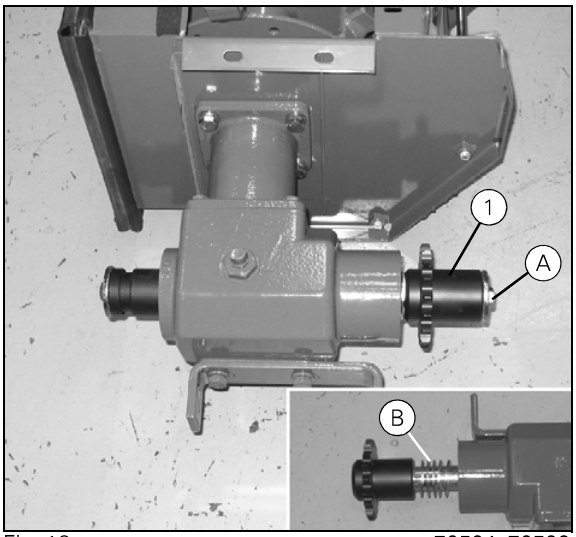

Fig. 18 70524_70522

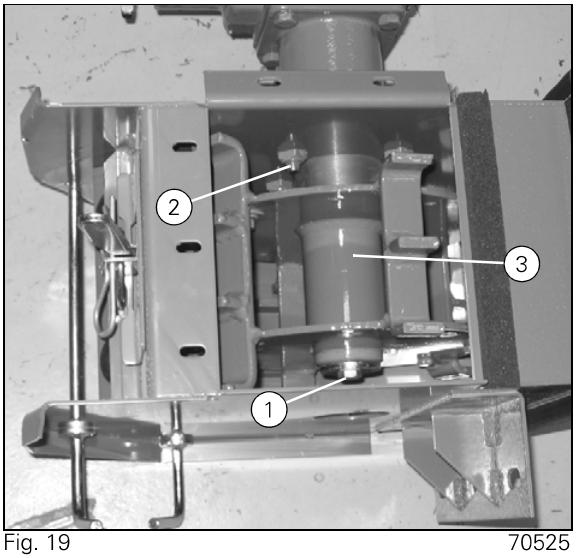

Fig. 19 70525

10. Disconnect the electrical connectors from the starter.
11. Disconnect the electrical connectors from the alternator.
12. Disconnect the electrical connectors from the preheater relay.
13. Disconnect connector for engine control.
14. Disconnect the electrical connectors from all sensors and transmitters (not illustrated).

IMPORTANT: *Expose all the cables and tie them up to prevent them from being damaged when the engine is being hoisted out and in.*

15. Remove the countershaft belt as described in section 11.5.5 on page 258.
16. Remove the belt for the unloading auger shaft as described in section 11.5.10 on page 261.
17. Remove the belt for the hydrostatic pump as described in section 11.5.11 on page 262.
18. Dismount the guards.
19. Dismount the belt pulley for the hydrostatic pump.

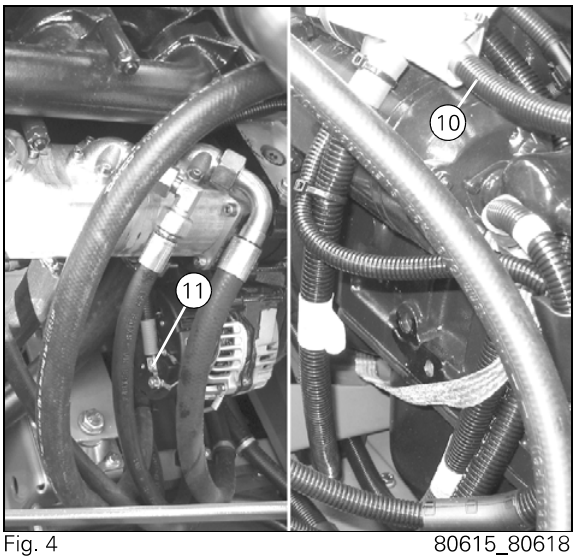

Fig. 4 80615_80618

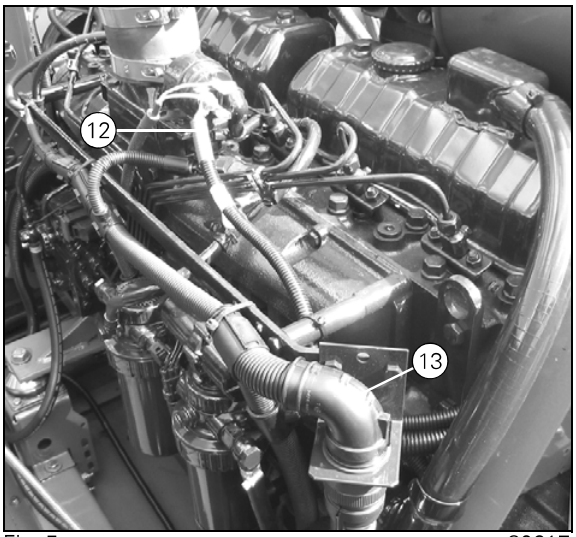

Fig. 5 80617

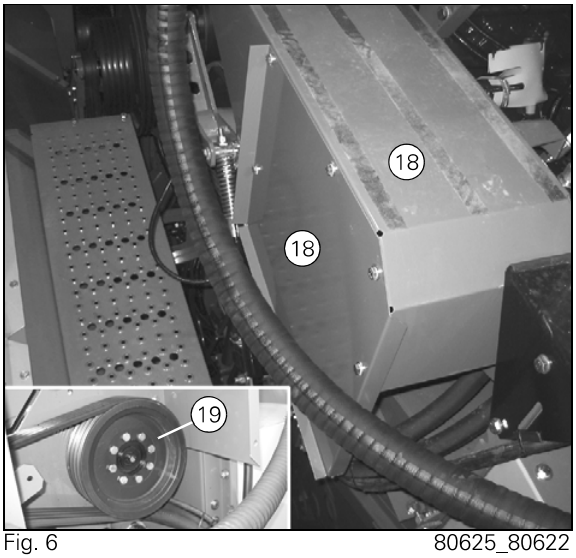

Fig. 6 80625_80622

9.2.4 Replacement of hydraulic cylinder

1. Dismount the cotter bolt at the unloading tube and retract the hydraulic piston completely.

Note: *Note the number and position of the sleeves and washers at the cotter bolts. The same number must be used in assembly to ensure the cylinder is centered in the brackets.*

2. Dismount the hydraulic hoses.

IMPORTANT: *Plug hydraulic hoses and screwed connections to avoid oil spillage. Mark off the position of the hoses. If the hoses are transposed, the function will not work properly.*

3. Dismount the cotter bolt at the bracket and lift down the cylinder.
4. When mounting the hydraulic cylinder, adjust the length of the piston rod so that the cylinder does not exert pressure when the unloading tube is turned in and rests correctly in the rear bearing. If necessary, adjust by the end piece (A).

   However, the distance (B) must be max. 67 mm If necessary, loosen the nuts (C) at the support bracket and adjust the bracket (D).

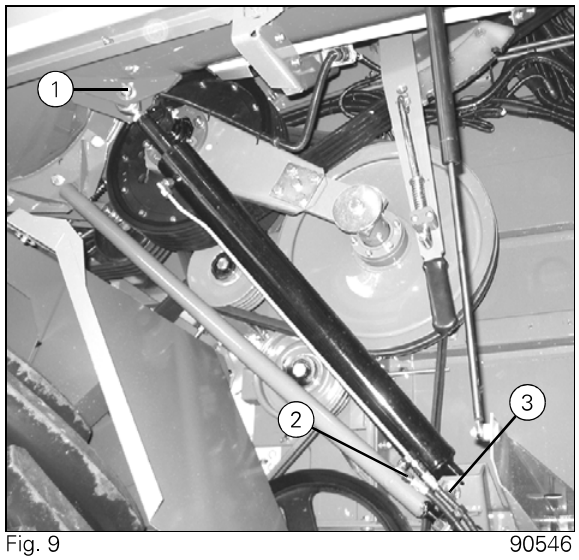

Fig. 9 90546

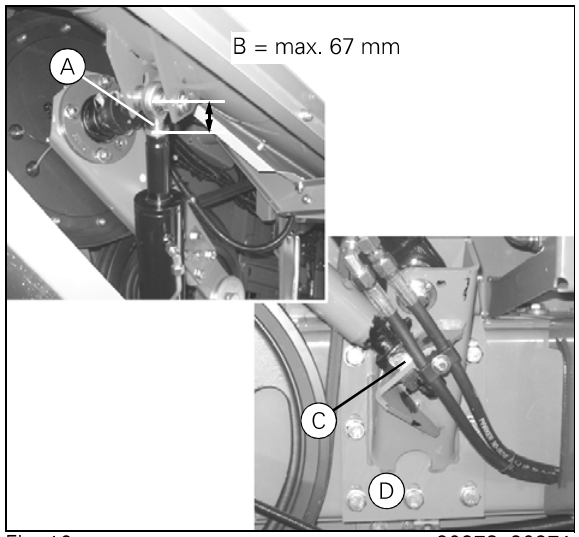

Fig. 10 90273_90271

10.1 Radiator - Intercooler

10.1.1 Removal

1. Drain off the coolant.
2. Detach intercooler hoses
3. Detach radiator hoses.
4. Dismount the radiator hood from the radiator and pull it back over the fan housing (A).
5. Remove the bolts from the support on both sides.
6. Remove the bolts at the bottom of the radiator frame.
7. Attach a chain to the supports (5) and lift up the radiator assembly using a crane or hoist.
8. To replace either the intercooler or the water cooler, dismount the side panels (B) and dismantle the frame in the two corners (C).

IMPORTANT: *Note the position of the shims and sealing strips so that they can be correctly reassembled.*

10.1.2 Mounting

Follow points 1 - 8 in reverse order when mounting.

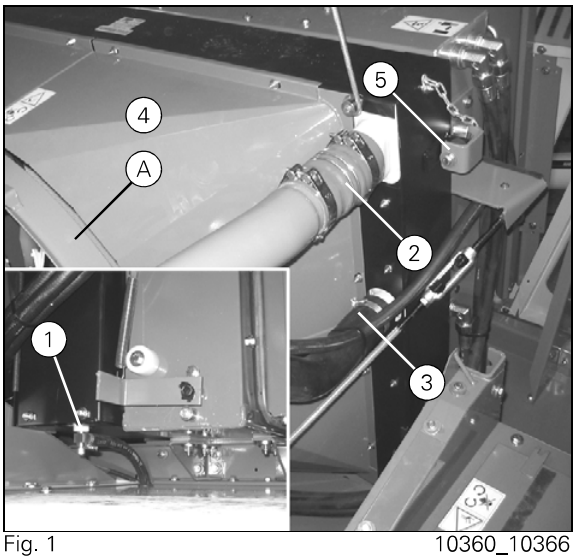

Fig. 1 10360_10366

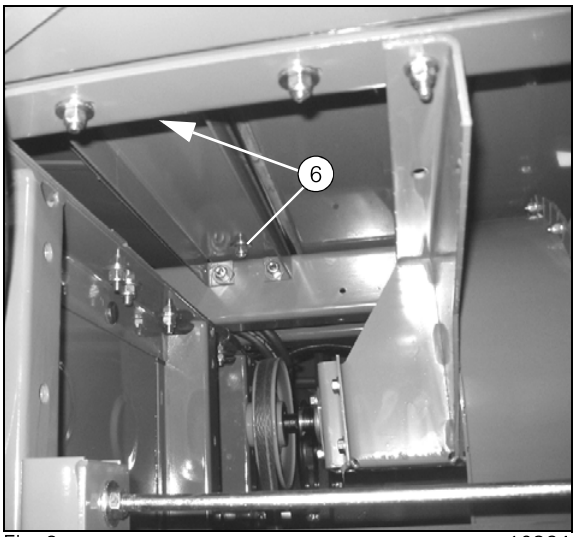

Fig. 2 10364

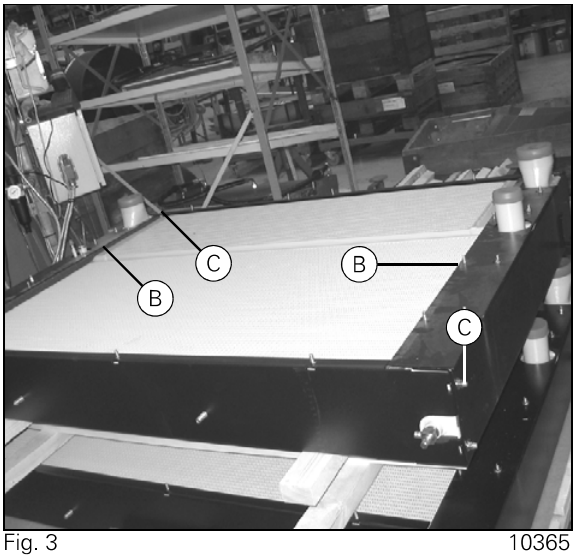

Fig. 3 10365

10.6 Hydrostatic pump

10.6.1 Removal

IMPORTANT: *Plug the hoses and screw connections as soon as they are dismounted in order to avoid oil spills and dirt. Mark off the position of the hoses and electric cables. If the hoses are transposed, the function will not work properly.*

Pump:

1. Drain off the hydraulic oil using tap (A) in the base of the hydraulic oil tank and drain hose (B) on the left-hand side of the machine.
2. Dismount the hoses from the hydraulic tank.
3. Dismount the electrical connections to the magnetic valves of the pump.
4. Release the hydraulic hoses for the oil cooler, but do not remove them.
5. Position a drip tray under the pump. Dismount first hose (C) and quickly lift it up over the radiator. Next dismount hose (D) in the same way and tie both hoses. This will avoid draining the hydraulic oil cooler.
6. Dismount the SAE flange connections on the high-pressure hoses.
7. Dismount the hydraulic hose for the gear shift.
8. Dismount the flushing oil hose.
9. Dismount the guard.
10. Loosen the bolts on the belt pulley before slackening the belt.
11. Slacken and remove the belt as described in section 11.5.11 on page 262.
12. Dismount the belt pulley.
13. Dismount the mounting bolts on the pump.
14. Lift the pump out of the machine using a crane or other suitable lifting gear.

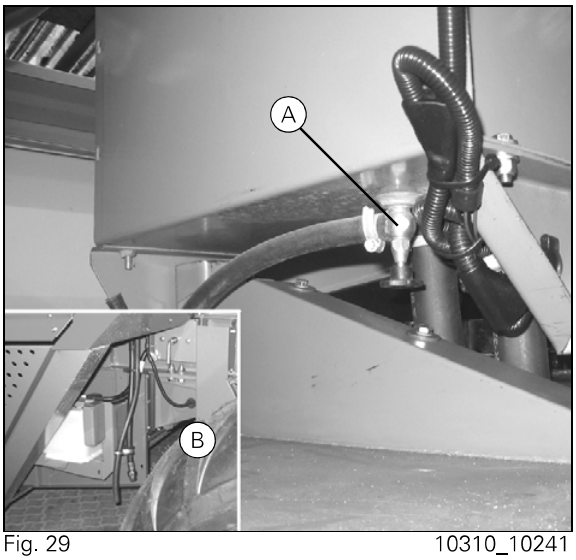

Fig. 29 10310_10241

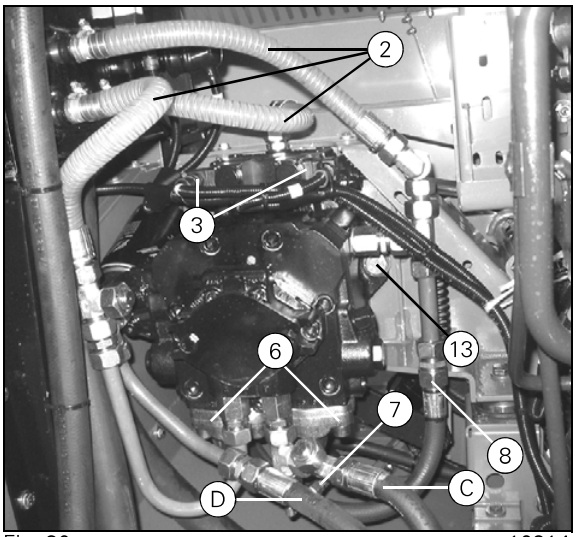

Fig. 30 10314

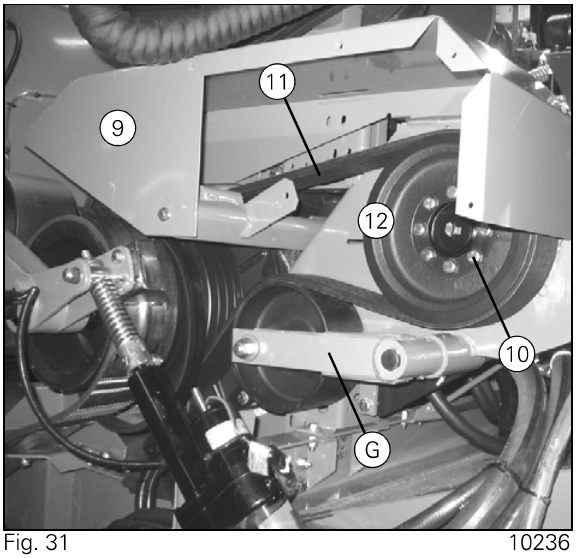

Fig. 31 10236

10.11.3 Replacement of clutch disc

1. Dismount the complete power take-off as described in section 10.11.1 on page 235.
2. Support the bearing housing (A) with two wooden blocks and gently knock the shaft (B) with bearings out of the bearing housing. Remember to protect the shaft end with wooden or plastic blocks.
3. Remove the bolts (C) and replace the clutch disc (D).

IMPORTANT: *If the clutch disc has glued-on spacers (E) these must face* ***in towards*** *the engine flywheel.*

4. Mount the shaft with bearings in the bearing housing. Remember to fit a seal ring (F) in the bearing housing.
5. Remount power take-off and belt pulley as described in section 10.11.2 on page 236.

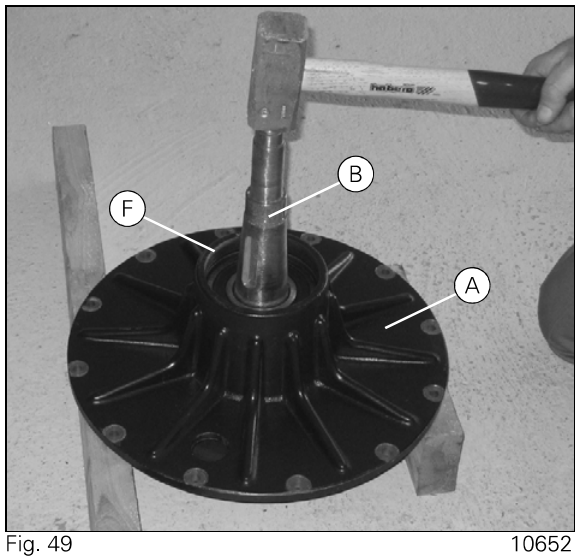

Fig. 49 10652

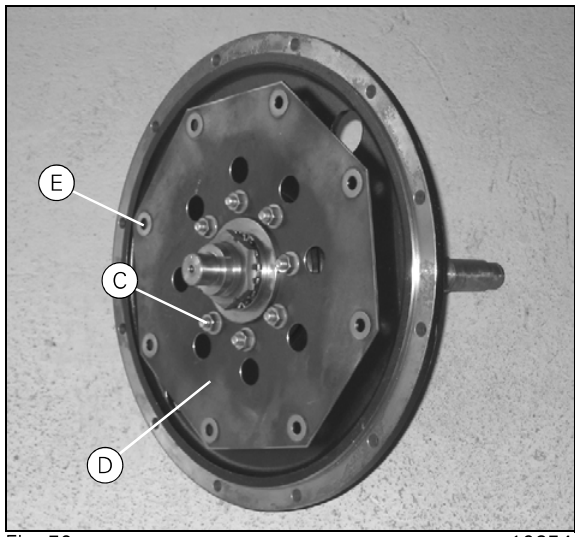

Fig. 50 10654

11.3.3 Rear beater - rotary separator

1. Dismount the hydraulic oil coupling.

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

2. Slacken the variator belt (cylinder) and take it off the pulleys as described in section 11.3.1 on page 245.
3. Slacken the upper variator belt (fanning mill) and take it off the pulleys as described in section 11.3.4 on page 247.
4. Slacken the belts for the rotary separator by loosening the adjusting screw (B). Remember to loosen the centre bolt (C).
5. Dismount the supporting bracket at the centre bolt in order to remove the belt.
6. Replace the belts by pulling them out individually over the hydraulic variator pulley and reassemble in reverse order.
7. Tighten the belt with the adjusting screw (B) and fasten the tension pulley at the centre bolt (C).
8. Adjust the other slackened belts in accordance with specifications once more.

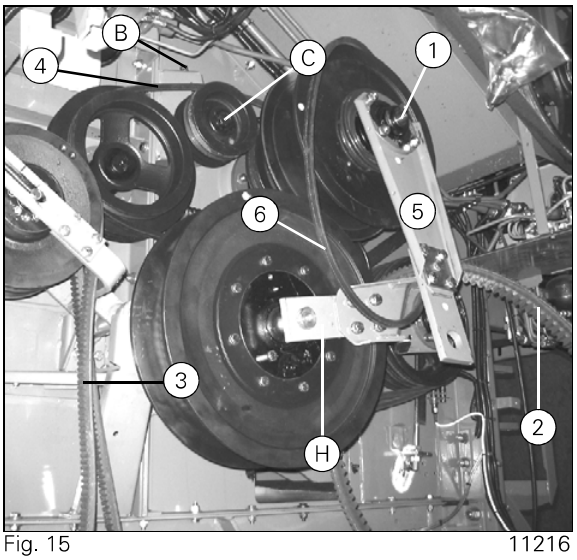

Fig. 15 11216

11.3.4 Fanning mill - fanning mill variator

1. Slacken the belts by loosening the tightening screws (D) on both sides of the variator. Remember to loosen the locking screw (E).
2. Unscrew the tightening screw (D) completely and dismantle the bracket.
3. Take the top (outer) belt off the variator pulley.
4. Replace the bottom belt and reassemble in reverse order.
5. When tensioning the belts, adjust the variator pulley using the two tightening screws (D) so that it is parallel with the other pulleys.

Note: *When tensioning the belts, turn the pulleys so that the belts can position themselves correctly on the variator.*

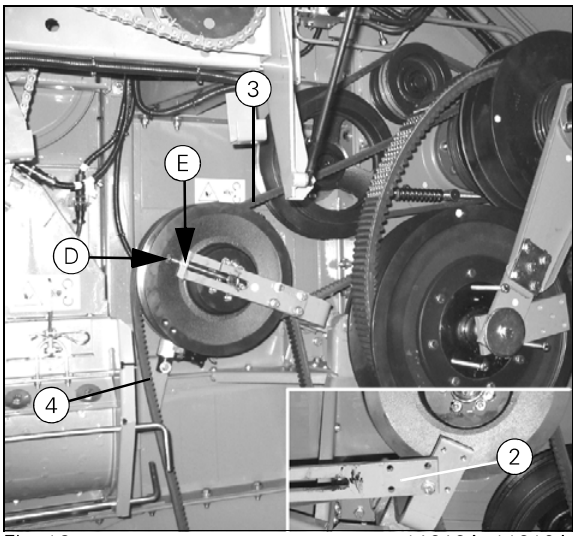

Fig. 16 11212A_11210A

11.5.3 Countershaft - counter drive, straw chopper

1. Slacken the belt for the straw walker drive and take it off the belt pulley as described in section 11.5.1 on page 256.
2. Slacken the belt for the rear beater and take it off the belt pulley as described in section 11.5.2 on page 256.
3. Slacken the belt by means of the spring (F).
4. Replace the belt and reassemble in reverse order.
5. Adjust the spring on the belt tensioner (F) 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 if the length of the spring exceeds 105 mm.*

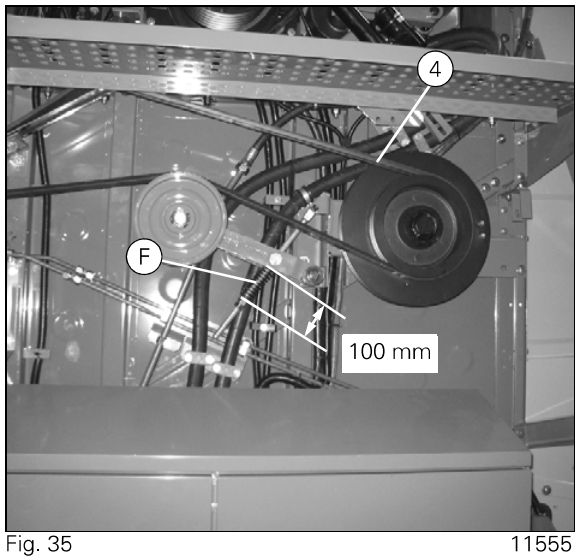

Fig. 35 11555

11.5.4 Counter drive - straw chopper

1. Slacken the belt from the countershaft and take it off the belt pulley as described in section 11.5.3 on page 257.
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 if the length of the spring exceeds 105 mm.*

5. Adjust the other slackened belts in accordance with specifications once more.

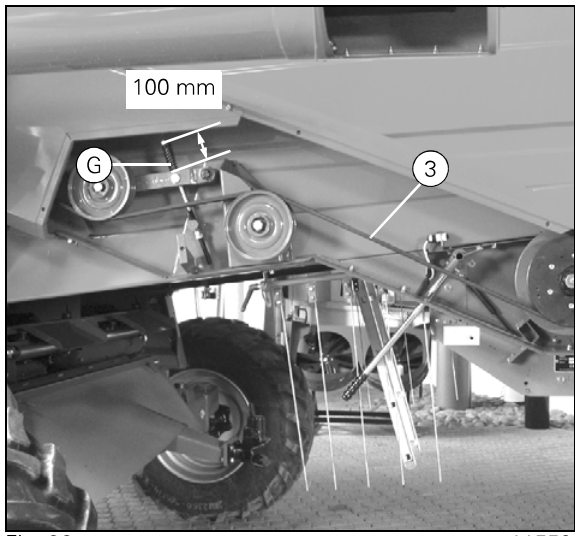

Fig. 36 11559

12. Undercarriage

Contents

12.2.3 Reconditioning of final drives

Dismantling - position numbers refer to (Fig. 18):

1. Remove the cover (1).
2. Dismount the three bolts (2).

Note: *The bolts are secured with strong Loctite. For this reason the bolts should be heated to approx. 100° C, before being loosened.*

3. Remove washer (3) and shims (4).

Note: *Tie the washer and shims together and label them to ensure they are mounted in the same place when reassembling.*

4. Chock up the final drive with the shaft flange downwards. Press the shaft (15) about 15 mm outwards.
5. Dismount the bolts in side cover (8) and knock out the three guide pins (39).
6. Use a lead hammer for knocking, or interpose a wooden block, on the edge of the side cover (8) all the way round to loosen the seal. Lift the side cover approx. 15 mm from the gear housing (11) and maintain the distance with a couple of wooden sticks.

Note: *A distance of approx. 15 mm is necessary to avoid damage to the bearing (28) and gear shaft (27) from the gearwheel (10).*

7. Press the shaft (15) all the way out and remove the bearing (5) and spacer ring (7).
8. Remove bearing cover (22) and shim (23).

Note: *Tie the bearing cover and shim together and label them to ensure they are mounted in the same place when reassembling.*

9. Completely lift off the side cover (8) and remove the gear shaft (27) while lifting the gearwheel off the shaft (15).
10. Dismount the locking rings (30). First press out the cover (31) and then the bearing outer rings (29) and (12).
11. Press out the bearing outer rings (6) and (25).
12. Pull the bearing (13) off the shaft and remove the shaft seal (14).
13. Pull the bearings (26) and (28) off the gear shaft.
14. Remove shaft seal (21) and O-ring (24).

4. gear				
Gear sensor	A		LO	
	B		HI	8 volts
	C		LO	
	D		LO	
	E		HI	8 volts

IMPORTANT: *When the work is finished, reset DATAVISION by turning the ignition off for 10 - 15 seconds. Otherwise there will be a risk of components being damaged.*

12.3.5 Replacement of lubrication pump

IMPORTANT: *Plug hoses and screwed connections to avoid dirt and oil spillage.*

1. Dismount protection plate.
2. Dismount suction pipe.
3. Dismount pressure pipe.
4. Remove the two M10 bolts (do not remove the two 1/4" bolts).

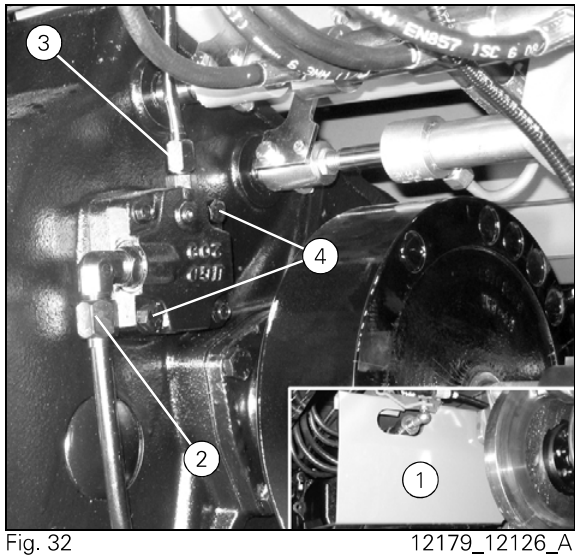

Fig. 32 12179_12126_A

5. If the pump is to be replaced, use screw connections (A) and (B) in the new pump.
6. Before inserting the pump in the gearbox check that the key (C) and the O-ring (D) are positioned correctly.

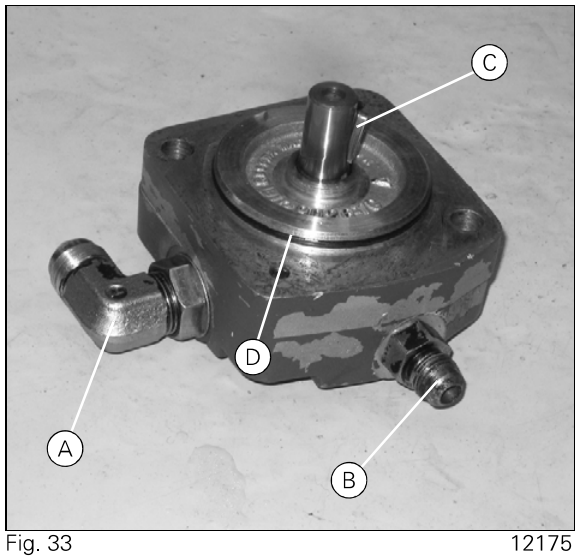

Fig. 33 12175

12.5 Final drive - 3 gear ranges

Section not yet written. To follow.

12.9 Rear axle

12.9.1 General

Raise the machine with a jack beneath the rear axle and chock up on both sides on a secure and reliable support.

By a secure chocking up is understood 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 to distribute the weight.

Fig. 72 12008

12.9.2 Removal

1. Remove wheels.
2. Disconnect hydraulic hoses on both sides.

IMPORTANT: *Plug hoses and screwed connections to avoid oil spillage. Mark off the position of the hoses. If the hoses are transposed, the function will not work properly.*

3. Remove bolt for centre axle.
4. Remove castle nut. Do not forget the pin.
5. Support the axle and drive out the centre axle (A).

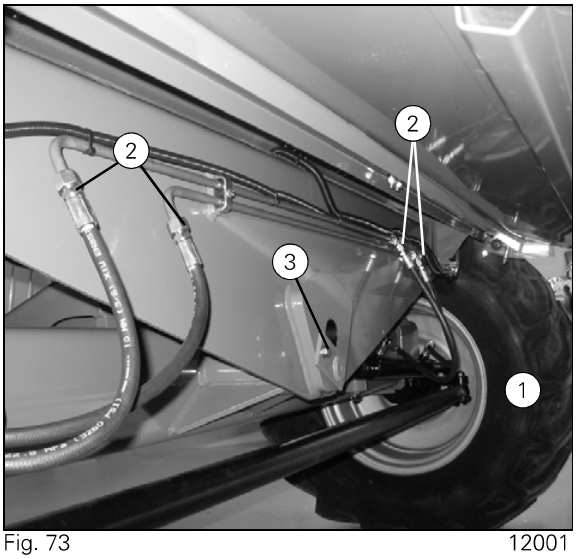

Fig. 73 12001

12.9.3 Mounting

Follow points 1 - 5 in reverse order when mounting. Please note:

Note: *On standard machines, mount the axle in the top hole of the frame. On Auto Level machines mount the axle in the bottom hole of the frame.*

- Tighten castle nut (4) by 100 Nm and then turn it onto the nearest cotter slot. Secure the nut with pin.
- If the king pins have been dismounted, the steering deflection must be adjusted as described in section 12.9.7 on page 310.
- If the tie rod has been dismounted or replaced, the toe-in must be adjusted as described in section 12.9.7 on page 310.

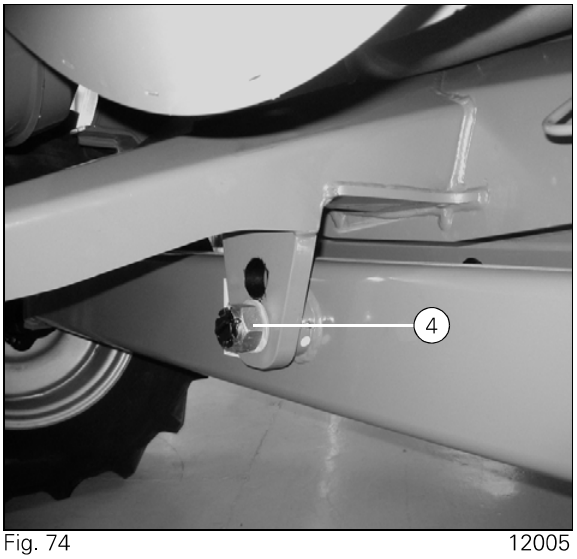

Fig. 74 12005

3. Mount the swivel bearing with a washer (F) (3 mm) between the bracket and swivel bearing.
4. Mount the potentiometer with a guide pin in the hole in the bracket (G).

IMPORTANT: *By adjusting the bracket (G), centre the potentiometer shaft with the swivel bearing shaft (L), leaving a clearance (K) of 1 mm between the shaft ends (check with a 1 mm bit).*

5. Mount the ball joint pin with a spacer (N) (1.6 mm) at the swivel bearing.
6. Adjust the length of the connecting rod to 121 ± 0.5 mm.
7. Adjust the "Neutral" switch with the multi-function lever in neutral position. Screw the switch in until it cuts out electrically and then another turn before tightening the counter-nut.
8. Pull the wires (P) over the potentiometer and use strips to prevent them from coming into contact with the ball joint and swivel bearing.
9. Assemble the multi-function lever with the armrest again and fit the armrest on the bracket.

Note: *The armrest can be adjusted lengthwise by fitting it in one of three pairs of holes (Fig. 8). Adjust laterally using the screw (A) (Fig. 3). Adjust the inclination at the screw (T) (Fig. 4). Adjust the position of the lever using the Allen screw (U) (Fig. 4).*

10. Check the electrical function of the multi-function lever by measuring the voltage control of the potentiometer through DATAVISION.

    ("Main menu|Diagnostics|Electric. diagnostics|Diagnostics RH|Diagnostics input|page 3|Speed potentiometer").

- Pull the multi-function lever all the way back (reverse, high speed), and check that the voltage reading is between 0.15 V and 0.5 V.
- Push the multi-function lever all the way forward (forward, high speed), and check that the voltage reading is between 5.6 V and 6.6 V.
- While slowly moving the multi-function lever from one extreme to the other, check that the voltage reading rises or falls betweenthe minimum and maximum values at the same time. Perform this check two or three times, and finally make sure that the voltage readings in the extreme positions are between 0.15 V - 0.5 V and 5.6 V - 6.6 V.
- If the regulating range is outside the specified values, the range can be adjusted by altering the length of the connecting rod (Fig. 7).

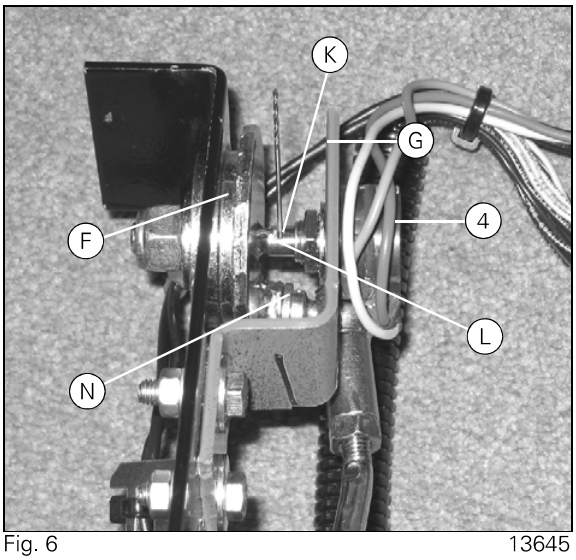

Fig. 6 13645

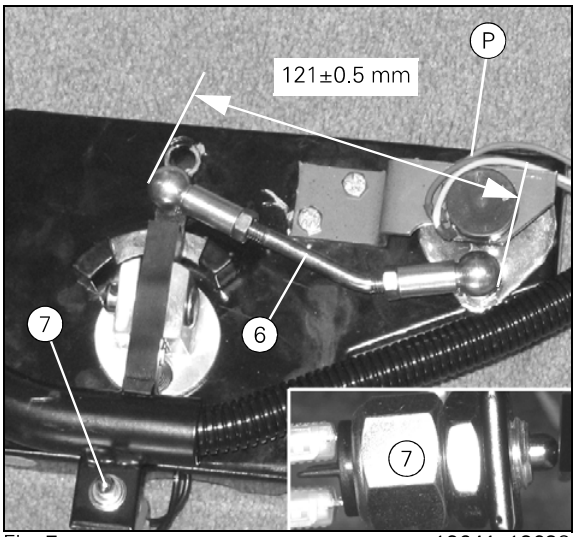

Fig. 7 13641_13638

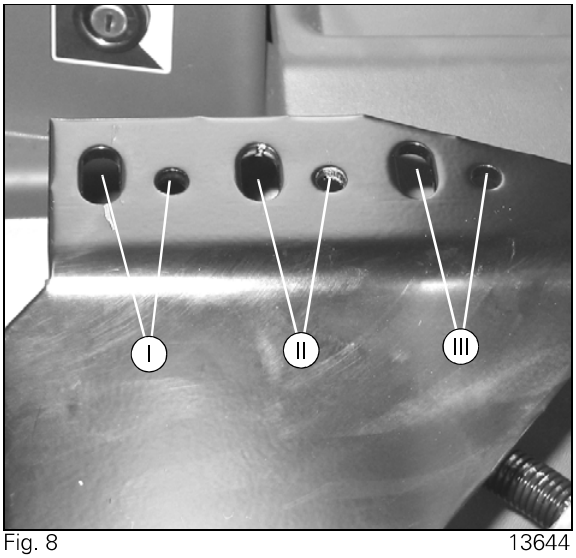

Fig. 8 13644

13.5 Roof

13.5.1 Outer roof

1. Open both side panels
2. Remove the bolt on both sides.
3. Tilt up the roof and disconnect the connector for work light.
4. Tilt the roof back, removethe bolts (A) and lift the oof down.

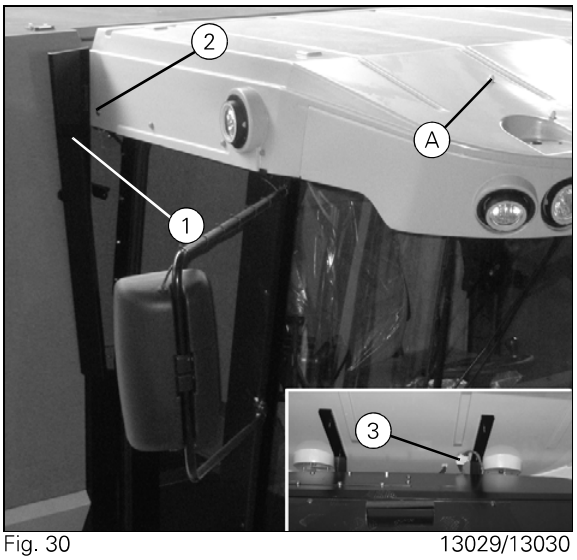

Fig. 30 13029/13030

Fig. 31 13060

13.5.2 Inspection doors

When the outer roof has been tilted up and supported by a strut, the inspection doors (B), (C) and (D) can be dismounted providing access to the various components built into the roof.

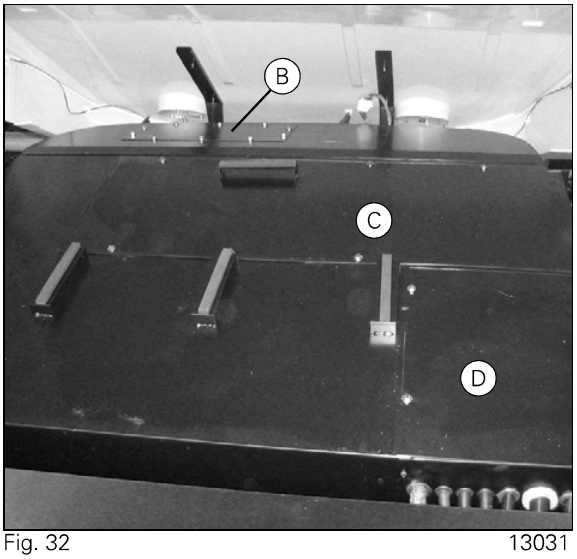

Fig. 32 13031

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14.4 Table

14.4.1 Hydraulic cylinders - table up/down

Hydraulic cylinder, RH (1)

Designation on diagram: L1

Hydraulic cylinder, LH (2)

Designation on diagram: L2

Hydraulic cylinder, additional (3)

Designation on diagram: L3

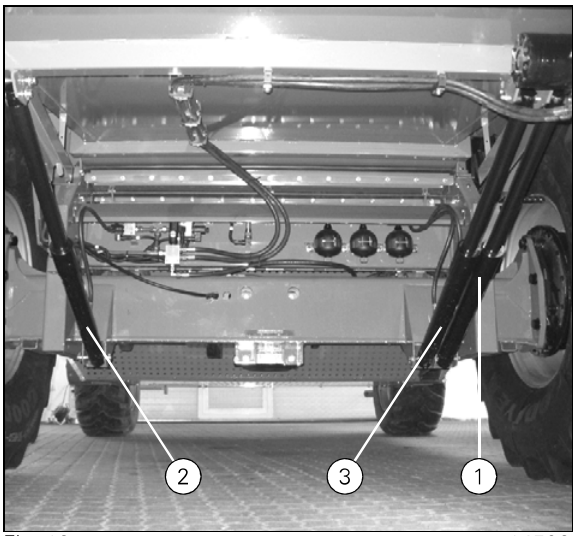

Fig. 19 14506

14.4.2 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

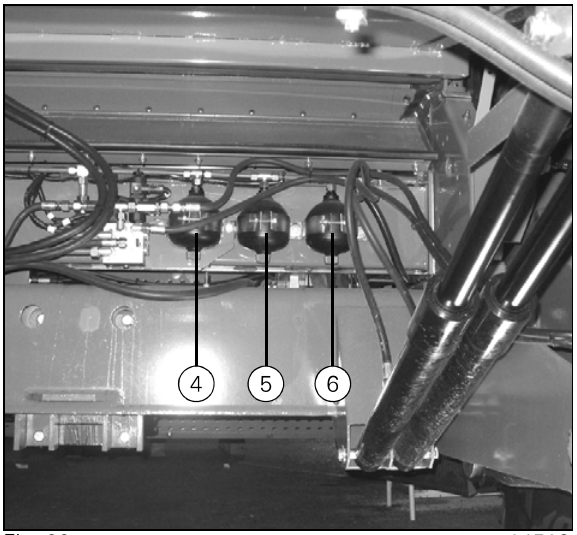

Fig. 20 14512

14.4.3 Hydraulic valve - table up/down (standard machine)

Hydraulic valve (7)

Designation on diagram: F3

Magnetic coil, table up/down (8)

Designation on diagram: HOM 01

Hydraulic valve (9)

Designation on diagram: F4

Magnetic coil, table up/down (10)

Designation on diagram: HOM 02

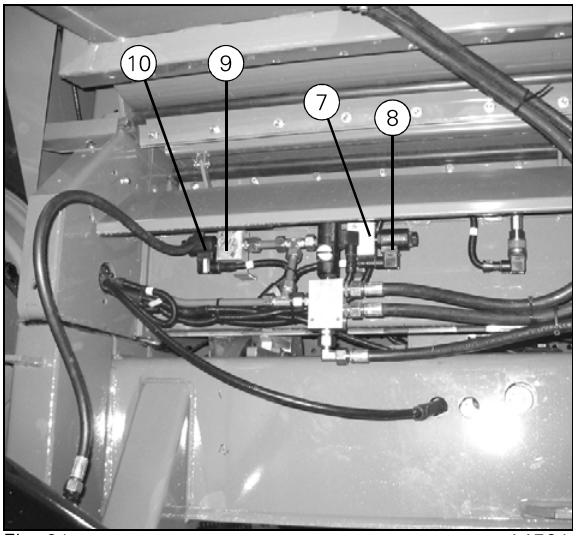

Fig. 21 14521

14.6 Reel

14.6.1 Hydraulic cylinders - reel up/down

Hydraulic cylinder, reel up/down (1)

Master cylinder

Designation on diagram: K1

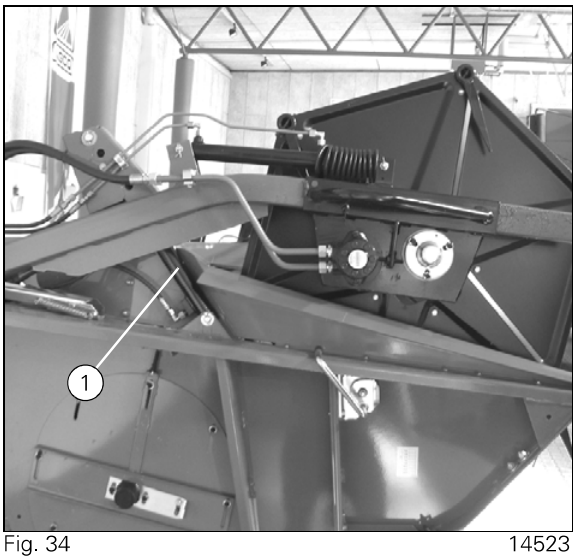

Fig. 34 14523

Hydraulic cylinder, reel up/down (2)

Slave cylinder.

Designation on diagram: K2

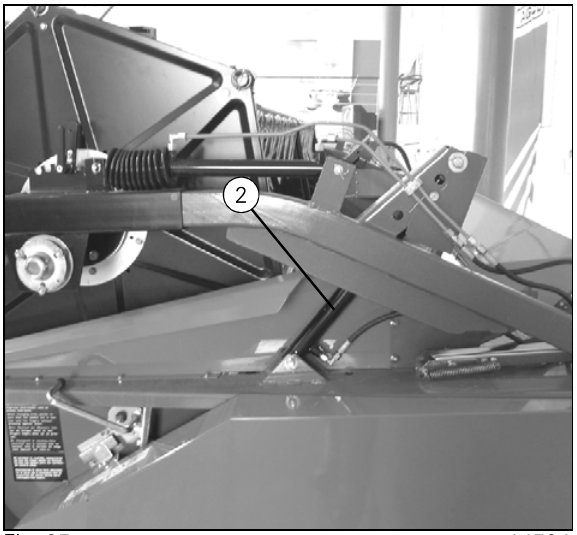

Fig. 35 14524

14.6.2 Hydraulic valve - reel up/down

Hydraulic valve (3)

Designation on diagram: F1

Magnetic coil, reel up/down (4)

Designation on diagram: HOM 03

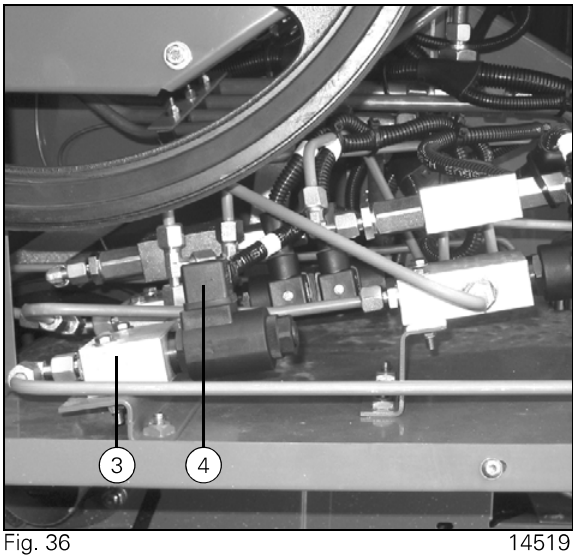

Fig. 36 14519

14.9 Cylinder variator

14.9.1 Cylinder variator

Cylinder variator (1)

Designation on diagram: S

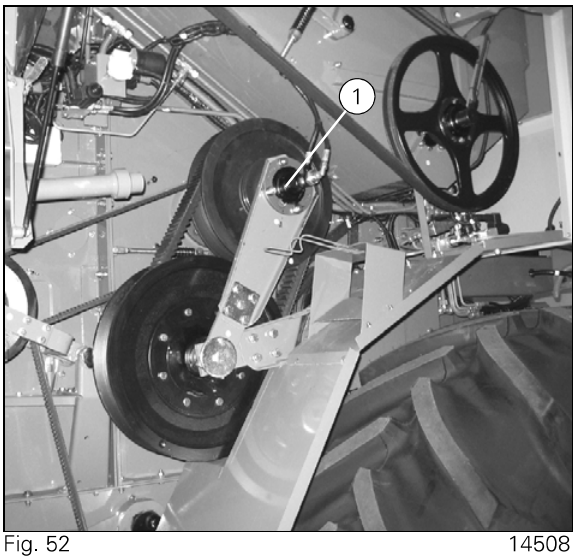

Fig. 52 14508

14.9.2 Hydraulic valve - variator

Hydraulic valve (2)

Designation on diagram: F5

Magnetic coil, cylinder variator (3)

Designation on diagram: HOM 10

Magnetic coil, cylinder variator (4)

Designation on diagram: HOM 21

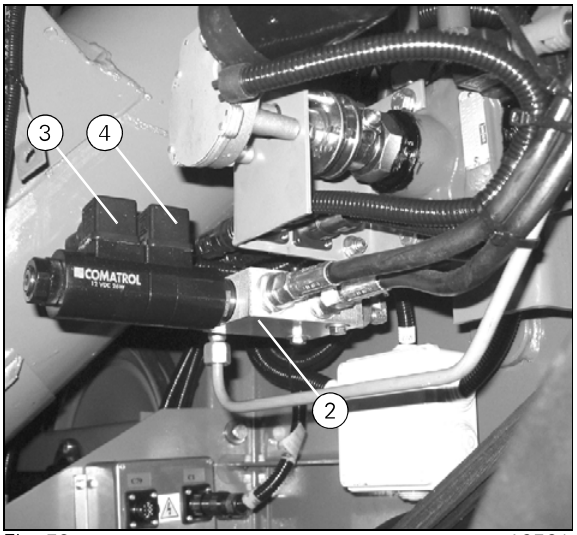

Fig. 53 16561

16. Electrical system

Contents

16.5.2 Start/stop, diagram 20-0

Diagram applicable from combine serial No. 58875.

Main switch (1)

Designation on diagram: DVH 07

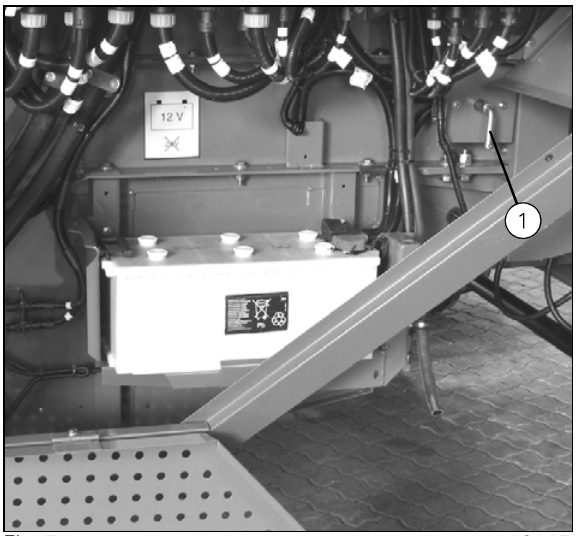

Fig. 7 16145

Battery (main battery) (2)

Designation on diagram: AKK 01

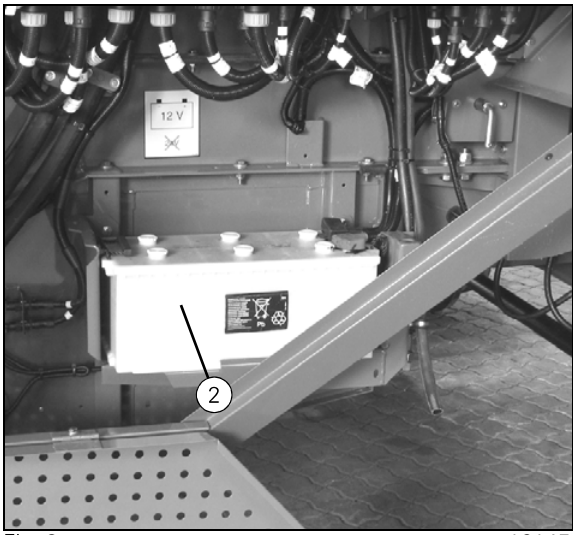

Fig. 8 16145

Starter (3)

Designation on diagram: DVM 02

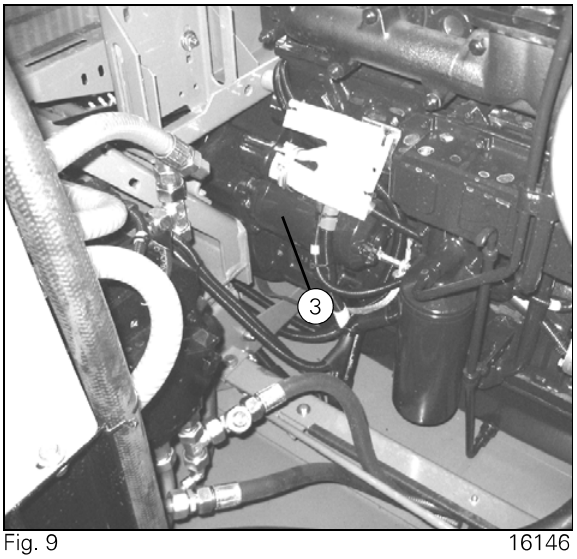

Fig. 9 16146

Engine preheater lamp (5)

Designation on diagram: DVL 14

EEM computer, direction flasher and switch diagnostics (6)

Designation on diagram: DVH 32

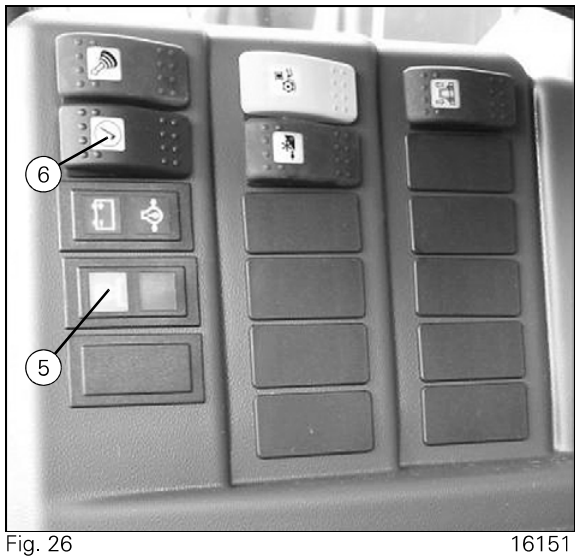

Fig. 26 16151

Preheater (7)

Designation on diagram: DVK15

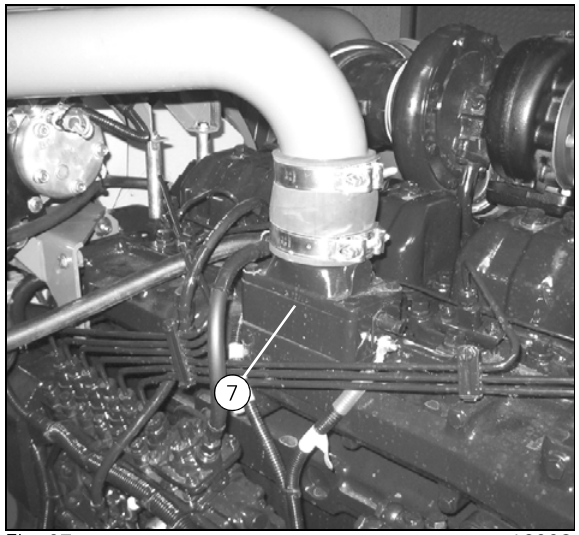

Fig. 27 16008

16.5.6 Electric transmission, diagram 30-4

Diagram applicable from combine serial No. 61514.

Propulsion potentiometer, fitted in armrest (1)
Designation on diagram: DNP 16

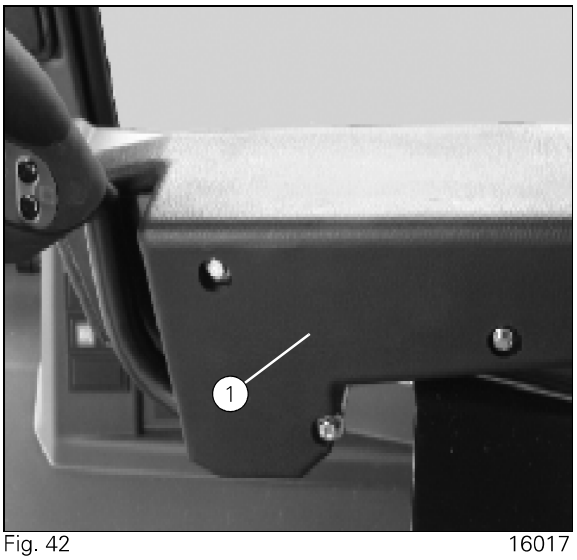

Fig. 42 16017

Hydraulic valve, Linde pump forward (2)
Designation on diagram: HOM 18

Hydraulic valve, Linde pump reverse (3)
Designation on diagram: HOM 19

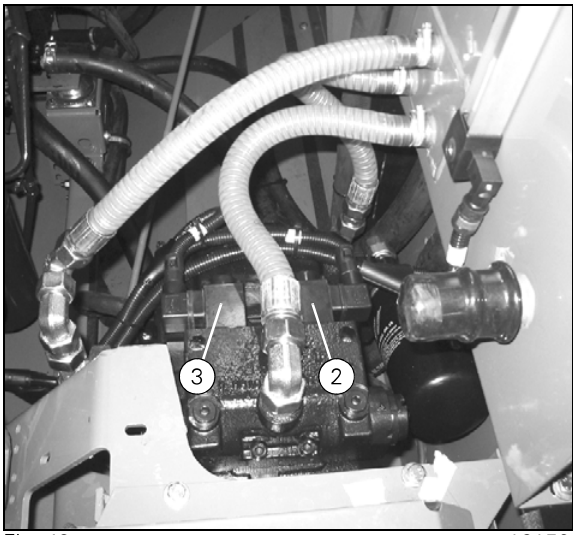

Fig. 43 16152

Belt slip - revolution sensor 4
Designation on diagram: DNF 31

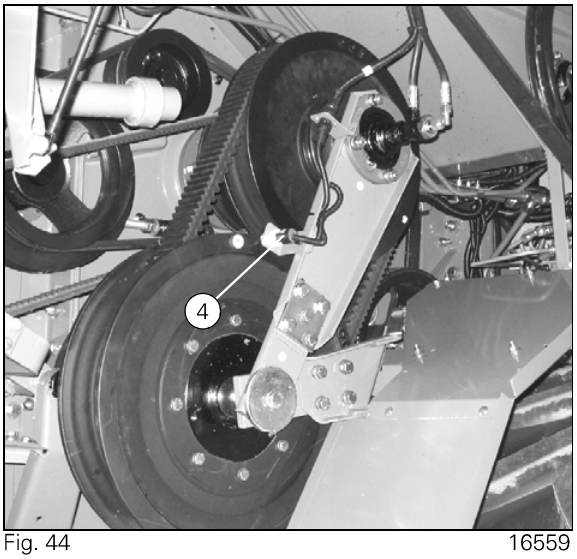

Fig. 44 16559

Cursor (3)
Designation on diagram: DVK 11

Switch for table engagement (4)
Designation on diagram: HOH 07

Switch for reel speed up/down (5)
Designation on diagram: HOH 16

Switch for table up/down (6)
Designation on diagram: HOH 09

Switch for reel up/down (7)
Designation on diagram: HOH 03

Switch for reel fore/aft (8)
Designation on diagram: HOH 04

Switch for unloading auger in/out (9)
Designation on diagram: HOH 12

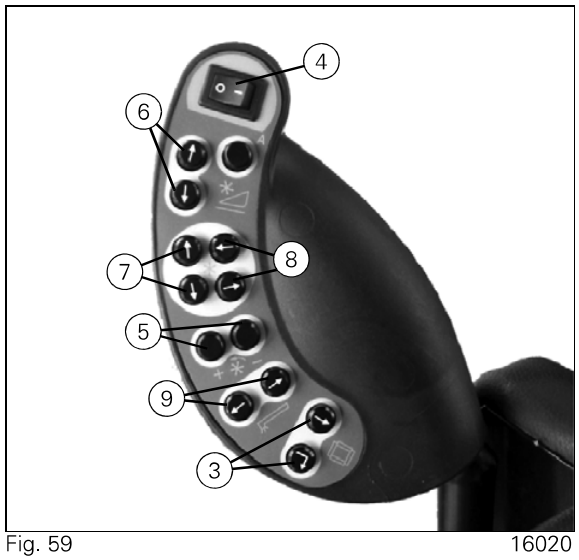

Fig. 59 16020

16.5.12 Parking light, diagram 90-0

Diagram applicable from combine serial No. 58875.

Reversing alarm (1)

Designation on diagram: DVK 08

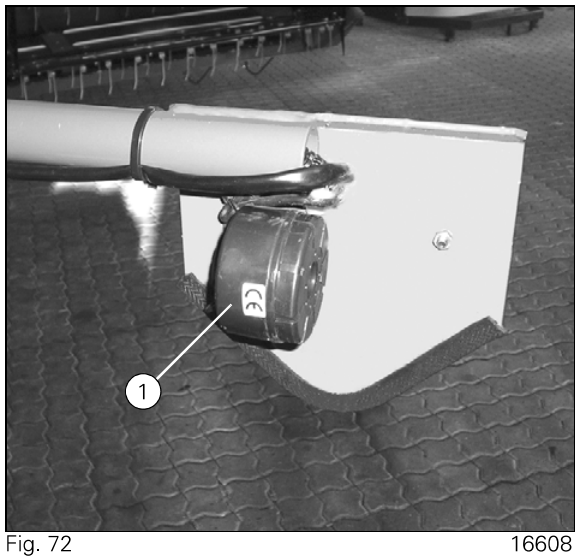

Fig. 72 16608

Parking light, left-hand front (2)

Designation on diagram: DLL 14

Parking light, left-hand front (3)

Designation on diagram: DLL 21

Fig. 73 16142

Parking light, right -hand front (4)

Designation on diagram: DLL 17

Parking light, right -hand front (5)

Designation on diagram: DLL 20

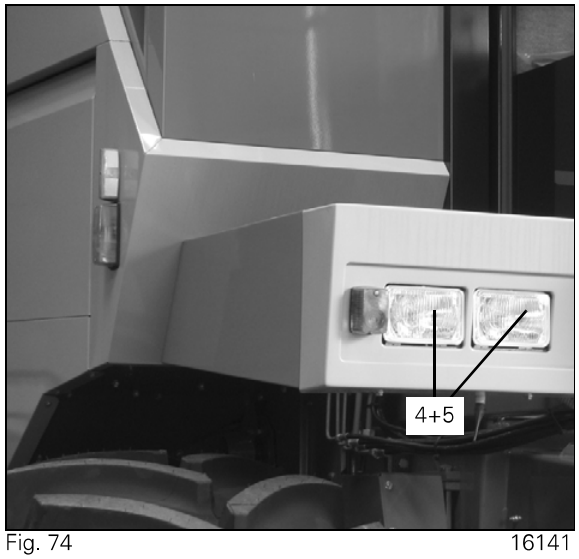

Fig. 74 16141

Work lamp in grain tank (5)
Designation on diagram: ILL 13

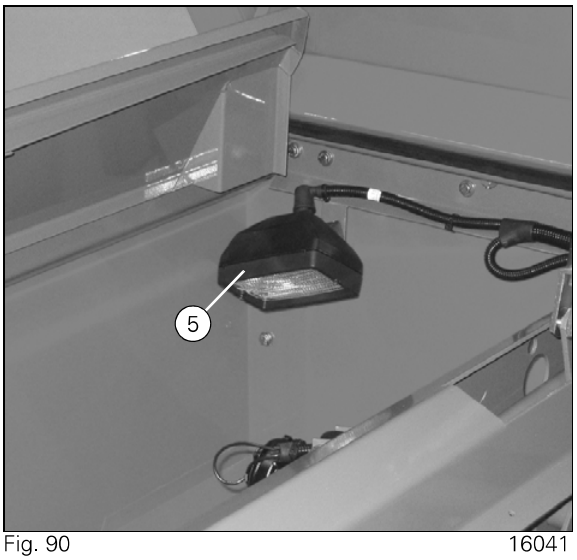

Fig. 90 16041

Reversing light, RH side (6)
Designation on diagram: ILL 16

Fig. 91 16604

Reversing light, LH side (7)
Designation on diagram: ILL 17

Switch for light in straw hood (8)
Designation on diagram: ILH 05

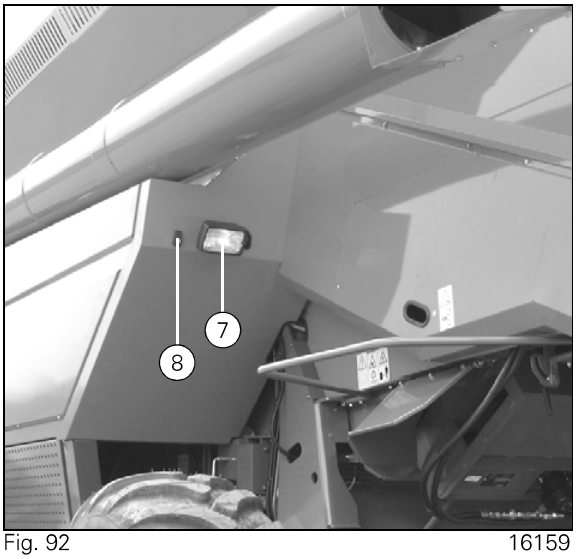

Fig. 92 16159

16.5.16 Work light, roof, diagram 150-0

Diagram applicable from combine serial No. 58875.

Switch for work light 1 in cab roof (1)
Designation on diagram: ILH 02

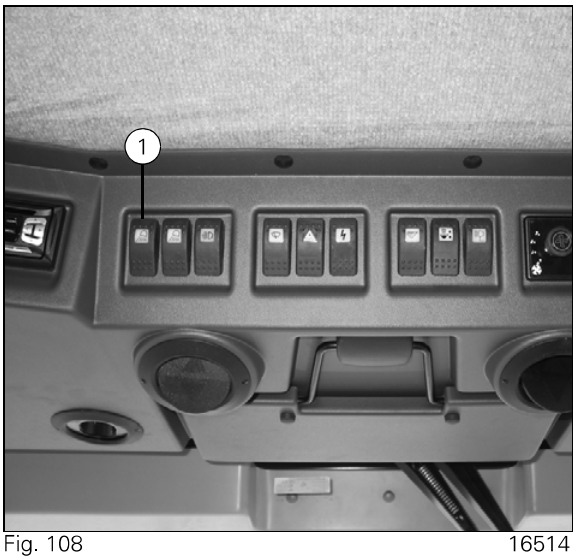

Fig. 108 16514

Work light 1 in cab roof (2)
Designation on diagram: ILL 02

Work light 1 in cab roof (3)
Designation on diagram: ILL 03

Work light 1 in cab roof (4)
Designation on diagram: ILL 04

Work light 1 in cab roof (5)
Designation on diagram: ILL 05

Work light 1 in cab roof (6)
Designation on diagram: ILL 06

Work light 1 in cab roof (7)
Designation on diagram: ILL 07

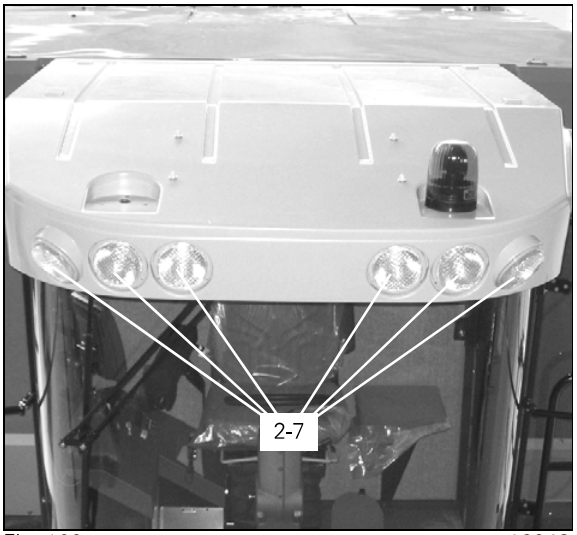

Fig. 109 16048

16.5.19 External connectors, diagram 200-0

Diagram applicable from combine serial No. 58875.

Switch for external 12V connectors (1)

Designation on diagram: ILH 06

Fig. 121 16514

Relay for external 12V connectors (2)

Designation on diagram: ILR 04

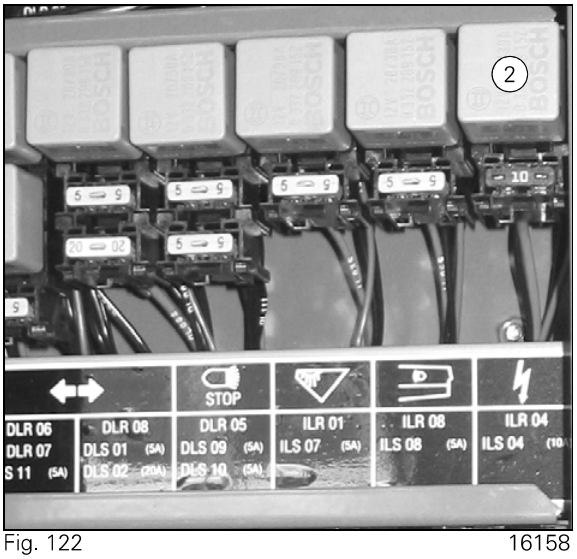

Fig. 122 16158

External 12V connector in LH lamp body (3)

Designation on diagram: ILC 01

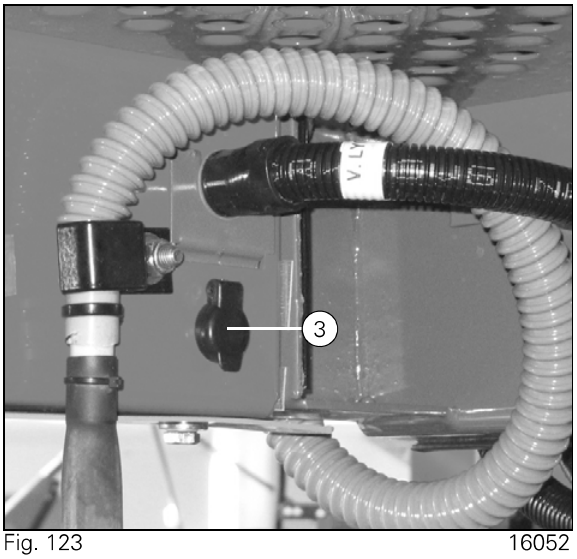

Fig. 123 16052

Pressostat, air-conditioning (5)
Designation on diagram: DVF 05

Magnetic clutch for air-conditioning (6)
Designation on diagram: DVK 01

Blower motor
Not illustrated.
Designation on diagram: DVM 01

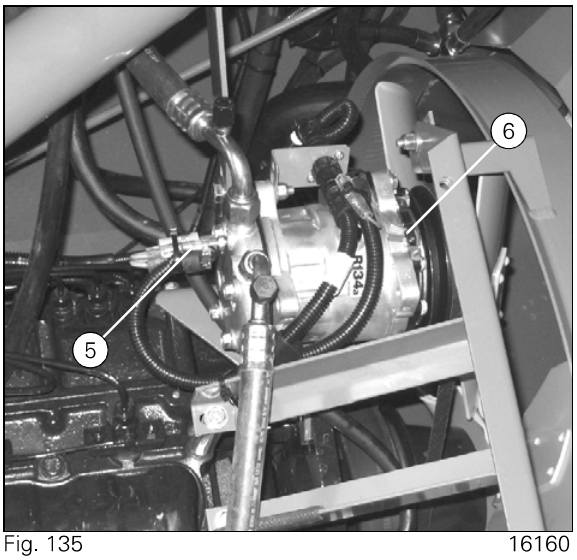

Fig. 135 16160

16.5.26 Electrical concave setting, diagram 270-1

Diagram applicable from combine serial No. 58875.

Switch for engagement of threshing unit (1)

Designation on diagram: HOH 17

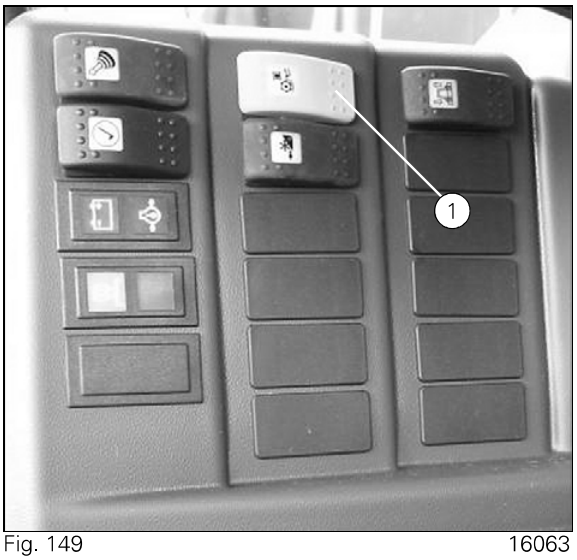

Fig. 149 16063

Actuator for engagement of threshing unit (2)

Designation on diagram: HOK 02

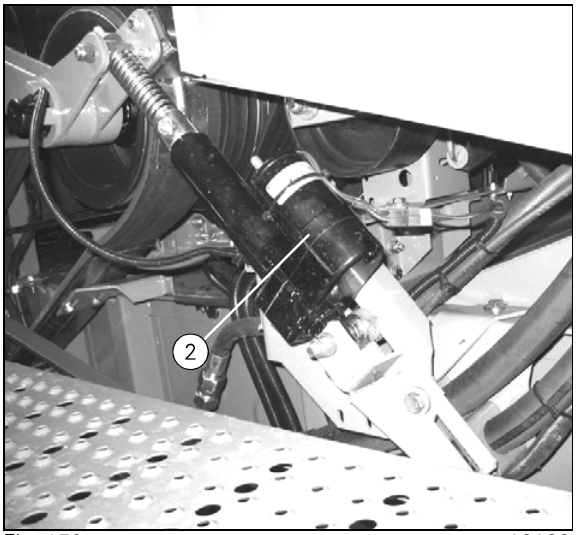

Fig. 150 16166

Main valve 1 (3)

Designation on diagram: HOM 07

Main valve 2 (4)

Designation on diagram: HOM 17

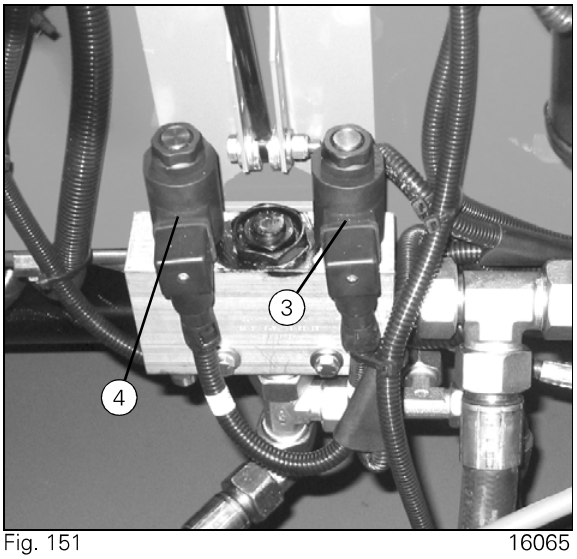

Fig. 151 16065

16.5.29 Table attachment, diagram 310-1

Diagram applicable from combine serial No. 58875.

Reel speed sensor (1)

Designation on diagram: DNF 35

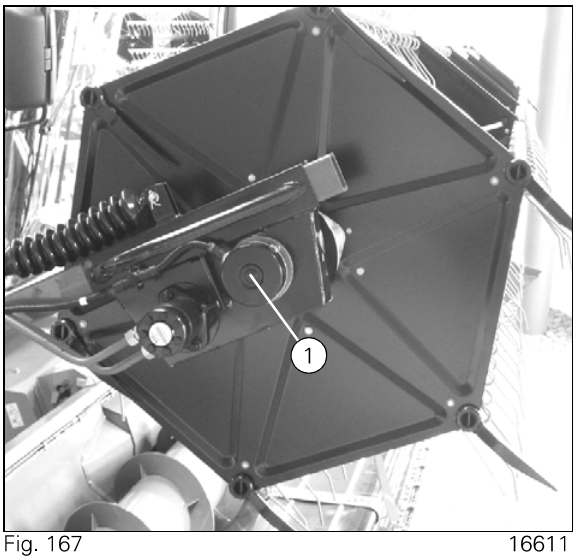

Fig. 167 16611

Potentiometer for main crop elevator (2)

Designation on diagram: DNP 12

Fig. 168 16610

Ground sensor, LH potentiometer, PowerFlow table (3)

Designation on diagram: DNP 06

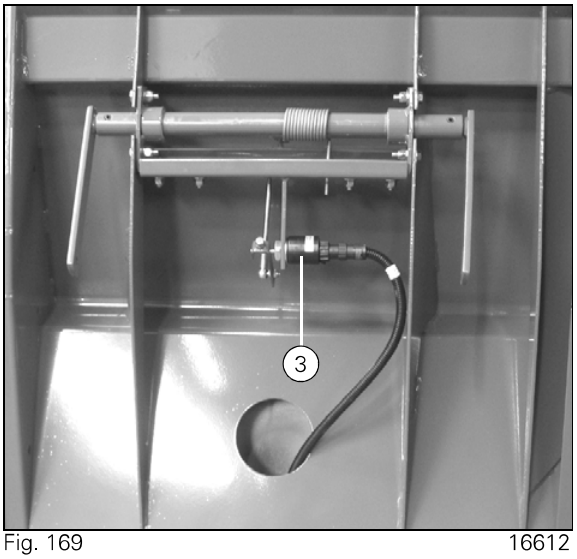

Fig. 169 16612

Magnetic valve, reversing (Auto Level machine) (4)
Designation on diagram: HOM 13

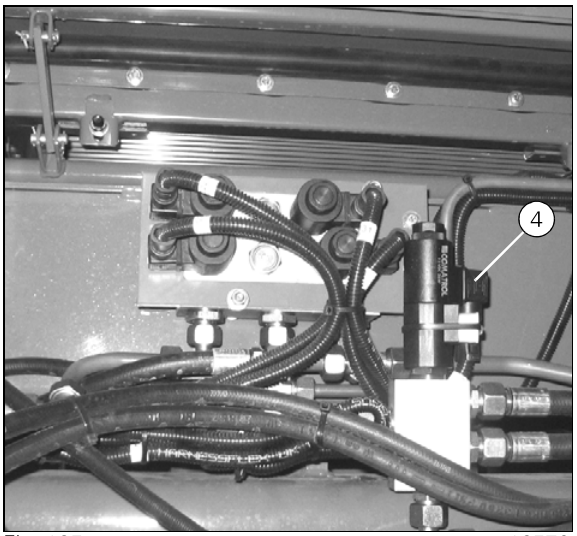

Fig. 185 16572

Magnetic valve, flowdivider (5)
Designation on diagram: HOM 15

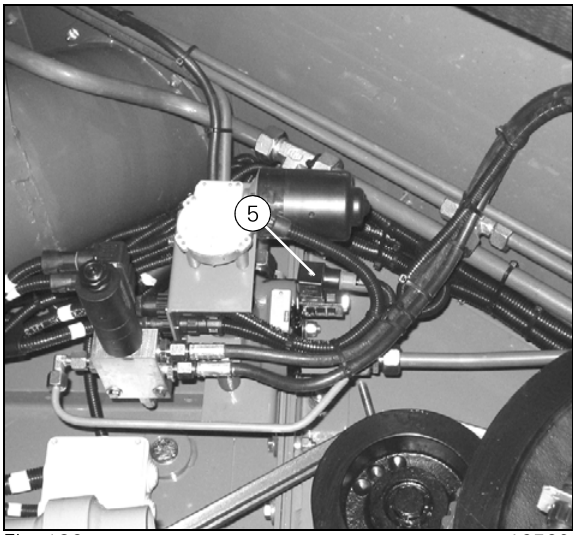

Fig. 186 16562

Table engagement, magnetic clutch (6)
Designation on diagram: HOK 07

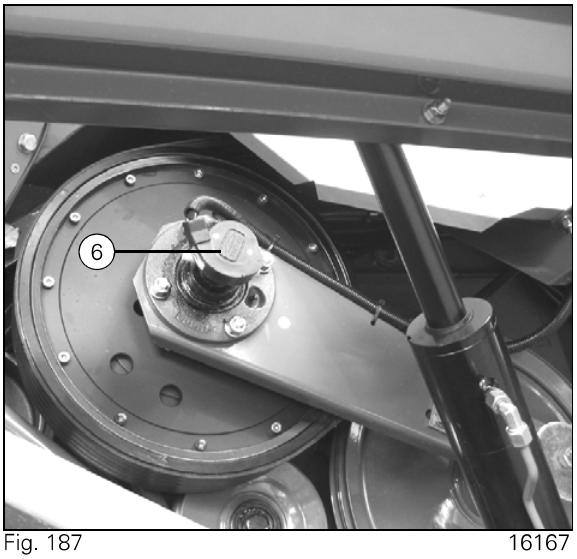

Fig. 187 16167

16.5.34 Table up/down, diagram 350-2

Diagram applicable from combine serial No. 58875.

Switch for table up/down/automatic (1)
Designation on diagram: HOH 09

Fig. 202 16020

Magnetic valve, table up/down (2)
Designation on diagram: HOM 01

Magnetic valve, table up/down (3)
Designation on diagram: HOM 02

Magnetic valve for table down (4)
Designation on diagram: HOM 16

Magnetic valve for table down fast (5)
Designation on diagram: HOM 20

Field pressure sensor (Auto Level combine) (6)
Designation on diagram: DNF 33

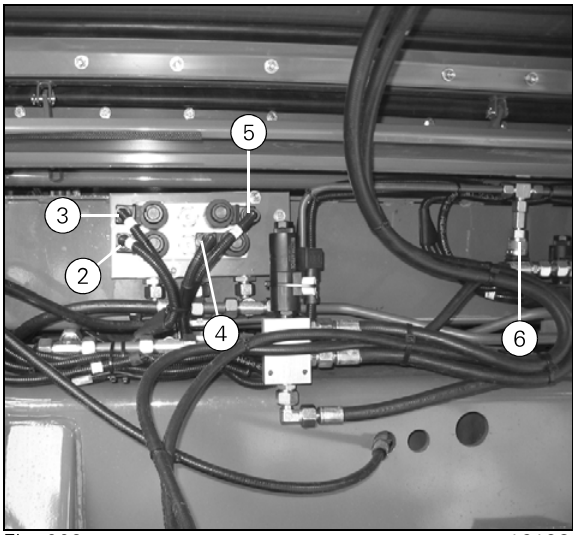

Fig. 203 16138

Magnetic valve, table up/down (7)
Designation on diagram: HOM 01

Magnetic valve, table up/down (8)
Designation on diagram: HOM 02

Field pressure sensor (standard combine) (9)
Designation on diagram: DNF 33

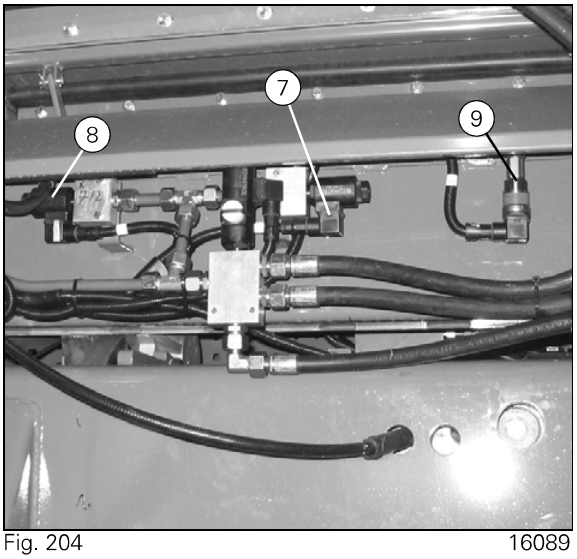

Fig. 204 16089

Actuator for fanning mill speed up/down (4)
Designation on diagram: HOK 03

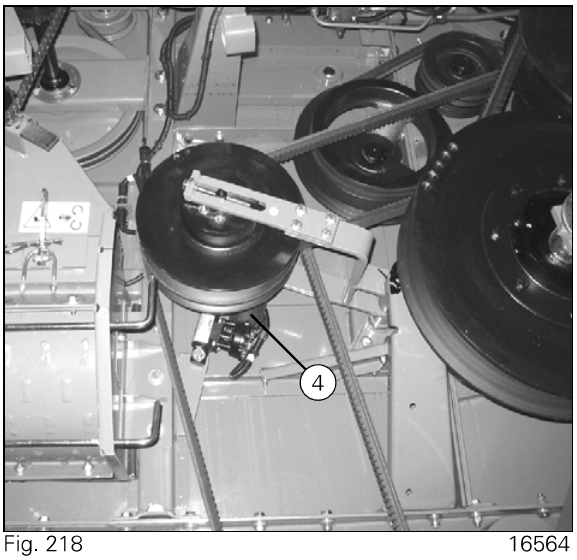

Fig. 218 16564

Magnetic valve, cylinder variator (5)
Designation on diagram: HOM 10

Magnetic valve, cylinder variator (6)
Designation on diagram: HOM 21

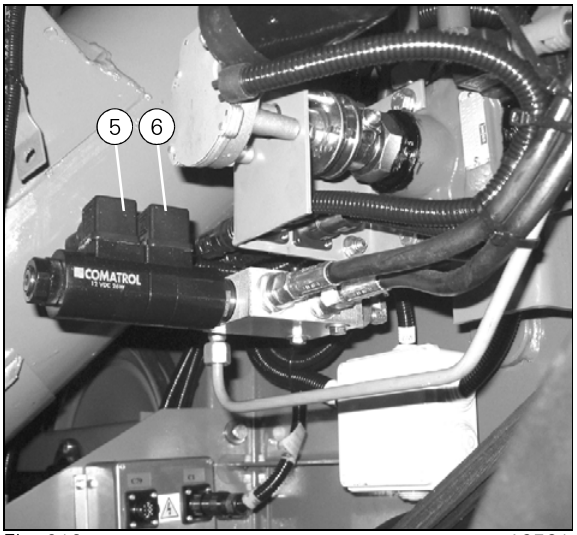

Fig. 219 16561

16.5.40 Vertical knives, diagram 400-1

Diagram applicable from combine serial No. 61514.

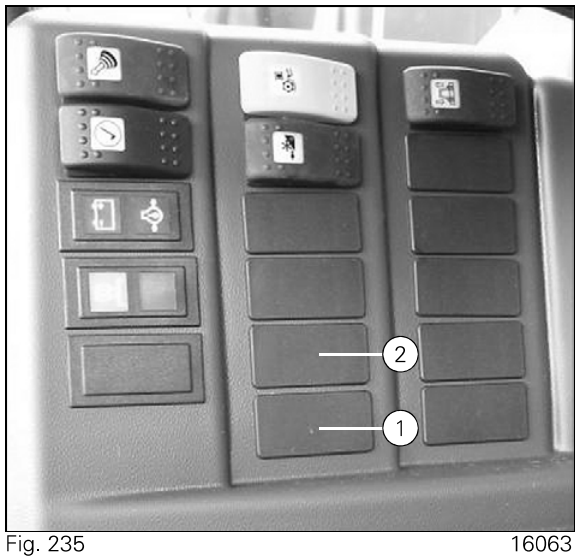

Fig. 235 16063

Switch, LH vertical knife (1)
Designation on diagram: DVH 02

Switch, RH vertical knife (2)
Designation on diagram: DVH 13

Relay for LH vertical knife
Not illustrated.
Designation on diagram: DVR 07

Relay for RH vertical knife
Not illustrated.
Designation on diagram: DVR 14

Motor for vertical knife RH
Not illustrated.
Designation on diagram: DVM 08

Motor for vertical knife LH
Not illustrated.
Designation on diagram: DVM 09

Filling elevator, revolution sensor (4)
Designation on diagram: DNF 04

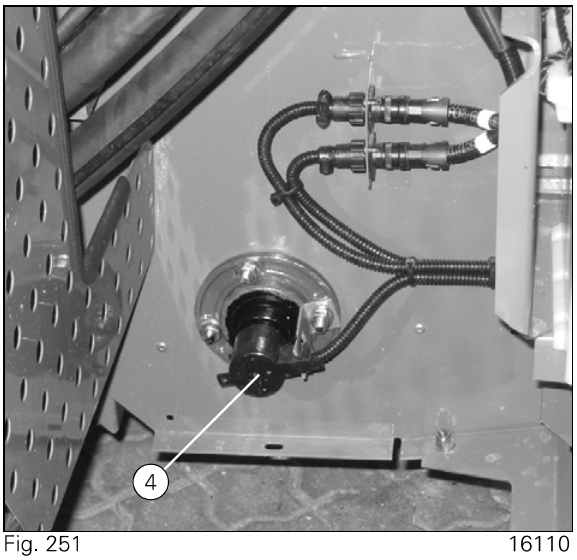

Fig. 251 16110

Filling auger, revolution sensor (5)
Designation on diagram: DNF 05

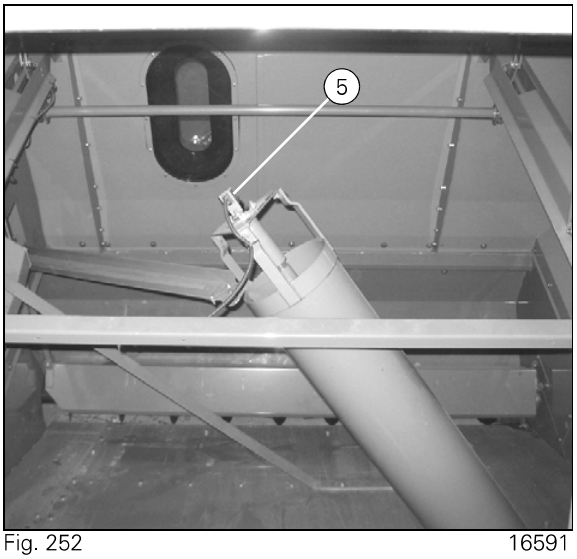

Fig. 252 16591

Straw walker, revolution sensor (6)
Designation on diagram: DNF 06

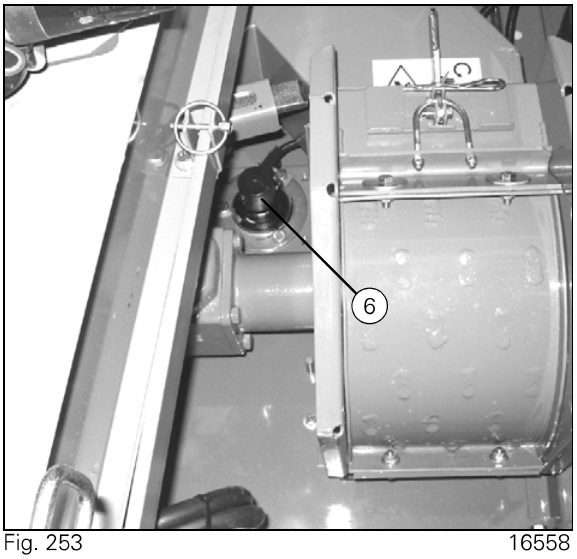

Fig. 253 16558

Stone trap, reed tube (4)

Designation on diagram: DNF 14

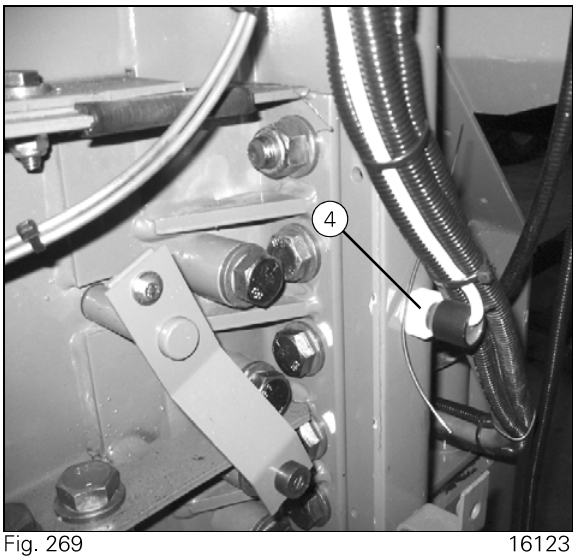

Fig. 269 16123

Ground sensor, RH potentiometer, PowerFlow table (5)
Designation on diagram: DNP 07

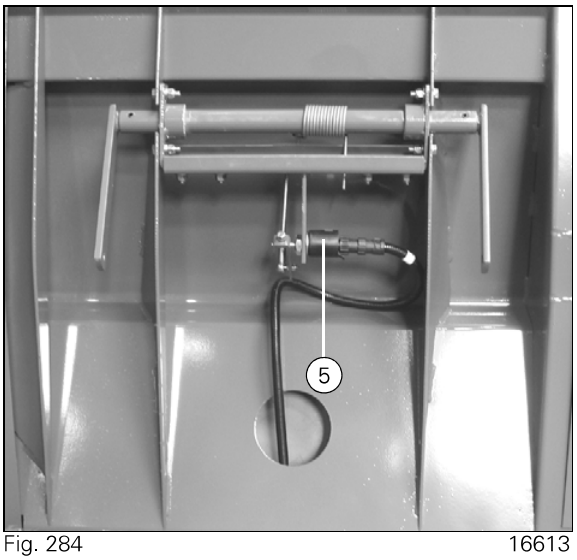

Fig. 284 16613

Ground sensor, LH potentiometer, FreeFlow table (6)
Designation on diagram: DNP 06

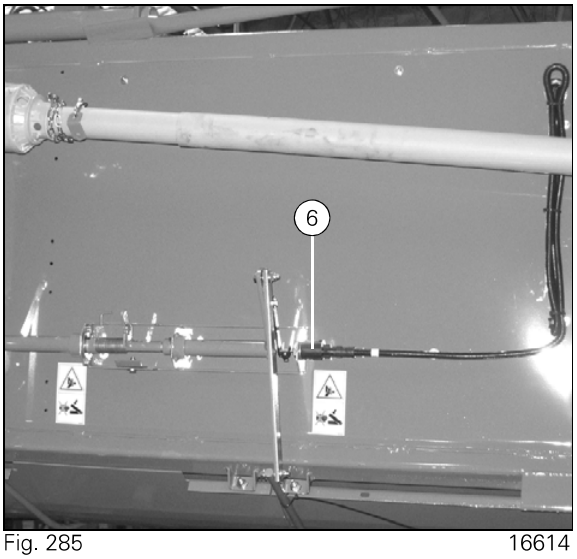

Fig. 285 16614

Ground sensor, RH potentiometer, FreeFlow table (7)
Designation on diagram: DNP 07

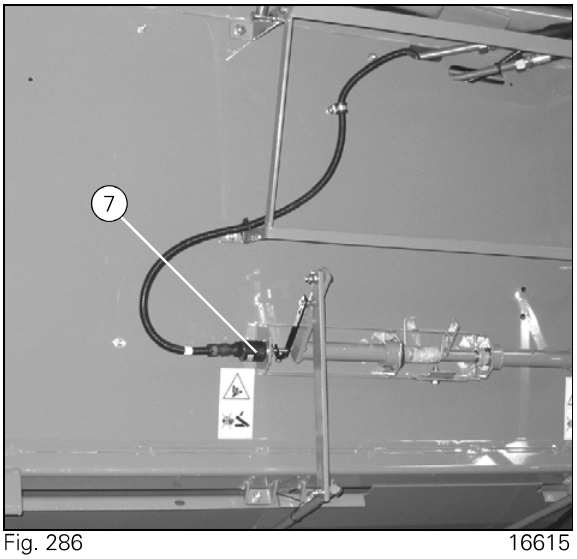

Fig. 286 16615

Wheel potentiometer, Auto Level machine RH (7)
Designation on diagram: DNP 10

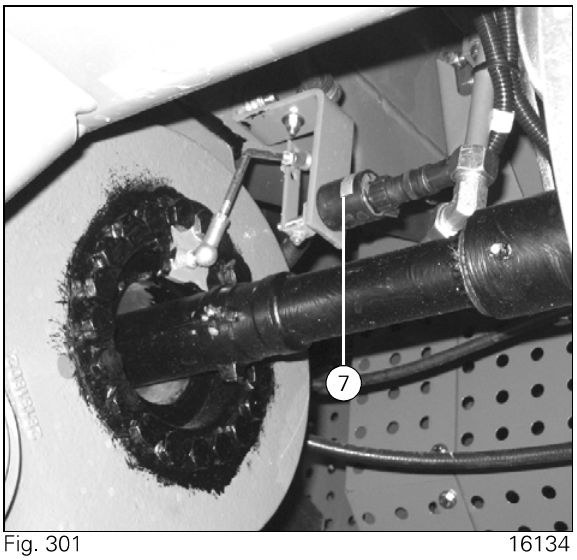

Fig. 301 16134

18. General assembly instructions

Contents

19. Miscellaneous data

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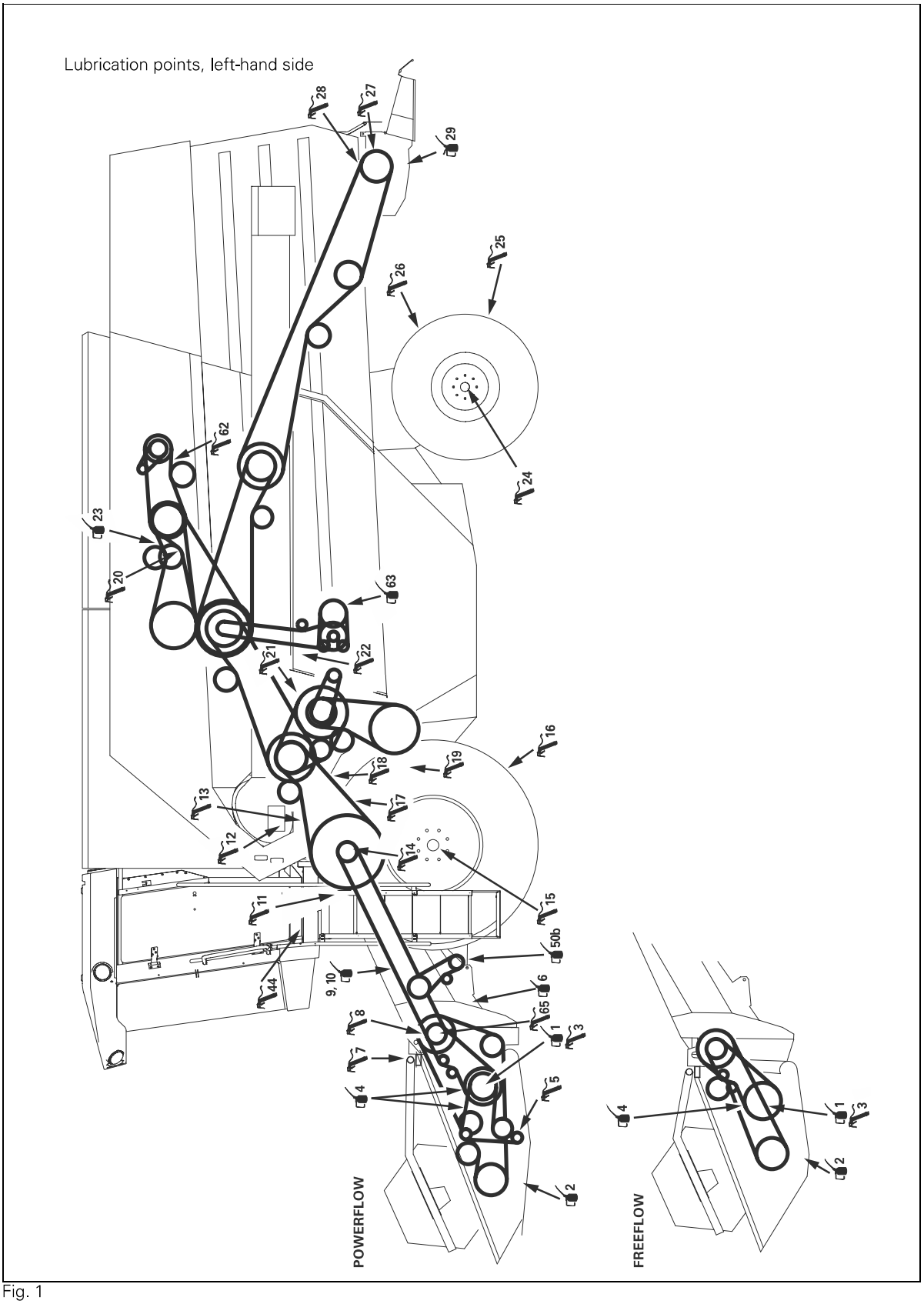
Lubrication points, left-hand side
28
27
29
25
26
62
24
23
20
63
21
22
16
18
19
13
17
12
14
11
15
50b
44
9, 10
6
65
1
3
8
7
4
5
2
POWERFLOW
4
1
3
2
FREEFLOW

Fig. 1

Bearing for eccentric shaft (19)

Number:	1
Colour:	Blue
Interval:	50 hours
Lubricant:	Grease
Notes:	-

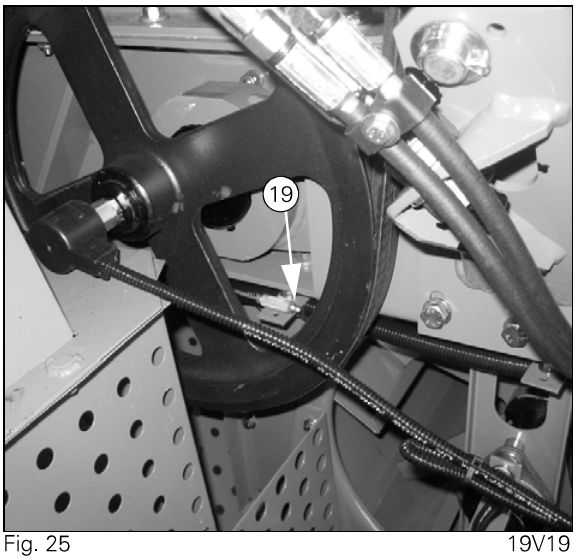

Fig. 25 19V19

Tension pulley for threshing unit clutch (20)

Number:	1
Colour:	Blue
Interval:	50 hours
Lubricant:	Grease
Notes:	-

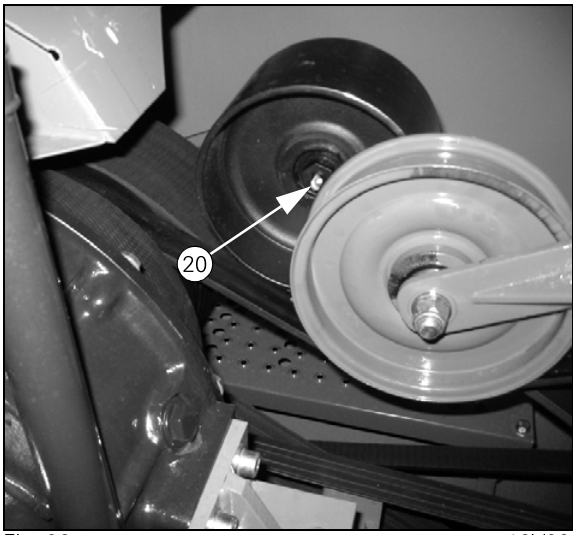

Fig. 26 19V20

Bearing for rotary separator (21)

Number:	1
Colour:	Yellow
Interval:	100 hours
Lubricant:	Grease
Notes:	-

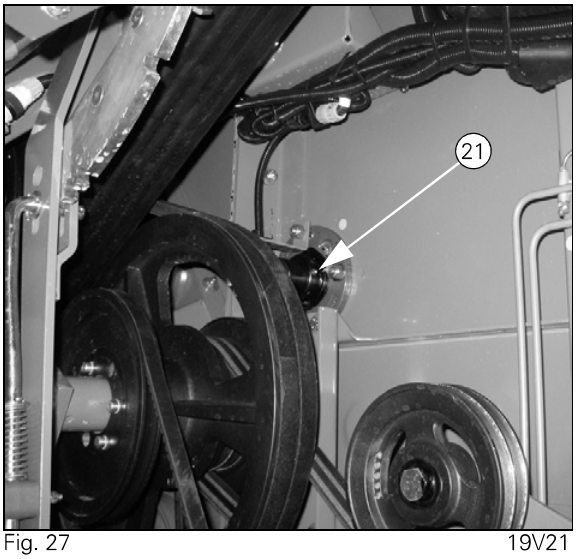

Fig. 27 19V21

Bearing for countershaft (35)

Number:	1
Colour:	Yellow
Interval:	100 hours
Lubricant:	Grease
Notes:	-

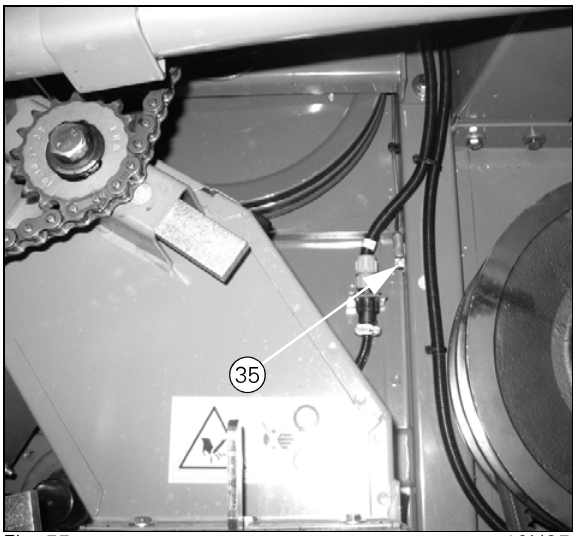

Fig. 55 19H35

Universal joint, filling auger (37)

Number:	2
Colour:	Blue
Interval:	50 hours
Lubricant:	Grease
Notes:	Lubricate daily in maize.

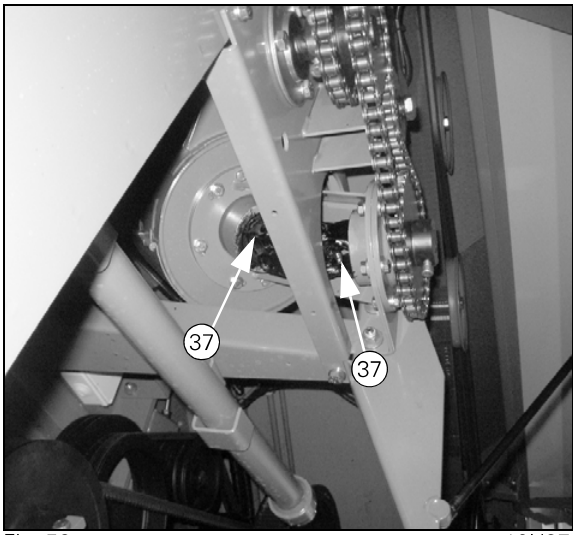

Fig. 56 19H37

Bearing for rotary separator (38)

Number:	1
Colour:	Yellow
Interval:	50 hours
Lubricant:	Grease
Notes:	-

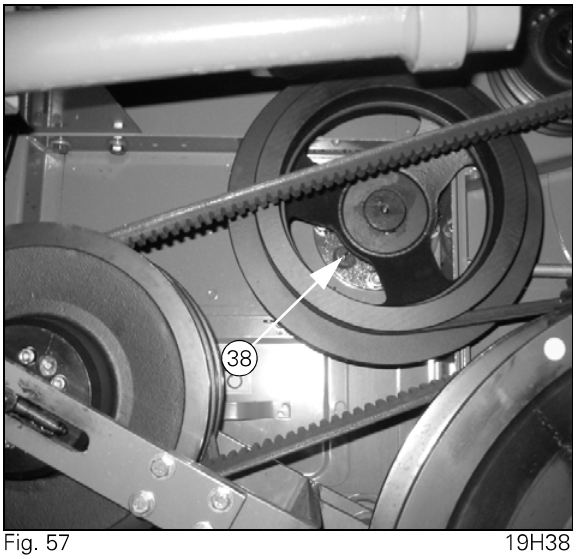

Fig. 57 19H38