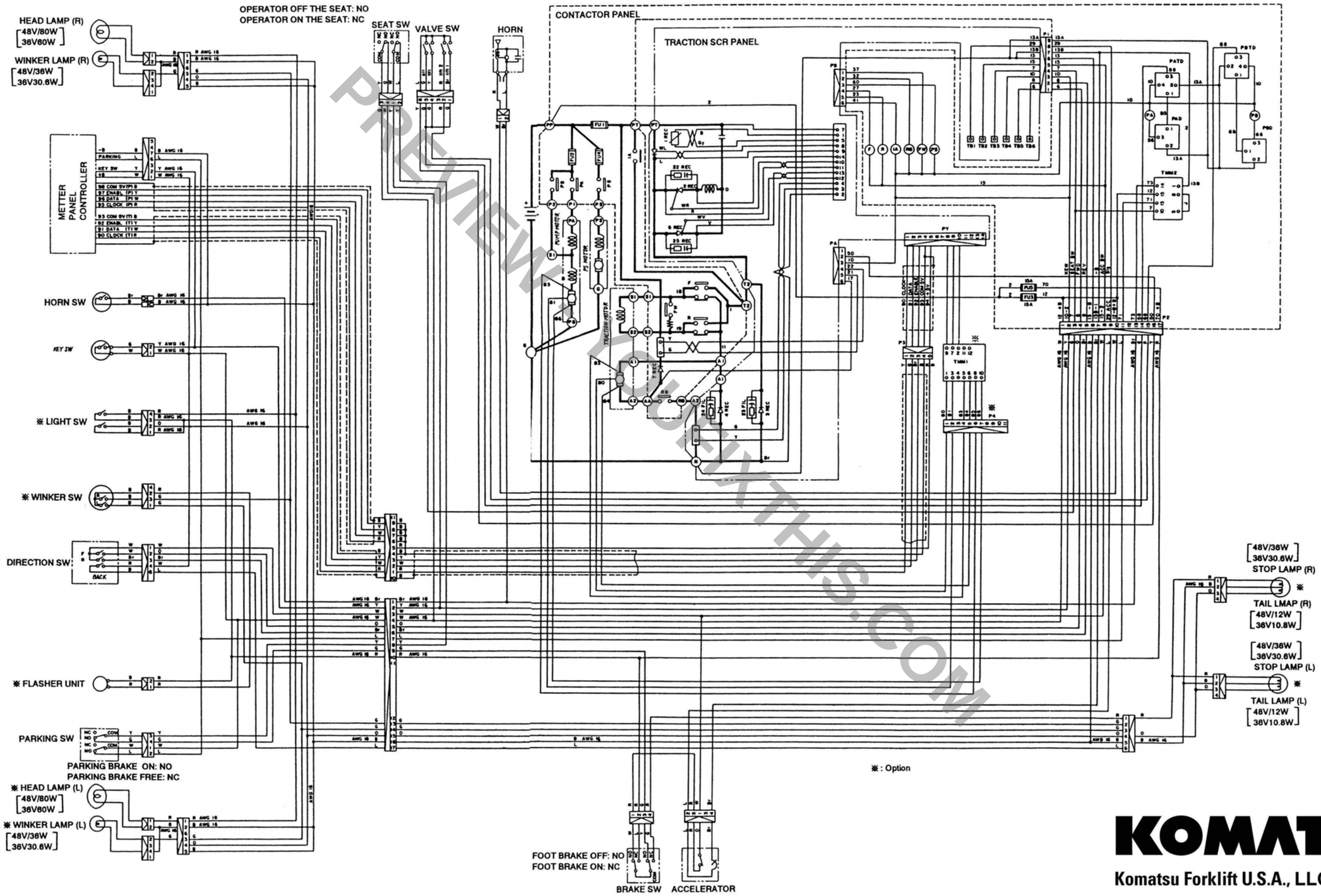
CIRCUIT DIAGRAM

FB10M,13M-2 s/n 2001 and up
FB15M,18M-2 s/n 3001 and up
Hydraulic Contactor Spec



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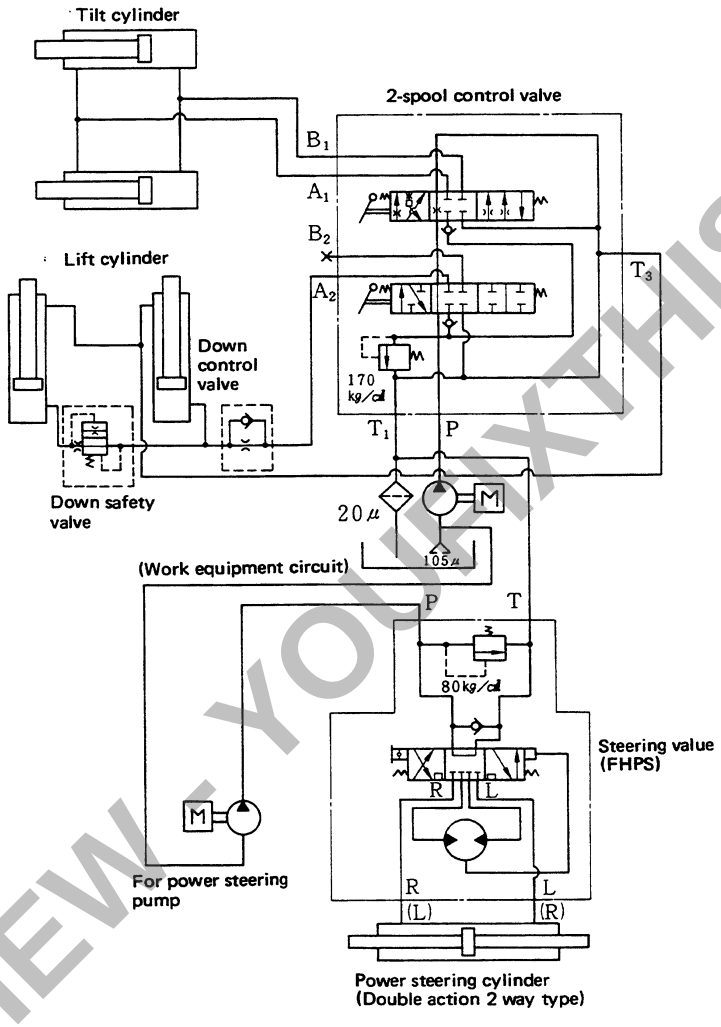
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KOMATSU

Komatsu Forklift U.S.A., LLC

HYDRAULIC SYSTEM

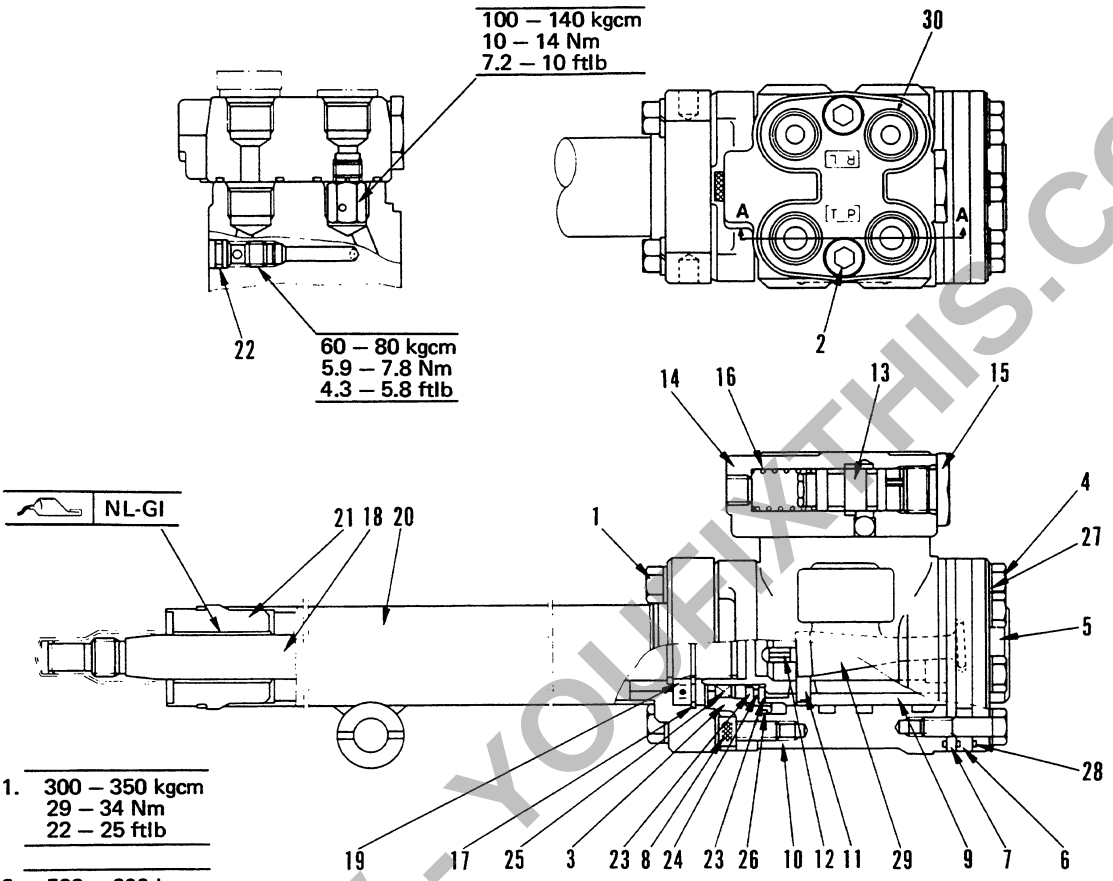
HYDRAULIC CIRCUIT



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STEERING GEAR BOX



1. 300 – 350 kgcm
   29 – 34 Nm
   22 – 25 ftlb

2. 500 – 600 kgcm
   47 – 59 Nm
   36 – 43 ftlb

4. 250 – 300 kgcm
   25 – 29 Nm
   18 – 22 ftlb

15. 500 – 600 kgcm
    47 – 59 Nm
    36 – 43 ftlb

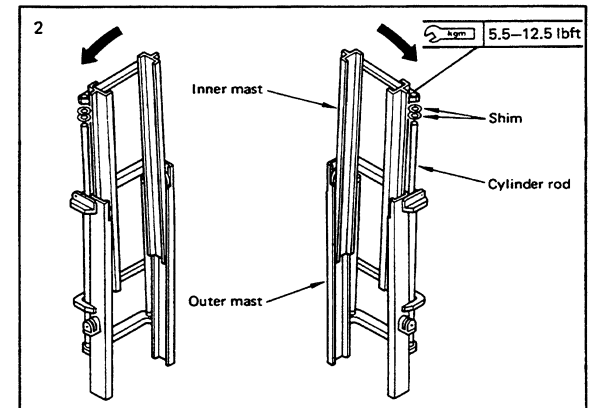
Delivery amount	65 cc/rev.
Relief pressure	80 kg/cm^2
Max. flow	15 ℓ/min.
Max. input torque	12 kgm (87 lbft) [120 Nm]
Valve characteristics	Open-center non-reaction type

1. Bolt
2. Bolt
3. Mounting plate
4. Bolt
5. End cover
6. Girotor
7. Plate
8. Bolt
9. Sleeve
10. Housing
11. Straight pin
12. Centering spring
13. Valve ass'y
14. Valve housing
15. Plug
16. Spring
17. Retaining ring
18. Shaft
19. Bearing
20. Column
21. Bushing
22. Check valve/O-ring
23. Side race
24. Bearing
25. Y-packing
26. O-ring
27. Washer
28. O-ring
29. Drive shaft
30. O-ring

A. Sleeve spool ass'y
B. Check valve ass'y
C. Bearing ass'y

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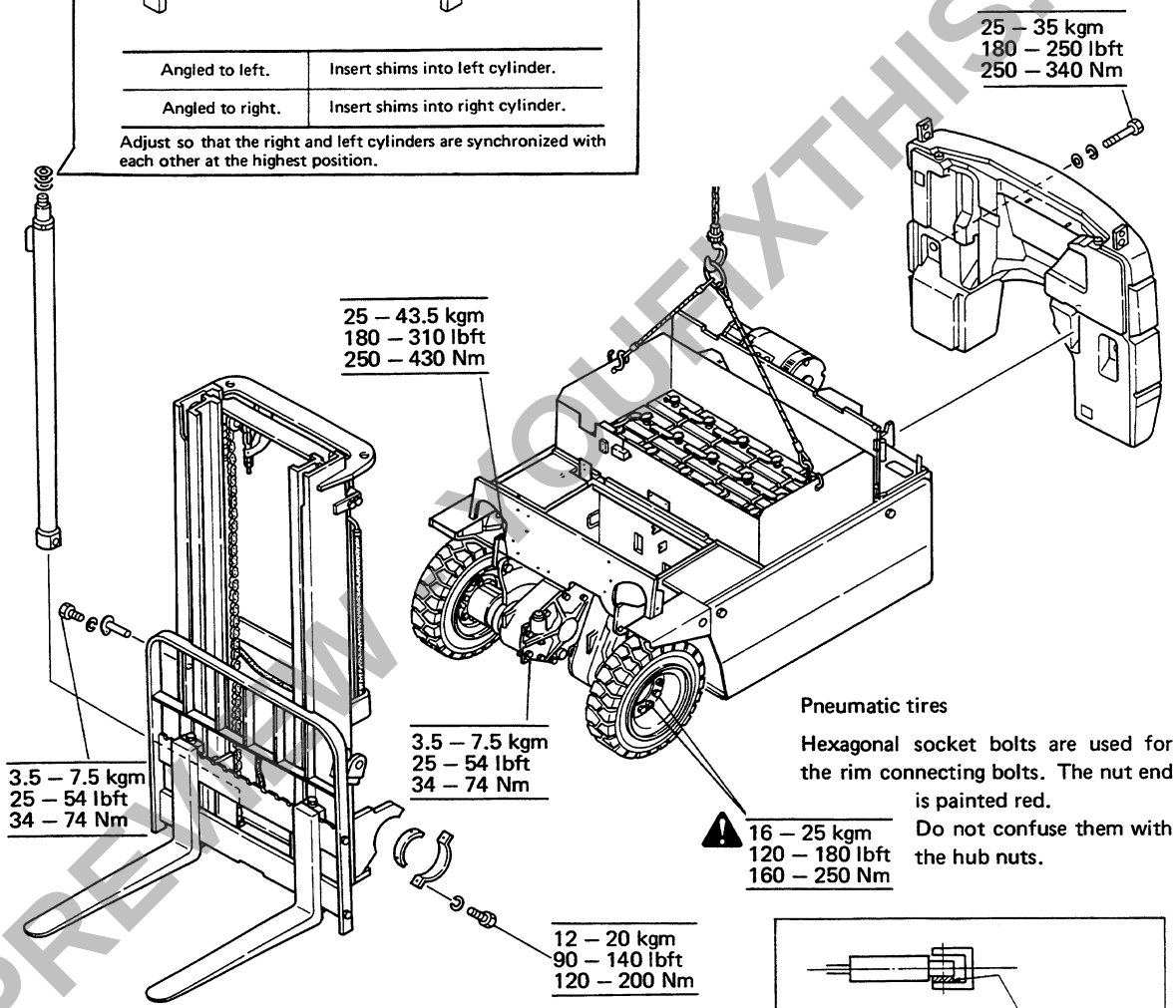


Angled to left.	Insert shims into left cylinder.
Angled to right.	Insert shims into right cylinder.

Adjust so that the right and left cylinders are synchronized with each other at the highest position.

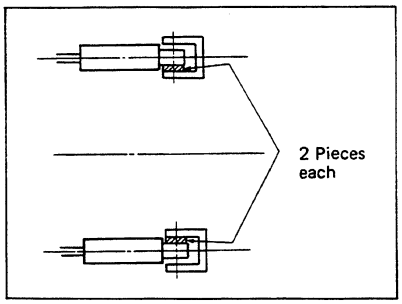
Lift cylinder air bleeding

- Raise or lower the mast.
  In this case, it must be stopped at a position approximately 100 mm before the highest or lowest positions.
- Repeat the same procedure four or five times.
- Then, operate the mast to the highest and lowest positions.
- Repeat the same procedure four or five times.



Pneumatic tires

Hexagonal socket bolts are used for the rim connecting bolts. The nut end is painted red. Do not confuse them with the hub nuts.



★ On the following serial numbers, there is a spacer inserted on the inside of the frame tilt bracket, so when disassembling and reassembling, always insert the spacer.

FB10M/13M: 2001 – 2005
FB15M/18M: 3001 – 3010

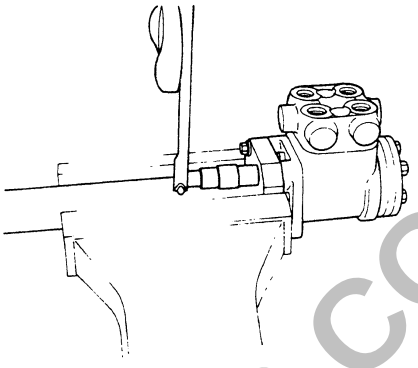
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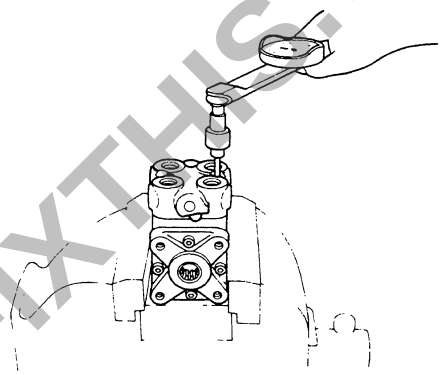
DISASSEMBLY PROCEDURE

1. Removal of relief valve assembly

1) Fit the flange of the column assembly in a vice, loosen bolts (1), and remove the column assembly.

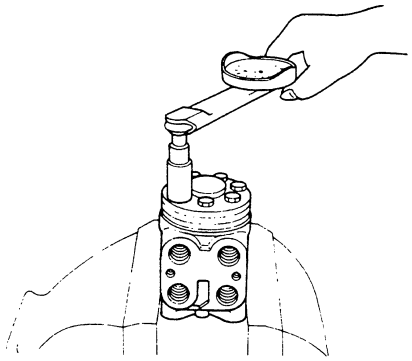


2) Fit the gear box lightly in the vice, loosen bolts (2), then remove the relief valve assembly.

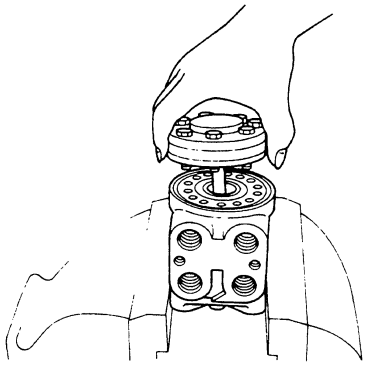


2. Removal of Girotor assembly

1) Fit mounting plate (3) in the vice so that the Girotor end is at the top, then loosen bolt (4).



2) Raise end cover (5), Girotor (6) and plate (7) as one unit, and remove the Girotor assembly.
   ★ When lifting the parts as an assembly, support the plate with your fingertips.



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FB10M-2
FB13M-2

Characteristics	1	Manutacturer				KOMATSU		KOMATSU	
	2	Model	Manufacturer's designation			FB10M-2		FB13M-2	
	3	Capacity	Q		kg (lbs)	1000 (2,000)		1250 (2,500)	
	4	Load Center	C		mm (in)	500 (24)		500 (24)	
	5	Power Type				Electric		Electric	
	6	Operator Type	Driver Standing, Sitting			Sitting		Sitting	
	7	Tire Type	V-Solid L-pneumatic			L/L		L/L	
	8	Wheels (*=driven)	Number front/rear			2*/1		2*/1	
Dimensions	9	Lift	h3	Max. Fork Height	mm (in)	3000 (118)		3000 (118)	
	10		h2	Free Lift	mm (in)	110 (4.3)		110 (4.3)	
	11		h5						
	13	Forks	s.e.i.	Thickness x Width x Length	mm (in)	35x100x770 (1.4x3.9x30.3)		35x100x770 (1.4x3.9x30.3)	
	14	Tilting Angle	α / β	Forward/Backward		5/7		5/7	
	15	Overall Dimensions	L2	Length to face of forks	mm (in)	1735 (68.3)		1735 (68.3)	
	16		B	Width	mm (in)	990 (39.0)		990 (39.0)	
	17		h1	Height. Mast lowered	mm (in)	1960 (77.2)		1960 (77.2)	
	18		h4	Height. Mast extended	mm (in)	3960 (155.9)		3960 (155.9)	
	19		h6	Height. Overhead Guard	mm (in)	1950 (76.8)		1950 (76.8)	
	20		h7			925 (36.4)		925 (36.4)	
	21	Turning Radius	Wa	Outside	mm (in)	1325 (52.2)		1370 (53.9)	
	22	Load Distance	X	From Center of front axle	mm (in)	345 (13.6)		345 (13.6)	
	23	Right Angle Stacking Aisle	Plus Load Length		mm (in)	1670 (65.7)		1715 (67.5)	
Performance	24	Speeds	Travel	Loaded/Unloaded	km/h (mph)	12/14 (7.5/8.7)		11.5/13.5 (7.1/8.4)	
	25		Lifting	Loaded/Unloaded	mm/s (fpm)	320/460 (63/91)	290/440 (57/87)	300/460 (59/91)	270/440 (53/87)
	26		Lowering	Loaded/Unloaded	mm/s (fpm)	450/550 (89/108)		450/550 (89/108)	
	28	Drawbar Pull	3-minute rating		N (lbs)	9410 (2,120)	8730 (1,960)	9030 (2,030)	8430 (1,900)
	29	Gradeability	Loaded/Unloaded 3-minute rating		%	25/40	25/38	23/35	22/33
Weights	32	Service Weight	Including Battery		kg (lbs)	2270 (5,000)		2520 (5,560)	
	33	Axle Loading	Loaded	front/rear	kg (lbs)	2920/ 350 (6,440/ 770)		3330/ 440 (7,340/ 970)	
	34		Unloaded	front/rear	kg (lbs)	1190/1080 (2,620/2,380)		1160/1360 (2,560/3,000)	
Chassis & Wheels	35	Tire	Number	front/rear		2/1		2/1	
	36		Size	front		18x7-8-10PR		18x7-8-14PR	
	37		Size	rear		18x7-8-10PR		18x7-8-14PR	
	38	Wheelbase	y		mm (in)	1160 (45.7)		1160 (45.7)	
	39	Tread	front		mm (in)	815 (32.1)		815 (32.1)	
	40	Ground Clearance	m1	Lowest point	mm (in)	80 (3.1)		80 (3.1)	
	41		m2	Center of frame	mm (in)	100 (3.9)		100 (3.9)	
	42	Brakes	Service			Hydraulic		Hydraulic	
	43		Parking			Mechanical		Mechanical	
Drive	45	Battery (optional)	Voltage/Capacity (5-hr-rate)		V/AH	48/280	24/600	48/280	24/600
	46		Weight		kg (lbs)	570 (1,257)		570 (1,257)	
	47	Electric Motors	Drive Motor, 1-hour rating		kW	2.7x2	2.4x2	2.7x2	2.4x2
	48		Dump Motor 5-minute rating		kW	6.6	5.5	6.6	5.5
	54	Speed Control	Drive Motor Control			SCR		SCR	
	57	Hydraulic	Max. Pressure		bar (psi)	170(2,450)		170(2,450)	

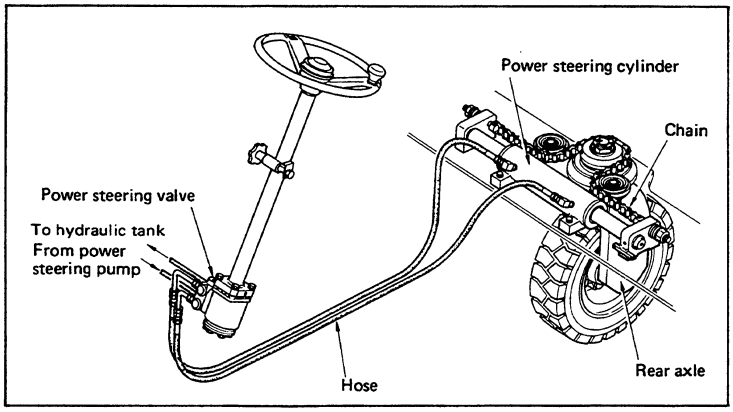
ANSI AND INSURANCE CLASSIFICATION
Overhead guard on standard truck meets all applicable mondatory requirements of Part II-ANSI-B 56.1 1969-1975 Safety Standard for Powered Industrial Trucks.

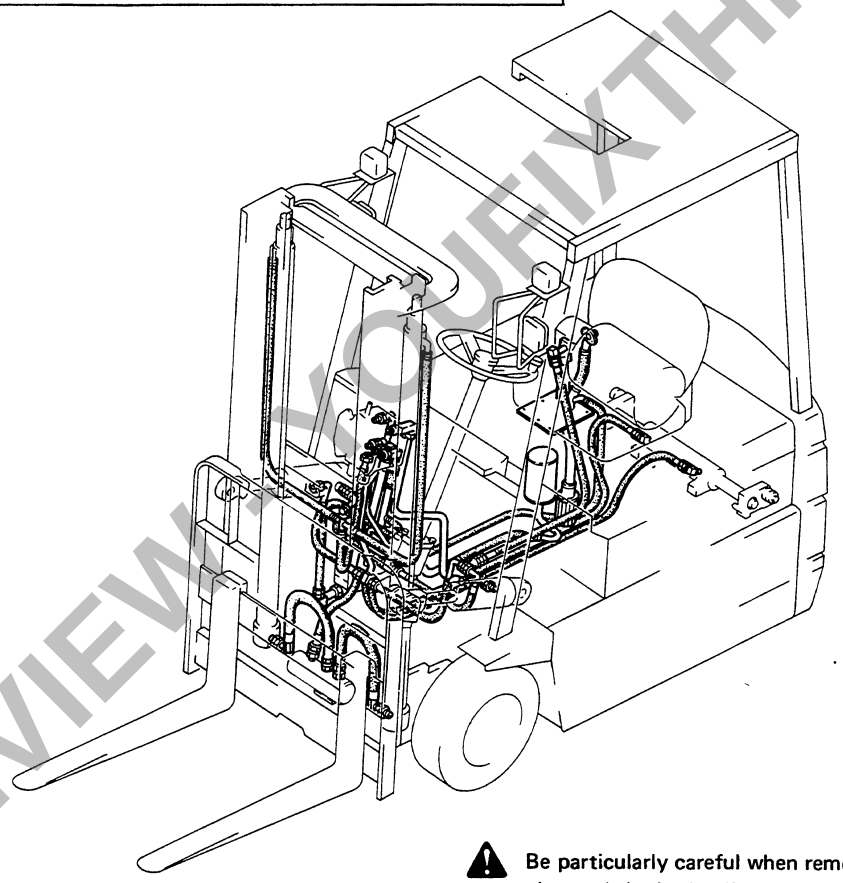
Most values shown in this publication are rounded. Therefore, direct conversion between metric and imperial may be slightly different from those shown.
Specifications are subject to improvements and changes without notice.

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HYDRAULIC SYSTEM





18ℓ (4.8 gal US)
*15ℓ (4.0 gal US)

* Tank only.

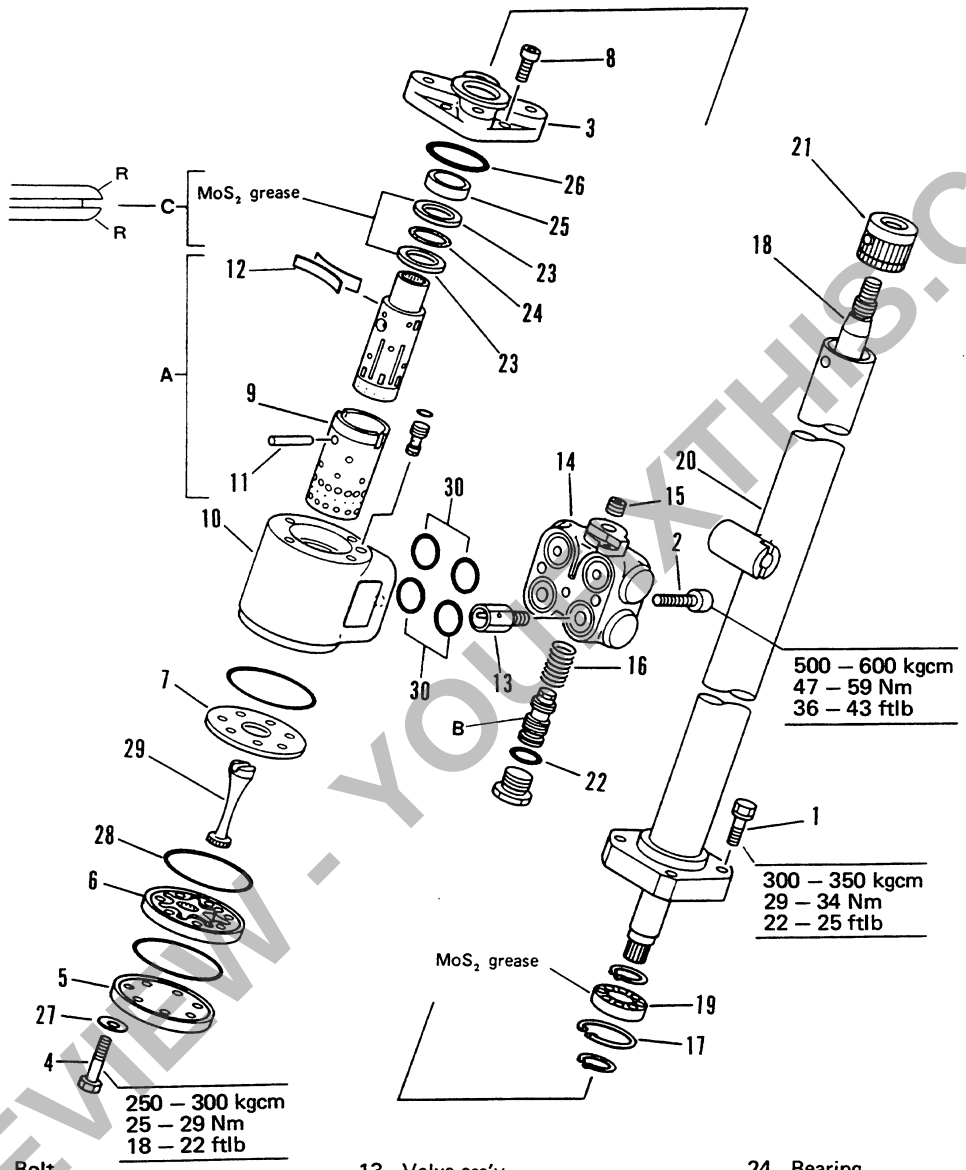
⚠ Put blind plugs in the piping or hydraulic equipment immediately after removing or disconnecting it.

⚠ Be particularly careful when removing the drain plug and the hydraulic tank cap. If this is done immediately after using the machine, there is danger that boiling oil may spurt out.

- Procedure for releasing the hydraulic pressure.
  Lower the fork to the ground and stop the motor.
  Move the control levers to eath position two or three times.

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1. Bolt
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3. Mounting plate
4. Bolt
5. End cover
6. Girotor
7. Plate
8. Bolt
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10. Housing
11. Straight pin
12. Centering spring
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21. Bushing
22. Check valve/O-ring
23. Side race
24. Bearing
25. Y-packing
26. O-ring
27. Washer
28. O-ring
29. Drive shaft
30. O-ring

A. Sleeve spool ass'y
B. Check valve ass'y
C. Bearing ass'y

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