

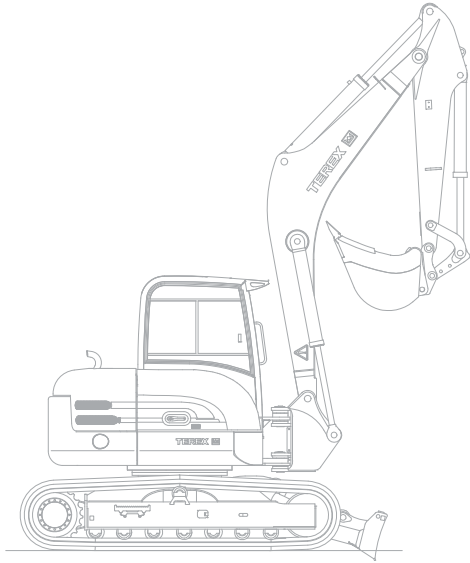


# **TEREX®**

## **TC 35 SERVICE - MANUAL**

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Cardan shaft rev. at **40 km/h - version**

adjustment at nominal engine idle  
Travel range 1 / Travel range 2

standard tire:					
20.5 R-25 EM 60 12PR	Mitas:	min <sup>-1</sup>	425		2,830
optional tires:					
20.5 R-25 EM 16 PR SGLD L-2	Goodyear:	min <sup>-1</sup>	425		2,830
20.5 R 25 RL 2	Goodyear:	min <sup>-1</sup>	425		2,830
20.5 R 25 GP-2B	Goodyear:	min <sup>-1</sup>	425		2,830
20.5 R 25 XTLA TL	Michelin:	min <sup>-1</sup>	425		2,830
20.5 R 25 X HA TL	Michelin:	min <sup>-1</sup>	425		2,830
20.5 R 25 XLDD2A	Michelin:	min <sup>-1</sup>	425		2,830
20.5 R 25 X Mine D2	Michelin:	min <sup>-1</sup>	425		2,830

**PRESSURE AND SETTING VALUES**

**travel**

Suction pressure:		max. bar	0.5 ±0.1		
Charge pressure (high idle):		bar	30 ±1		
High pressure (SV):		bar	480		
Pressure cut-off:		bar	440 ±10		
Case pressure at + 50° C:		max. bar	2.5		
Regulation start, dynamic:		bar	A6VM80 @280bar high pressure + 30 bar pressure in displacement chamber of the travel motor		
			A6VM140 @280bar high pressure + 30 bar pressure in displacement chamber of the travel motor		
Start-up speed:		min <sup>-1</sup>	1,150 ±50		
Engine stalling (rabbit):		min <sup>-1</sup>	2,050 <sup>-100</sup> at 260 bar dynamically		

**STEERING**

Steering unit:		type	LAGC 630 – 15/LD240-175M01		
Steering pump:		make	Casappa LVP 75D-06S7 LMF		
Emergency steering pump :		type	DC1-MPG (switchpoint: stand-by < 5bar)		
Displacement:		l/min:	160		
Steering pressure (high idle):		bar	175 ±10		
Safety valves / orbitrol:		bar	240/240		

**WORKING HYDRAULICS**

Working pump:		make	Casappa LVP 75D-06S7 LMF		
Displacement:		l/min.	160		
Stand-by pressure (flow controller):		bar	36 <sup>+2</sup>		
Safety valve at the working pump:		bar	340 <sup>+10</sup>		
Valve bank:		type	Rexroth 3M6-15		
<b>to Se. No. TL02100195 +0198</b>					
Servo-controlled valve:		type	Brown HPV1C01 F094 R0		
<b>to Se. No. TL02100199 +0196+0197</b>					
Servo-controlled valve:		type	Rexroth 4THF5 J06		
Fan speed (combined water-oil-intercooler) temperature depended controlled:		min <sup>-1</sup>	max 1,650 (at high idle)		

**PRESSURE AND SETTING VALUES**

**working**

Pressure cut off valve:		bar	270 (measured at the test port of the pump; • p eff. 240bar + stand-by pressure)		
Line relief pressures:					
- lifting frame lift:		bar	340		
- lifting frame lower:		bar	anti-cavitation		
- shovel dump in:		bar	340		
- shovel dump out:		bar	340		
- additional control circuit:		bar	230 / 230		
- pilot pressure (charge pressure):		bar	36 ±1		

## WORKING CYCLES

Lifting frame lift:	s	5.9
Lifting frame lower:	s	3.9
Shovel dump in:	s	1.7 in upper position
Shovel dump out:	s	1.2 in upper position

## AXLES

Front axle with self-locking differential:	make/type	Dana 113 / 56
Rear axle with self-locking differential:	make/type	Dana 319 / 113 / 56

## BRAKE SYSTEM

Service brake (four-wheel-brake):		hydraulically operated 2 circuit brake oil-immersed disks at both axles
Parking brake (electrically switched):		spring-loaded brake acting on the disks of the rear axle
Additional brake:		hydrostatically by closed circuit of the transmission
Brake pump (accessory drive):	make	Casappa PLP 20.19 SO-07S1-LBE/BC-N-L
Displacement:	cm <sup>3</sup> /rev.	19
	l/min.	42
Brake pressure (service brake):	max. bar	45 <sup>+5</sup>
Accumulator charge valve:	make	Safim S6
Cut-in / cut-off pressure:	bar	120 - 150
Opening pressure (parking brake):	bar	15
Setting value, parking brake:	bar	30 <sup>-3</sup>

## LUBRICANTS

Engine:	see engine instruction book
Hydraulic oil:	see instruction book
Axle oil:	MIL-L 2105 B or API-GL 5 resp., SAE 85 W 90 LS or SAE 90 LS
Gear oil (reduction gearbox):	MINERAL-OIL ATF
Multi-purpose grease:	acc. to DIN 51825. Dripping point over 170° C. Lithium-saponified.
Brake medium:	hydraulic oil

## MAINTENANCE PARTS

see instruction book

## CAPACITIES

Engine oil with oil filter and oilcooler - change:	approx. 15	engine oil
Hydraulic oil (tank and system) - first filling:	approx. 135	hydraulic oil
Hydraulic oil tank (change):	approx. 95	hydraulic oil
Fuel tank:	approx. 240	diesel
Front axle - central housing:	approx. 16.0	transmission oil
Front axle - wheel hub:	approx. 2.6	transmission oil, each
Rear axle - central housing:	approx. 14.7	transmission oil
Rear axle - reduction gearbox:	approx. 4.25	ATF
Rear axle - wheel hub:	approx. 2.6	transmission oil, each
Service brake:		connected to the hydraulic system
Cooling agent:	approx. 41.0	water with anti-corrosive and anti-freeze agent

### (Gramm)

Air condition:	approx. 900 (1.985 lb)	R134a
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## DIESEL ENGINE

Manufacturer:		Perkins
Type:		1106 C – E60 TA Turbo with intercooler
Performance (ECE-R24/ISO1585/ISO9249):	kW	128 at 2,200 min <sup>-1</sup>
Construction:		6 cylinders in line
Cooling:		water cooling
Injection:		direct injection
Capacity:	cm <sup>3</sup>	6000
Max. Torque:	Nm	763 at 1,400 min <sup>-1</sup>
High idle:	min <sup>-1</sup>	2,350 <sup>+50</sup>
Low idle:	min <sup>-1</sup>	750 <sup>+50</sup>
Spec. fuel consumption under full load:	g/kWh	219
Tappet clearance - inlet cold:	mm	0.20
Tappet clearance - outlet cold:	mm	0.45
Minimum engine oil pressure:	bar	1.9 ( low idle, service temperature)
Minimum engine oil pressure:	bar	2.8 (high idle, service temperature)
Torque of cylinder head studs	Nm	110 ( 2 times! )
	°	150 (Tightening angle - short bolts)
	°	180 (Tightening angle - medium sized bolts)
	°	210 (Tightening angle - long bolts )
Further data:		see engine instruction book

## ELECTRICAL SYSTEM

Voltage:	V	24
Battery:	V/Ah/A	2 x 12 / 110 / 850 (EN) 510 A (DIN)
Generator:	V/A	24 / 80
Starter:	V/kW	24 / 4.5
Cold start aid:		heater spiral and resistor
Lighting:		acc. to German motor vehicle construction and use regulation ("StVZO") and Euronorm. H4 halogen headlamp.
		Two working lights at the front and rear.

## TRANSMISSION

Travel pump:		type	A 4 VG 140 DA 2 D2
Displacement:		cm <sup>3</sup> /rev.	max. 140
Travel motor	16/40 km/h version:	type	A 6 VM 160 DX
Displacement	16/40 km/h version:	cm <sup>3</sup> /rev.	max. 160

## TRAVEL RANGE

Two/ four pre-selectable travel ranges, electro-hydraulically controlled:

<b>TL 260:</b>	<b>16 km/h - version:</b>			
	tortoise / rabbit	km/h	0 to 6.0	/ 0 to 16
<b>TL 260 S:</b>	<b>40 km/h - version:</b>			
Gearbox 1.gear	tortoise / rabbit:	km/h	0 to 6.0	/ 0 to 16
Gearbox 2.gear	tortoise / rabbit:	km/h	0 to 14	/ 0 to 40
Cardan shaft rev. at	<b>16 km/h - version</b>		adjustment at nominal speed tortoise / rabbit	

and standard tyres

20.5 R-25 EM	16 PR SGLD L-2:	min <sup>-1</sup>	445 / 1,120
optional tires:	20.5 R 25 RL 2:	min <sup>-1</sup>	445 / 1,120
	20.5 R 25 GP -2B:	min <sup>-1</sup>	445 / 1,120
	20.5 R 25 XTLA TL:	min <sup>-1</sup>	445 / 1,120
	20.5 R 25 XHA TL:	min <sup>-1</sup>	445 / 1,120
	20.5 R 25 XLDD2A:	min <sup>-1</sup>	445 / 1,100
	20.5 R 25 X Mine D2:	min <sup>-1</sup>	445 / 1,090

Cardan shaft rev. at <b>40 km/h - version</b>		adjustment	
		tortoise	/ rabbit
		1./2. gear	/ 1./2. gear
standard tire: 20.5 R-25 EM 16 PR SGLD L-2:	min <sup>-1</sup>	445 / 1.290	1.020 / 2.950
optional tires:			
20.5 R 25 RL 2:	min <sup>-1</sup>	445 / 1.290	1.020 / 2.950
20.5 R 25 GP-2B :	min <sup>-1</sup>	445 / 1.290	1.020 / 2.950
20.5 R 25 XTLA TL:	min <sup>-1</sup>	445 / 1.290	1.020 / 2.950
20.5 R 25 X HA TL:	min <sup>-1</sup>	445 / 1.290	1.020 / 2.950
20.5 R 25 XLDD2A:	min <sup>-1</sup>	445 / 1.290	1.020 / 2.950
20.5 R 25 X Mine D2:	min <sup>-1</sup>	445 / 1.290	1.020 / 2.950

## PRESSURE AND SETTING VALUES

### travel

Suction pressure:	max. bar	0.5 <sup>±0.1</sup>
Charge pressure (high idle):	bar	30 <sup>±1</sup>
High pressure (SV):	bar	480
Pressure cut-off:	bar	440 <sup>±10</sup>
Case pressure at + 50° C:	max. bar	2.5
Regulation start, dynamic:	min <sup>-1</sup>	2,100 <sup>-50</sup> at 260 bar dynamic (see setting instructions, chapter 5, measuring method 2)
Start-up speed:	min <sup>-1</sup>	1,150 <sup>±50</sup>
Engine stalling (rabbit):	min <sup>-1</sup>	2,000 <sup>-100</sup> at 280 bar dynamic

## STEERING

Steering unit:	type	LAGC 630 – 15/LD240-175M01
Steering pump:	make	Casappa LVP 75D-06
Displacement:	l/min.	160
Steering pressure (high idle):	bar	175

## WORKING HYDRAULICS

Working pump:	make	Brueninghaus A10VO45DFR1
Displacement:	l/min.	99
Stand-by pressure (flow controller):	bar	28 <sup>+2</sup>
Valve bank:	type	Rexroth 3M6-15
Servo-controlled valve:	type	Brown HPV1C01 F094 R0

## PRESSURE AND SETTING VALUES

### working

Main pressure relief valve (high idle):	bar	340
Pressure cut off valve:	bar	310
Line relief pressures:		
- lifting frame lift:	bar	340
- lifting frame lower:	bar	anti-cavitation
- shovel dump in:	bar	340
- shovel dump out:	bar	340
- additional control circuit:	bar	230 / 230
- pilot pressure (charge pressure):	bar	36 <sup>±1</sup>

## WORKING CYCLES

Lifting frame lift:	s	5.9
Lifting frame lower:	s	3.9
Shovel dump in:	s	1.7 in upper position
Shovel dump out:	s	1.2 in upper position

## AXLES

Front axle	with self-locking differential -	16 km/h-version: make/type	Dana	113 / 51
Rear axle	with self-locking differential -	16 km/h-version: make/type	Dana	360 / 113 / 95 (second gear not shiftable)
Front axle	with self-locking differential -	40 km/h-version: make/type	Dana	113 / 51
Rear axle	with self-locking differential -	40 km/h-version: make/type	Dana	360 / 113 / 54

## BRAKE SYSTEM

Service brake (four-wheel-brake):		hydraulically operated 2 circuit brake oil-immersed disks at both axles
Parking brake (electr. switch):		spring-loaded brake acting on the disks of the rear axle
Additional brake:		hydrostatically by closed circuit of the transmission
Brake pump (accessory drive):	make	Cassappa PLP 20.11.2 DO-L9P1
Displacement:	cm <sup>3</sup> /rev.	19
	ltr./min.	42
Brake pressure (service brake):	max. bar	45 <sup>+5</sup>
Accumulator charge valve:	make	Safim S6
Cut-in / cut-off pressure:	bar	120 - 150
Opening pressure (parking brake):	bar	15
Setting value, parking brake:	bar	30 <sup>-3</sup>

## LUBRICANTS

Engine:	see engine instruction book
Hydraulic oil:	see instruction book
Axle oil:	MIL-L 2105 B or API-GL 5 resp., SAE 85 W 90 LS or SAE 90 LS MINERAL-OIL ATF
Gear oil (reduction gearbox):	acc. to DIN 51825. Dripping point over 170° C. Lithium-saponified.
Multi-purpose grease:	
Brake medium:	hydraulic oil

## MAINTENANCE PARTS

see instruction book

## CAPACITIES

	litr.	
Engine oil with oil filter and oilcooler - change:	approx. 15	engine oil
Hydraulic oil (tank and system) - first filling:	approx. 135	hydraulic oil
Hydraulic oil tank (change):	approx. 95	hydraulic oil
Fuel tank:	approx. 240	diesel
Front axle - central housing:	approx. 16.0	transmission oil
Front axle - wheel hub:	approx. 2.6	transmission oil, each
Rear axle - central housing:	approx. 14.7	transmission oil
Rear axle - reduction gearbox:	approx. 4.25	ATF
Rear axle - wheel hub:	approx. 2.6	transmission oil, each
Service brake:		connected to the hydraulic system
Cooling agent:	approx. 41.0	water with anti-corrosive and anti-freeze agent

## DIESEL ENGINE

Manufacturer:		Cummins
Type:		QSB 6.7 turbo charged with intercooler
Performance (ECE-R24/ISO1585/ISO9249):	kW	128 at 2,200 min <sup>-1</sup>
Construction:		6 cylinders in line
Cooling:		water cooling
Injection:		Common Rail Injection
Capacity:	cm <sup>3</sup>	6,700
Max. Torque:	Nm	763 at 1,400 min <sup>-1</sup>
High idle:	min <sup>-1</sup>	2,350 <sup>+50</sup>
Low idle:	min <sup>-1</sup>	700 <sup>+50</sup>
Spec. fuel consumption under full load:	g/kWh	219
Tappet clearance - inlet cold:	mm	0.25 (tightening torque M = 24 Nm)
Tappet clearance - outlet cold:	mm	0.50 (tightening torque M = 24 Nm)
Minimum engine oil pressure:	bar	0.7 ( low idle, service temperature)
Minimum engine oil pressure:	bar	2.1 (high idle, service temperature)
Torque of cylinder head studs	Nm	90 ( 2 times! )
	°	90 (Tightening angle – for all bolts)
Charge pressure fuel system (Rail pressure)	bar	3.0 to 11.0 (without electrical fuel pump at crank idle) 5.0 to 13.0 (with electrical fuel pump at crank idle)
Further data:		see engine instruction book

## ELECTRICAL SYSTEM

Voltage:	V	24
Battery:	V/Ah/A	2 x 12 / 110 / 850 (EN)
Generator:	V/A	24 / 70
Starter:	V/kW	24 / 3.7 / 5.0
Cold start aid:		heater flange
Lighting:		acc. to German motor vehicle construction and use regulation (“StVZO”) and Euronorm. H4 halogen headlamp. Two working lights at the front and rear.

## TRANSMISSION

Travel pump:	type	A4 VG 125 DA2 D2
Displacement:	cm <sup>3</sup> /rev.	max. 125
Travel motor:	type	A6 VM 140 DX
Displacement:	cm <sup>3</sup> /rev.	max. 140
Travel motor:	type	A6 VM 80 DA 3
Displacement:	cm <sup>3</sup> /rev.	max. 80

## TRAVEL RANGE

Two pre-selectable travel ranges, electro-hydraulically controlled:

### TL 210:

Travel range 1:	km/h	0 to 6.0
Travel range 2:	km/h	0 to 40.0

**Cardan shaft rev. at 40 km/h - version**adjustment at nominal engine idle  
Travel range 1 / Travel range 2

standard tire:

20.5 R-25 EM 60 12PR Mitas: min<sup>-1</sup> 425 2,830

optional tires:

20.5 R-25 EM 16 PR SGLD L-2 Goodyear: min<sup>-1</sup> 425 2,83020.5 R 25 RL 2 Goodyear: min<sup>-1</sup> 425 2,83020.5 R 25 GP-2B Goodyear: min<sup>-1</sup> 425 2,83020.5 R 25 XTLA TL Michelin: min<sup>-1</sup> 425 2,83020.5 R 25 X HA TL Michelin: min<sup>-1</sup> 425 2,83020.5 R 25 XLDD2A Michelin: min<sup>-1</sup> 425 2,83020.5 R 25 X Mine D2 Michelin: min<sup>-1</sup> 425 2,830**PRESSURE AND SETTING VALUES****travel**

Suction pressure:

max. bar 0.5 <sup>±0.1</sup>

Charge pressure (high idle):

bar 30 <sup>±1</sup>

High pressure (SV):

bar 480

Pressure cut-off:

bar 440 <sup>±10</sup>

Case pressure at + 50° C:

max. bar 2.5

Regulation start, dynamic:

bar

A6VM80 @290bar high pressure + 30 bar pressure  
in displacement chamber of the travel motorA6VM140 @290bar high pressure + 30 bar pressure  
in displacement chamber of the travel motor

Start-up speed:

min<sup>-1</sup> 1,150 <sup>±50</sup>

Engine stalling (rabbit):

min<sup>-1</sup> 2,050 <sup>-100</sup> at 280 bar dynamically**STEERING**

Steering unit:

type LAGC 630 – 15/LD240-175M01

Steering pump:

make Casappa LVP 75D-06S7 LMF

Emergency steering pump :

type DC1-MPG (switchpoint: stand-by &lt; 5bar)

Displacement:

l/min: 160

Steering pressure (high idle):

bar 175 <sup>±10</sup>

Safety valves / orbitrol:

bar 240/240

**WORKING HYDRAULICS**

Working pump:

make Casappa LVP 75D-06S7 LMF

Displacement:

l/min. 160

Stand-by pressure (flow controller):

bar 36 <sup>+2</sup>

Safety valve at the working pump:

bar 340 <sup>+10</sup>

Valve bank:

type Rexroth 3M6-15

Servo-controlled valve:

type Brown HPV1C01 F055 R 0 CB

Reversing fan speed (combined water-oil-intercooler)

temperature depended controlled: min<sup>-1</sup> 1,650**PRESSURE AND SETTING VALUES****working**

Pressure cut off valve:

bar 310 (measured at the test port of the  
pump; • p eff. 240bar + stand-by pressure)

Line relief pressures:

- lifting frame lift: bar 340

- lifting frame lower: bar anti-cavitation

- shovel dump in: bar 340

- shovel dump out: bar 340

- additional control circuit: bar 230 / 230

- pilot pressure (charge pressure): bar 36 <sup>±1</sup>



**Thank you very much for reading.**

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