General Information

Service Manual - VM RANGE - TIER II

Section 1 - General Information
Section 2 - Care and Safety
Section 3 - Maintenance
Section B - Body and Framework
Section C - Electrics
Section E - Hydraulics
Section H - Steering
Section K - Engine
Section L - Vibration



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Fluids, Lubricants and Capacities

Table 2. VM46, VM75

ITEM	CAPACITY Litres (Gal)	FLUID/LUBRICANT	INTERNATIONAL SPECIFICATION
Fuel Tank		Diesel Oil	⇨ *Fuel (🗋 3-20)*
VM 46	180 (47.5)		
VM 75	230 (60.8)		
Engine (Oil)			
VM 46, VM75	8 (2.1)	JCB Engine Oil EP	SAE 10W/40, API-CH4/SJ
Engine (Coolant)		JCB High Performance (HP) Antifreeze/JCB HD Flushing fluid ⇨ *Coolant Mixtures (🗋 3-19).*	ASTM D3306-74
VM46, VM 75	14 (3.7)		
Rear Axle		JCB Gear Oil LS Plus	API-GL-5
Housing	6,6 (1.7)		
Hubs (x2)	0,8 (0.17) each		
Drum drive gearbox	1,3 (0.3)	JCB V-Tronic	CLP 220 DIN 51517
Hydraulic Tank(1)		- Normal JCB Hydraulic fluid	HLP 46 DIN 51524
		- Tropics JCB Hydraulic fluid	HLP 68 DIN 51524
VM 46	60 (15.9)		
VM 75	80 (17.6)		
Vibration System		JCB V-Tronic	CLP 150 DIN 51517
VM 46	2,5 (0.7)		
VM 75	3 (0.8)		

(1) This is nominal tank capacity. The total hydraulic system capacity depends on the equipment being used. Fill with all cylinders closed. Watch level sight glass when filling.

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Schematic Circuits

Hydraulic Circuit Diagrams

VM46

Table 1.

Item	Description
P1	Propulsion pump (axial piston)
P2	Vibration pump (axial piston)
P3	Steering pump (gear)
P5	Brake release pump
M1	Axle drive motor (piston)
M2	Drum drive motor (piston)
M3	Vibration motor (piston)
M4	Steering cylinder
M5	Steering cylinder
M7	Drum gearbox brake
M12/13	Axle brakes
LE	Steering hand pump
F1	Hydraulic filter
F2	Hydraulic tank breather filter
B	Hydraulic tank
K	Heat exchanger
VW2	Propulsion pump control valve
VW4	Brake valve
VW6	Axle high speed valve
VW7	Drum high speed valve
DS1	Hydraulic filter pressure switch
DS2	Brake pressure switch
VA1	Brake tow valve
VR2	Heat exchanger bypass valve
S	Hydraulic return oil manifold
VSp1	Drum drive flushing valve
VSp2	Hydraulic filter
N	Oil level gauge

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20 Install the bearing cover **3** over the special bushing using two M16x120 capscrews.

21 Tighten the capscrews alternately until the bearing cover is drawn down to the steering link. This will force the link upward and expose the lower bearing cone **15.**

22 Remove the sealing ring from the lower bearing and use an external bearing puller to remove the bearing cone **15** from the lower rear frame lug.

23 Support the steering link **31** from the bottom with a floor jack.

24 Remove the upper bearing cover **3** and the special service bushing.

25 Allow the steering link **31** to drop downward by lowering the jack under the link. Drop the link down until the upper bearing cone **5** is fully exposed.

26 Remove the sealing ring **6** and the bearing cone **5** from the top rear frame lug.

27 With the steering link fully lowered and the bearing cones removed pull the link clear of the lower rear frame lug ⇨ *Fig 2. (H-4)*.

28 Lift the steering link upward and off the upper rear frame lug.

29 Remove the bearing cup ⇨ *Fig 1. (H-3)* **29** from the steering link **31.**

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Vibration Coupling

Removal and Replacement

Removal

1 Park the machine on firm level ground.

2 Install the articulation safety lock **2**. ⇨ *Fig 2. (M-11)*.



P663740

Fig 2.

3 Using a suitable lifting equipment, raise the drum **3**. Lift approximately 20cm. ⇨ *Fig 3. (M-11)*.



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Fig 3.

4 Remove the vibration motor securing bolt **4**. ⇨ *Fig 4. (M-11)*.



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Fig 4.

Note: *Do not disconnect the hydraulic hoses* ***6****.* ⇨ *Fig 6. (M-12)*.

5 Pull the vibration motor **5** from the motor housing. ⇨ *Fig 5. (M-11)*.



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Fig 5.

Note: *Do not disconnect the hydraulic hoses* ***6****.* ⇨ *Fig 6. (M-12)*.

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