

**LEXION 770 - 620**

**Repair manual**

**Genuine repair manual**

## Handling of this manual

The present Repair Manual is to assist in maintaining permanent machine availability. This ensures the high value of your harvesting machine by thorough care and service.

Experience gathered by both our service engineers and factory staff has been compiled in this Repair Manual.

The sequence of pictures shows the procedure of a repair. The text provides the necessary information about the adjustments to be made, the use of special tools etc.

Major repairs are explained in a way that specific and minor repairs can easily be drawn out.

The CLAAS Repair Manual is filled in a folder which allows inserting supplementary pages that cover technical developments and having an updated manual at hand for reference at any time.

To be sure, always compare settings and filling capacities with specifications stated in the current Operator's Manual and the Technical Systems documentation of the machine in question.

## Texts and figures







Pictures and graphics are neutral. Differences are pointed out by notes beneath the figure.

Texts are short and not machine-specific as far as possible. Differences are pointed out by intermediate headings.

Different types of texts can easily be distinguished from one another by their formats. The following formats are distinguished:

Formatting	Meaning	Description
Description	Descriptive text	Further information on the subject.
- Instructions	Process	Operations which must be carried out one after the other.
<i>Result</i>	Result	Result of the processes carried out.

Different types of references can easily be distinguished from one another by their symbols. The following symbols are distinguished:

Symbol	Meaning	Description
	See index	The symbol  indicates that further information on this subject is available in other sections of this manual.
	See the index of the Operator's Manual in question	The symbol  indicates that further information on this subject is available in the Operator's Manual of the machine or of the implement in question.
	See index of Technical Systems documentation	The symbol  indicates that further information on this subject is available in the Technical Systems documentation of this machine or this implement.

## Document structure based on subassemblies

As far as the contents permit, the chapters of this manual are structured according to subassemblies. The structure of these subassemblies is the same in all chapters.

Different product groups have different document structures based on subassemblies. CLAAS always takes care to keep these document structures based on subassemblies identical in any documents.

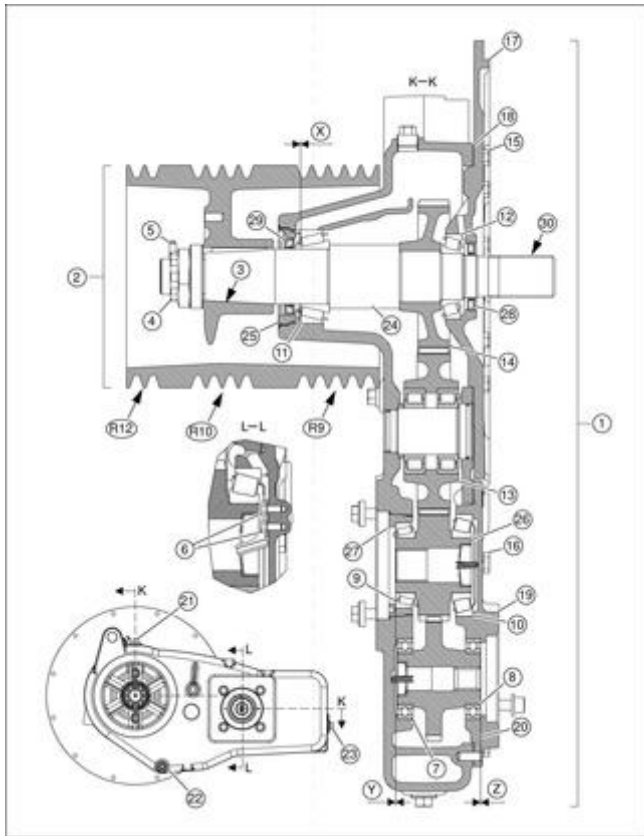
## Search and find

## Validity of manual

This manual applies to the following machine / front attachment:

Designation	Type	Serial number	
		from	to
LEXION 770	C59	C5900011	–
LEXION 760	C56	C5600011	–
LEXION 750 / 740	C55	C5500011	–
LEXION 670 / 660 / 650 / 640	C54	C5400011	–
LEXION 630 / 620	C53	C5300011	–
LEXION 770 / 760	C49	C4900011	–
LEXION 750 / 740 / 730	C48	C4800011	–
LEXION 670	C44	C4400011	–

## Transfer gearbox

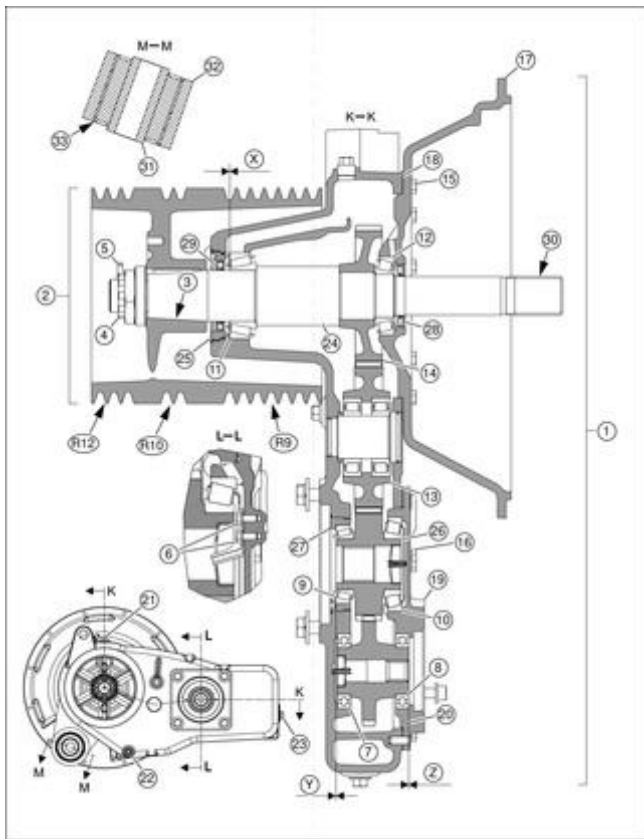


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Overview of transfer gearbox in version with CATERPILLAR engine

	Value	CCN	Remark / designation
1	<b>160 kg</b>		Transfer gearbox of CATERPILLAR-C6.6 / C9 / C13 diesel engine
2	<b>36 kg</b>		Engine output pulley. <u>Transfer gearbox</u>
3			Before installing, clean conical joint (3) to be free of grease, rust and paint.
4, 5	<b>300 Nm</b> <b>500 Nm</b>		Castle nut (1) with thread M36 x 1.5 DIN 937: <ul style="list-style-type: none"> <li>- Tighten nut (1) to <b>300 Nm</b> .</li> <li>- Turn nut (1) further until cotter pin (2) can be inserted.</li> <li>- Secure nut (1) with cotter pin (2).</li> </ul> Castle nut (1) with thread M42 x 1.5 DIN 937: <ul style="list-style-type: none"> <li>- Tighten nut (1) to <b>500 Nm</b> .</li> <li>- Turn nut (1) further until cotter pin (2) can be inserted.</li> <li>- Secure nut (1) with cotter pin (2).</li> </ul>
6			Insert bolts (6) with liquid locking compound when installing (see work preparation).
7 - 12			Heat up the deep-groove ball bearings (7) and (8) and cylindrical roller bearing inner races (9 - 12) to <b>around 100°C</b> prior to assembly.
13, 14			Heat up spur gears (13) and (14) to <b>around 100°C</b> prior to assembly.

	Value	CCN	Remark / designation
15 - 20			Insert bolts (15) and (16) with liquid locking compound when installing (see work preparation).  Install engine pulley (17) with seal (18) and lid (19) with seal (20).
21, 22	<b>40 Nm</b>		Apply some sealing tape to screw plugs (21) and male connectors (22) prior to assembly (see work preparation).
23	<b>50 Nm</b>		Apply some sealing tape to screw plug (23) prior to assembly (see work preparation).
24, 25			<ul style="list-style-type: none"> <li>- Adjust axial play (X) of drive shaft (24)</li> <li>Caution! Shaft seals are <b>not</b> fitted: <ul style="list-style-type: none"> <li>o Slightly grease the screw cap (25) on the thread with multi-purpose grease prior to assembly (see work preparation).</li> <li>o Bolt down screw cap (25) with special tool while turning the drive shaft (24) and jam the bearings. <u>Transfer gearbox</u></li> <li>o Apply blows to the drive shaft (24) and re-tighten the screw cap (25).</li> <li>o Slacken off screw cap (25) by <b>25°</b> .</li> <li>o While turning the drive shaft (24), apply blows to the drive shaft (24).</li> <li>o Fit a suitable measuring device as well as a spring balance and suitable lifting equipment to the drive shaft (24).</li> <li>o Set the measuring device to zero.</li> <li>o Generate a tractive force of <b>1000 N (100 kg)</b> at the drive shaft (24) in direction of the arrow.</li> <li>o Measure the axial play (X) of drive shaft (24).</li> <li>o Adjust dimension (X) by twisting screw cap (25) if necessary. Caution! <b>5°</b> of readjustment change the axial play by <b>around 0.02 mm</b></li> <li>o Caulk the screw cap (25) without cracks.</li> </ul> </li> </ul>
26, 27			<ul style="list-style-type: none"> <li>- Adjust axial play (Y) of spur gear (26): <ul style="list-style-type: none"> <li>o Set dimension (Y) of screw cap (27) while rotating spur gear (26), using a special tool. <u>Transfer gearbox</u></li> <li>o Caulk the screw cap (27) without cracks.</li> </ul> </li> </ul>
28, 29			Fill shaft seals (28) and (29) with multi-purpose grease prior to installation (see work preparation).
30			Apply a thin coat of assembly paste to toothed shaft (30) prior to gearbox installation (see work preparation).
X	<b>0.07 - 0.1 mm</b>		Setting dimension
Y	<b>0.05 - 0.07 mm</b>		Setting dimension
Z	<b>0.2 - 1 mm</b>		Setting dimension
Torque values not specified, see section on torques			



Overview of transfer gearbox on version with Mercedes-Benz engine

	Value	CCN	Remark / designation
1	<b>160 kg</b>		Transfer gearbox of Mercedes-Benz OM 502 LA diesel engine
2	<b>36 kg</b>		Engine output pulley. <u>Transfer gearbox</u>
3			Before installing, clean conical joint (3) to be free of grease, rust and paint.
4, 5	<b>300 Nm</b> <b>500 Nm</b>		Castle nut (1) with thread M36 x 1.5 DIN 937: <ul style="list-style-type: none"> <li>- Tighten nut (1) to <b>300 Nm</b> .</li> <li>- Turn nut (1) further until cotter pin (2) can be inserted.</li> <li>- Secure nut (1) with cotter pin (2).</li> </ul> Castle nut (1) with thread M42 x 1.5 DIN 937: <ul style="list-style-type: none"> <li>- Tighten nut (1) to <b>500 Nm</b> .</li> <li>- Turn nut (1) further until cotter pin (2) can be inserted.</li> <li>- Secure nut (1) with cotter pin (2).</li> </ul>
6			Insert bolts (6) with liquid locking compound when installing (see work preparation).
7 - 12			Heat up the deep-groove ball bearings (7) and (8) and cylindrical roller bearing inner races (9 - 12) to <b>around 100°C</b> prior to assembly.
13, 14			Heat up spur gears (13) and (14) to <b>around 100°C</b> prior to assembly.
15 - 20			Insert bolts (15) and (16) with liquid locking compound when installing (see work preparation).  Install engine pulley (17) with seal (18) and lid (19) with seal (20).
21, 22	<b>40 Nm</b>		Apply some sealing tape to screw plugs (21) and male connectors (22) prior to assembly (see work preparation).

	Value	CCN	Remark / designation
23	50 Nm		Apply some sealing tape to screw plug (23) prior to assembly (see work preparation).
24, 25			<ul style="list-style-type: none"> <li>- Adjust axial play (X) of drive shaft (24) Caution! Shaft seals are not fitted:               <ul style="list-style-type: none"> <li>o Slightly grease the screw cap (25) on the thread with multi-purpose grease prior to assembly (see work preparation).</li> <li>o Bolt down screw cap (25) with special tool (III) while turning the drive shaft (24) and jam the bearings. <u>Transfer gearbox</u></li> <li>o Apply blows to the drive shaft (24) and re-tighten the screw cap (25).</li> <li>o Slacken off screw cap (25) by <b>25°</b> .</li> <li>o While turning the drive shaft (24), apply blows to the drive shaft (24).</li> <li>o Fit a suitable measuring device as well as a spring balance and suitable lifting equipment to the drive shaft (24).</li> <li>o Set the measuring device to zero.</li> <li>o Generate a tractive force of <b>1000 N (100 kg)</b> at the drive shaft (24) in direction of the arrow.</li> <li>o Measure the axial play (X) of drive shaft (24).</li> <li>o Adjust dimension (X) by twisting screw cap (25) if necessary. Caution! <b>5°</b> of readjustment change the axial play by <b>around 0.02 mm</b></li> <li>o Caulk the screw cap (25) without cracks.</li> </ul> </li> </ul>
26, 27			<ul style="list-style-type: none"> <li>- Adjust axial play (Y) of spur gear (26):               <ul style="list-style-type: none"> <li>o Set dimension (Y) of screw cap (27) while rotating spur gear (26), using special tool (III). <u>Transfer gearbox</u></li> <li>o Caulk the screw cap (27) without cracks.</li> </ul> </li> </ul>
28, 29			Fill shaft seals (28) and (29) with multi-purpose grease prior to installation (see work preparation).
30			Apply a thin coat of assembly paste to toothed shaft (30) prior to gearbox installation (see work preparation).
31 - 33			Force metal/rubber bearing (31) so into housing (32) that the outer metal ring is flush with the housing at (33).
X	0.07 - 0.1 mm		Setting dimension
Y	0.05 - 0.07 mm		Setting dimension
Z	0.2 - 1 mm		Setting dimension
Torque values not specified, see section on torques			

### Environment!

Lubricants and fuels can enter the atmosphere.

Risk of pollution

- ▶ Recover, store and dispose of lubricants and fuel according to the regulations in force with the appropriate containers.

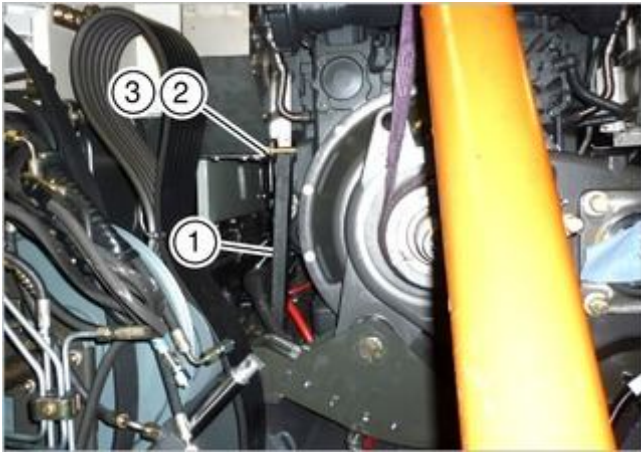
### Work preparation

Utilities:

- ▶ Assembly paste, for example:  
Anti Seize - 00 0136 571 0
- ▶ Liquid locking compound (high-strength), e.g.:  
DELO-ML-5328 - 00 0178 779 1
- ▶ Sealing tape, e.g.:  
Teflon tape - 00 0136 540 0
- ▶ Multi-purpose grease, e.g.:  
CLAAS AGRIGREASE EP 2 - 00 0147 437 0
- ▶ Multi-purpose transmission oil, e.g.:  
CLAAS AGRISHIFT 4 SC SAE 80W-90 - 00 0147 373 0

Tool:

- ▶ Suitable lifting device  
Load-bearing capacity **1160 kg min.** (Mercedes-Benz OM 502 LA diesel engine with attached transfer gearbox)
- ▶ Suitable lifting gears (ropes and shackles) with appropriate load-bearing capacity.
- ▶ Oil collecting tank
- ▶ Plugs (different sizes) for closing oil lines.
- ▶ Engine support (I) (on version with Mercedes-Benz engine)



Supporting the diesel engine (version with Mercedes-Benz engine)

#### Auxiliary tool (I)

U section (1) (self-manufactured)

60 mm x 30 mm x 5 mm,

400 mm long

Washer (2)

Part no. 00 0688 484 0

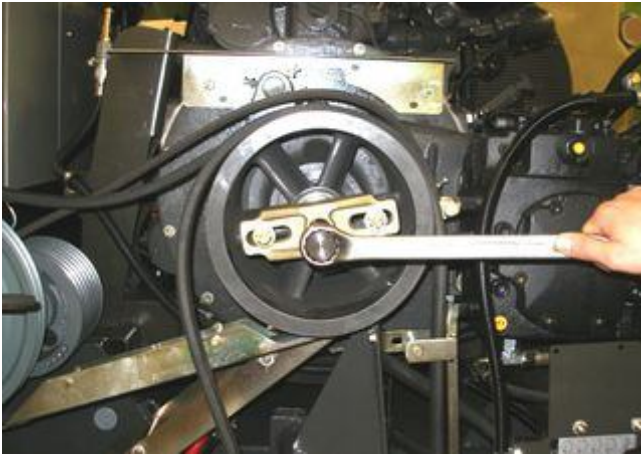
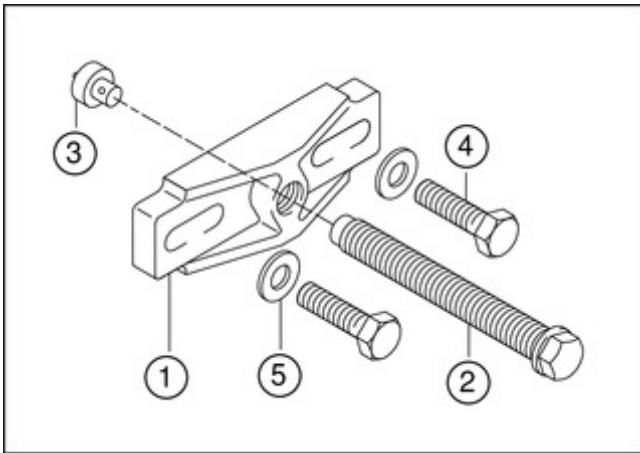
Hexagon head bolt (3)

ISO 4017 M16 x 100-8.8

Part no. 00 0242 469 0

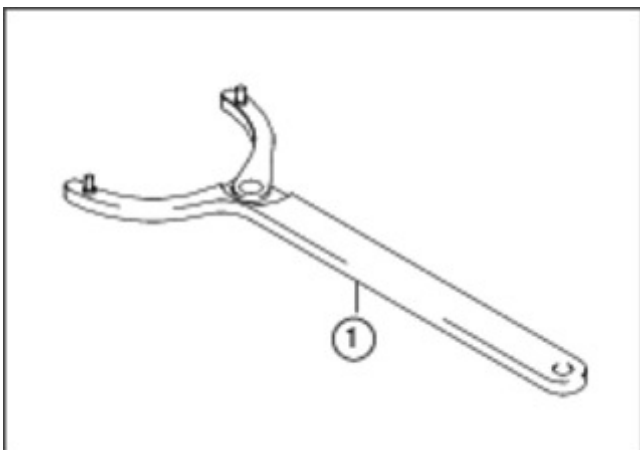
#### Special tool





Pulling off the engine output pulley

	<b>Special tool (I) / part no.</b>	<b>Pcs.</b>
1	Puller bridge 00 0181 800 0	1
2	Threaded spindle 00 0181 801 0	1
3	Levelling piece with ball 00 0181 849 0	1
4	Hex. bolt ISO 4017 M12 x 130-8.8 00 0244 420 0	2
5	Washer 00 0238 206 0	2





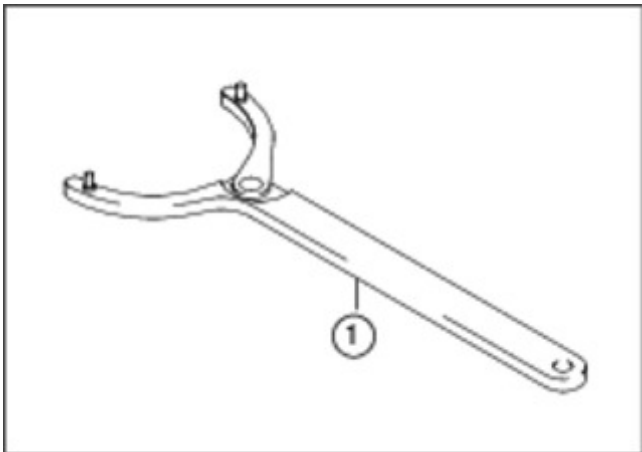
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Unscrewing the threaded lid



Unscrewing the threaded lid

	Special tool (II) / part no.	Pcs.
1	Pin hole wrench 00 0181 624 0	





Adjusting the bearing

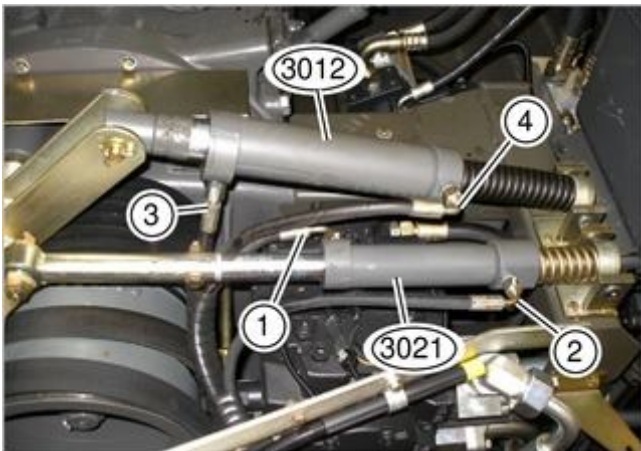


Adjusting the bearing

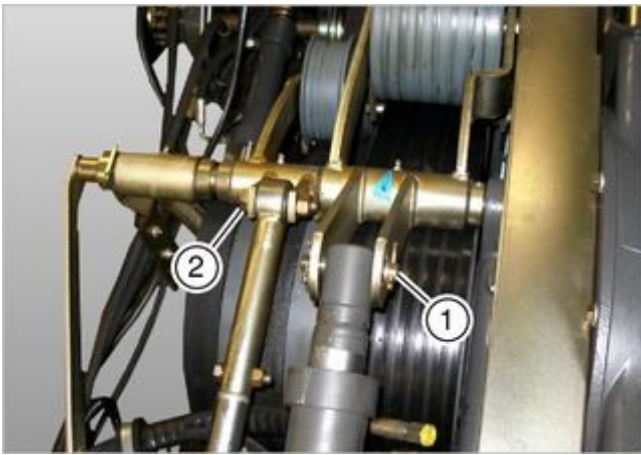
	Special tool (III) / part no.	Pcs.
1	Pin hole wrench 00 0181 624 0	

### Removing the engine output pulley

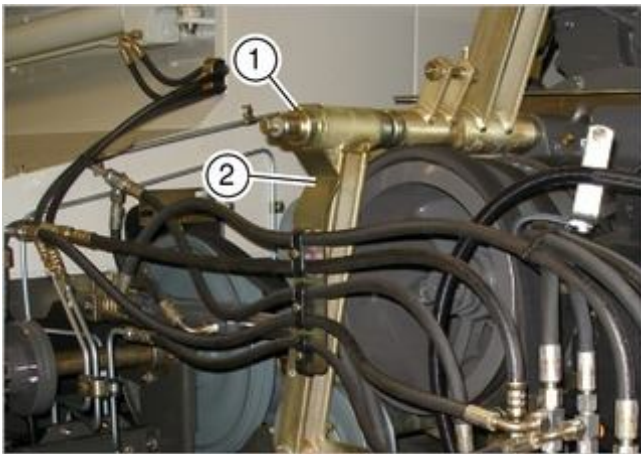
- ▶ Remove the left side panel.  
Side panel



- ▶ Mark hoses (1 - 4) and unscrew them from cylinders (3012) and (3021). Collect and dispose of any escaping hydraulic oil properly.
- ▶ Plug openings with a plug.



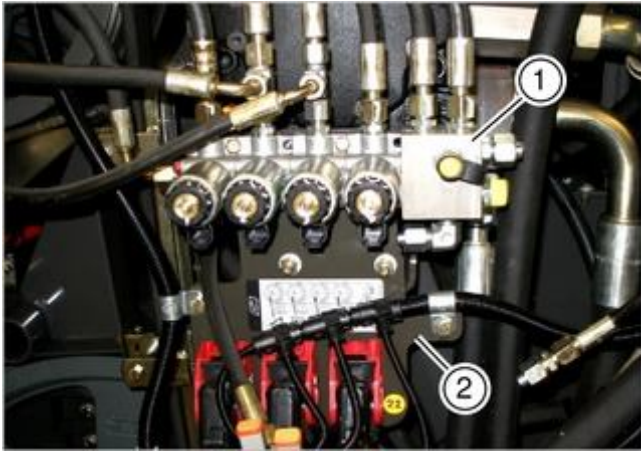
- ▶ Unlock pin (1) and pull it out.
- ▶ Unscrew bolt (2).



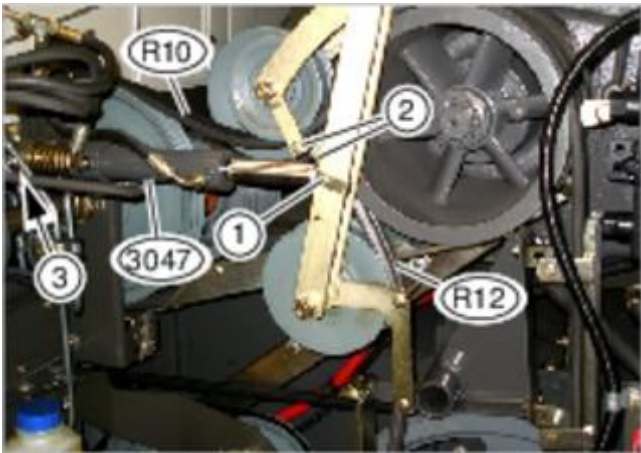
- ▶ Slacken off and remove set collar (1).
- ▶ Remove bracket (2).  
Caution! Do **not** slacken off hoses.



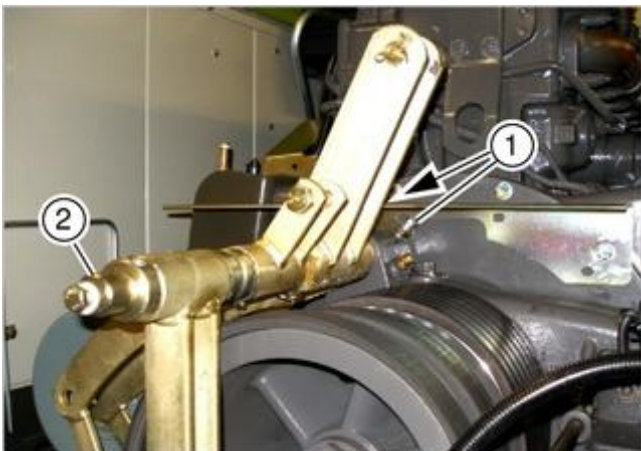
- ▶ Unlock and disconnect connectors from valves (Y088), (Y021), (Y035) and (Y076).
- ▶ Mark and unscrew hoses (1 - 3) from the valve block.  
Collect and dispose of any escaping hydraulic oil properly.
- ▶ Plug openings with a plug.



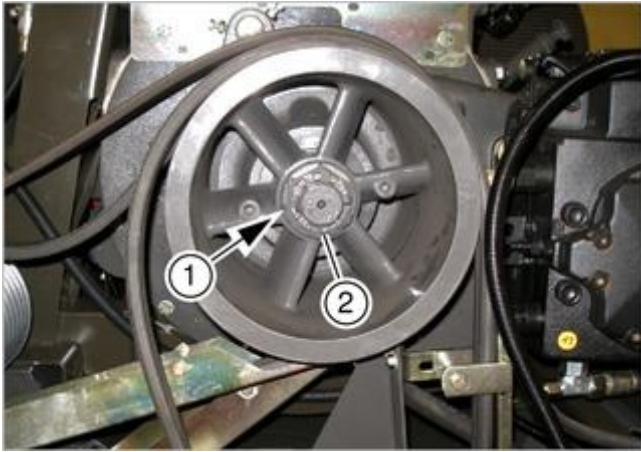
- ▶ Unscrew valve block (1) from bracket (2) and tie it aside.



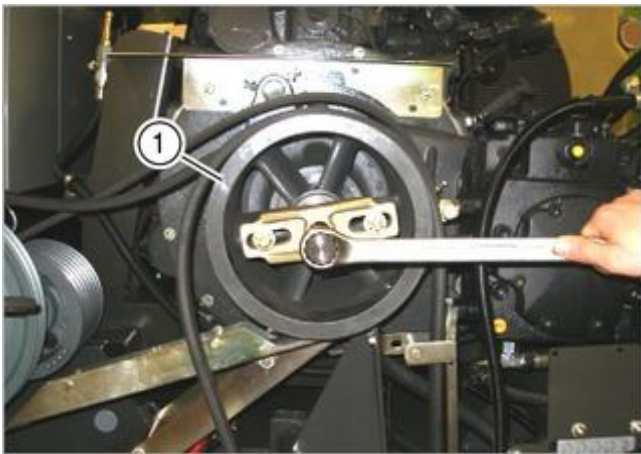
- ▶ Remove the jockey pulley of belt (R12).  
Jockey pulley of belt (R12)
- ▶ Remove the jockey pulley of belt (R10).  
Jockey pulley of belt (R10)
- ▶ Unlock pin (1) and pull it out.
- ▶ Unscrew bolts (2).
- ▶ Unscrew cylinder (3047) at (3) and put it aside.  
Caution! Do **not** slacken off hoses.



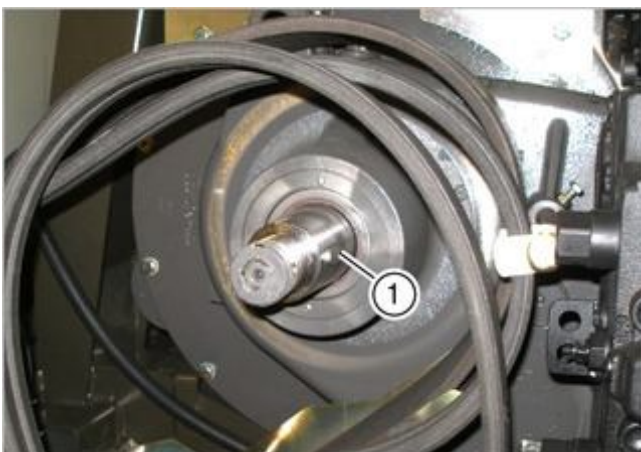
- ▶ Slacken off clamping bolts (1).
- ▶ Pull off shaft (2) completely with all jockey pulley arms.



- ▶ Remove cotter pin at (1).
- ▶ Remove nut (2).



- ▶ Pull off pulley (1) with special tool (1).  
Transfer gearbox
- ▶ Remove pulley (1).  
Weight of pulley (1):  
Transfer gearbox



- ▶ Remove parallel key (1).

### Engine output pulley

Observe the specifications in the overview!

Transfer gearbox

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