M.

PREVENTIVE MAINTENANCE FOR VEHICLE TRANSPORT EQUIPMENT

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WARNING

This document summarizes preventive maintenance operations for all LOHR vehicle transport equipment.

V0 basic maintenance operations described in this document can be performed by the driver and do not require any special skills.

V1 and V2 preventive maintenance operations described in this document must be performed by qualified personnel using appropriate tools.

More important, V3 to V6 maintenance operations or repairs must be performed by a workshop or personnel approved by LOHR INDUSTRIE.

The operations described in this brochure are to be performed as needed, depending on the components of your equipment. It is important to follow this maintenance schedule to guarantee safety and reliability.

SYMBOLS USED

 this symbol indicates the operation to be performed by the operator.	 **THIS SYMBOL INDICATES A SPECIFIC DANGER.**	 This symbol indicates a comment.
 This symbol operation to be performed operat.	 This symbol indicates a or a torque.	 This symbol indicates a value.

SUMMARY

1. MAINTENANCE SCHEDULE

1.1. Levels of intervention

The level of intervention determines the skills and resources needed to perform these preventive maintenance operations.

Three levels of intervention are recommended :

- **Level (A)** : Services performed by the equipment user (or customer's maintenance workshop).

  Operations performed with no particular technical training.

  (service V0 - not on the timetable).

- **Level (B)** : Services, replacements and adjustments made at the garage.

  Operations requiring technical mechanical engineering skills which can be performed in a heavy goods garage, following the constructor's recommendations **(inspections V1 and V2)**.

- **Level (C)** : Replacements and adjustments made in the workshop using specific resources and training.

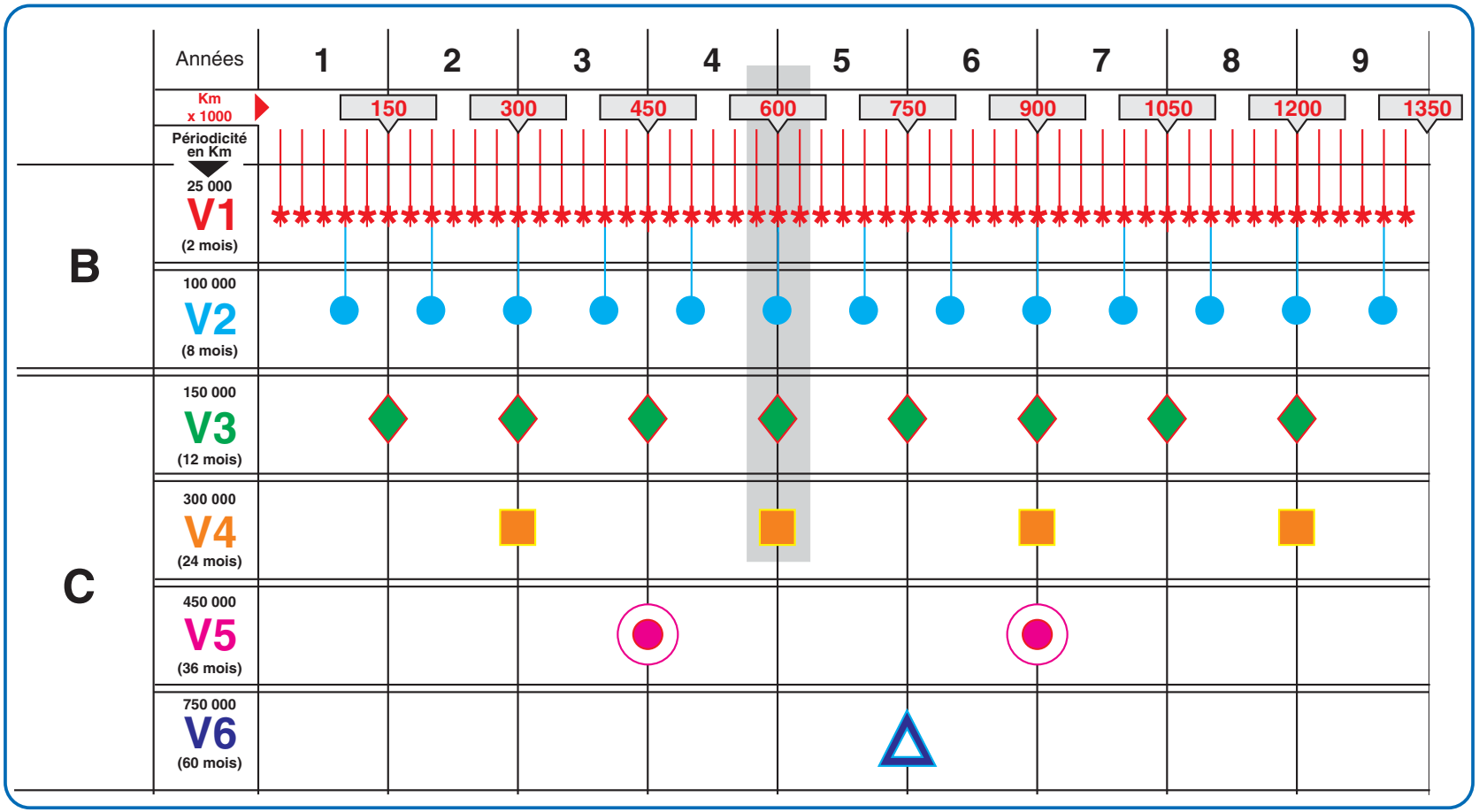
  Operations needing technical skills in mechanical engineering, hydraulics, pneumatics and electrici (depending on the operation). They can be performed by the LOHR SERVICE network under the terms of a maintenance contract.

  (inspections V3, V4, V5, V6).

1.2. Periodicity

The general maintenance schedule is drawn up for 9 years and 1 350 000 kilometres, corresponding to an average annual mileage of 150 000 km.

Services are performed cumulatively as shown in the following table :



E.G. , after 48 months of use (600 000 km), you must perform: - a V1 service + a V2 service + a V3 service + a V4 service.

i.e :

- 1 Service **"V0"** **very week**, performed by the user (not illustrated on the table),
- 53 Service **"V1"** (every 2 months or 25 000 km),
- 13 Service **"V2"** (every 8 months or 100 000 km),
- 8 Service **"V3"** (every 12 months or 150 000 km),
- 4 Service **"V4"** (every 24 months or 300 000 km),
- 2 Service **"V5"** (every 36 months or 450 000 km),
- 1 Service **"V6"** (after 60 months or 750 000 km).

1.3. Summary of maintenance operations

The following table defines the frequency of inspections, lubrication and replacement operations to be performed.

For inspection and lubrication, follow the frequency times very carefully. In some cases of intensive or very severe use, it is recommended to reduce these periods by half, for example.

For replacement operations, frequencies are given as an indication only, in the knowledge that every wear part must be replaced as soon as the limit of wear is reached. It is not essential to replace the wear parts or mechanisms indicated if they are still in good condition and can go on working until the next service.

Legend :

(**1**) Every day
(**2**) Depending on the type of equipment, version and option
(**3**) Only when V2 coincides with V3, see timetable
(**4**) Except bracing joints
(**5**) Only on EUROLOHR equipment
(**6**) Only when V4 coincides with V5 1x: see timetable
(**X**) Operation repeated for this service

PREVENTIVE MAINTENANCE OPERATIONS			FREQUENCY SEE (M - 4)						
			V0	V1	V2	V3	V4	V5	V6
LEVEL A	PAGE	V0 OPERATOR SERVICE							
	M - 27	CHECK WHEEL TIGHTNESS	X						
	M - 21	VISUAL CHECK OF SAFETY COMPONENT TIGHTNESS	X						
	M - 30	CHECK WEAR ON LIFTING SCREWS (**2**)	X						
	M - 35	VISUAL CHECK OF COUPLING STABILISER (**2**)	X						
	M - 36	CHECK WEAR ON COUPLING STABILISER (**2**)	X						
	M - 17	CHECK CENTRAL LUBRICATION LEVEL (**2**)	X						
	M - 46	CHECK TYRE WEAR	X						
	M - 47	CHECK TYRE PRESSURES	X						
	M - 45	CHECK EMERGENCY BRAKE FUNCTION	X						
	M - 42	CHECK HYDRAULIC CLOGGING INDICATOR	X						
	M - 44	PNEUMATIC TANK VENT (**1**) (**2**)	X						
	-	AIR LEAK DETECTION IN PNEUMATIC CIRCUIT	X						
	-	OIL LEAK DETECTION IN HYDRAULIC CIRCUIT	X						
	-	CHECK INDICATOR CONDITION AND FUNCTION	X						
	-	CHECK LOADING LIGHT FUNCTION	X						
	-	POWER TAKE OFF LEAK DETECTION (VISUAL EXAMINATION)	X						
	M - 14	CHECKING CABLE WEAR ON CABLE LIFTING (**2**)	X						
	M - 15	SERVICING THE HYDRAULIC JACK RODS (**2**)	X						

The driver's check to make sure safety components are tight, is a visual check.
Wheels must be systematically tightened.

	PREVENTIVE MAINTENANCE OPERATIONS		FREQUENCY SEE (M - 4)						
			V0	V1	V2	V3	V4	V5	V6
LEVEL B	PAGE	GARAGE SERVICE V1							
	-	GENERAL VISUAL CHECK OF EQUIPMENT		X	X	X	X	X	X
	-	GENERAL FUNCTIONAL CHECK OF EQUIPMENT		X	X	X	X	X	X
	M - 21	CHECK SAFETY COMPONENT TIGHTNESS		X	X	X	X	X	X
	M - 40	CHECK HYDRAULIC TANK LEVEL		X	X	X	X	X	X
	M - 40	CHECK MANUAL PUMP HYDRAULIC TANK LEVEL (2)		X	X	X	X	X	X
	M - 17	CHECK CENTRAL LUBRICATION LEVEL (2)		X	X	X	X	X	X
	M - 13	CHECK SCREW LIFT MECHANISM LEVEL (2)		X	X	X	X	X	X
	M - 36	CHECK WEAR ON COUPLING STABILISER (2)		X	X	X	X	X	X
	M - 38	CHECK COUPLING STABILISER ALARM (2)		X	X	X	X	X	X
	M - 31	CHECK WEAR ON TA2050 COUPLING SHOES (2)		X	X	X	X	X	X
	M - 48	CHECK WEAR ON BRAKE MECHANISMS (2)		X	X	X	X	X	X
	M - 46	CHECK TYRE WEAR		X	X	X	X	X	X
	M - 47	CHECK TYRE PRESSURES		X	X	X	X	X	X
	M - 11	LUBRICATION (EXCEPT CENTRALISED LUBRICATION)		X	X	X	X	X	X
	-	POWER TAKE OFF LEAK DETECTION (VISUAL EXAMINATION)		X	X	X	X	X	X
	M - 18	CHECK CONNECTION ANTI-CORROSION		X	X	X	X	X	X
		GARAGE SERVICE V2							
		V1 service operations			X				
	M - 32	REPLACE TA2050 COUPLING WEAR PARTS (2)			X	(2)	X	X	
	M - 37	REPLACE COUPLING SHOCK ABSORBER WEAR PARTS (2)			X	(2)	X	X	
	M - 43	REPLACE HYDRAULIC FILTER CARTRIDGE			X	X	X	X	
	-	CHECK POWER TAKE OFF MOUNT TIGHTNESS			X	X	X	X	
	M - 39	CHECK WEAR ON TELESCOPIC DRAWBAR SHOES (2)			X	X	X	X	

Legend :

(**1**) Every day
(**2**) Depending on the type of equipment, version and option
(**3**) Only when V2 coincides with V3, see timetable
(**4**) Except bracing joints
(**5**) Only on EUROLOHR equipment
(**6**) Only when V4 coincides with V5 1x: see timetable
(**X**) Operation repeated for this service

		PREVENTIVE MAINTENANCE OPERATIONS	FREQUENCY SEE (M - 4)						
			V0	V1	V2	V3	V4	V5	V6
LEVEL C		**V3 OPERATOR SERVICE**							
		V1, V2 service operations (**3**)				X			
		REPLACE AXLE BRAKING WEAR PARTS				X	X	X	X
		REPLACE HUB BEARING GREASE				X	X	X	X
		ADJUST SELF-ADJUSTING LEVERS				X	X	X	X
		ADJUST AUTOMATIC CORRECTOR (**2**)				X	X	X	X
		REPLACE SUSPENSION SHOCK-ABSORBERS				X	X	X	X
		ADJUST LEVEL VALVE				X	X	X	X
		V4 OPERATOR SERVICE							
		V1, V2, V3 service operations					X		
		REPLACE HYDRAULIC TRAC. AND TRAIL. COUPLERS (**5**)					X	(6)	
		REPLACE LIFTING SYSTEM WEAR PARTS (**2**)					X	(6)	
		REPLACE ALL NUT WEAR PARTS ROTOBLOC (**2**)					X	(6)	
		REPLACE HYDRAULIC LIFTING SYSTEM WEAR PARTS (**2**) (**4**)					X	(6)	
		CHECK DISTRIBUTOR PRESSURES					X	(6)	
		EMPTY HYDRAULIC TANK					X	(6)	
	M - 14	LUBRICATING CABLES AND PNEUMATIC FORKS ON CABLE LIFT (**2**)					X	(6)	
		V5 OPERATOR SERVICE							
		V1, V2, V3, V4 service operations (**6**)						X	
		REPLACE HYDRAULIC LIFTING CYLINDERS (**2**)						X	
		CHECK TRAILER WEAR PLATES (REPLACE IF NECESSARY) (**2**)						X	

PREVENTIVE MAINTENANCE OPERATIONS			FREQUENCY SEE (M - 4)						
			V0	V1	V2	V3	V4	V5	V6
LEVEL C		**V6 OPERATOR SERVICE**							
		V1, V3 service operations							X
		REPLACE PLATFORM WEAR PARTS (SHOES, ROLLERS, ETC.)							X
		REPLACE HYDRAULIC CYLINDERS (**6**)							X
		REPLACE ARTICULATION BRACING WEAR PARTS (**2**)							X
		REPLACE LIFTING SCREW ROLLER BEARINGS (**2**)							X
		REPLACE HYDRAULIC MOTORS (**2**)							X
		REPLACE AXLE WEAR PARTS							X
		REPLACE PNEUMATIC SUSPENSION BELLOWS							X
		REPLACE PNEUMATIC SUSPENSION SILENTBLOCS							X
		REPLACE PNEUMATIC SUSPENSION SPRING SHAFTS							X
		REPLACE TA2050 BALL COUPLING PIN (**2**)							X
		REPLACE AUTOMATIC COUPLING WEAR PARTS (**2**)							X
		REPLACE PNEUMATIC SUSPENSION LEVEL VALVE							X
		REPLACE AUTOMATIC BRAKE CORRECTOR (**2**)							X
		REPLACE CABLE LIFTING SYSTEM CABLE (**2**)							X

Legend :

(**1**) Every day
(**2**) Depending on the type of equipment, version and option
(**3**) Only when V2 coincides with V3, see timetable
(**4**) Except bracing joints
(**5**) Only on EUROLOHR equipment
(**6**) Only when V4 coincides with V5 1x: see timetable
(**X**) Operation repeated for this service

2. WASHING

2.1. Washing the bodywork

During the first two months of use, to give the paint time to harden, you are recommended to wash the rig only with low pressure cold water and avoid using detergent

After this period, washing can be more intense (hot water at high pressure with added detergent). Nevertheless, don't rub too hard on plates carrying stickers or the electrical control boxes. The combined effect of heat and pressure could damage them.

To avoid corrosion, do not limit washing to visible parts only; the chassis and under parts must also be kept clean.

It is important to keep the bodywork as clean as possible. Inspections and servicing will then be easier.

Each time the rig is washed, to prevent mobile parts from corroding and binding, it is essential to lubricate the body completely. This operation must be done at least every two months (Service V2).

3. GREASING

3.1. Lubricating the equipment

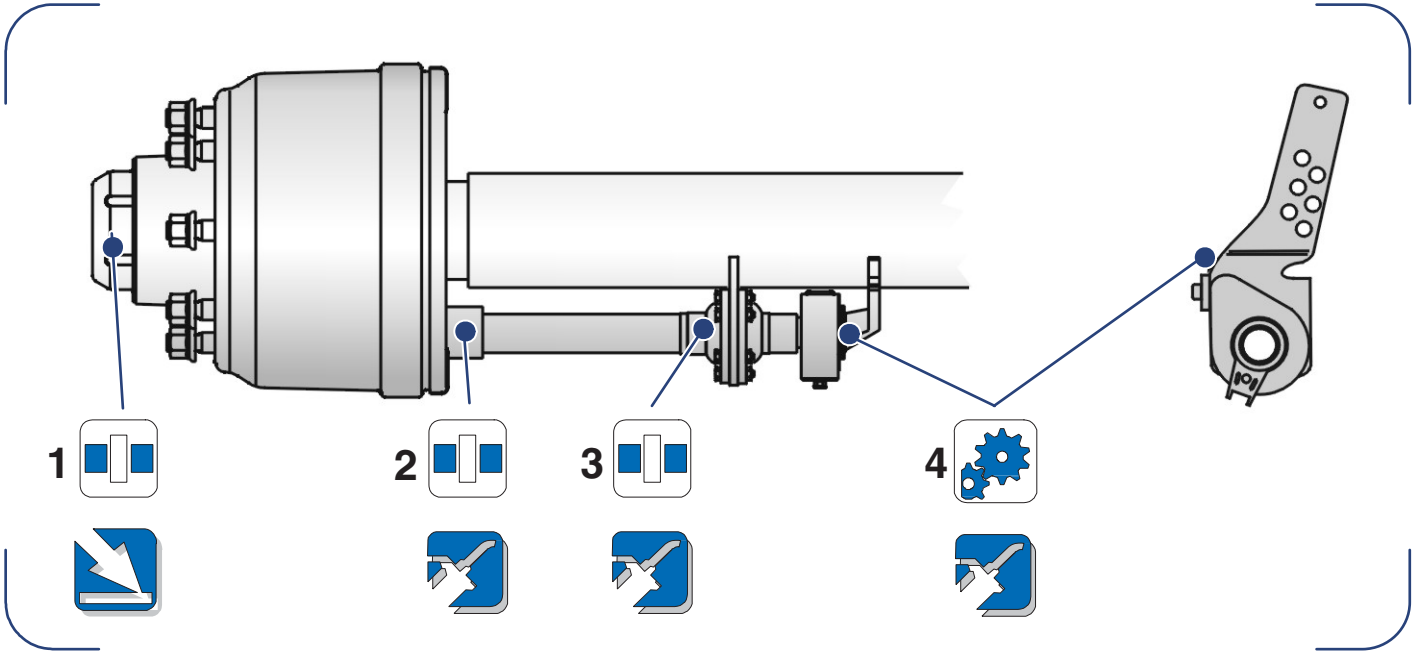
If your vehicle does not have central lubrication (optional), lubrication must be done regularly to maintain your equipment's performance level (see chapter 1.2..).

The sheet detailing lubrication points for each item of equipment is given in the appendix with the "USER MANUAL".

3.2. Greasing symbols

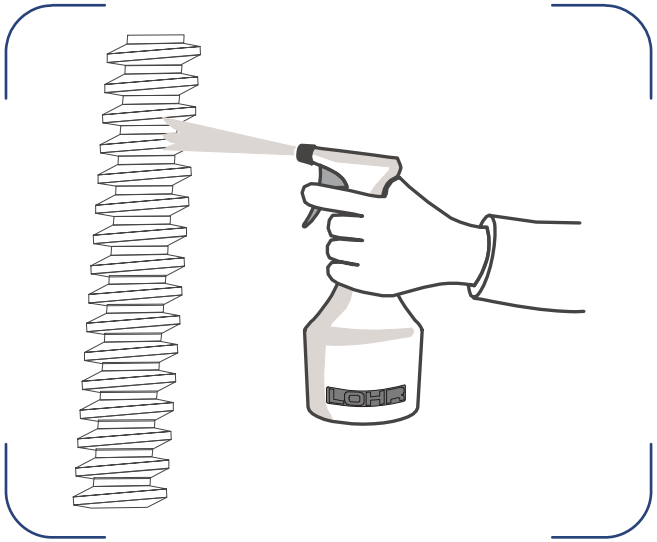
Operating symbols		Location symbols			
	Pump lubrication (grease gun)		Pin (hinge pin, etc.)		Lifting cable
	Brush lubrication		Bearing (ring or roller)		Lock
	Oil can lubrication		Mechanism		Fifth wheel
	Change (oil) replace (grease)		Hydraulic tank		Ball coupling hook LOHR
	Check level (oil)		Slides		
	Spray lubrication		Lfiting screw		

3.3. Running gear



1 ..... :	Wheel hubs	(replace the grease)
2 ..... :	Brake cam joints	(moderate pump lubrication)
3 ..... :	Cam swivel joints	(pump lubrication)
4 ..... :	Brake lever mechanism.....	(pump lubrication)

"Brake cam joints" (2) must be lubricated only slightly to avoid spreading excess grease into the brake.



3.4. Screw lifting system

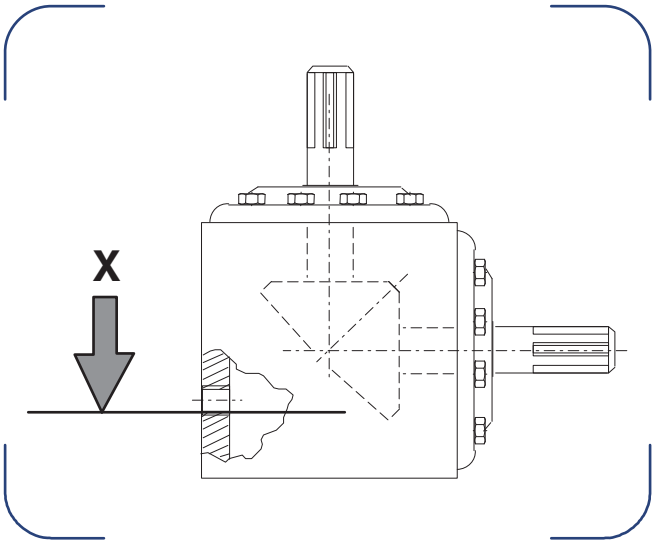
These operations must be performed in addition to lubrication. See lubrication diagram provided in the "USER MANUAL" appendix.

3.4.1. Lubricating the screws

To maintain lifting performance and extend the life of the nuts, all lifting or translation systems must be regularly oiled at each service V1 (i.e. every 2 months or 25 000 km).

This operation must be performed on clean, dry screws. If necessary, clean the screws using a high pressure washer and dry with compressed air.Use only "DROSERA MS32 TOTAL-FINA-ELF" (reference LOHR A07130303 or equivalent).

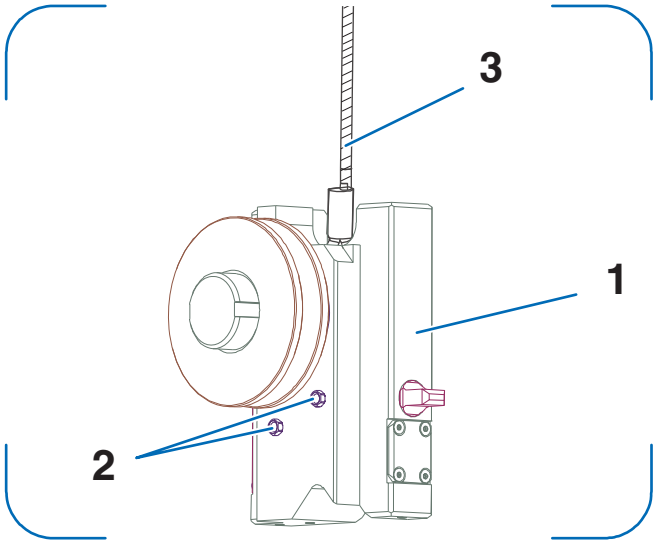
Do not use grease or lubricant in aerosol form as this becomes sticky after a few days and traps sand and dust.



3.4.2. Check the level of lifting screw mechanisms

Unscrew the stoppers to check the level of lifting screw mechanisms.

Check the level (X) and top up if necessary (TRANSMISSION TM80W90 TOTAL-FINA-ELF) (reference LOHR A07130202 or equivalent).



3.5. Cable lifting system

These operations must be performed in addition to lubrication. See lubrication diagram provided in the "USER MANUAL" appendix.

3.5.1. Checking cable wear on cable lifting

Lock successively the upper platform in the max low position, then in the max high position. Inspect the lifting cable thoroughly in both positions.

It must be void of distortion, marks, dents, incipient wire tears.

In case of doubt, go immediately to a certified garage or Service Point for a thorough check.

3.5.2. Lubrication

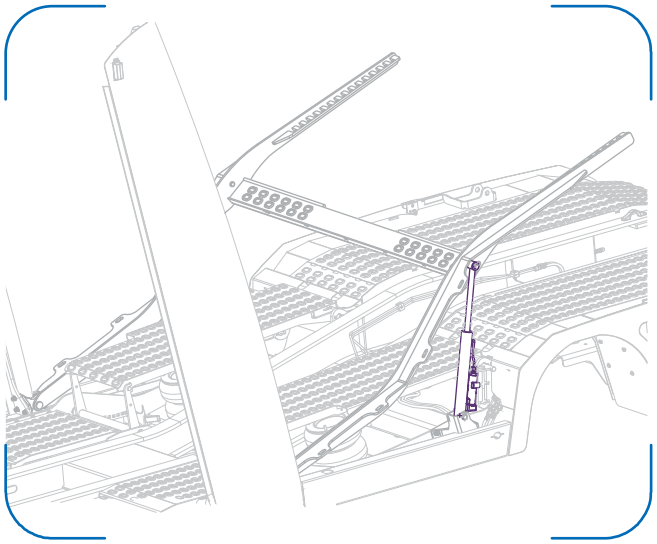
To maintain lifting performance and extend the lifetime of the cable and fork, all cable lifting systems must be lubricated at each V4 visit (i.e. every 24 months or 300,000 km).

This operation must be performed on clean and dry cables and forks. If required, clean with a "high pressure washer" and dry with compressed air.Use only "DROSERA MS32 TOTAL-FINA-ELF" (reference LOHR A07130303 or equivalent).

After removing the deux plug screws (2) on the pneumatic fork (1), sligntly oil the inside of the fork. Refit the two plug screws (2) using weak locking compound.

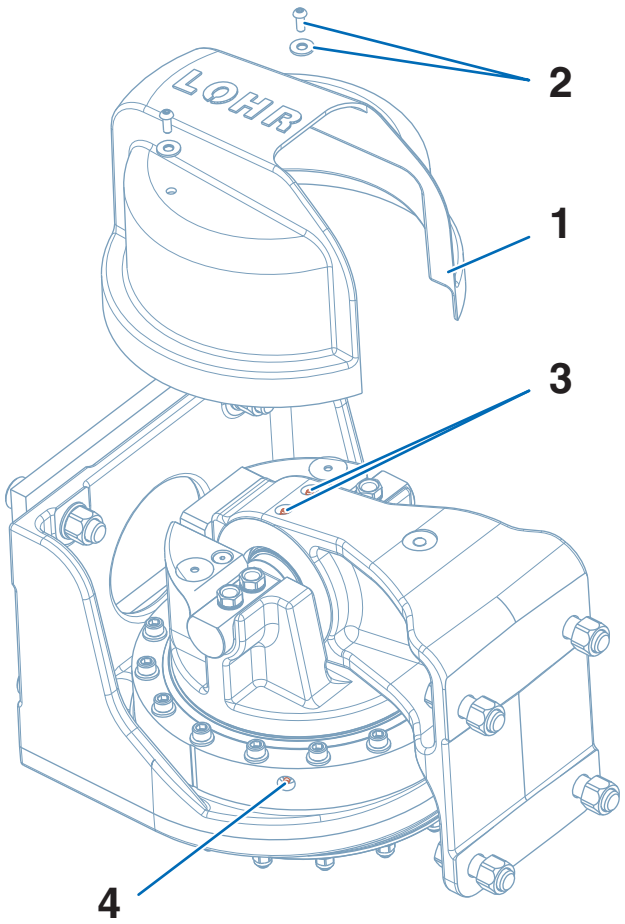
Oil the lifting cable slightly (3).

Do not use grease or lubricant in aerosol form as this becomes sticky after a few days and traps sand and dust.



3.6. Servicing the hydraulic jack rods

To protect effectively the hydraulic jack rods against corrosion, actuate them over their entire stroke regularly.

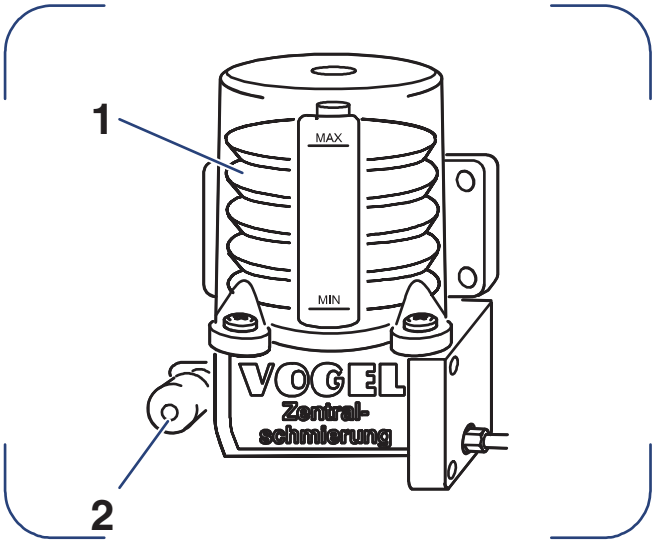


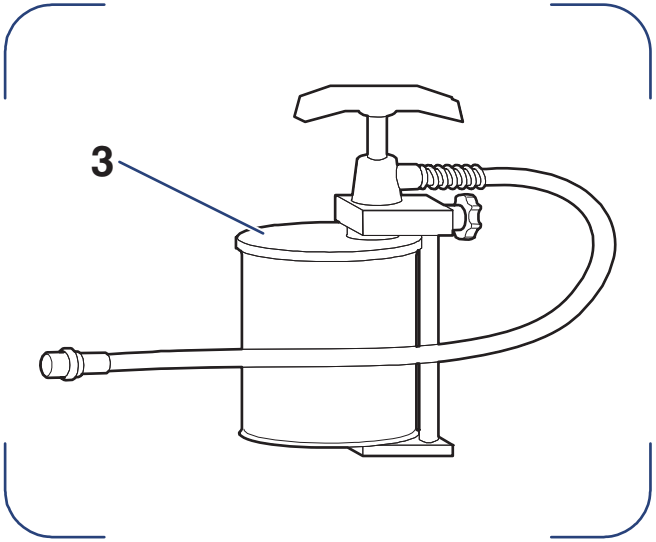
3.7. Rig with friction discs

Remove the two screws and washers (2) maintaining the protection cover (1).

Grease the two upper greasers (3) as well as the four greasers (4) around the base.

Use only "MULTI 2 TOTAL-FINA-ELF" grease (reference LOHR C07070109 or equivalent).





3.8. Centralized lubrication (option)

Your equipment can optionally be delivered with centralized lubrication, which takes over all the lubrication operations needed to ensure that all moving parts work optimally.

The frequency with which the lubrication pump is activated is factory set, as is the dose of lubricant distributed to each part.

3.8.1. Filling

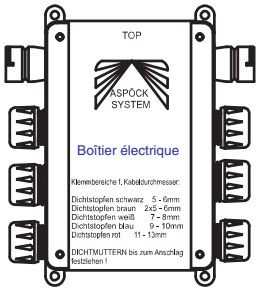
The level of lubricant in the rubber diaphragm (1) can be seen through the transparent tank.

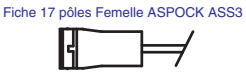
When the minimum level is reached, the tank must be refilled as soon as possible. This requires a special pump (3) which is connected to the coupler (2).

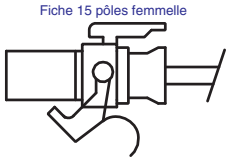
Be careful not to get dirt into the lubrication circuit. Never change the lubrication frequency and dose settings. Excessive lubrication may cause damage, especially to brake mechanisms. Use only the special lubricant designed for use in central lubrication systems CLASS NLGI 000,00 or 0.

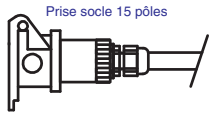
Used lubricant must be collected for disposal in accordance with current legislation.

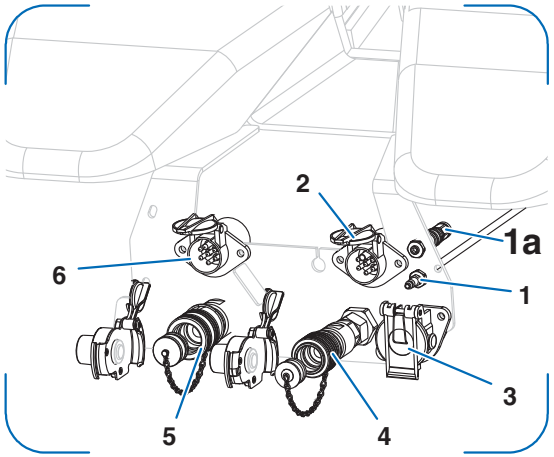
Only put lubricant where it is needed, when it is needed and in reasonable = economy + cleanliness + environmental protection.











3.9. Check connection anti-corrosion

To guarantee anticorrosion protection (anti-humidity) for the electric contacts on our products, we apply a fine layer of grease (ref. LOHR : C07070125) to all electrical connections.

Check the presence of the grease and add some more if necessary.

Connections at the back of the tractor chassis for the EHR range and between the lorry and the trailer for the rest of the range must be disconnected and then reconnected to avoid corrosion forming on the couplers.

(1, 1a) : Quick-release coupler for hydraulic tank pressurization, Only on EUROLOHR equipment.

(2) : 24S electric signalling plug (pale).

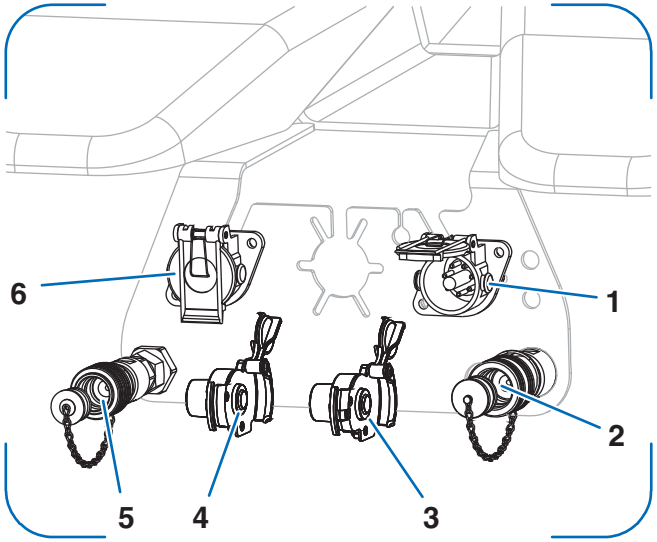
(3) : EBS electrical plug.

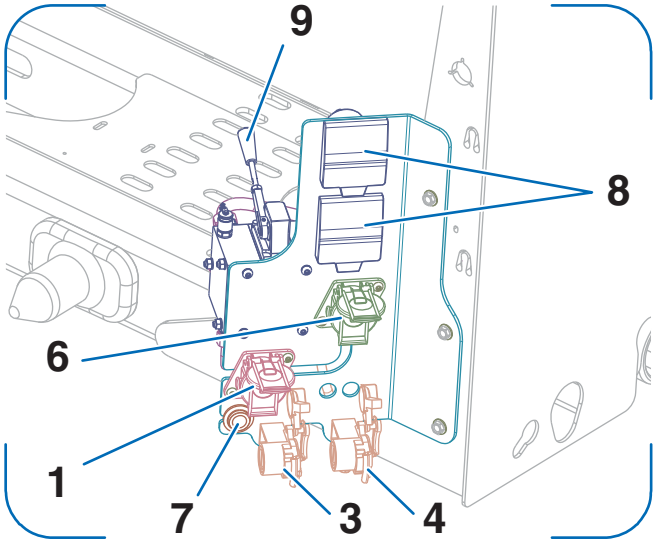
(4) : Hydraulic coupler (P).

(5) : Hydraulic coupler (T).

(6) : 24N electric signalling plug (dark).

Hydraulic coupler (LS), Depending on the type of equipment, version and option.





Connections at the back of the tractor chassis for the EHR100E3 range and between the lorry and the trailer for the rest of the range must be disconnected and then reconnected to avoid corrosion forming on the couplers.

(1) : 15-pin power signalling connector.

(2) : Hydraulic coupler (T).

(3) : Red pneumatic line coupler.

(4) : Yellow pneumatic line coupler.

(5) : Hydraulic coupler (P).

(6) : EBS electrical plug.

Depending on the type of equipment, version and option :

(7) : Control push button of the onboard hydraulic unit (7)

(8) : Connect the two large outlets (power circuit) to power the electrohydraulic power unit on the rig.

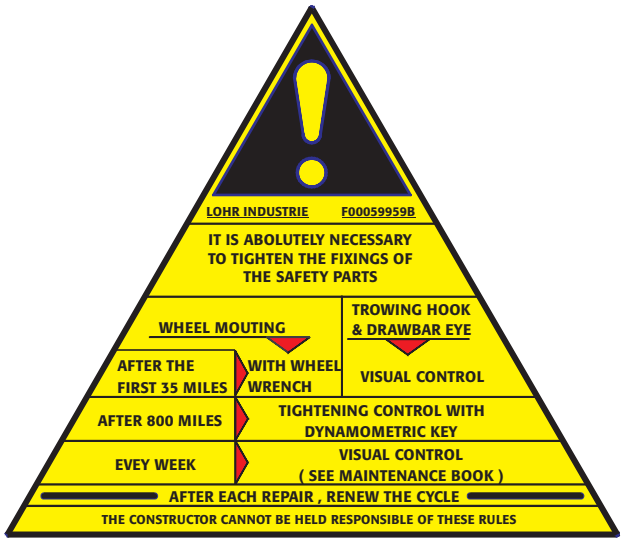
During coupling, if the hydraulic hoses present any cracking or twisting or have been folded or crushed, they must be removed and replaced.

3.10. Table of recommended lubricants

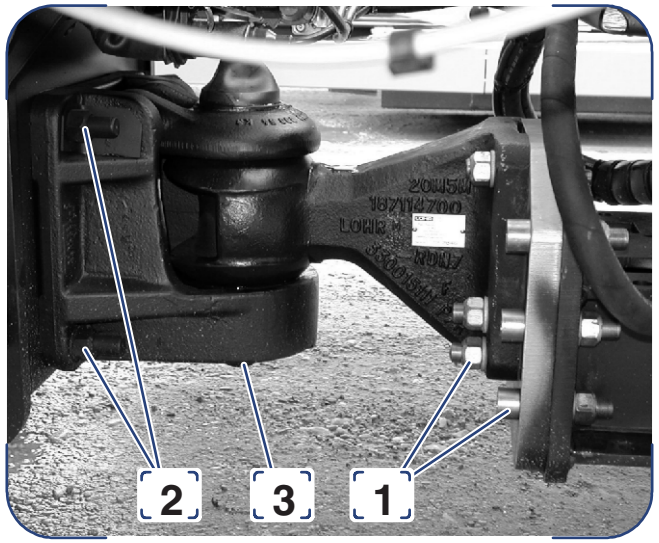
Origin	Equivalence			Operation
Oils hydraulic	**TOTAL FINA ELF "EQUIVIS XTL 22" A07130316**			• Cap circuit • Hydraulic circuit cold climate
	• AFNOR NF E 48-603 HV	**AGIP** "HYDRAULIC VHI 15"	**SHELL** "TELLUS OIL ARCTIC 32"	
	TOTAL "BIOHYDRAN TMP 32" A07130312			• Cap circuit • Hydraulic circuit cold climate
	• VDMA 24568: HEES • ISO 15380 : HEES	**SHELL** "NATURELLE HSE 32"		
Oils	**TOTAL FINA ELF "TRANSMISSION TM 80W90" A07130202**			• Angle drive • Rig with friction discs
	• API GL5 - SAE 80W90 - OTAN 0226 • MIL-L-2105 C D	**MOBIL** "MOBILUB HD 80W90"		
	TOTAL FINA ELF "DROSERA MS 32" A07130303			• Lfiting screw • Lifting cable • Pneumatic lifting fork
	• ISO 6743/13	**MOBIL** "VACTRA N°1"	**SHELL** "TONNA T32"	
	TOTAL FINA ELF "DROSERA MS 68" A07130110			• Different Oilings
	• AFNOR E 60-200 - GL5	**MOBIL** "VACTRA N°2"	**SHELL** "TONNA T68"	
Greases	**TOTAL FINA ELF "MULTIS 2" C07070109**			• bearings • ball bearings • Slides • slides • Rig with friction discs
	• NLGI 2 - ISO L XBCEA 2 • DIN 51502 K2K-25 • OTAN G414	**RENAULT** "SUPEROL EP2"	**SHELL** "RETINAX C"	**ARAL** "MULTI-PURPOSE"
		MOBIL "MOBILGREASE"	**ESSO** "CASAR K2"	
	ELECTROLUBE "CG53A" C07070125			• Electric connections
	• NLGI 1-2			
	VOGEL "FL 000 BIO" BIODEGRADABLE			• central lubrication
	• NLGI 000,00	**ARAL** "ARALUB BAB 000"	**AVIA** "AVIALITH 000 BIO"	**TEXACO** "STARFAK EP 00"
		SHELL "RETINAX CSB 00"	**BP** "BIOGREASE EP 00/000"	
	SHELL "RETINAX CS 00" C07070110			• central lubrication
	• ISO 6743-9 - ISO-L-XCBEB 00 • DIN 51502-GP000-30	**TOTAL FINA ELF** "MULTIS EP 00"	**AVIA** "AVIALITH 000 EP"	**TEXACO** "MULTIFAK 6833 EP 00"
		BP "ENERGREASE ZS 00"	**ARAL** "FLIESSFETT N"	

4. TIGHTNESS OF SAFETY ELEMENTS

The tightness of safety elements must be verified after the first trip (or after repair) then periodically (see maintenance schedule).



A stick on the truck windscreen reminds the driver to perform these checks regularly.



4.1. Couplings

Check the torque settings of coupling mounts.

4.1.1. Ball coupling (depending on assembly)

Torque setting :

(1) & (2) . . . . . 600 N.m

(3) . . . . . 300 $^{+50}_{-0}$ N.m

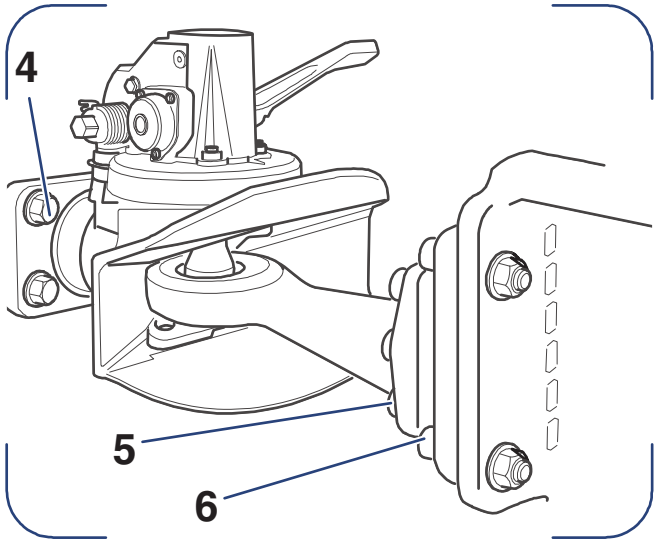
4.1.2. Automatic hook (depending on assembly)

Torque setting :

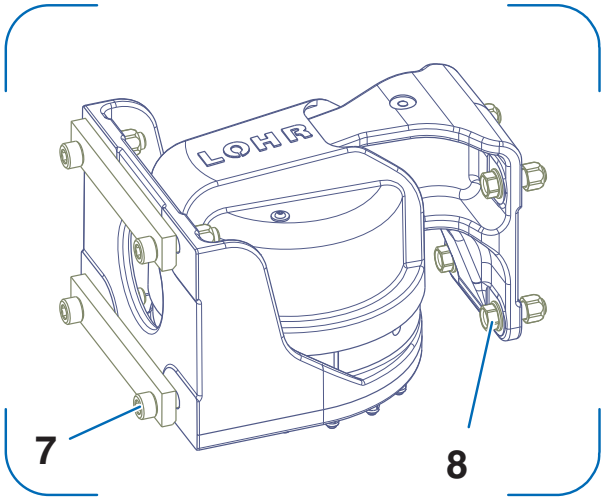
(4) . . . . . 425 N.m

(5) . . . . . 200 N.m

(6) . . . . . 600 N.m

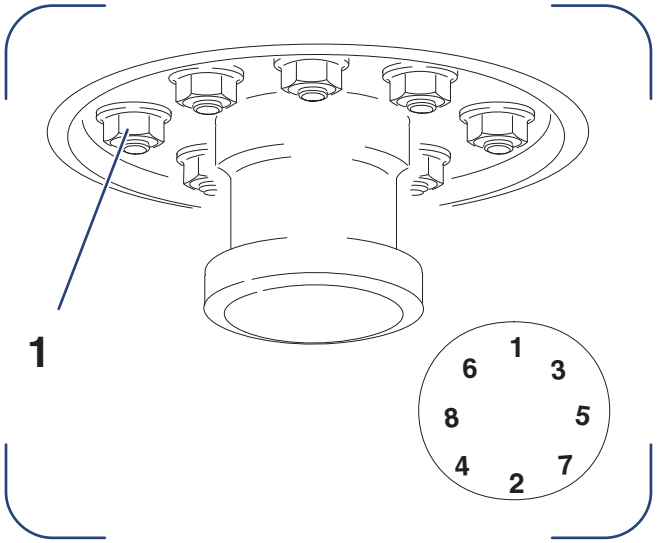


4.1.3. Rig with friction discs (depending on assembly)



Torque setting :

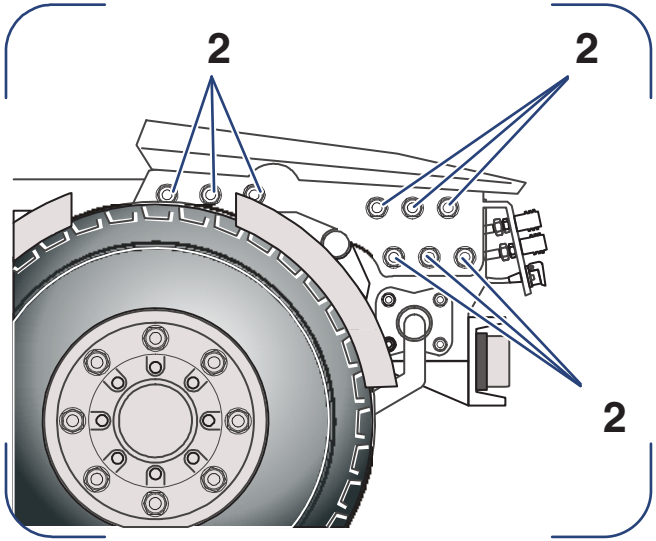
(7) & (8). . . . . 600 N.m



4.1.4. Kingpin (depending on assembly)

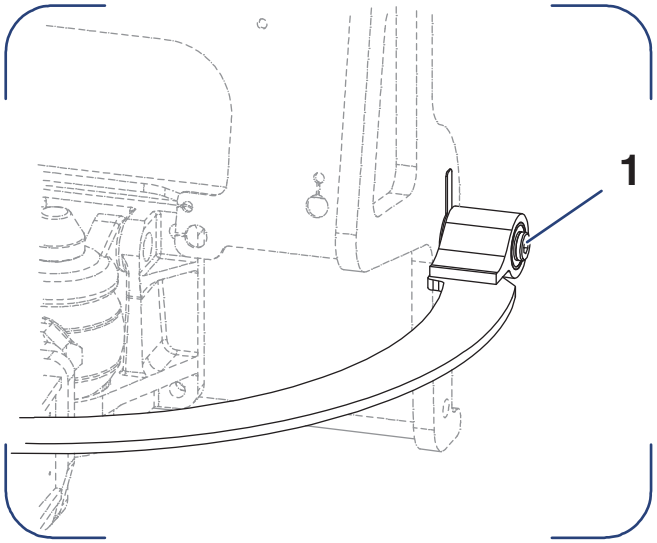
Check the torque setting of the kingpin mounting nuts, respecting the order (1).

TORQUE SETTING : . . . . . 190 N.m



4.1.5. Fifth wheel EUROLOHR

TORQUE SETTING : (2) . . . . . 170 N.m

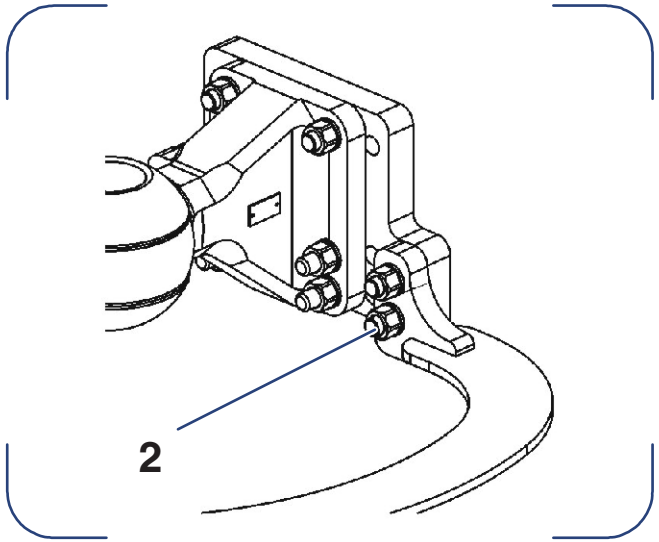


4.1.6. Coupling stabiliser (depending on assembly)

Check the torque setting of track mounts (1).

4.1.6.1. Stabilizer mount with track on truck side

TORQUE SETTING : (1) . . . . . 500 N.m



4.1.6.2. Stabilizer mount with track on trailer side

TORQUE SETTING : (2) . . . . . 600 N.m

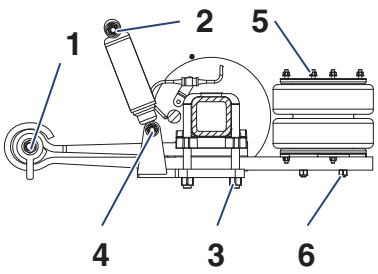
4.2. Suspension (depending on assembly)

Check the torque setting for the suspension mounts. This must be done with the suspension in "road" position (pneumatic circuit under pressure).

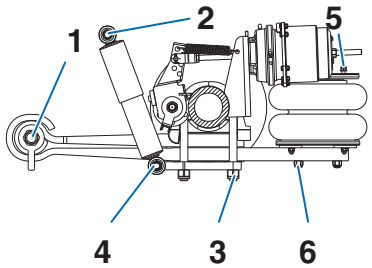
Torque setting :

Euro100E/MXR/SRTC3 = Assembly 1		(2)EHR/MXR/SRTC = Assembly 2		Multi(1)/SHR = Assembly 3		Multi(2) = Assembly 4		CHR/EHR300 = Assembly 5	
1	625 N.m	1	625 N.m	1	625 N.m	1	625 N.m	1	625 N.m
2	325 N.m	2	325 N.m	2	325 N.m	2	325 N.m	2	325 N.m
3	450 N.m	3	625 N.m	3	625 N.m	3	450 N.m	3	450 N.m
4	325 N.m	4	325 N.m	4	325 N.m	4	325 N.m	4	325 N.m
5	25 N.m	5	25 N.m	5	25 N.m	5	25 N.m	5	25 N.m
6	210 N.m	6	210 N.m	6	160 N.m	6	160 N.m	6	210 N.m

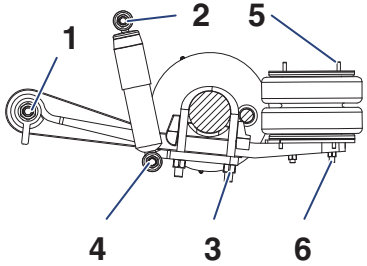
Assembly 1



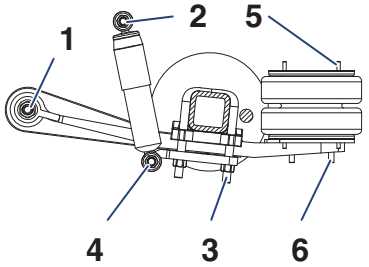
Assembly 2



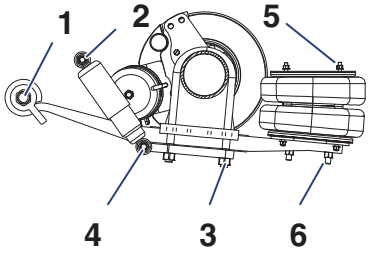
Assembly 3

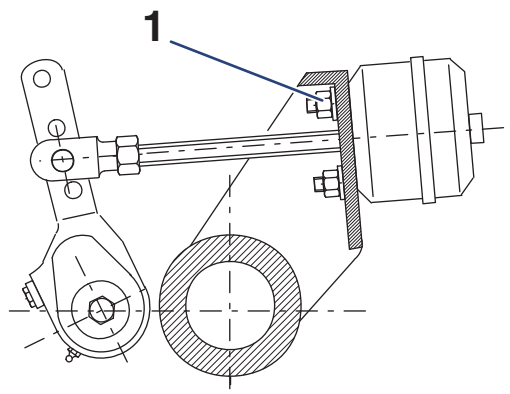


Assembly 4



Assembly 5





4.3. Brakes (depending on assembly)

Check the torque setting on the air brake chamber mounts.

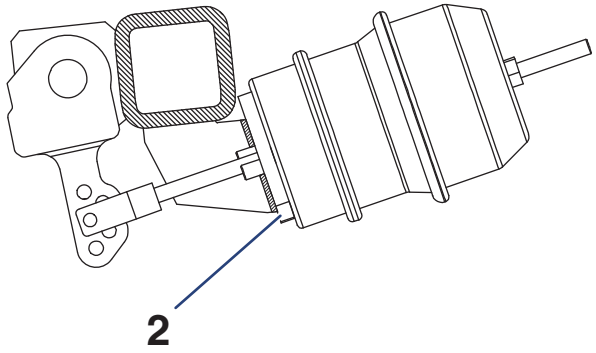
torque setting : drum brake actuators

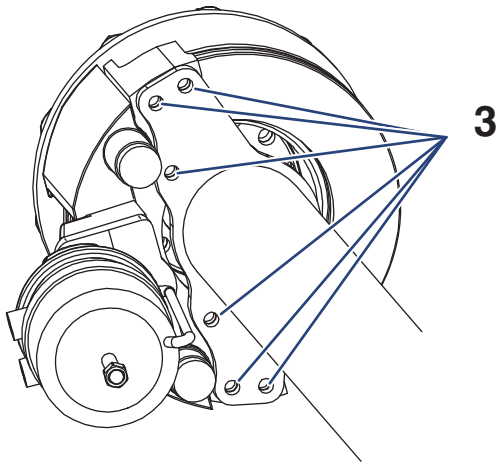
(1) . . . . . 180 - 210 N.m

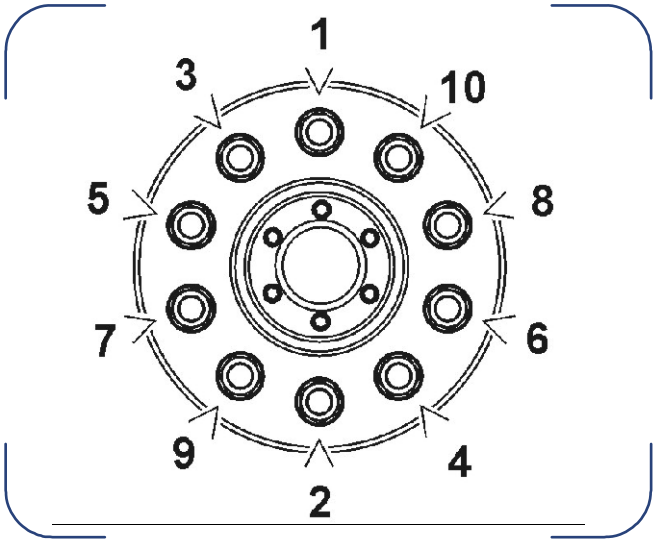
(2) . . . . . 180 - 210 N.m

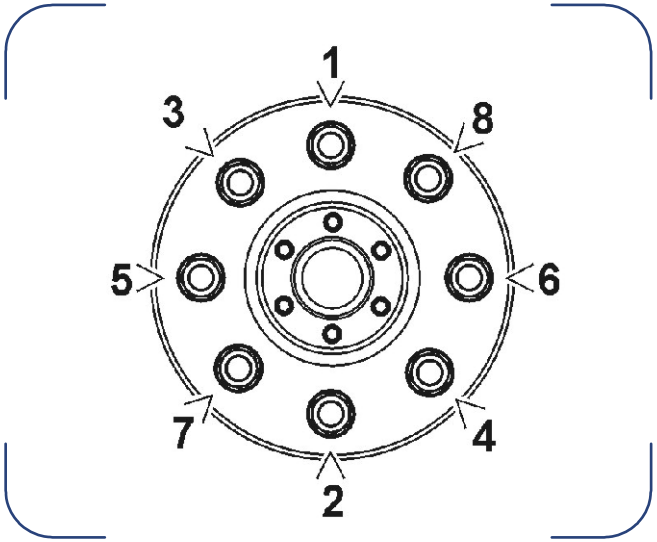
torque setting : disk brake calliper

(3) . . . . . 290 N.m





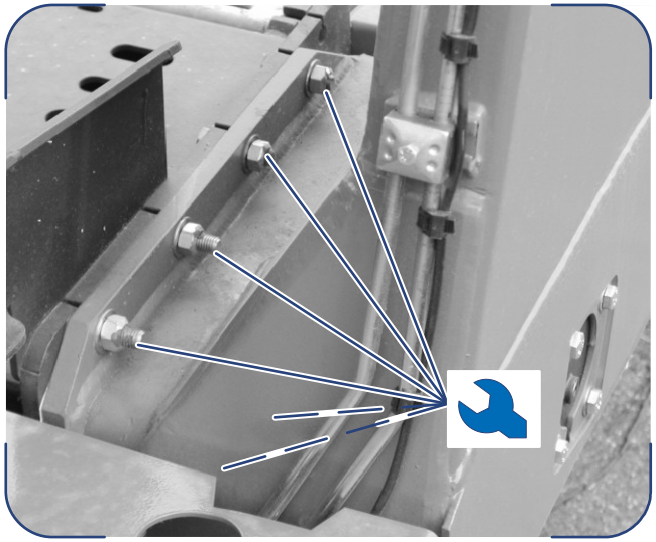


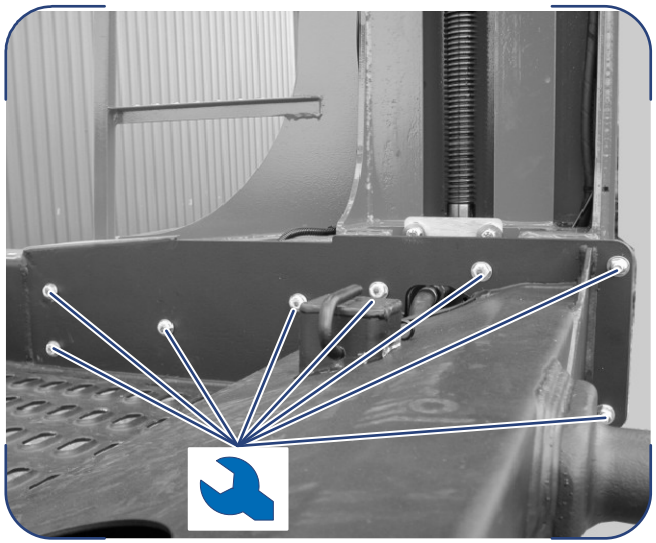


4.4. Wheels

Check the torque setting of the wheel mounting nuts, respecting the order.

TORQUE SETTING : . . . . . 600 - 650 N.m





4.5. Screw posts

The lifting posts are attached to the framework by bolting.

Check the tightness of the mounts.

The torque setting varies with the class of resistance of the bolts used to assemble the lifting posts.

The resistance class is marked visibly on the screw head.

torque setting : disk brake calliper

class 10.9 bolts	105 N.m
class 12.9 (MULTILOHR) bolts	105 N.m

4.6. General torque settings

The following torque settings are to be used in the absence of specific instructions.

TORQUE SETTING In Newtons x metre				
Diametre en mm	Pas en mm		TORQUE SETTING	
			Class 8.8	Class 10.9
6	1	10	7,5 N.m	11 N.m
8	1,25	13	18,2 N.m	26 N.m
10	1,50	16	36 N.m	52 N.m
12	1,75	18	62 N.m	91 N.m
14	2	21	99 N.m	145 N.m
16	2	24	153 N.m	225 N.m
18	2,5	27	220 N.m	313 N.m
20	2,5	30	311 N.m	440 N.m
22	2,5	34	424 N.m	602 N.m
24	3	36	534 N.m	758 N.m
27	3	41	784 N.m	1114 N.m
30	3,5	46	1067 N.m	1515 N.m
33	3,5	50	1442 N.m	2048 N.m
36	4	55	1855 N.m	2636 N.m

5. CHECKING AND REPLACING WEAR PARTS

5.1. Screw lifting system

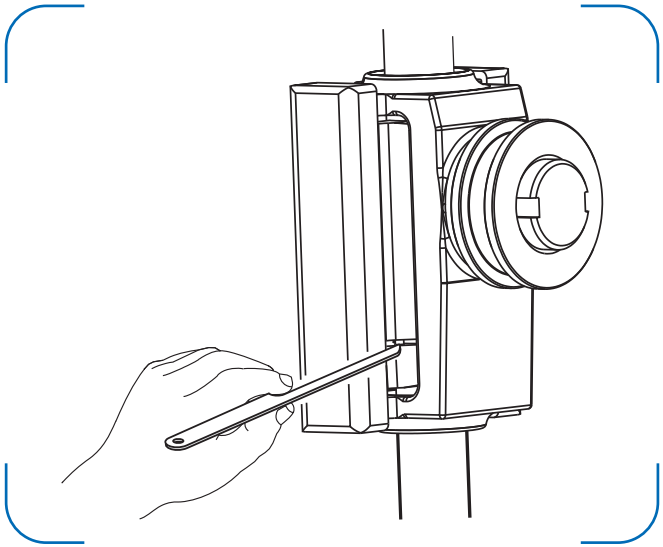
The lifting screws are made of two components :

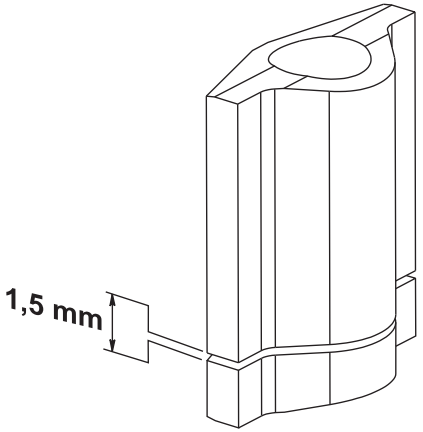
- The weight-bearing nut which bears the load.
- The lower nut which does not bear any load.

This assembly allows wear on the weight-bearing nut to be checked and prevents the platform from falling in the event of severe wear.

5.1.1. Checking wear on lifting nuts

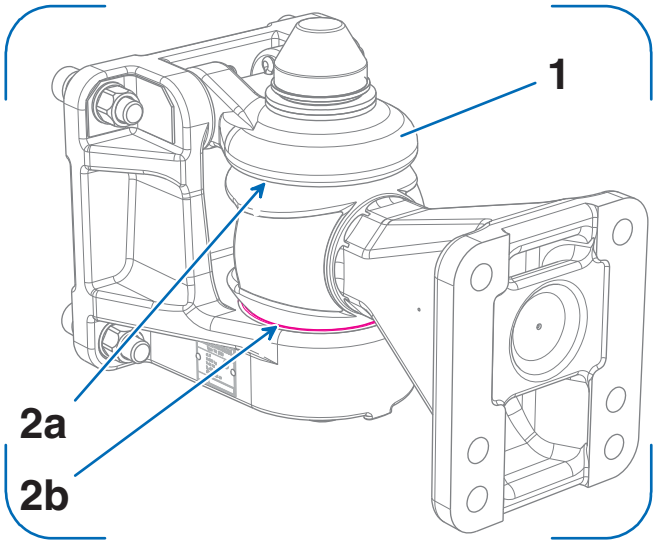
Verification involves inserting the special gauge (1,5 mm thick), supplied with the equipment, between the two parts of the nut. When the gauge no longer fits in between, both parts of the nut should be replaced.





5.2. Spindles and pins

On some components, hinge pins and spindles are locked by pins, which must be in position and in good condition.



A missing pin may cause a component to rupture or be lost during loading or on the road and cause an accident.

Check and replace any damaged or broken pins.

5.3. BALL COUPLING TA2050 (depending on assembly)

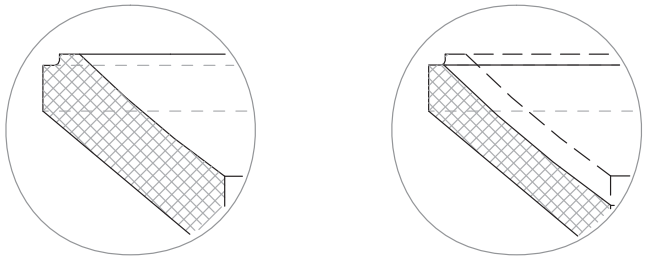
The TA2050 coupling (1) is fitted with an upper pad with a wear indicator (2a).

This visual indicator located on the upper pad (2a) allows viewing its wear level.

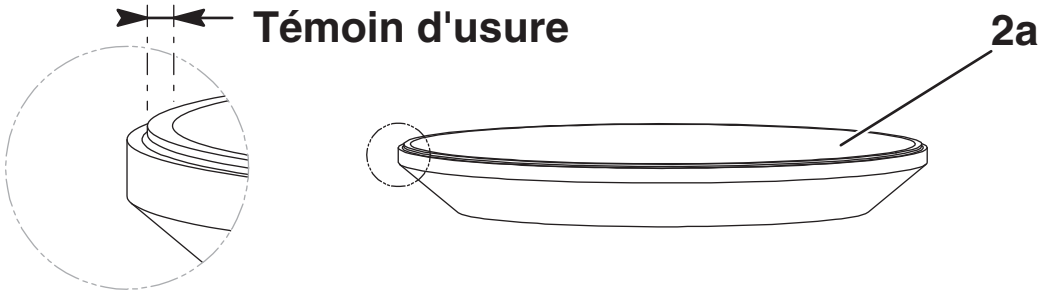
After washing the coupling, inspect both pads (2a and 2b).

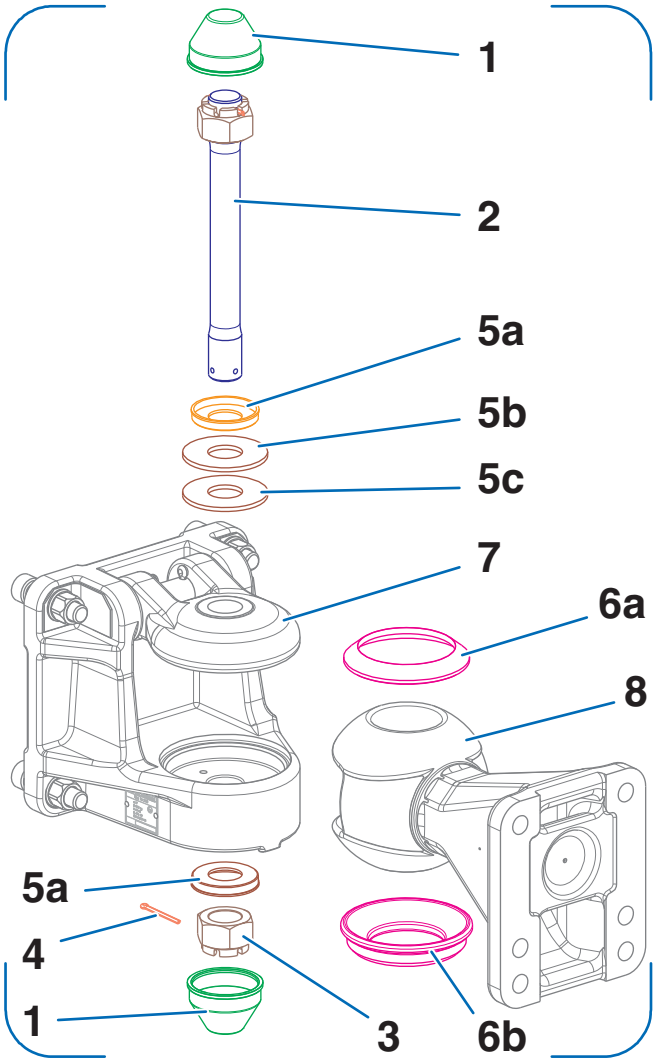
If the wear indicator is no longer visible (even partly), replace both pads (F00210232 (2a), F00215423 (2b)).

The lower pad (2b) must remain visible and prevent any steel/steel contact between the ball and the bracket. In case of doubt, change the pads.



Patin neuf | Patin usé

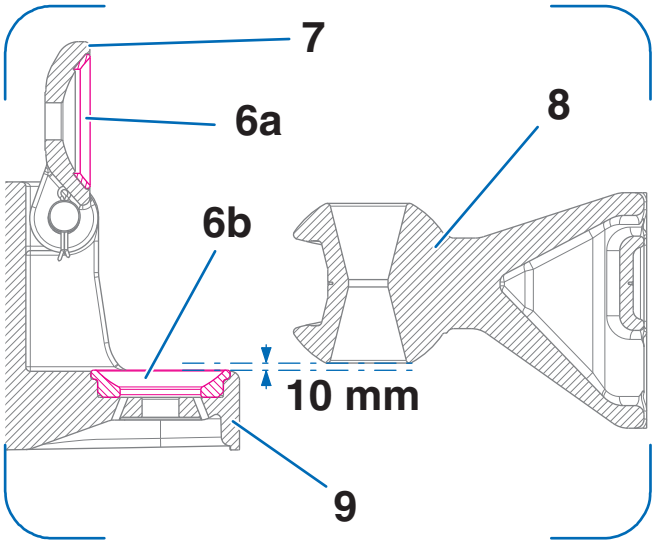


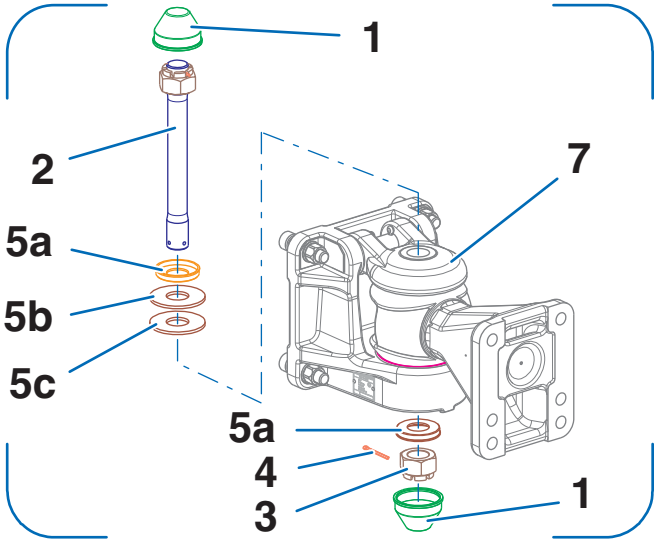


5.3.1. Uncoupling

This operation is performed to replace wear parts (6) on the coupling.

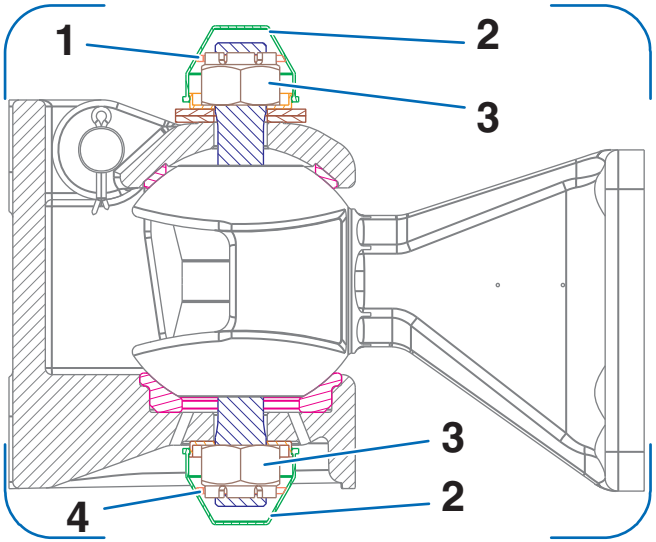
- Inflate the truck's rear suspension to a maximum.
- Chock the trailer deflection jack.
- Remove the protective caps (1).
- Remove the split pin (4).
- Use a 46 mm spanner to hold the kingpin (2) equipped with its nut.
- Unscrew the nut (3) using a second 46 mm spanner.
- Use a mallet to knock the kingpin, nut and pin assembly apart (2).
- Remove the washers (5a, 5b, 5c).
- Twist the flap (7) and remove the upper pad (6).
- Deflate the truck's rear suspension to release the ball from its support (9).
- Disconnect the hydraulic, pneumatic and electrical connections and move the tractor forwards.





5.3.2. Coupling

- Before proceeding with the coupling, make sure the ball, holder and hook contact surfaces are clean.
- Oil the contact surfaces of the ball, flap and holder very slightly to attenuate operating noise somewhat.
- Raise the flap (7).
- If necessary, set the height of the truck rear suspension so that the bottom of the ball (8) is about 10 mm above the support (9).
- Reverse the truck slowly until the support (9) is under the ball (8). Raise the truck's rear suspension so that the ball rests in the support.
- release the truck brakes in order to center the ball.
- Refit the kingpin with its nut (2), and washers (5a, 5b, 5c).
- Tighten the kingpin and refit the protective caps as described in chapter. (see chapter 5.3.3.).
- Connect the hydraulic, pneumatic and electrical connections.



5.3.3. Tightening the kingpin

To tighten the kingpin you must remove the upper and lower protective caps (2).

Using a clean cloth, remove any grease deposited on the nuts (3).

The two nuts (3) on the kingpin are held by pins (1and 4). La pin (1) must stay in place on the kingpin to immobilize the nut during tightening or loosening operatio. The kingpin can be mounted with the fixed nut at top or bottom depending on the available space.

It must be tightened using a torque wrench set to the value noted below and a 46 mm socket, while holding the second nut with a 46 mm spanner. When the torque setting is reached, check whether the new split pin (4) can be inserted and continue tightening, if necessary (very slowly), until this is possible.

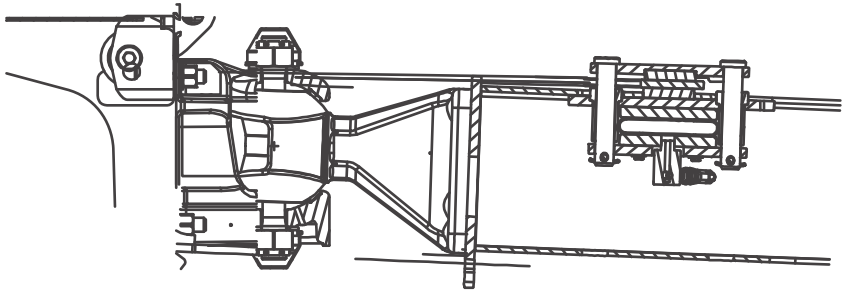
TORQUE SETTING : (3) . . . . . 300 $^{+50}_{-0}$ N.m

Before refitting the protective caps (2), they should be cleaned of grease and have new grease applied.

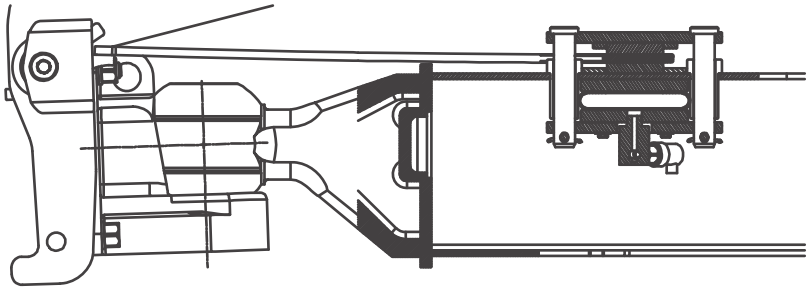
5.4. Pneumatic coupling stabilizer (depending on assembly)

Pneumatic stabilizer components are mounted differently according to the type of equipment :

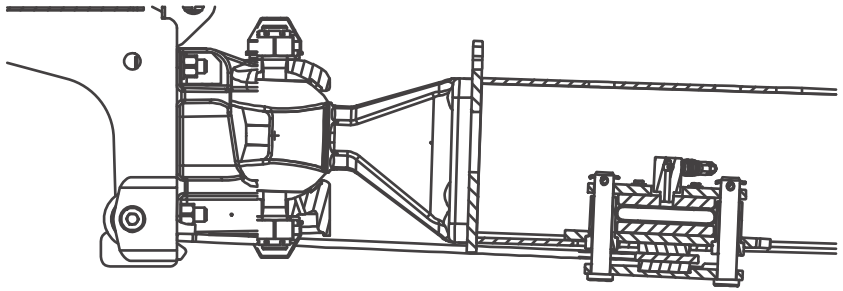
reference	Equipment	Diaphragm mount	Type of inspection	Pad ref
1	EUROLOHR 100E	trailer drawbar	On-board kit gauge	F00251659
2	EHR 300	trailer drawbar	On-board kit gauge	
3	MULTILOHR	trailer drawbar	On-board kit gauge	
4	MAXILOHR	rear truck hook	Fixed indicator	



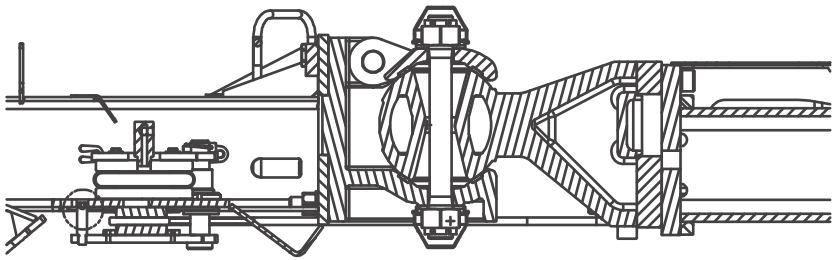
1



2



3



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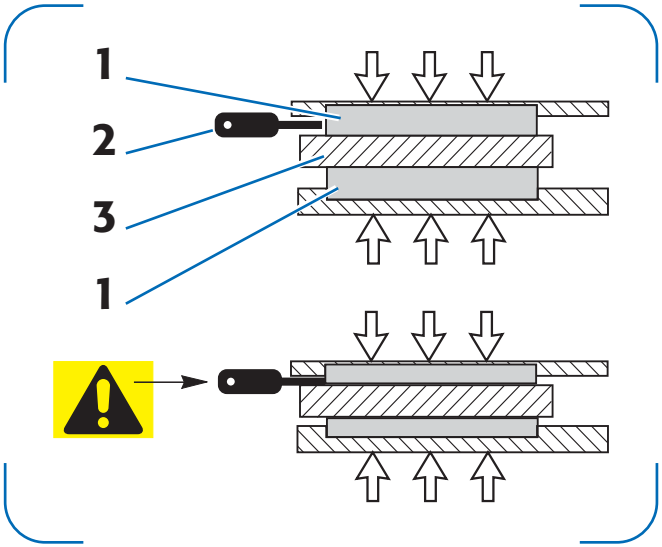
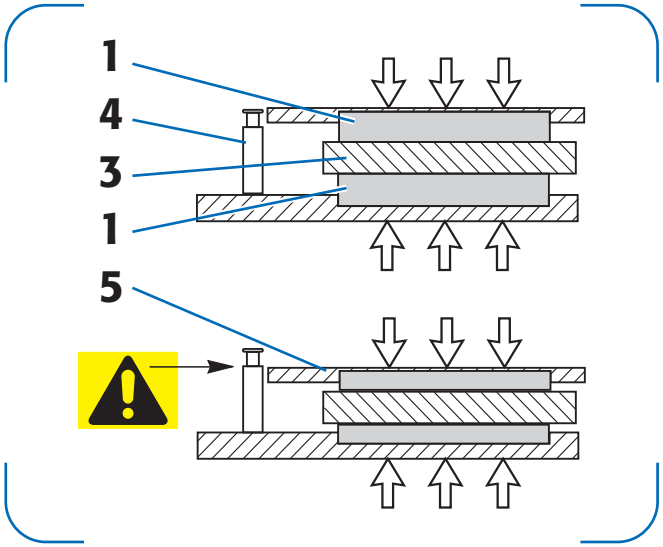




5.4.1. Check pad wear

Depending on the mount, friction pad (1) wear can be checked in different ways. In all cases, this operation must be performed with the stabilizer under pressure (truck engine running).

Check with a gauge :

Wear is checked using the gauge (2) provided with the on-board kit.

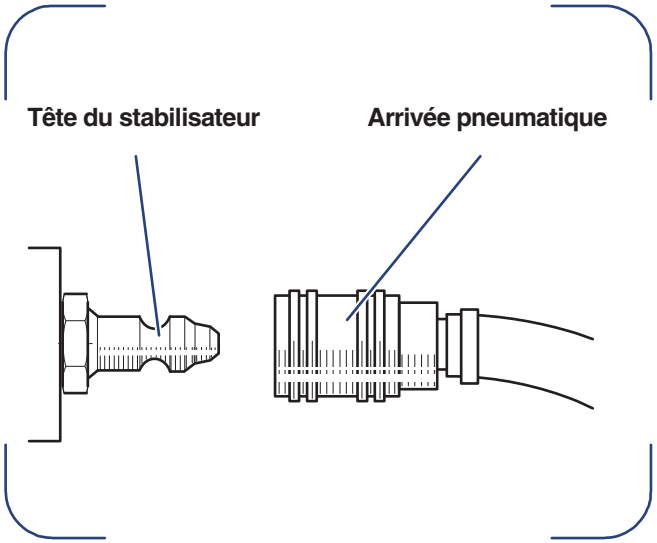
The limit of wear is reached when the gauge (5) cannot be slipped between the track (3) and one of the plates (upper or lower) or this is difficult.

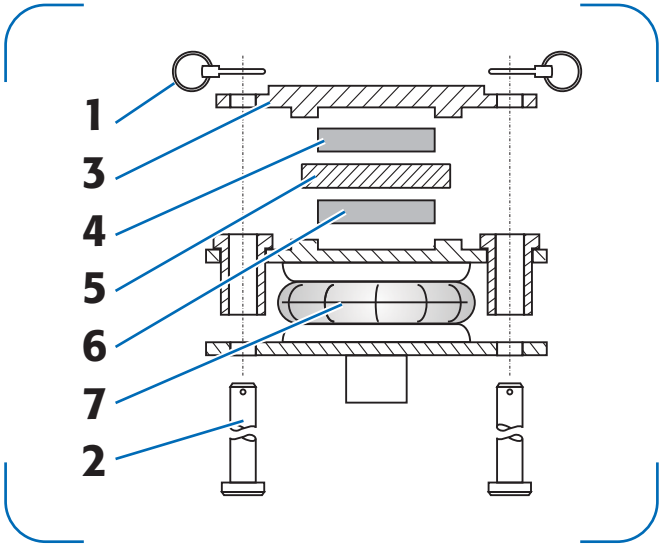
Check by wear indicator :

The level of wear is indicated by a notch at the end of the indicator (4).

The limit of wear is reached when the notch is above the level of the plate (5).

When the limit of wear is reached (3mm), the pads (1) must be replaced as quickly as possible.



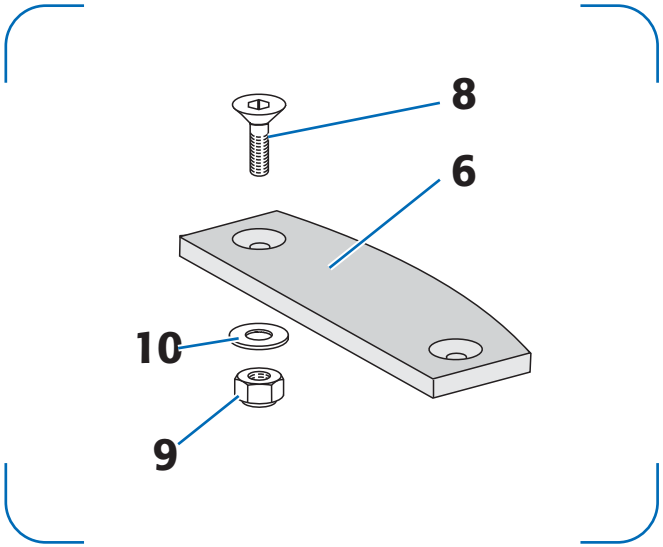


5.4.2. Replacing wear pads

The procedure describes the principle for replacing the pads, mounting on the vehicle may differ according to the type of equipment (see page M - 35).

- Uncouple the pneumatic power circuit (11).
- Remove the two pins (1) and the spindles (2), plate (3) and unbolted pad (4).
- Remove the screws (8), washers (9), and nuts (10) and remove the second pad (6).
- Clean the parts of the stabilizer to eliminate any traces of sand, soil, grease, oil, etc....
- Install the new pad (6) and fix it using new screws (8), washers (9), and nuts (10).
- Refit the new pad (4), plate (3), spindles (2) and pins (1).
- Connect the pneumatic power supply (11).
- Put the pneumatic circuit under pressure and visually check the assembly, particularly making sure that the pads are in good contact with the track.

Never grease or oil the coupling stabilizer components.



5.4.3. Check alarm function

This device alerts the driver if there is a fall of pressure in the pneumatic diaphragm (6).

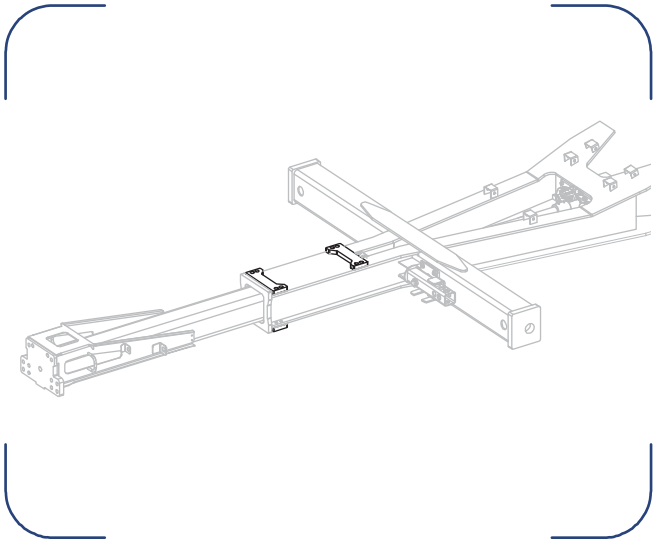
Depending on the assembly, the low pressure light indicator may be located :

- on the left front post behind the cab (12),
- in the cab, coupled to a buzzer.

The check is made when the circuit is under pressure, by disconnecting the power connection (11) which should set off the alarms.

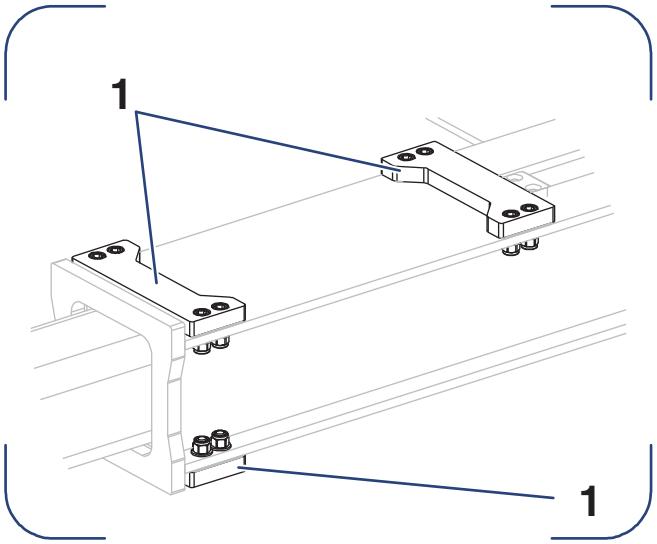
Reconnecting the circuit should stop the alarms as soon as pressure is re-established.

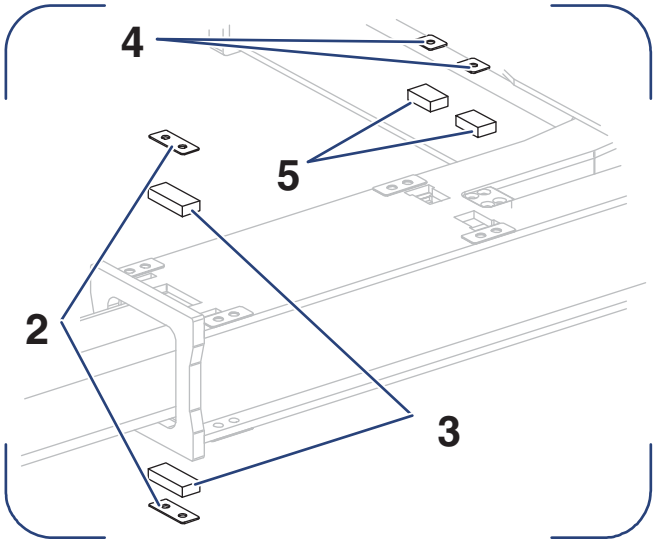
In the event of any functional defect contact a garage in the lohr service network.



5.4.4. Check MXL telescopic drawbar shoes

- Install the leg and relieve the trailer drawbar.
- Remove the flat holding bars (1) and their anchorage (2 and 4).
- Remove the friction pads (3 and 5).
- Install new friction pads (3 and 5).
- If necessary, position bracing (2 and 4) (about 2.5 mm).
- Refit the flat holding bars (1) and tighten to torque setting.



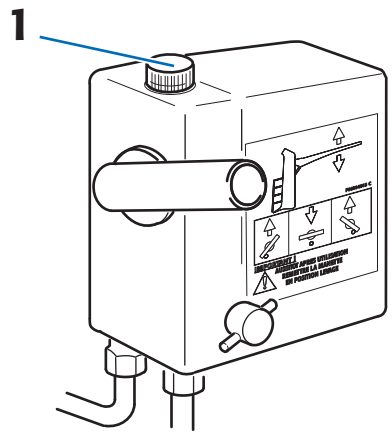


5.5. Hydraulic circuit

Place all the jacks in »RETRACTED» position.

Before any work on the hydraulic circuit and mechanisms, it is essential to make sure there is no remaining pressure in the system :

- **the power take-off must not be engaged,**
- **activate the distributor levers.**



5.5.1. Manual pump

If the »cap» lifting circuit is not working properly, check the level of the manual pump tank. This must be done with the cap in low position.

Unscrew the filler stopper (1) and top up the tank if necessary. (see table of lubricants page M - 20).

To prevent oil from the jack emptying into the tank while on the road, which may cause overflow, you are recommended to always reset the tap to "up".

After any operation on the hydraulic circuit, make sure that all the functions respond normally to the controls.

To facilitate priming the hydraulic pump on certain devices, the tank is maintained pressurized by a pneumatic source. Place all the jacks in »RETRACTED» position. For that, make sure the power take off is not engaged. For that, make sure the power take off is not engaged.

Reduce the pressure before inspection by gently unscrewing the stopper (1), or disconnecting the pneumatic pressurization coupler. Hydraulic oil is corrosive, so it is important to always wear protective goggles and gloves.

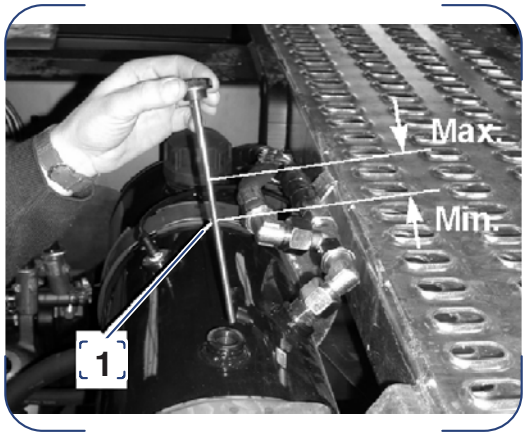
It is important to avoid getting dirt and pollution into the circuit during checking or filling operations. See the lubrication table for the reference of the oil to use.

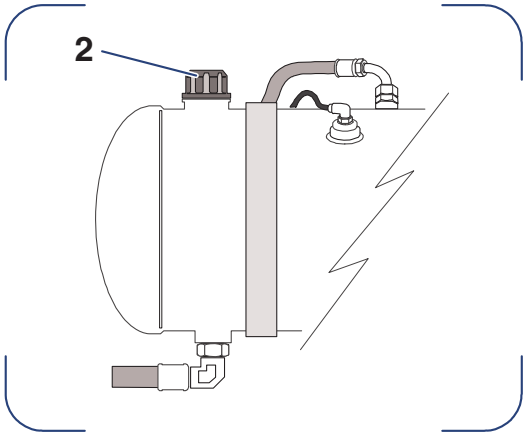
Depending on assembly.

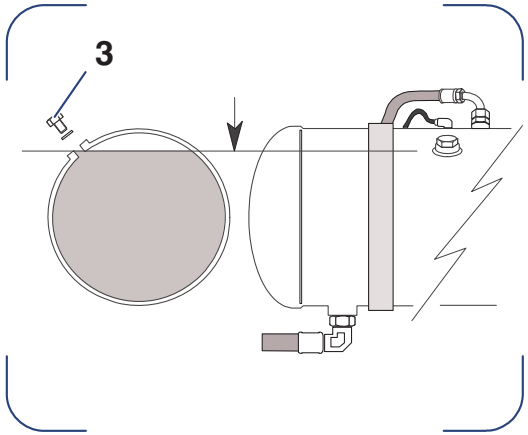
Unscrew the gauge (1) completely, the level should be between the 2 marks.

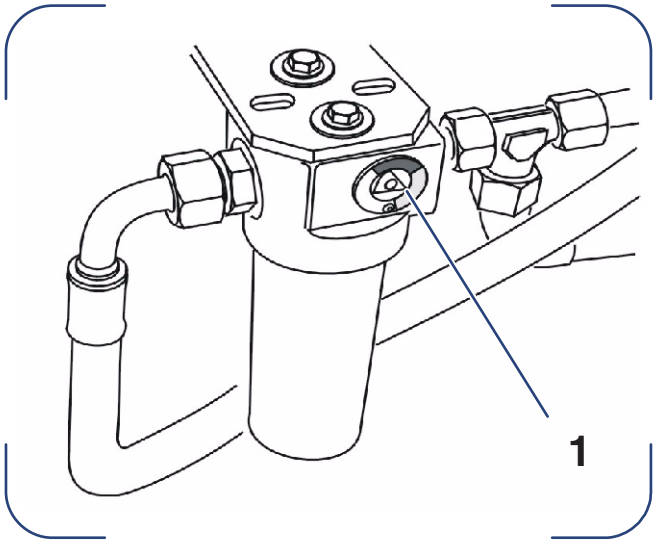
Unscrew the stopper (3) completely, the level must reach the filler hole.

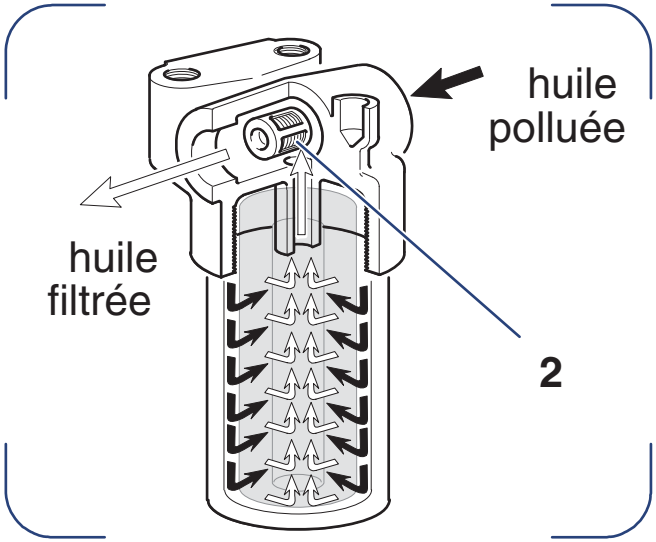
Top up if necessary via the holes (2 or 3) (see table of lubricants page M - 20).











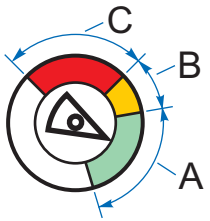
5.5.3. Cartridge filter

The hydraulic circuit is fitted with a cartridge filter (1) with clogging indicator. The device includes a bypass (2) to allow oil to pass through without being filtered when the filter is clogged.

5.5.3.1. Verification

The filter must be checked while the hydraulic circuit is in operation :

Make sure the clogging indicator (1) is in the green zone **A**. If it moves into the red zone **B**, filtration is no longer operational and the oil is flowing through the bypass (2).

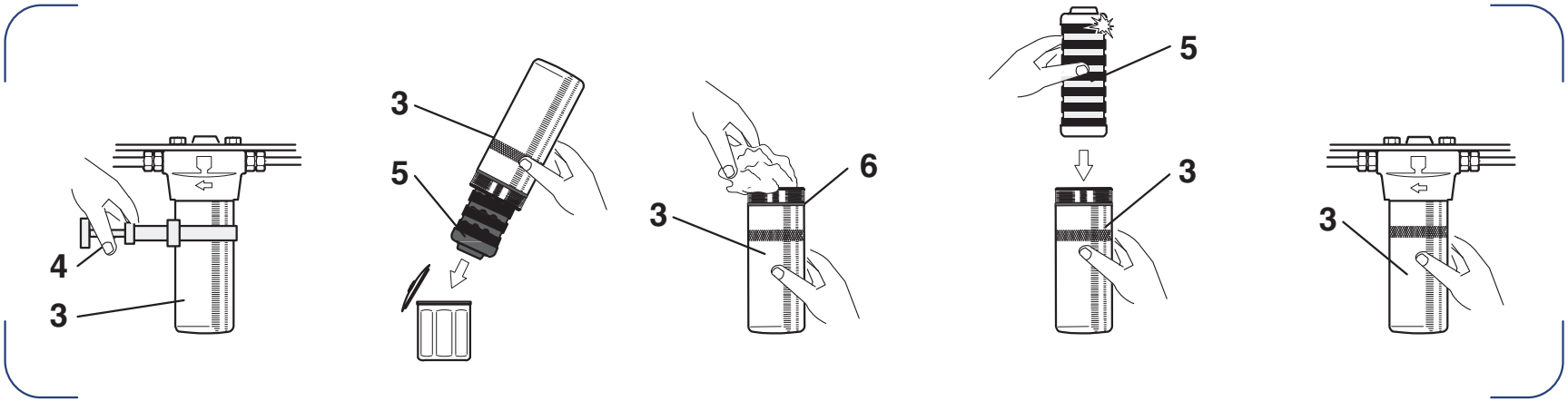


Replace the filter cartridge without delay to avoid the accumulation of impurities in the circuit.

Before rying out this operation, make sure that the circuit is not under pressure (power take-off not engaged, tank not under pressure).

5.5.3.2. Replacing the filter cartridge

- To unscrew the cartridge holder (3), use an oil filter key (4).
- Throw the used filter cartridge (5) into an appropriate container.
- Clean the cartridge holder (3) with a clean cloth.
- Verify the state of the seal (6) and replace it if necessary.
- On refitting it, oil the seal lightly (6) and screw up the cartridge holder (3) by hand.
- Check the oil level in the hydraulic tank (see chapter 5.5.2.).



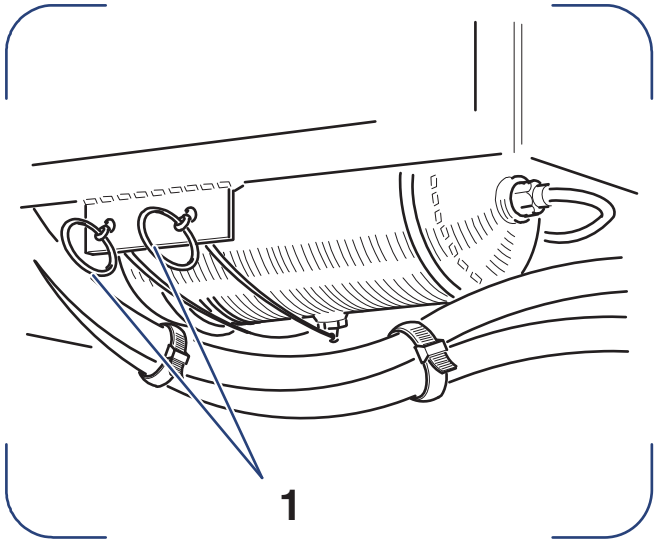
Never try to clean the filter cartridge. It must be replaced by a new lohr part. The hydraulic filter must be replaced in a clean dust-free atmosphere to avoid polluting the circuit. After any operation on the hydraulic circuit, the operator must make sure that the functions respond normally to the controls.

5.6. Pneumatic equipment

5.6.1. General inspection

This operation involves verifying the following :

- The condition of the body / trailer connection hoses which must be neither cut nor cracked nor show signs of wear revealing the bare structure.
- The general condition of the circuit (mounts of devices, connecting pipes, etc...).
- Detection of leaks under pressure (tractor engine off), by listening.



5.6.2. Venting tanks (depending on assembly)

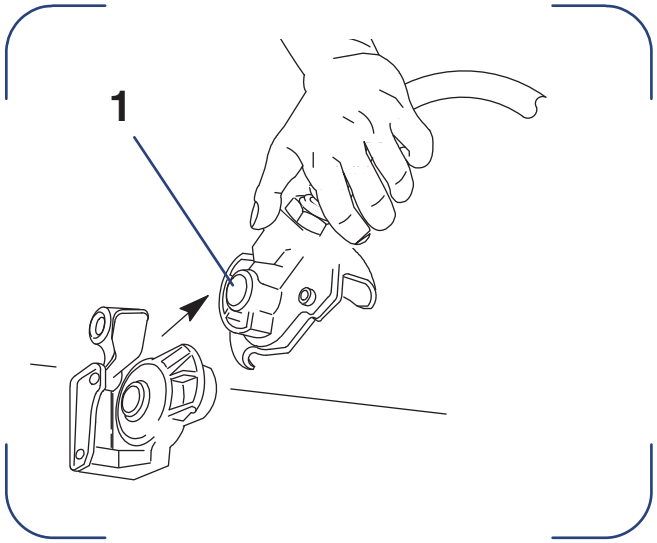
Tank venting is a preventive maintenance operation. It can be automatic or manual, in which case it must be purged every day to prevent condensation water from accumulating in the tank and escaping into the circuit.

Venting is performed remotely by a ring linked to the tank by a cable. Pull the ring for a few seconds to vent the tank.

There is one vent (1) for each air tank (1, 2 or 3 tanks depending on the model)..

For automatic venting, tanks are equipped with purge valves which automatically discharge impurities (water, oil, etc.).

Purge activation is indicated by a brief sound of air escaping which can occur at any time.



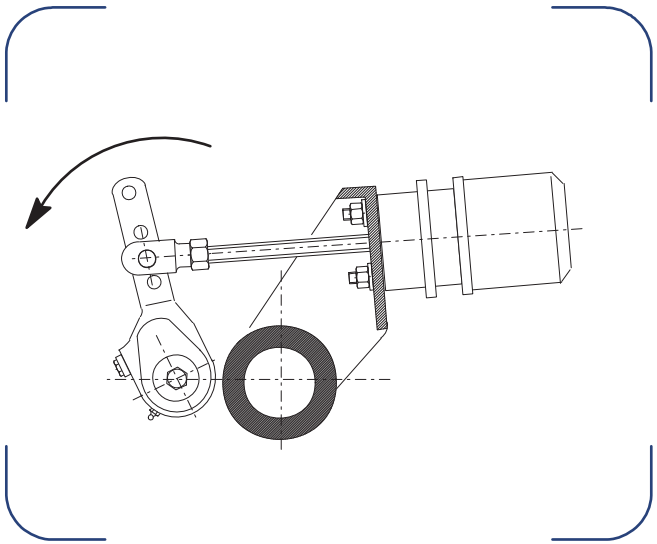
5.6.3. Inspecting the emergency line rupture brake

The trailer is fitted with a safety device which activates the brakes when the »red» (1) brake line is disconnected (if the coupling breaks, for instance).

This operation must be performed with the trailer coupled and the braking circuit under pressure (tractor engine on).

Twist and disconnect the red coupler (1).

If the safety device is working, the trailer brakes should tighten. If they don't, the brake valve is faulty and must be replaced.



It is prohibited to take to the road if the safety device is faulty.

5.7. Tyres

5.7.1. Verifying tyre wear

Verify the state of wear of the tyres regularly.

Replace the tyres as soon as the wear indicators are reached.

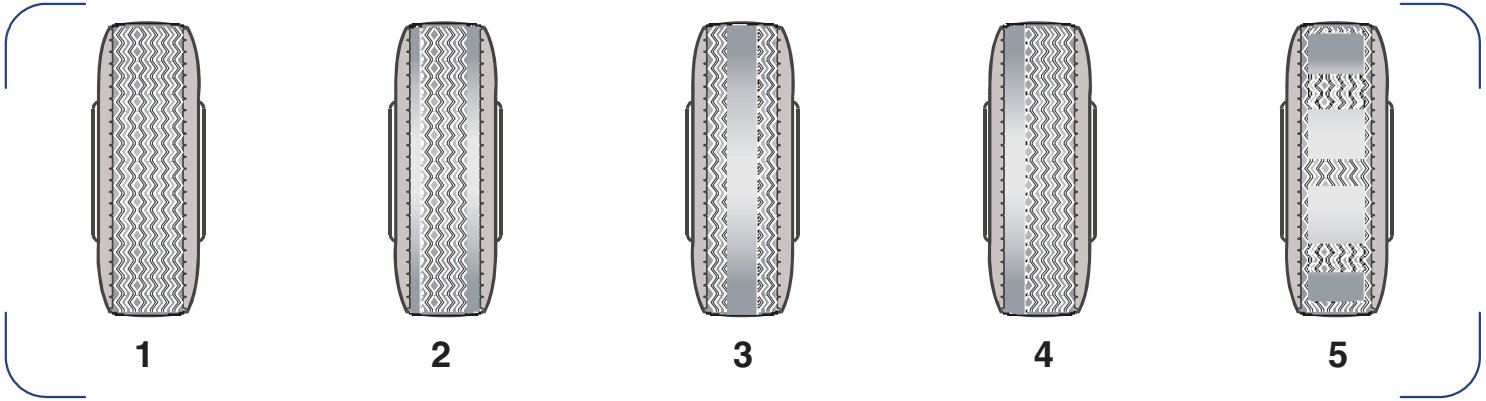
Wear should be even across the whole tread (1).

Uneven wear often indicates a mechanical fault or incorrect tyre pressures, for example :

- (2) : ..... Tyre pressure too low.
- (3) : ..... Tyre pressure too high.
- (4) : ..... Wheel alignment faulty.
- (5) : ..... Faulty braking system (wheels blocked).

Tyres can have retreads or be regrooved, respecting the specific regulations. This operation must be performed by a specialist.

Replace a damaged (tear or cut reaching the internal structure) or worn tyre immediately.



5.7.2. Checking pressures

Most damage to tyres is a direct result of incorrect inflation pressure, or is made worse by this.

The inflation pressure is determined according to load per axle. Over or under-inflation affects comfort, adhesion and durability of the tyres. Tyre pressure increases with distance travelled. This is a self-regulation phenomenon which opposes too high an increase in temperature due to successive flexing of the tyres.

Tyre pressures must be systematically modified to the load carried and the use to which the vehicle is put. Weighing per loaded axle is the only way of defining the correct pressure.

Check and adjust tyre pressures on receiving the vehicle, then every week, depending on the load per axle applied (see table below).

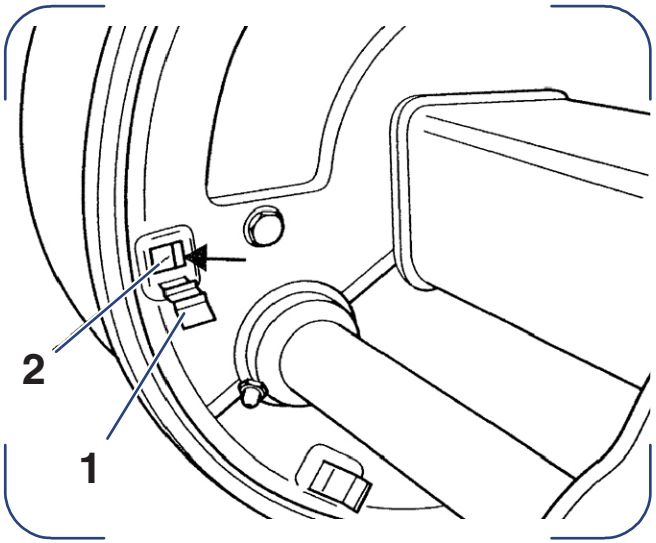
Tyres mounted in pairs				Tyres mounted in simple				
Load per axle (Kg)	Pressure (bar) 215/75 R. 17,5	Pressure (bar) 245/70 R. 17,5	Pressure (bar) 255/60 R. 19,5	Load per axle (Kg)	Pressure (bar) 285/70 R. 19,5	Load per axle (Kg)	Pressure (bar) 275/70 R. 22,5	Pressure (bar) 295/60 R. 22,5
5570	5.5	-	-	4940	6.5	5330	6.5	7.0
6010	6.0	-	-	5280	7.0	5660	7.0	7.5
6900	7.0	-	-	5620	7.5	6020	7.5	8.0
7790	8.0	-	7	5960	8.0	6360	8.0	8.5
8240	8.5	-	7.5	6300	8.5	6700	8.5	9.0
8630	-	7.0	8	6700	9.0	7000	9.0	-
9190	-	7.5	8.5	-	-	-	-	-
Default pressure	8,5 ±0, 5	7,5 ±0, 5	8,5 ±0, 5	Default pressure	9,0 ±0, 5	Default pressure	9,0 ±0, 5	9,0 ±0, 5

Pressures must be checked when the tyres are cold, not forgetting the spare tyre, using an accurate pressure gauge (manometer). See the truck manual for checking the truck tyre pressures.

Never reduce the pressure in a hot tyre.

5.8. Check wear on brake mechanisms

The thickness of the brake linings or pads must be checked regularly depending on how intensely the vehicle is used, according to law, but at least every three months.



5.8.1. Drum brake wear

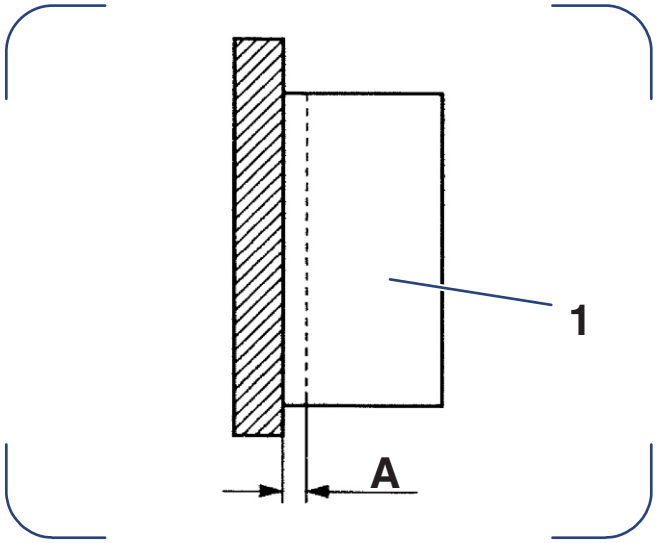
Open the inspection port by lifting the rubber flap (1).

When the minimum residual thickness of the lining (2) is 5 mm or the wear point of the brake lining is reached, it must be replaced.

Close the rubber flap.

Replace the linings if necessary.

When replacing brake linings or pads, it is essential to use only original parts. Using any other parts may reduce the braking performance and seriously compromise the vehicle's safety..



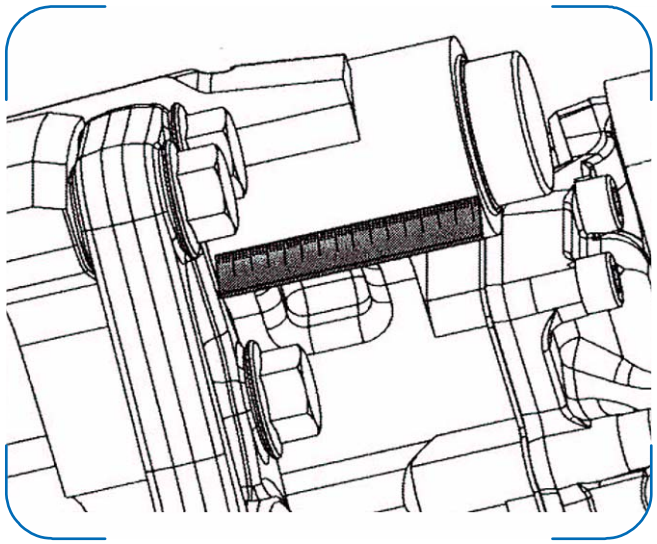
5.8.2. Disk brake wear

Brake pad wear (1) must not exceed a residual thickness (A) of 2 mm.

Mean wear on the pads can be measured with a metre rule, either on the adjustment bolt (long bolt at the entrance to the disk) or on the play bolt (short bolt at the disk exit).

For this purpose, measure the distance between the axle flange and the edge of the bolt housing in question (see figure). The wear limit is reached or exceeded for the following values :

- Short bolt : Wear limit > 70 mm - replace the pads.
- Long bolt : Wear limit > 97 mm - replace the pads



When replacing brake linings or pads, it is essential to use only original parts. Using any other parts may reduce the braking performance and seriously compromise the vehicle's safety..

6. REPAIR

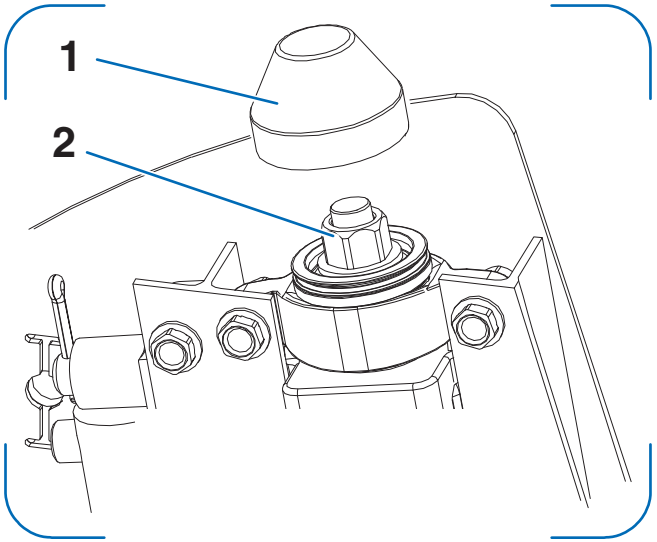
6.1. Releasing the screw lifting system

Occasionally, during operations, the lifting nuts may bind against the upper stop and cause the gantry to stick. If this happens, the lifting system can be released manually, by loosening the mounting nut at the top of each screw (2). This operation requires a 36 mm spanner (not provided).

This operation may be dangerous if it is not carried out according to instructions. You must wear protective gloves and goggles.

Before any work on the hydraulic circuit and mechanisms, it is essential to make sure there is no remaining pressure in the system :

- **the power take-off must not be engaged,**
- **activate the distributor levers.**



- Remove the protective cap (1).
- Use the spanner to loosen the mounting nut slightly (2).
- Set the distributor to down.
- Stop the distributor as soon as the system is released.
- Retighten the mounting nut to torque 250 N.m 250 N.m.

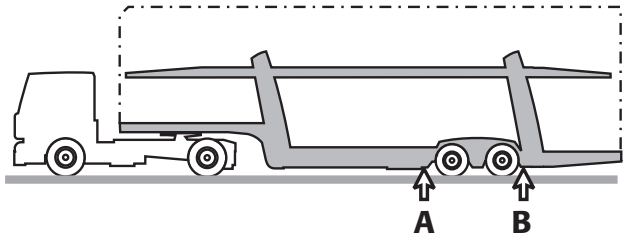
6.2. Changing a wheel

This operation requires the truck jack to be used on ground which is as hard and flat as possible. If necessary, set a metal plate under the jack to prevent it from sinking into the ground.

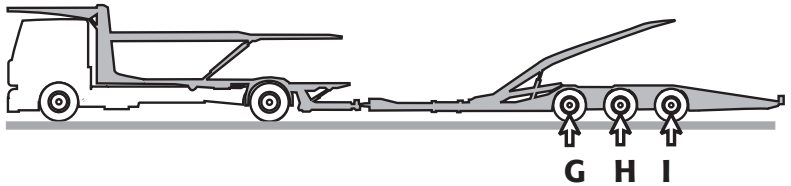
- Engage the truck and trailers parking brakes.
- Fit the jack in position :
  - Under a cross-piece (A, B, C, D, E, F, J, K, L).
  - Under the body of the axle (G, H, I).
- Release the wheel mounting nuts.
- Raise the trailer by operating the jack until the wheel lifts off the ground.
- Remove the mounting nuts and lift the wheel off.
- On refitting, oil the wheel studs lightly.
- Using the wheel spanner provided in the toolkit, tighten the wheel (see chapter 4.4..).

It is essential to check the wheel's tightness again after 50 and 250 kilometres.

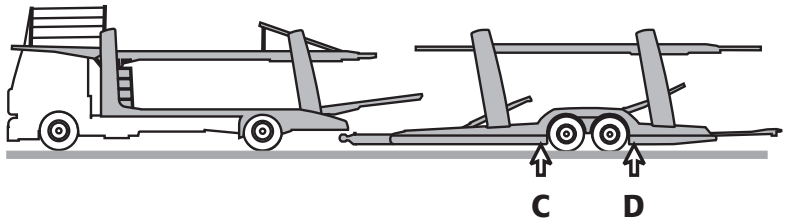
SHR



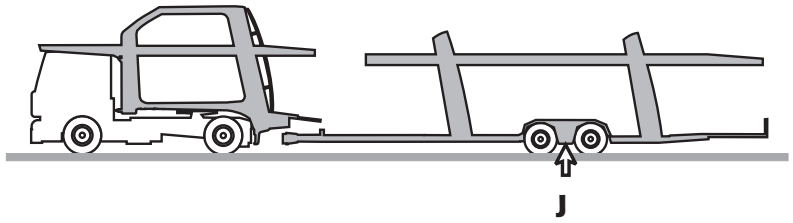
MAXILOHR



CHR



EUROLOHR 100E



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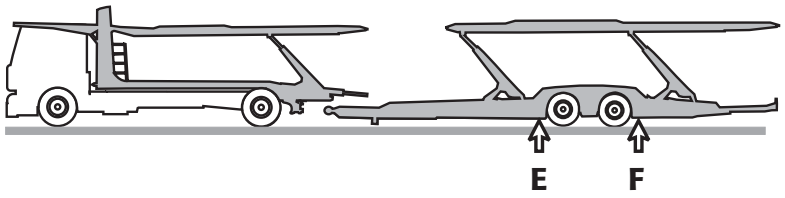

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