

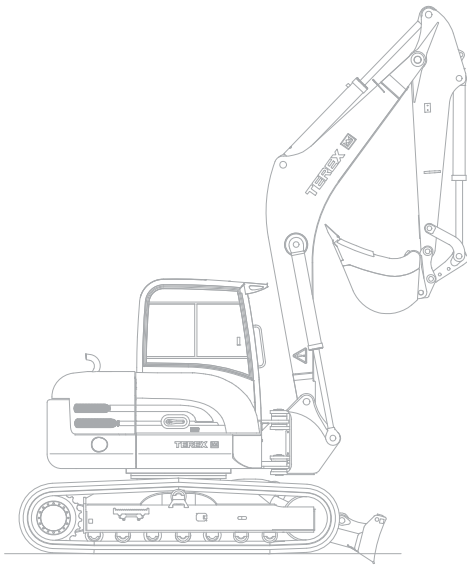


TEREX®

TC 48 SERVICE - MANUAL

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PRESSURE AND SETTING VALUES

Main pressure relief valve:	max. bar	250 ⁺⁵	(high idle, service temperature)
Power regulator (G-regulator):	bar	20.0	(high idle, service temperature)
Stand-by regulator:	bar	21.0	(high idle, service temperature)
• p (LS-Pressure)	bar	15.0	(high idle, service temperature)

LINE RELIEF PRESSURES

- slewing (valves at the slew motor):	bar	215 ⁺⁵ / 215 ⁺⁵	(• p= 185 ⁺⁵ between M1 and M2 high idle, service temperature)
- blade:	bar	---	
- travel left:	bar	---	(250 bar shock valves at the travel motor)
- travel left:	bar	---	(250 bar shock valves at the travel motor)
- bucket:	bar	210 / 210	
- boom lift / lower:	bar	280 / 160	
- articulation:	bar	anti-cavitation	
- dipper stick:	bar	280 / 280	
- breaker / slew bucket / grab rotation:	bar	210 / 210	

CYCLE TIMES

Boom up / down - to the ground (without damping)	sec.	2.5 / 2.7
Dipper stick cylinder extend / retract:	sec.	2.5 / 2.4
Bucket cylinder extend / retract:	sec.	2.4 / 2.1

LUBRICANTS

Engine oil:	see engine instruction book
Hydraulic oil:	see operation manual
Transmission oil:	MIL-L-2105 B or API-GL5, SAE 85 W 90 LS or SAE 90 LS
Multiple-purpose grease:	acc. to DIN 51825. Dripping point over 170° C. With lithium.

MAINTENANCE PARTS

see operation manual

CAPACITIES

Fuel:	approx.	65.0	diesel
Engine oil, engine and filter:	approx.	7.7	+ 0.5 HD oil (change)
Hydraulic oil, tank and system:	approx.	72.0	hydraulic oil
Hydraulic oil tank:	approx.	54.0	hydraulic oil (change)
Travel gear:	approx.	0.6	transmission oil, each
Slew gear:			lubrication by circulation of the hydraulic oil
Cooling agent:	approx.	5.3	water with anti-corrosive and anti-freeze agent

The values stated are approximate.
The level indicator is always decisive.

DIESEL ENGINE COM III / Tier 4

Manufacturer:		Mitsubishi
Type:		S 4L 2 – Y 363 KL – TIER 4
Output acc. to DIN 70020 and ECE-R24:	kW	22 at 2,100 min ⁻¹
Construction:		4 cylinders in line
Cooling:		water / anti-freeze agent
Capacity:	cm ³	1,758
Torque	Nm	104 at 1,800 min ⁻¹
High idle:	min ⁻¹	2,300 ⁺²⁰
Low idle:	min ⁻¹	1,000 ⁺²⁵
Spec. fuel consumption (full load):	g/kWh	258
Fuel bleeding:		automatic
Tappet clearance - inlet / outlet:	mm	0.25 (cold)
Compression ratio:	bar	27 - 30
Injection timing:	°	17 (before upper dead centre)
Engine oil pressure:	bar	3.5 ^{+0.5} (high idle, service temperature)
Torque of cylinder head studs (in case of repair):	Nm	M 10 → 83 to 92
Injection pressure	bar	140 ⁺⁵
Further data:		see engine operator's manual

ELECTRICAL SYSTEM

Voltage:	V	12
Battery:	V/Ah	12 / 74 / 680 (EN)
Generator:	V/A	12 / 50
Starter:	V/kW	12 / 2.0
Starting aid:		Glow plugs, glow time controlled,
Lighting:		working headlamp H3, additional headlamp (optional)

TRANSMISSION

Travel motors with travel gear:	make/type	Nabtesco GM04VA
Travel speed: shift I	km/h	0 to 2.8
shift II	km/h	0 to 4.4

EXCAVATOR AND TRAVEL HYDRAULICS

Variable displacement pump:	make	Rexroth
	type	A 10 VO 45 DFLR
Flow rate:	cm ³ /min.	0 – 45 (0 - 94.5 l/min)
Pilot pressure (high idle):	bar	30 (service temperature)
Valve bank:	type	Rexroth 9 SX 12
Cross servo control stick:	type	Rexroth 4TH6

SLEW DRIVE

Slew motor with gearbox:	make	Kayaba MSG-27P-10E
Slew pressure (valves at slew motor):	bar	250 ⁺⁵ (* p= 200 ⁺⁵ between M1 and M2; high idle; service temperature)

PRESSURE AND SETTING VALUES

Main pressure relief valve:	max. bar	250 ⁺⁵	(high idle, service temperature)
Power regulator (G-regulator):	bar	20.0	(high idle, service temperature)
Stand-by regulator:	bar	21.0	(high idle, service temperature)
• p (LS-Pressure)	bar	15.0	(high idle, service temperature)

LINE RELIEF PRESSURES

- slewing (valves at the slew motor):	bar	215 ⁺⁵ / 215 ⁺⁵	(• p= 185 ⁺⁵ between M1 and M2 high idle, service temperature)
- blade:	bar	---	
- travel left:	bar	---	(250 bar shock valves at the travel motor)
- travel left:	bar	---	(250 bar shock valves at the travel motor)
- bucket:	bar	210 / 210	
- boom lift / lower:	bar	280 / 160	
- articulation:	bar	anti-cavitation	
- dipper stick:	bar	280 / 280	
- breaker / slew bucket / grab rotation:	bar	210 / 210	

CYCLE TIMES

Boom up / down - to the ground (without damping)	sec.	2.5 / 2.7
Dipper stick cylinder extend / retract:	sec.	2.5 / 2.4
Bucket cylinder extend / retract:	sec.	2.4 / 2.1

LUBRICANTS

Engine oil:	see engine instruction book
Hydraulic oil:	see operation manual
Transmission oil:	MIL-L-2105 B or API-GL5, SAE 85 W 90 LS or SAE 90 LS
Multiple-purpose grease:	acc. to DIN 51825. Dripping point over 170° C. With lithium.

MAINTENANCE PARTS

see operation manual

CAPACITIES

Fuel:	approx.	65.0	diesel
Engine oil, engine and filter:	approx.	7.9	+ 0.5 HD oil (change)
Hydraulic oil, tank and system:	approx.	72.0	hydraulic oil
Hydraulic oil tank:	approx.	54.0	hydraulic oil (change)
Travel gear:	approx.	0.6	transmission oil, each
Slew gear:			lubrication by circulation of the hydraulic oil
Cooling agent:	approx.	5.3	water with anti-corrosive and anti-freeze agent

The values stated are approximate.
The level indicator is always decisive.

DIESEL ENGINE

Manufacturer:		Yanmar
Type:		4TNV88 (Tier2)
Output acc. to DIN 70020 and ECE-R24:	kW	29 at 2,200 min ⁻¹
Construction:		4 cylinders in line
Cooling:		water / anti-freeze agent
Capacity:	cm ³	2,190
Torque	Nm	133-144 at 1,500 min ⁻¹
High idle:	min ⁻¹	2,400 ⁺²⁵
Low idle:	min ⁻¹	950 ⁺⁵⁰
Spec. fuel consumption (full load):	g/kWh	222
Fuel bleeding:		automatic
Tappet clearance - inlet / outlet:	mm	0.15 – 0,25 (cold)
Compression ratio:	bar	34 - 36
Injection timing:	°	16 (before upper dead centre)
Engine oil pressure:	bar	2.8 – 4.3 (high idle, service temperature)
Engine oil pressure:	bar	0.6 (low idle, service temperature)
Torque of cylinder head studs		M10 x 1.25
(in case of repair):	Nm	40 – 45 Nm (Step 1)
	Nm	85 – 91 Nm (Step 2)
Injection pressure	bar	410
Injection pressure (opening pressure nozzle)	bar	196 ⁺¹⁰
Further data:		see engine operator's manual

ELECTRICAL SYSTEM

Voltage:	V	12
Battery:	V/Ah	12 / 74 / 680 (EN)
Generator:	V/A	12 / 40
Starter:	V/kW	12 / 2.3
Starting aid:		Glow flange, glow time controlled,
Lighting:		working headlamp H3, additional headlamp (optional)

TRANSMISSION

Travel motors with travel gear:	make/type	MAG-33V-550F (auto 2-speed)
Travel speed: shift I	km/h	0 to 2.8
shift II	km/h	0 to 5.0

EXCAVATOR AND TRAVEL HYDRAULICS

Variable displacement pump:	make	Rexroth
	type	A 10 VO 63 LR3DS
Flow rate:	cm ³ /min.	0 – 63 (0 - 136 l/min)
Pilot pressure (high idle):	bar	28 (service temperature)
Valve bank:	type	Rexroth 9 SX 12
Cross servo control stick:	type	Rexroth 4TH5

SLEW DRIVE

Slew motor with gearbox:	make	Kayaba
Slew pressure (valves at slew motor):	bar	205 (* p between M1 and M2; high idle; service temperature)

PRESSURE AND SETTING VALUES

Main pressure relief valve:	bar	280	(high idle, service temperature)
Pressure cut-off valve:	bar	250	(high idle, service temperature)
Stand-by:	bar	27.0	(high idle, service temperature)
• p (LS-Pressure)	bar	15.5 ^{+0.5}	(high idle, service temperature)

LINE RELIEF PRESSURES

- slewing (valves at the slew motor):	bar	205	(• p between M1 and M2 high idle, service temperature)
- blade:	bar	---	
- travel left:	bar	---	(250 bar shock valves at the travel motor)
- travel left:	bar	---	(250 bar shock valves at the travel motor)
- bucket:	bar	280 / 280	
- boom lift / lower:	bar	280 / 160	
- articulation:	bar	anti-cavitation	
- dipper stick:	bar	280 / 280	
- breaker / slew bucket / grab rotation:	bar	210 / 210	

CYCLE TIMES

Boom up / down - to the ground (without damping)	sec.	2.3 / 2.1
Dipper stick cylinder extend / retract:	sec.	2.5 / 2.4
Bucket cylinder extend / retract:	sec.	1.5 / 1.7
Swing	rev.	10 per minute

LUBRICANTS

Engine oil:	see engine instruction book
Hydraulic oil:	see operation manual
Transmission oil:	MIL-L-2105 B or API-GL5, SAE 85 W 90 LS or SAE 90 LS
Multiple-purpose grease:	acc. to DIN 51825. Dripping point over 170° C. With lithium.

MAINTENANCE PARTS

see operation manual

CAPACITIES

Fuel:	approx.	65.0	diesel
Engine oil, engine and filter:	approx.	7.4	+ 0.5 HD oil (change)
Hydraulic oil, tank and system:	approx.	90.0	hydraulic oil
Hydraulic oil tank:	approx.	60.0	hydraulic oil (change)
Travel gear:	approx.	0.9	transmission oil, each
Slew gear:			lubrication by circulation of the hydraulic oil
Cooling agent:	approx.	6.5	water with anti-corrosive and anti-freeze agent

The values stated are approximate.
The level indicator is always decisive.

DIESEL ENGINE Tier 4

Manufacturer:		Yanmar
Type:		4TNV88 (Tier4)
Output acc. to DIN 70020 and ECE-R24:	kW	26,5 at 2,200 min ⁻¹
Construction:		4 cylinders in line
Cooling:		water / anti-freeze agent
Capacity:	cm ³	2,190
Torque	Nm	138 at 1,320 min ⁻¹
High idle:	min ⁻¹	2,400 * ²⁵
Low idle:	min ⁻¹	800 * ²⁵
Spec. fuel consumption (full load):	g/kWh	245
Fuel bleeding:		automatic
Tappet clearance - inlet / outlet:	mm	0.15 – 0,25 (cold)
Compression ratio:	bar	34 - 36
Injection timing:	°	14.5 (before upper dead centre)
Engine oil pressure:	bar	2.8 – 4.3 (high idle, service temperature)
Engine oil pressure:	bar	0.6 (low idle, service temperature)
Torque of cylinder head studs (in case of repair):	Nm	M10 x 1.25
	Nm	40 – 45 Nm (Step 1)
	Nm	85 – 91 Nm (Step 2)
Injection pressure	bar	660
Injection pressure (opening pressure nozzle)	bar	196 * ¹⁰
Further data:		see engine operator's manual

ELECTRICAL SYSTEM

Voltage:	V	12
Battery:	V/Ah	12 / 74 / 680 (EN)
Generator:	V/A	12 / 40
Starter:	V/kW	12 / 2.3
Starting aid:		4 x Glow plugs, glow time controlled,
Lighting:		working headlamp H3, additional headlamp (optional)

TRANSMISSION

Travel motors with travel gear:	make/type	MAG-33V-550F (auto 2-speed)
Travel speed: shift I	km/h	0 to 2.8
shift II	km/h	0 to 5.0

EXCAVATOR AND TRAVEL HYDRAULICS

Variable displacement pump:	make type	Rexroth A 10 VO 63 LA8DS
Flow rate:	cm ³ /min.	0 – 63 (0 - 136 l/min)
Pilot pressure (high idle):	bar	30 (service temperature)
Valve bank:	type	Rexroth 9 SX 12
Cross servo control stick:	type	Rexroth 4TH5

SLEW DRIVE

Slew motor with gearbox:	make	Kayaba
Slew pressure (valves at slew motor):	bar	205 (* p between M1 and M2; high idle; service temperature)

PRESSURE AND SETTING VALUES

Main pressure relief valve:	bar	280	(high idle, service temperature)
Pressure cut-off valve:	bar	250	(high idle, service temperature)
Stand-by:	bar	27.0	(high idle, service temperature)
• p (LS-Pressure)	bar	15.5 ^{+0.5}	(high idle, service temperature)

LINE RELIEF PRESSURES

- slewing (valves at the slew motor):	bar	205	(• p between M1 and M2 high idle, service temperature)
- blade:	bar	---	
- travel left:	bar	---	(250 bar shock valves at the travel motor)
- travel left:	bar	---	(250 bar shock valves at the travel motor)
- bucket:	bar	280 / 280	
- boom lift / lower:	bar	280 / 160	
- articulation:	bar	anti-cavitation	
- dipper stick:	bar	280 / 280	
- breaker / slew bucket / grab rotation:	bar	210 / 210	

CYCLE TIMES

Boom up / down - to the ground (without damping)	sec.	2.3 / 2.1
Dipper stick cylinder extend / retract:	sec.	2.5 / 2.4
Bucket cylinder extend / retract:	sec.	1.5 / 1.7
Swing	rev.	10 per minute

LUBRICANTS

Engine oil:	see engine instruction book
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Transmission oil:	MIL-L-2105 B or API-GL5, SAE 85 W 90 LS or SAE 90 LS
Multiple-purpose grease:	acc. to DIN 51825. Dripping point over 170° C. With lithium.

MAINTENANCE PARTS

see operation manual

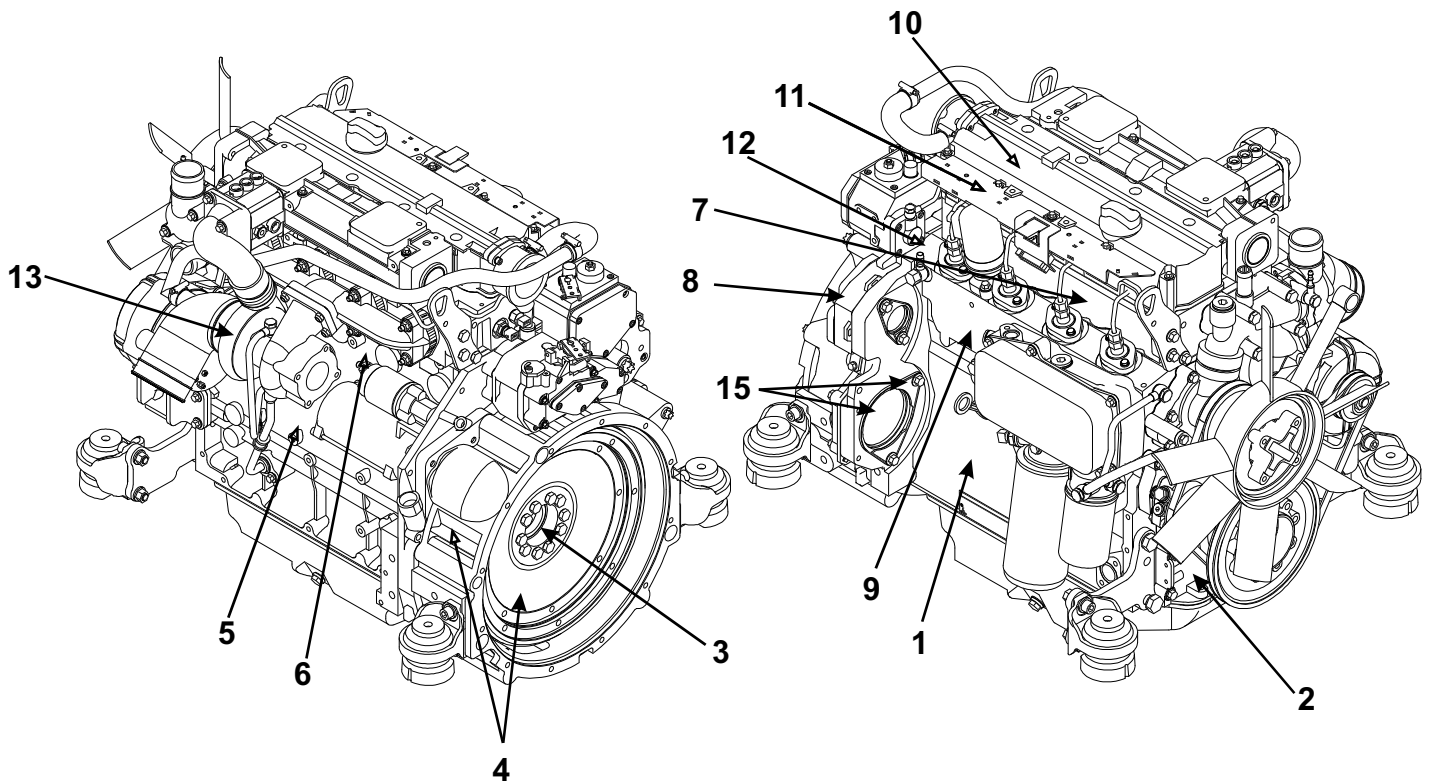
CAPACITIES

Fuel:	approx.	65.0	diesel
Engine oil, engine and filter:	approx.	7.4	+ 0.5 HD oil (change)
Hydraulic oil, tank and system:	approx.	90.0	hydraulic oil
Hydraulic oil tank:	approx.	60.0	hydraulic oil (change)
Travel gear:	approx.	0.9	transmission oil, each
Slew gear:			lubrication by circulation of the hydraulic oil
Cooling agent:	approx.	6.5	water with anti-corrosive and anti-freeze agent

The values stated are approximate.
The level indicator is always decisive.

Subgroups list Diesel Engine

Machine type	Engine type	File Number
TW 85 (HML32 COM2) TW 110 (HML42) TC 125 (HR42)	DEUTZ BF SM 2012 E DEUTZ TCD 2012 L04 (TIER3)	3.150.01-20
TL 65 (SKL824) TL 70 (SKS634) TL 80 (SKL834) TL 100 (SKL844) TC 75 (HR32) TW 70 (HML23)	DEUTZ F4M 2011	3.250.00-11
TL 210 TL 260 TL 310	CUMMINS QSB 6.7	3.290.11-21
TL 120 (SKL854) TL 160 (SKL160) SKL200 (SKL 873) TL 260 (SKL260)	PERKINS 1104 C PERKINS 1106	3.450.01-10
TC 15 (HR1.5) TC 16 (HR1.6) TC 20 (HR2.0)	Mitsubishi L3E	3.500.01-04
TC 25 TC 29 (HR14) TC 35 (HR16) TC 37	Mitsubishi SL-Serie	3.600.01-04
TC 48 (HR18) TC 60 (HR20)	Mitsubishi S4Q	3.800.01-07
TC 50	Yanmar TNV88	3.900.01-12



Deutsch		Français	
Baugruppe	Benennung	Groupe	Désignation
1	Kurbelgehäuse	1	Bloc-moteur
2	Vorderer Deckel / Schmierölpumpe	2	Couvercle avant / pompe à huile de graissage
3	Kurbelwelle	3	Vilebrequin
4	Starterzahnkranz / Schwungrad	4	Couroane de démarreur / Volant
5	Pleuelstange	5	Bielle
6	Kolben	6	Piston
7	Zylinderkopf	7	Culasse
8	Räderkasten	8	Carter de distribution
9	Nockenwelle	9	Arbre à cames
10	Kipphebel	10	Support de culbuteur
11	Einspritzventil	11	Injecteur
12	Regelstange	12	Crémaillère
13	Luftpresser	13	Compresseur d'air
14	Massenausgleichswelle	14	Arbre à masses d'équilibrage
15	Hydraulikpumpenantrieb	15	Entraînement de pompe hydraulique
	Hydraulikpumpe mit Befestigungsflansch		Pompe hydraulique avec bride de fixation

English		Español	
Assembly Group	Description	Grupo de construcción	Denominación
1	Crankcase	1	Bloque motor
2	Front cover / Lube oil pump	2	Tapa delantera / Bomba de aceite lubricante
3	Crankshaft	3	Cigüeñal
4	Starter ring gear / flywheel	4	Corona del volante / Volante
5	Connecting rod	5	Biela
6	Piston	6	Pistón
7	Cylinder head	7	Culata
8	Timing case	8	Cárter de la distribución
9	Camshaft	9	Árbol de levas
10	Rocker arm bracket	10	Soporte de balancines
11	Injector	11	inyector
12	Control rod	12	Cremaillera
13	Air compressor	13	Compresor de aire
14	Mass balancing shaft	14	Eje equilibrador
15	Hydraulic pump drive	15	Accionamiento de bomba hidráulica
	Hydraulic pump with fastening flange		Bomba hidráulica con brida de fijación

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