

NOBLELIFT 诺力



Service training on demand

2018. 03. 01

诺力智能装备股份有限公司

NOBLELIFT INTELLIGENT EQUIPMENT CO.,LTD.

Standard operation temperature indicated in User manual of every truck: +5...+40 degrees Celsius
The requirements of operation temperatures are given by ISO 3691-1 standard

Types of hydraulic oil used by Noblelift factory and replacement recommendations:

- All electric trucks except of Long tiller series (PTxxL/PSxxL): L-HM 46
- Electric trucks of Long tiller series (PTxxL and PSxxL), SC trucks, Forklifts: L-HM 32
- Hydraulic oil which recommended to be used during oil replacement for areas with relatively low ambient temperatures: L-HM 32, HLP 32, HVLP 32, L-HV 32
- Hydraulic oil which is recommended to be used during oil replacement for areas with relatively high ambient temperatures: L-HM 46

Oil replacement quantity recommended by factory is linked with type of mast, not specified for every lifting height:

Model	L	Model	L	Model	L	Model	L	Model	L
PSB12 SX	3.5	PS12L	5.0	EPT15	0.75	SC16	22.0	FE3RxxN	18.0
PSB12 DX	5.5	PS16L DX	9.0	PT20/PTxxL	0.7	SC14/SC12	20.0	FE3DxxN	22.0
PSB12/15 TX	7.5	PS20L DX	9.0	PT25/PT25L	1.0	SC10/ SCxxN	15.0	FE4PxxN	32.0
PS15 DX	7.0	PS16L TX	11.0	PTE15X	0.35	SC08HC	12.0		
PS15 TX	9.5	ECL10	4.0						

Curtis	Zapi	NVR	Other
PTE12	PTxxL	SCO8EC/HC	PTE15X
EPT15	PSxxL	SCO8HC/EC	
PT15	PT20I	SC10E/H	
PT20	PT20D	SC12E/H	
PSE12	PT25P	SC16E/H	
PSB12	OPL25		
PSB15	PS14RP		
PS16W			
PS15			
PS20			
PS20D			
PS13RM			
PS15RM			
Forklifts			

It is recommended to have cables with PC in order to provide full support to customers for trucks equipped with Zapi and Curtis controllers

Consultations for signed partners about parameters as well as software can be received via Noblelift subsidiaries

Correctness of work for cables purchased from 3rd party can't be ensured



ZAPI handheld programmer,
model CAN smart console



ZAPI program
downloading cable, model
SCH INTERFACCIA
PC/ADAPTER



CURTIS PCAN for
modification of parameters
for lithium battery



USB to CAN V2 compact, 1
x CAN Interf. High-Speed,
with Galvanic Isolation(With
SUB-D9 Plug)



Curtis handheld
programmer
1311-4401 OEM



Curtis PC cable
1309-4401 OEM



Cable for PTE15X

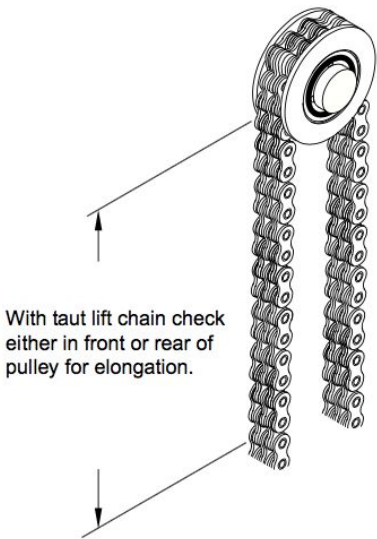
When a forklift truck leaf chain is in mint condition, the rivet pins and articulating link apertures are almost perfectly cylindrical in shape and have a very smooth surface finish.

This ideal state has excellent bearing properties which are necessary for smooth, quiet and efficient operation. It is inevitable, however, that a forklift truck chain will wear leading to the deterioration of these properties. When the rivet pins wear (a process known as Galling). Furthermore, the apertures in the link plates elongate.

Most leaf chain rivet pins are produced with a case hardened outer surface. It is generally accepted that a 3% worn leaf chain will lose approximately 18% of its tensile strength.

Over time the castellations will become so deep that the case hardening of the leaf chain rivet pin will be completely destroyed. Once the surface has worn away it will become considerably weaker and potentially very dangerous. It is, therefore, necessary to limit the level of acceptable leaf chain wear.

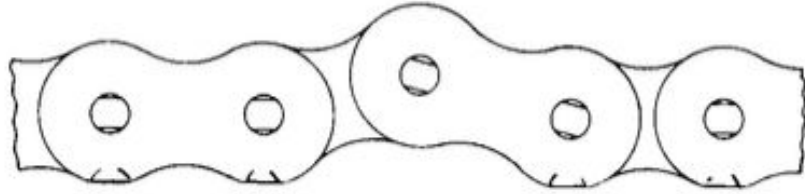
The FB professional chain wear gauge (CWG) is a precision tool that has been purposely designed for the accurate measurement of chain wear in leaf chain/forklift chain. It states in the accompanying instructions that at a percentage elongation of 2% the chain will need to be carefully monitored if it is to be still used. At 3% elongation, the chain is considered a safety risk and should be replaced immediately.



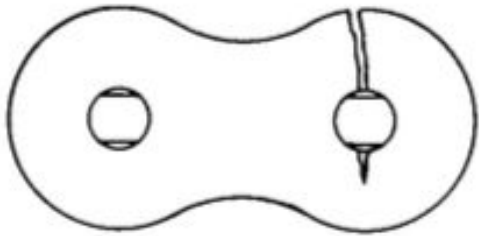
Type	Pitch (mm/inches) NEW
LH0866	12.7 mm / ½"
LH1044	15.875 mm / 5/8"
LH1046	
LH1066	
LH1234	
LH1244	19.05 mm / ¾"
LH1266	
12A-1	

At 3% elongation, the chain is considered a safety risk and should be replaced immediately.

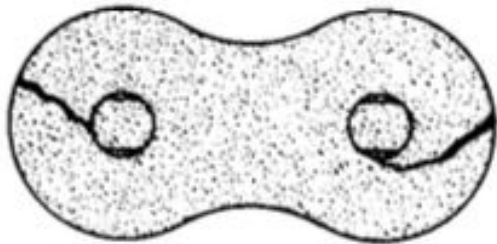
Models	Types	Chains	Pins
PS E/B12	CL12S	LH1234	8x31 CL12F.2-5
	CL12D	LH1046	6x40 GB/T880-2008
	CL12F	LH1234	8x31 CL12F.2-5
PS B15	CL15D	LH1244	8x40 GB/T882-2008
	CL15F	LH1244	8x35 GB/T882-2008
	CL15H	LH1066	6x35 GB/T882-2008
	CL15Z	LH1066	6x35 GB/T882-2008
PS16W	CG16H	LH1066	6x35 GB/T882-2008
ECL10	ECL10	12A-1	6x40 GB/T880-2008
PS 12L	PS12LD	LH1046	6x35 GB/T882-2008
	PS12LF	LH1066	6x45 GB/T882-2008
PS 16L/SL	PS16LD/M	LH1066	6x45 GB/T882-2008
	PS16LF/M	LH1066	6x45 GB/T882-2008
	PS16LH/M	LH1066	6x45 GB/T882-2008
	PS16LZ/M	LH1066	6x45 GB/T882-2008
PS 20L/SL	PS20LD/M	LH1266	8x50 GB/T882-2008
	PS20LF/M	LH1266	8x50 GB/T882-2008
	PS20LH/M	LH1266	8x50 GB/T882-2008
	PS20LZ/M	LH1266	8x50 GB/T882-2008
	PS20LZ/M	LH1066	6x45 GB/T882-2008
PS 15/SL	CS15D/M	LH1244	8x40 GB/T882-2008
	CS15F/M	LH1244	8x35 GB/T882-2008
	CS15Z/M	LH1066	6x45 GB/T882-2008
PS 20	CS20D	LH1066	6x45 GB/T882-2008
	CSD20D	LH1244	8x35 GB/T882-2008
	CSD20F	LH1244	8x35 GB/T882-2008
CG	CG	LH0866	5x40 GB/T882-2008
CLB12	CLB12/F	LH1234	8x40 CS1232.4-2
	CLB12I	LH1234	8x40 CS1232.4-2
CS12	CS12/F	LH1234	8x40 CS1232.4-2
CS15	CS15/M/G	LH1244	8x40 GB/T882-2008
	CS15F/M	LH1244	8x40 CS1232.4-2
	CS15III/M	LH0866	5x40 GB/T882-2008
	CS15T/TG	LH0866	5x40 GB/T882-2008
	CS15T/TG	LH1044	6x35 GB/T882-2008



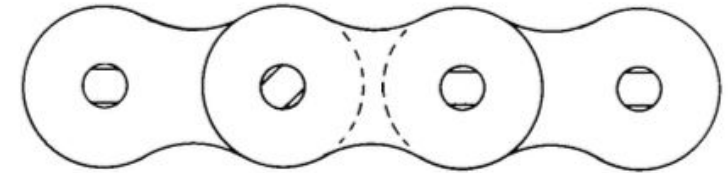
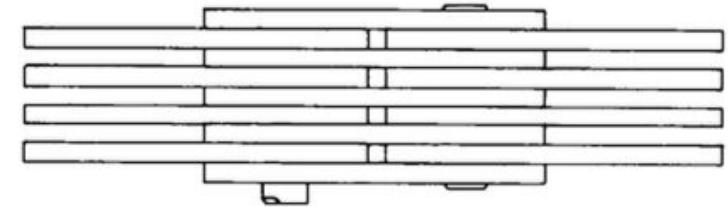
All links should rotate freely, chain can't be dry



Cracks of any kind are not allowed



Corrosion is not allowed



Rotation of pins and their protrusion is not allowed



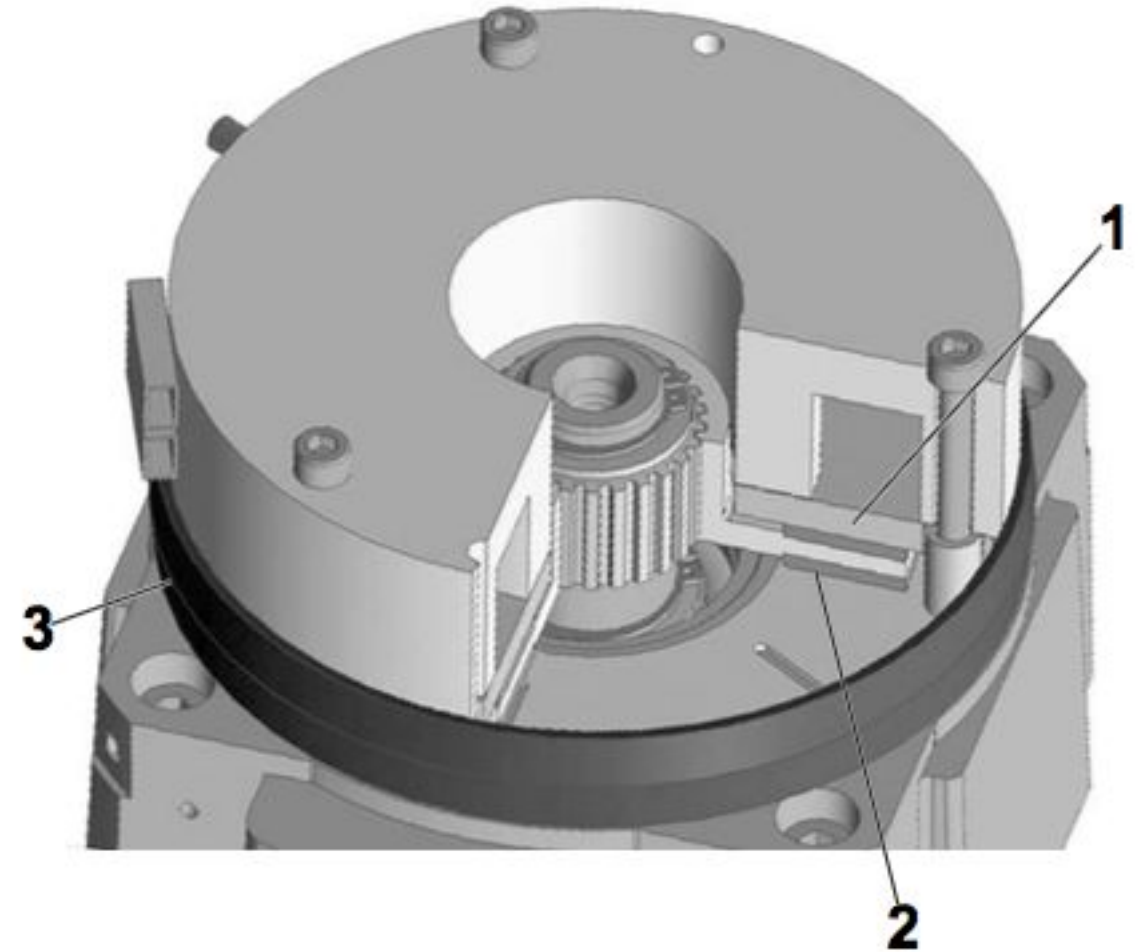
Chain anchors should always be inspected carefully and replaced in case of any damages or deformations of thread or holding parts

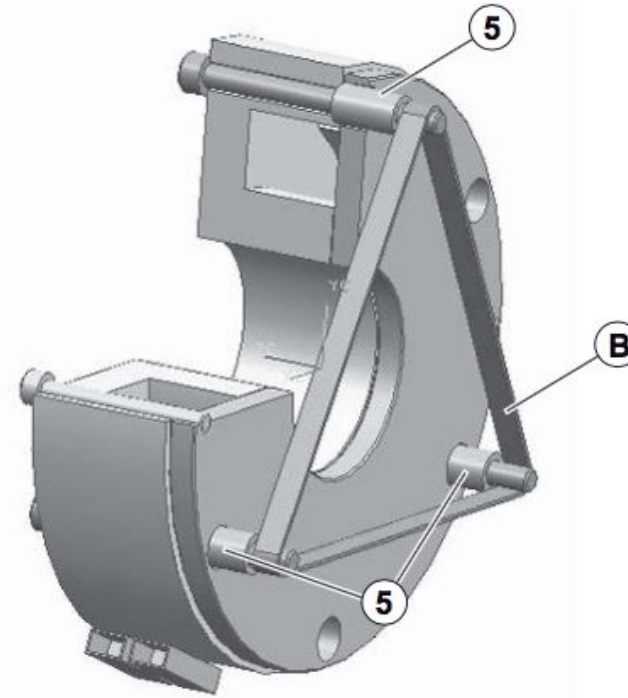
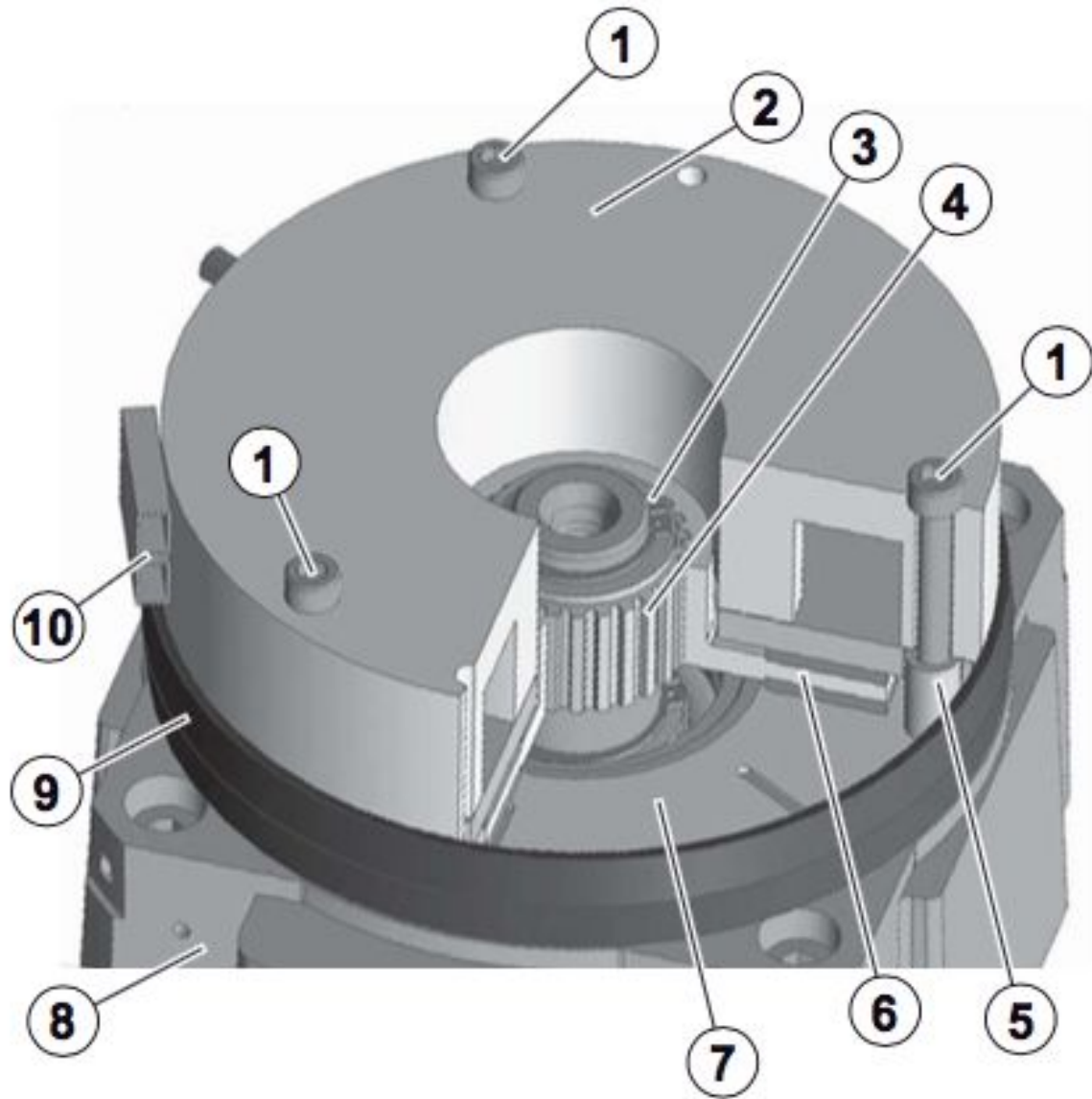
Noblelift is using the following brands of electromagnetic brakes: Reach, Intorq, Amer. All brakes are performing functions of parking brakes only and not used as working brake. Therefore during normal operation the wear and tear of friction disk is very small.

All brakes used by Noblelift are not adjustable. The servicing is limited by check of air gap during regular maintenance.

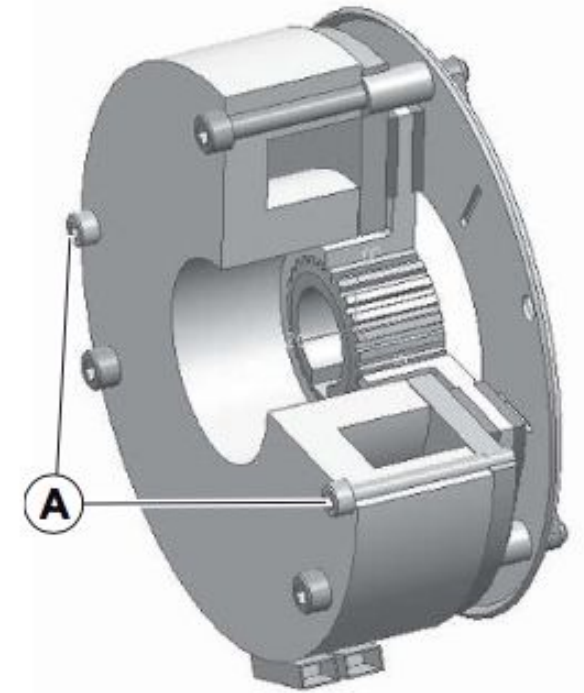
The air gap can be checked by filler gage and should be within 0.5 mm. If more, the friction disk need to be replaced.

Make sure the truck is placed on even solid surface and will not roll if brake is removed, Fix the wheels with wooden bars of suitable size or fixation cones.

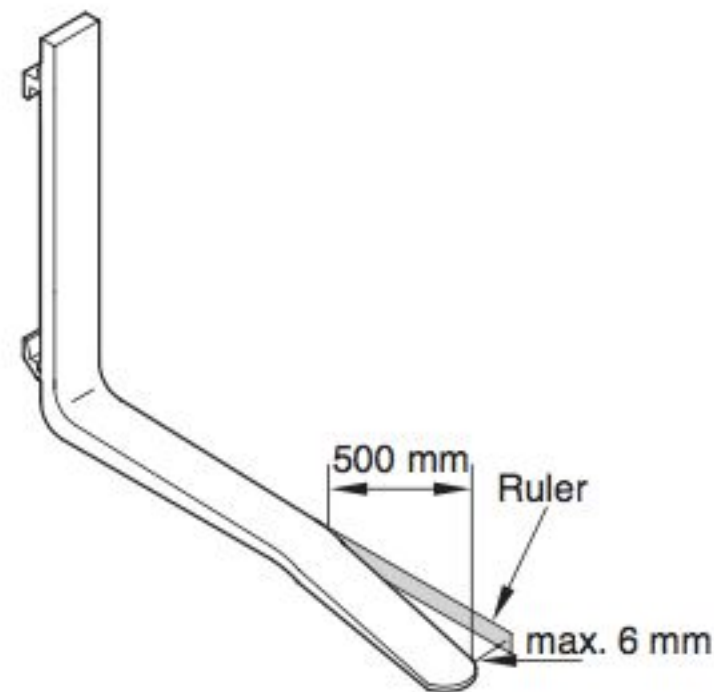
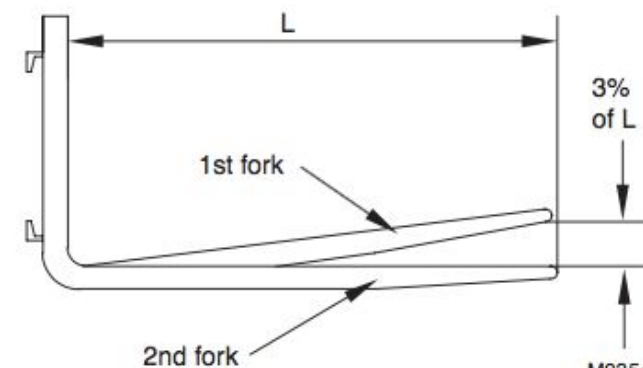
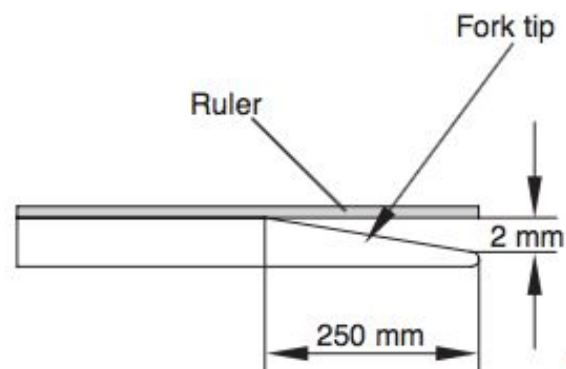
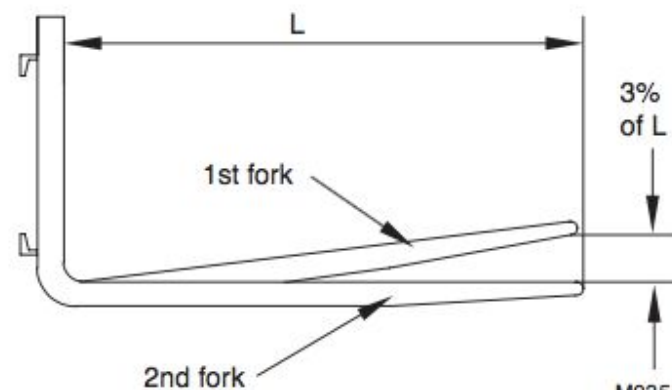
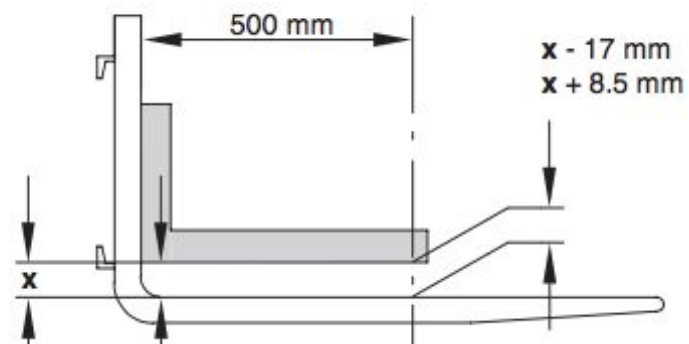
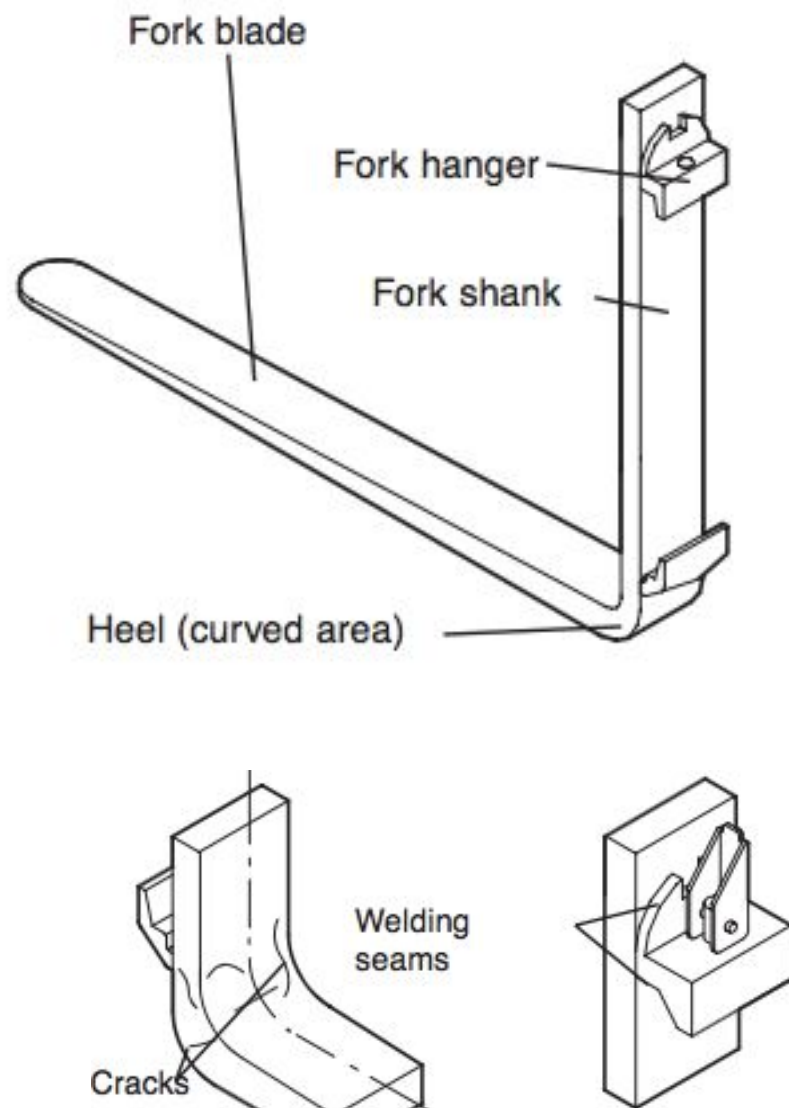




The brake is supplied preassembled. The rubber ring “B” need to be removed. Take care of sleeves 5 and do not lose them after rubber ring removing.

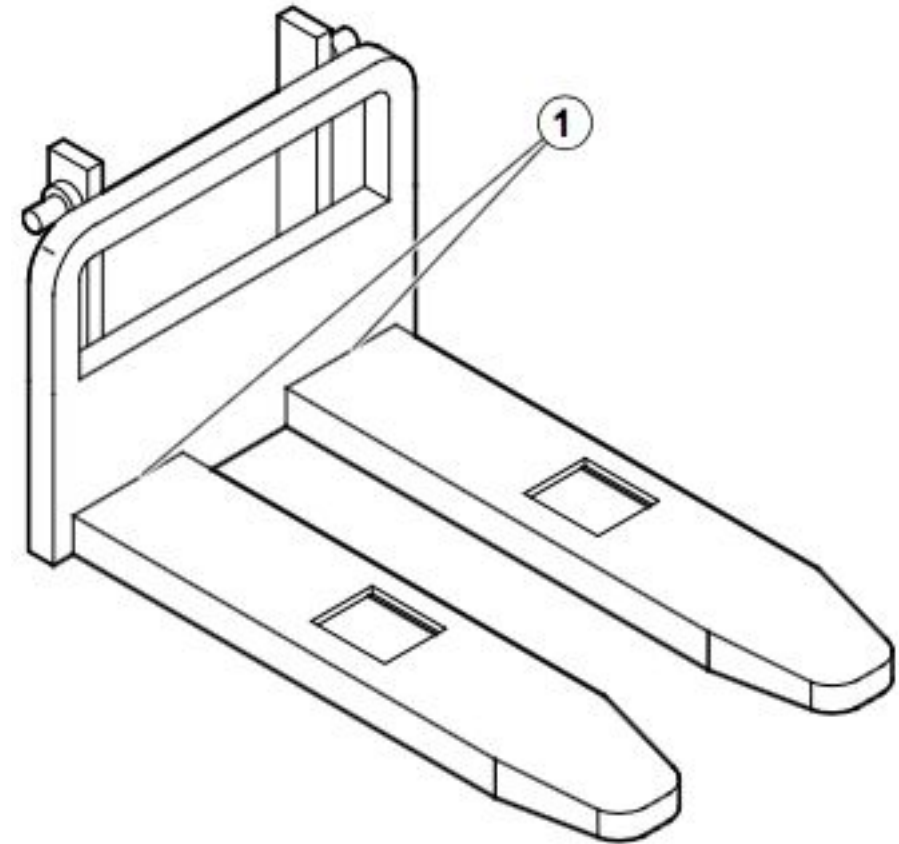


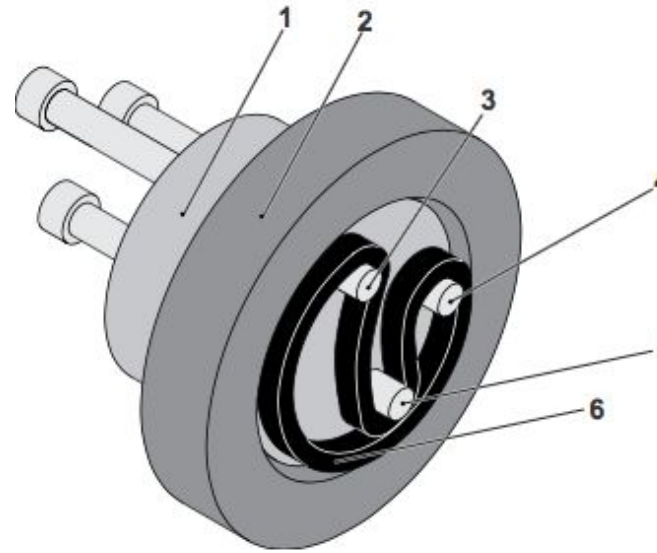
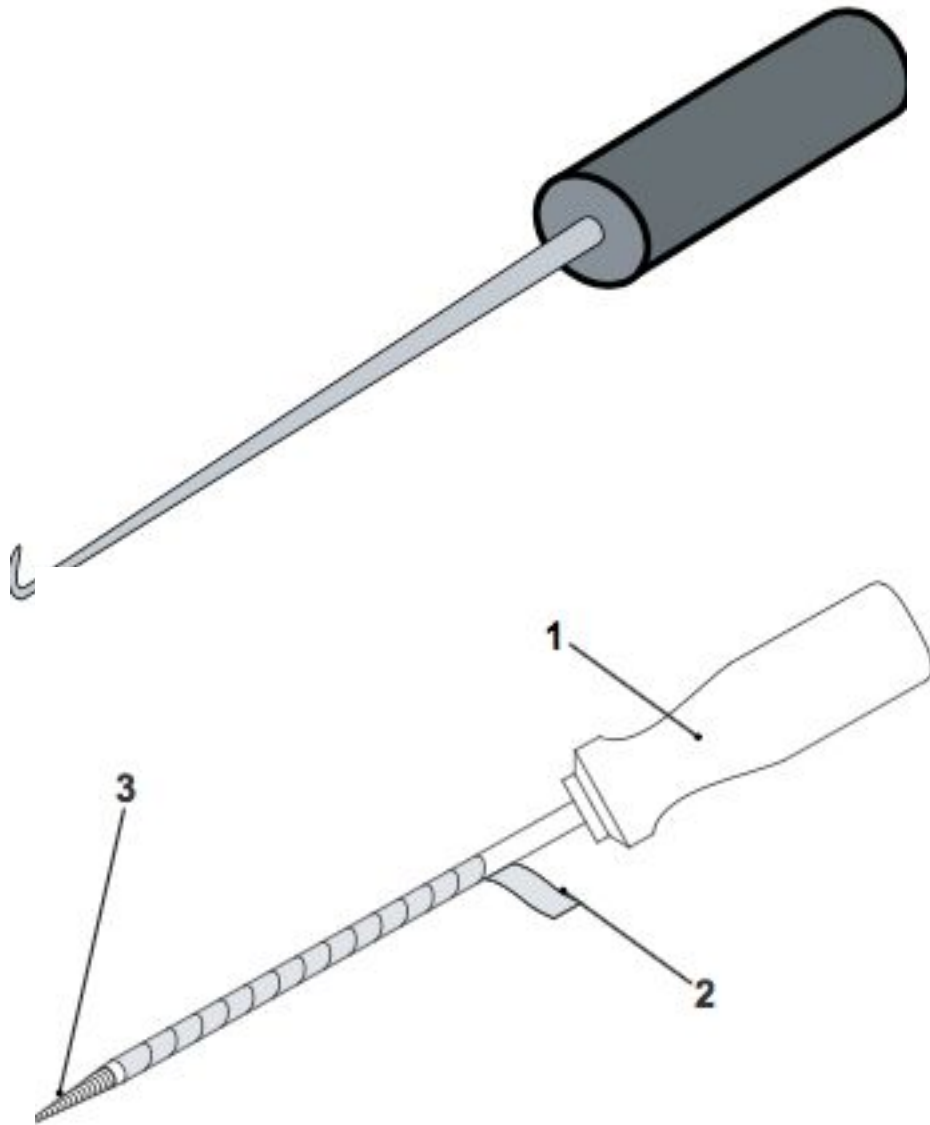
Screws A are used for servicing only. Need to be removed after assembling before use of truck OR installed before disassembling of brake body



Welded forks need to be inspected for the possibility of cracks in welding points, If necessary the penetrant agents (paint) need to be used to determine cracks.

In case of obvious deformations, deviations of shape, interference of forks with support arms etc. forks need to be replaced

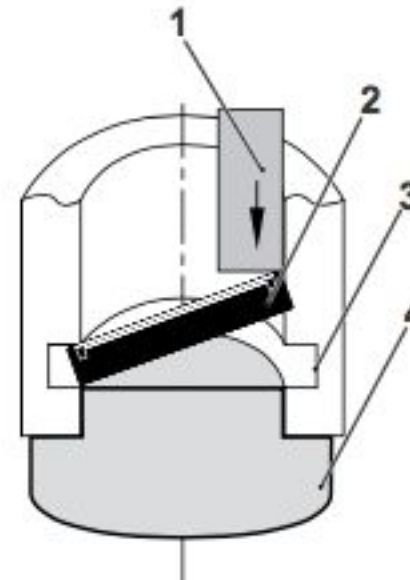


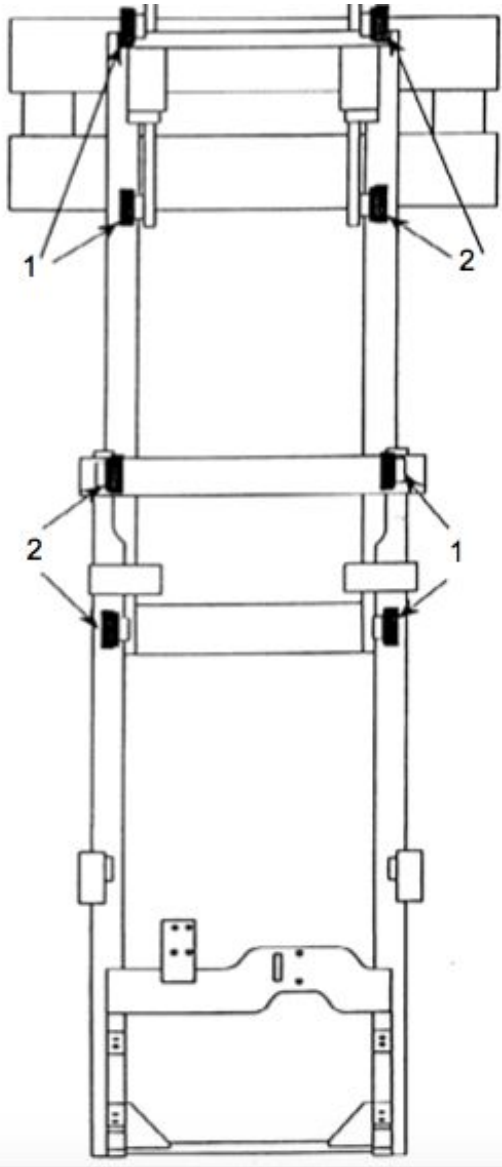


Use special tools to remove seals from cylinder in order to avoid damages of sealing surfaces/

Use special tools to install seals in cylinders to prevent sealing lips from damages against of tread and sharp edges.

All tools must be free of burrs





A truck should be located on even surface, the mast shouldn't be tilted otherwise the adjustment will be not correct.

Using the filler gage measure and set the distance between side rollers and side surface of profiles within 0.5 mm. Make sure that neither mast section nor fork carriage are tilted during this adjustment – Keep parts in parallel.

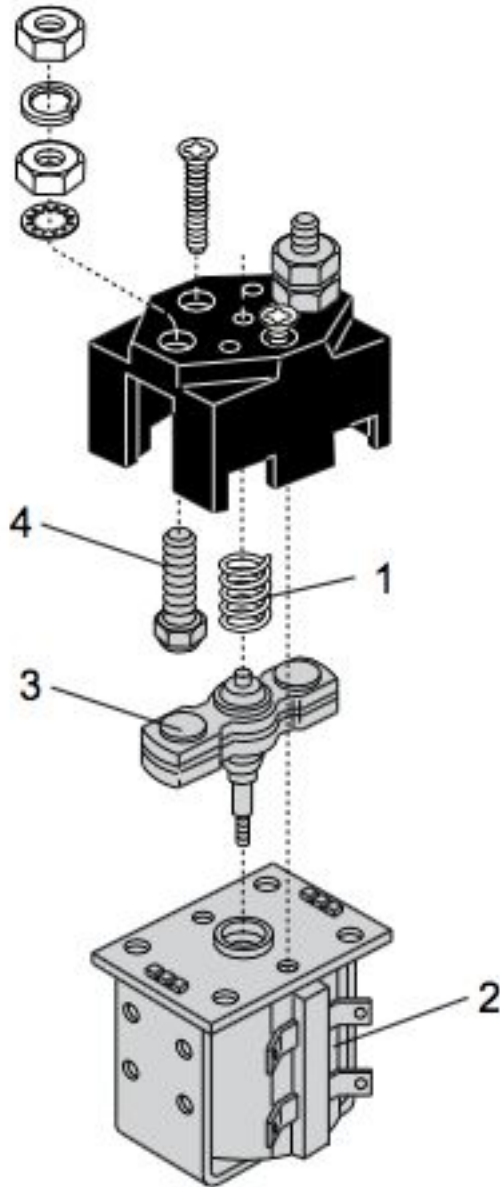
As there can be deviation in width of sections lift and lower the forks from bottom to the end and check that movement of forks and mast sections is smooth and not sticking. If necessary – increase the side gap to avoid jerks.

In order to grease the mast firstly the profiles need to be cleaned and old grease need to be removed, then the rollers' tracks need to be greased fully.

Lubricant Type	Product	Manufacturer
Grease (Multi-Purpose)	Aralube HLP2 LM Grease Regulus A2 Beacon EP2 EP2 Mobiluxe EP2 Retinax LX LGWMI	Aral Castrol Century Esso Maxol Mobil Shell SKF
Grease (Low Temperature)	Aralube SKL2 Unirex Lotemp EP	Aral Mobil
Hydraulic Oil	Vitam GF 32 Hyspin AWS-32 Nuto H32 DTE 24 Tellus 32 Hydran LZ 32 B110	Aral Castrol Esso Mobil Shell Finol Fuchs Mineralöl- werke GmbH
Hydraulic Oil (Low Temperature)	Deutz Oel HVI 32	Klöckner
Transmission oil	Hyp 85W90 GX-D 85W90 Mobilube HD85W90 Spirax MB90	Aral Esso Mobil Shell
Transmission oil (Low Temperature)	Mobil SHC 624	Mobil
Lubrication oil	Kowal 40 Essolube HDX + 40 Delvac 1240	Aral Esso Mobil
Lubrication oil (Low Temperature)	SHC 626	Mobil

The list of lubricants is given as recommendation only.

Any lubricant with suitable application purpose and properties can be used.



Contacts of contactors are subjects of natural wear and tear.

If the silver coating is worn out or damaged, the contactor need to be replaced.

The cleaning of contacts from results of burning (blackened and other defects) will not solve the problem and generally will cause the wear even faster.

Springs of contactor must be free of any defects and corrosion.

In order to check the coil measure its resistance. If the resistance is endless or no resistance recorded – the coil is damaged and contactor needs to be replaced.



THANK YOU

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