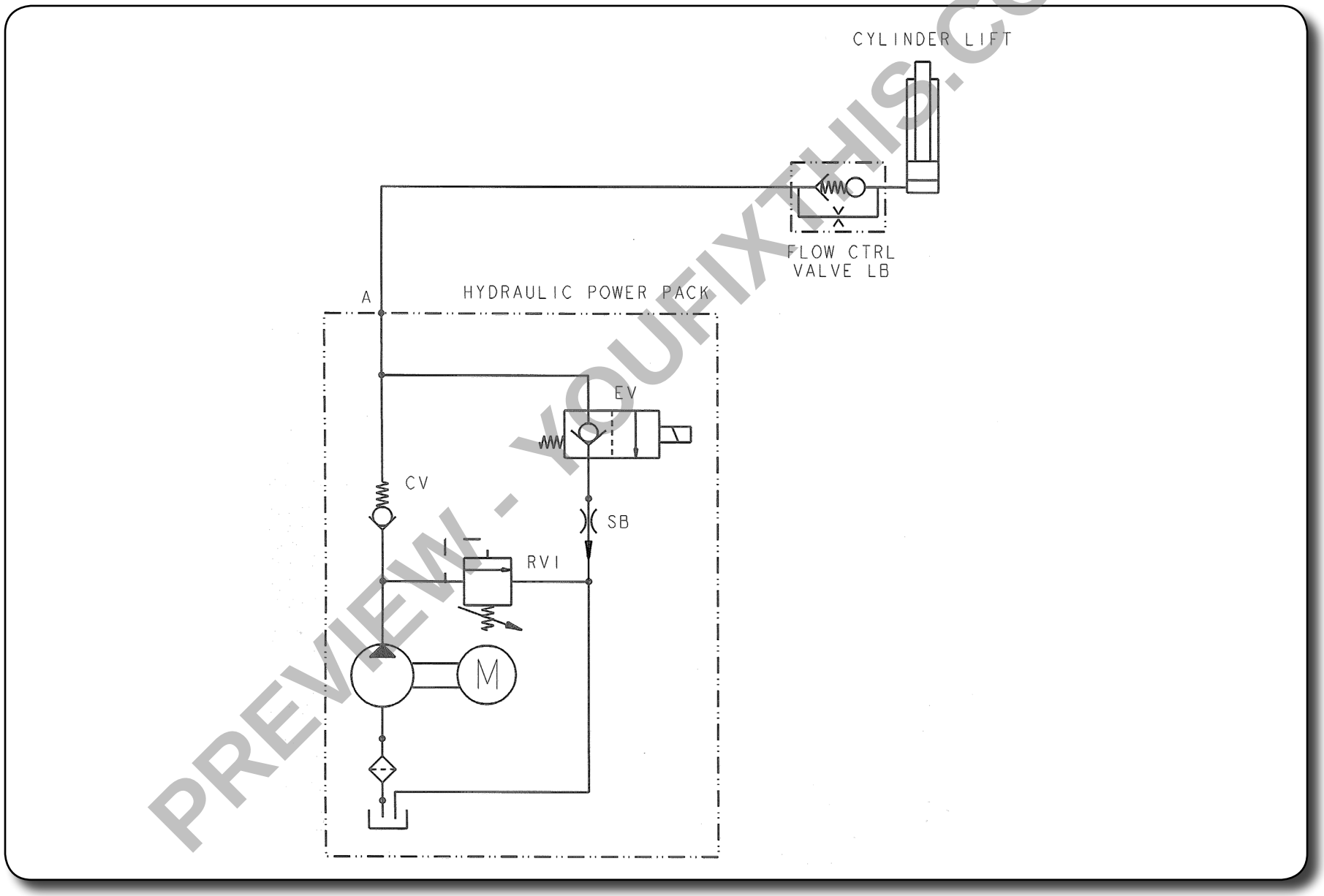
MAIN HYDRAULIC DIAGRAM



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TORQUE SETTINGS FOR SCREWS, NUTS AND FITTINGS

Before disassembling the various parts and nuts and bolts, read the following carefully.

To make the threaded matings secure, *LOCTITE 270* is used for tightening the screws.

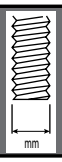
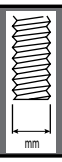
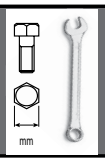
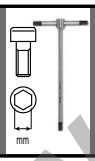
If it is not possible to unscrew the bolts because this product has been used, avoid applying extensions to the tools, instead slightly heat the area (at most 50°C) so as to eliminate the *LOCTITE 270* effect.

In the cases described, reapply *LOCTITE 270* during installation in a moderate quantity (30% of the mating surface).

The torque setting used for tightening the threaded couplings is extremely important to make the coupling secure and the machine safe.

The tables on this page give the classes of bolts normally used with the relevant torque settings.

Nominal diameter	TORQUE SETTING Nm	
	Class 8	Class 10
M3	4	5.2
M4	7	9.15
M5	12.14	14.8
M6	17.2	20.9
M8	31.8	38.1
M10	50.5	60.3
M12	74.2	88.5
M14	101.2	120.8
M16	138.2	164.9
M18	176.6	203.5
M20	225.4	259.7
M22	278.8	321.2
M24	324.8	374.2
M27	422.3	486.5
M30	516.1	594.7

				Pre-load N	TORQUE SETTING Nm					
					Class 5.8		Class 8.8		Class 10.9	
										
M4	0.7	7	3	2400	1.92	1.44	3.07	2.3	4.17	3.13
M5	0.8	8	4	3880	3.88	2.91	6.2	4.65	8.43	6.33
M6	1	10	5	5490	6.58	4.94	10.5	7.9	14.3	10.8
M8	1.25	13	6	9990	16	12	25.6	19.2	34.8	26.1
M8	1	13	6	10700	17.1	12.8	27.4	20.5	37.3	27.9
M10	1.5	16	8	15825	31.7	23.8	51	38	69	52
M10	1.25	16	8	16700	33.4	25.1	53	40.1	73	55
M12	1.75	18	10	23025	55	41.4	88	66	120	90
M12	1.25	18	10	25150	60	45.3	96	72	130	98
M14	2	21	12	31400	88	66	140	105	190	145
M14	1.5	21	12	34125	96	72	155	115	210	155
M16	2	24	14	42850	135	105	220	165	300	225
M16	1.5	24	14	45600	145	110	235	175	320	240
M20	2.5	30	17	66875	270	200	430	320	580	435
M20	1.5	30	17	74250	295	225	475	355	650	485

 = with lubricant

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HYDRAULIC COMPONENTS

REMOVAL OF THE PRESSURE RELIEF VALVE

Equipment and tools


cross-head screwdriver


oil resistant gloves

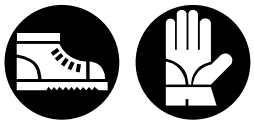

ratchet with extension bar


socket wrench 22 mm

Procedure

Before starting work, ensure that you are wearing suitable protective clothing.
Move the truck to a safe place, away from the transit areas of other vehicles and pedestrians. Lower the forks to the ground, turn the keyswitch to OFF and disconnect the battery.

The hydraulic fluid gets very hot during system operation and can cause burns. It is advisable to wear gloves that are resistant to oil and high temperatures.



Phase 1

CROSS-HEAD SCREWDRIVER

Use the screwdriver to unscrew and remove the fastening screws on the motor compartment cover **(ref.A fig.1-2)**.
Remove the cover.

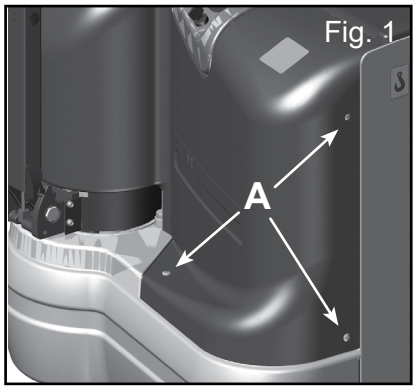


Fig. 1

Phase 2

Carry out the procedure to remove the lift pump (see "REMOVAL OF THE LIFT PUMP").



Fig. 2

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SCHEDULED MAINTENANCE

	● = check and maintenance ■ = operator check x = replacement	Maintenance intervals			
	Operation description	every 8 hours 1 day	every 1000 hours 12 months	every 2000 hours 24 months	every 3000 hours 36 months
FRAME	Check the screws and bolts		●		
	Visually check the main welds				●
	General cleaning		●		
BRAKING SYSTEM	Check counter current braking action	■	●		
	Dynamic braking action check	■	●		
	Normal braking action check	■	●		
	Emergency braking action check	■	●		
	Electromagnetic parking brake coil efficiency check		●		
	Electromagnetic parking brake liner wear check(1)		●		
	General cleaning		●		
HYDRAULIC SYSTEM	Oil leak check	■	●		
	Valve operation check	■	●		
	Oil level in tank check		●		
	Flexible pipe conditions check (2)			●	
	Tank oil change				x
	Oil filter change				x
	General cleaning		●		
REDUCTION UNIT	Oil leak check	■	●		
	Reducer oil change			x	
	Reduction unit noise check		●		
	General cleaning		●		
FORKS	Check forks conditions	■			●
	Check conditions of fork support device bearings (1)				●
	Check wear on slide blocks (1)		●		
	Cleaning of fork support device bearings slide guides		●		
	Check conditions of fork support device bearings slide guides		●		
WHEELS & TYRES	Check condition and wear of drive wheel (1)	■	●		
	Check condition and wear of load wheels (1)	■	●		
	Check condition and wear of castor wheel (1)	■	●		
	Check condition of castor wheel swivel support bearings (1)	■	●		
	Check condition of load wheel bearings (1)		●		
	Check condition of castor wheel swivel bearings (1)		●		
	Check drive wheel fixing nuts		●		
	Check castor wheel-chassis swivel support fixing nuts		●		
MOTORS	Motor insulation check		●		
	Cables connection check		●		
	Fixing nut condition check		●		
	Bearing noise check		●		
	General cleaning		●		
GREASING POINTS	Lifting chains lubrication (3)		●		
	Grease mast bearings sliding guides		●		

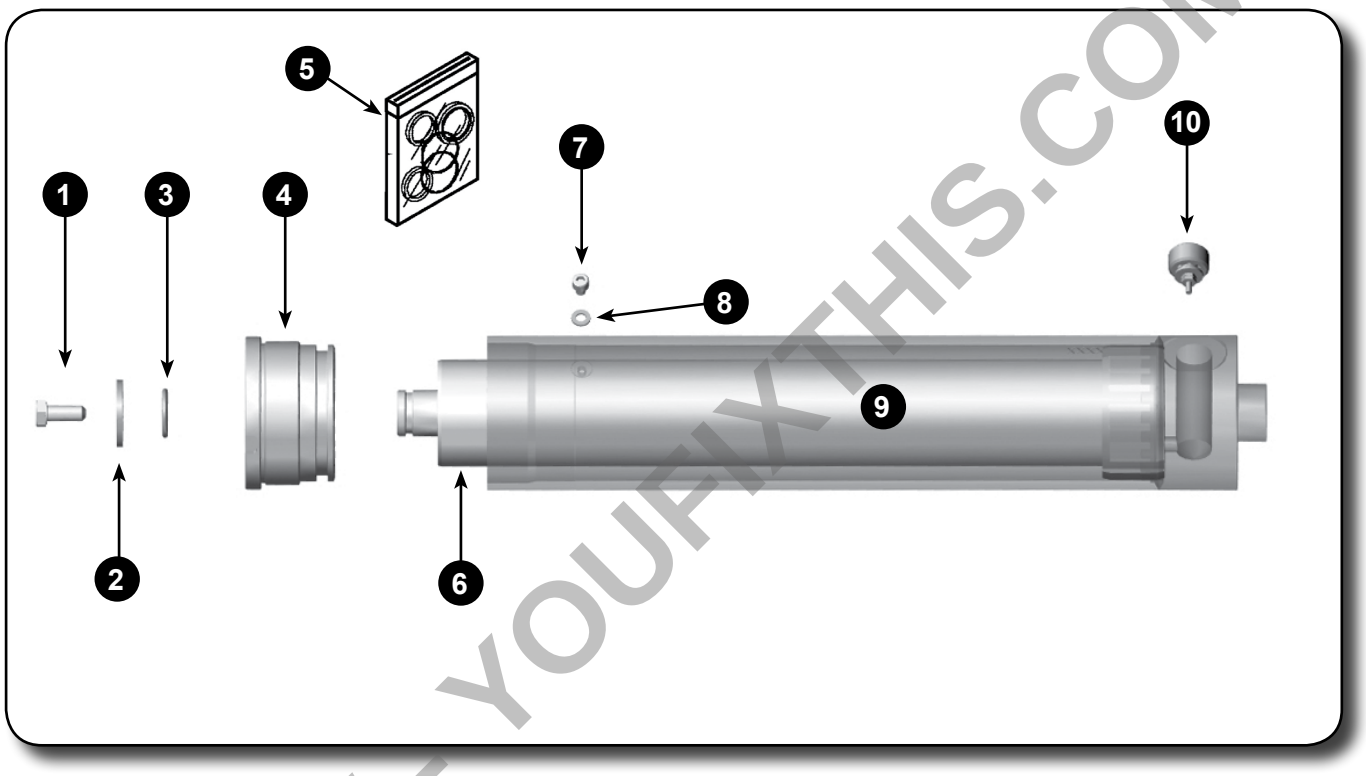
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KEY TO LIFTING CYLINDER COMPONENTS

After cylinder replacement, the air must be led through the bleed valve. The static seals can be replaced with the cylinder installed in the truck.

SINGLE ACTING PLUNGER CYLINDER



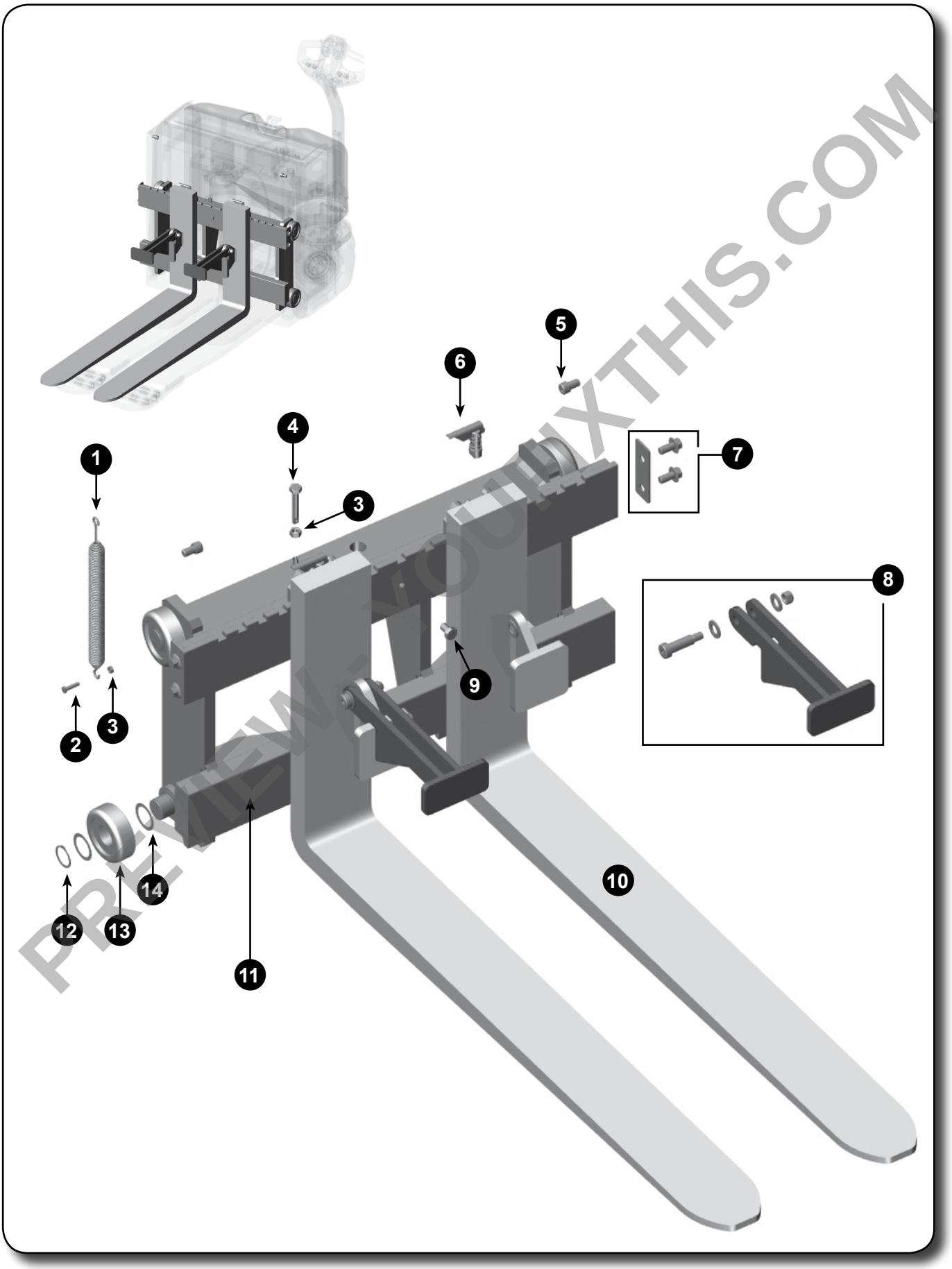
Ref.	Description
1	Retaining screw
2	Washer
3	Circlip
4	Gasket case bushing
5	Gasket set
6	Piston rod
7	Air bleeding valve
8	Washer
9	Barrel
10	Parachute valve

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FORKS SMALL MAST S2.4HBE

IDENTIFICATION OF THE FORK SMALL MAST COMPONENTS



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CORRECT METHOD FOR APPLYING FEMALE FITTINGS

To assure a reliable seal between female fittings and the adapters in this manual, it is necessary to observe the following procedure, which differs from the one for assembling rigid pipes.

Female fittings without a gasket (metal/metal joint)

Screw on the nut by hand and then, with the aid of a wrench, tighten by another quarter turn.

Female fittings with O-ring

Screw on the nut by hand and then, with the aid of a wrench, tighten by another half turn.

In every case make sure that the pipe is properly aligned before tightening the nut on the adapter.

TORQUE SETTINGS

METRIC REVOLVING FEMALE			
UNF thread	Outside diameter of the pipe	Torque setting Nm	
		Nominal torque	min / max
M 12x1.5	6	20	15 -25
M 14x1.5	8	38	30 - 45
M 16x1.5	8	45	38 - 52
	10		
M 18x1.5	10	51	43 - 85
	12		
M 20x1.5	12	58	50 - 65
M 22x1.5	14	74	60 - 88
	15		
M 24x1.5	16	74	60 - 88
M 26x1.5	18	105	85 - 125
M 30x2	20	135	115 - 155
	22		
M 36x2	25	166	140 - 192
	28		
M 42x2	30	240	210 - 270
M 45x2	35	290	255 - 325
M 52x2	38	330	280 - 380
	42		

REVOLVING FEMALE jic 37°			
UNF thread	Size	Torque setting Nm	
		Nominal torque	min / max
7/16-20	-4	15	9 - 21
1/2-20	-5	20	13 - 27
9/16-18	-6	30	18 - 42
3/4-16	-8	50	30 - 70
7/8-14	-10	69	44 - 94
1.1/16-12	-12	98	63 - 133
1.3/16-12	-14	118	73 - 163
1.5/16-12	-16	140	90 - 190
1.5/8-12	-20	210	135 - 285
1.7/8-12	-24	290	200 - 380
2.1/2-12	-32	450	300 - 600

BSP REVOLVING FEMALE		
UNF thread	Torque setting Nm	
	Nominal torque	max
G1/4	20	15 - 25
G3/8	34	27 - 41
G1/2	60	42 - 76
G5/8	69	44 - 94
G3/4	115	95 - 135
G1	140	115 - 165
G1.1/4	210	140 - 280
G1.1/2	290	215 - 365
G2	400	300 - 500

ORFS REVOLVING FEMALE			
UNF thread	Size	Torque setting Nm	
		Nominal torque	max.
9/16-18	-4	14	16
11/16-16	-6	24	27
13/16-16	-8	43	47
1-14	-10	60	68
1.3/16-12	-12	90	95
1.3/16-12	-14	90	95
1.7/16-12	-16	125	135
1.11/16-12	-20	170	190
2-12	-24	200	225
2-1/2-20	-32	460	490

The values given in the tables refer to galvanized steel fittings. Fittings of other materials have other values.

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REMOVAL OF THE SOLENOID VALVE

Equipment and tools


cross-head screwdriver


oil resistant gloves


Pliers

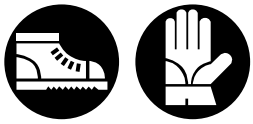

24 mm open ended spanner


small flat blade screwdriver

Procedure

Before starting work, ensure that you are wearing suitable protective clothing.
Move the truck to a safe place, away from the transit areas of other vehicles and pedestrians. Lower the forks to the ground, turn the keyswitch to OFF and disconnect the battery.

The hydraulic fluid gets very hot during system operation and can cause burns. It is advisable to wear gloves that are resistant to oil and high temperatures.



Phase 1

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Use the screwdriver to unscrew and remove the fastening screws on the motor compartment cover **(ref.A fig.1-2)**.
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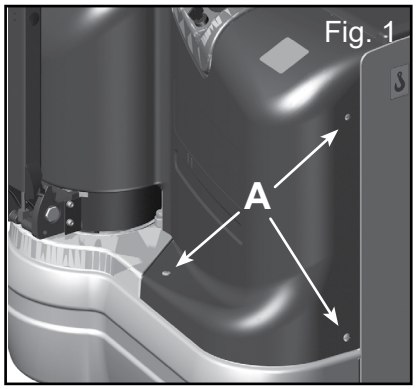


Fig. 1

Phase 2

Carry out the procedure to remove the lift pump (see "REMOVAL OF THE LIFT PUMP").



Fig. 2

Phase 3

Unscrew the screw,using the small flat blade screwdriver and disconnect the connector of the power supply to the solenoid coil**.**

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