

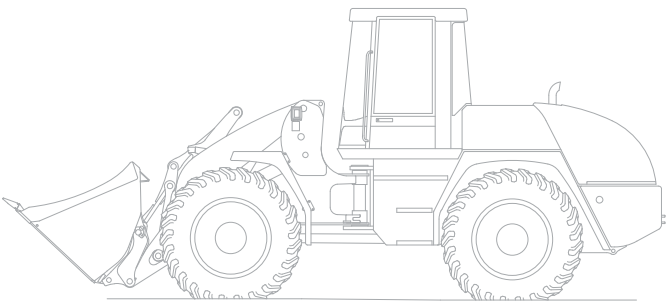


TEREX®

TL 60 SERVICE - MANUAL

List of Contents

- 1 General**
- 2 Technical Data**
- 3 Diesel Engine**
- 4 Hydraulic System**
- 5 Setting Instructions**
- 6 Functional Description**
- 7 Electrical System**
- 8 Maintenance**
- 9 Operation**
- 10 Options**
- 11 Repair Instructions**
- 12 BDE/Special tooling**



PRESSURE AND SETTING VALUES

Suction pressure:	max. bar	0.5 ^{±0.1}
Charge pressure (high idle):	bar	30 ^{±1}
High pressure (SV):	bar	480
Pressure cut-off:	bar	450
Case pressure at + 50° C:	max. bar	2.5
Regulation start:	min ⁻¹	2100 ⁻⁵⁰ at 180 bar HP (see setting instructions, chapter 5, measuring method 2)
Start-up speed:	min ⁻¹	1,150
Engine stalling (rabbit) - dynamic:	min ⁻¹	2,000 ⁻¹⁰⁰ at 220 bar HP
Brake inching beginning / end:	bar	5 - 13
Pressure switch (hydrostatic brake):	bar	22 (see setting instructions,chapter 5,measuring method 2)

STEERING

Steering unit:	type	Rexroth LAGC100-15/LD240-1
Steering pump:	make	Cassappa
Displacement:	cm ³ /rev:	29
Steering pressure (high idle):	bar	175
Priority valve:	type	Rexroth LPS80RM/LD7-643/0

WORKING HYDRAULICS

Working pump:	make	Cassappa
Displacement:	l/min.	64
Valve bank:	type	Walvoil SDM 100/3

PRESSURE AND SETTING VALUES

Main pressure relief valve (high idle):	max. bar	250
Line relief pressures:		
- lifting frame lift:	bar	280
- lifting frame lower:	bar	anti-cavitation
- shovel dump in:	bar	280
- shovel dump out:	bar	130
- additional control circuit:	bar	230 / 230

WORKING CYCLES

Lifting frame lift:	s	6.2
Lifting frame lower:	s	4.4
Shovel dump in:	s	3.0
Shovel dump out:	s	3.8

AXLES

Front axle with self-locking differential - 20 km/h-version:	make/type	Dana 211/111
Rear axle with self-locking differential - 20 km/h-version:	make/type	Dana 311/211/174

BRAKE SYSTEM

Service brake:		hydraulically operated drum brake, front axle
Parking brake:		drum brake at the front axle
Master cylinder:	make	ATE (mineral oil)

LUBRICANTS

Engine:		see engine instruction book
Hydraulic oil:		see TEREX hydraulic oil recommendation table
Transmission oil:		MIL-L 2105 B or API-GL 5 resp., SAE 85 W 90 LS or SAE 90 LS
Multi-purpose grease:		acc. to DIN 51825. Dripping point over 170° C. Lithium-saponified.
Brake medium:		ATF type A Suffix A or Dexron II D

MAINTENANCE PARTS

see instruction book

CAPACITIES

ltr.

Engine oil with oil filter - change:	approx. 9.0	engine oil
Hydraulic oil (tank and system) - first filling:	approx. 70.0	hydraulic oil
Hydraulic oil tank (change):	approx. 46.0	hydraulic oil
Fuel tank:	approx. 70.0	diesel
Front axle - central housing:	approx. 4.0	transmission oil
Front axle - wheel hub:	approx. 0.3	transmission oil, each
Rear axle - central housing and reduction gearbox:	approx. 4.5	transmission oil
Rear axle - wheel hub:	approx. 0.3	transmission oil, each
Service brake:	approx. 0.25	ATF oil
Coolant fluid	approx. 15,0	water with anti-corrosive and anti-freeze agent

DIESEL ENGINE

Manufacturer:		Deutz
Type:		BF4M 2011 Turbo
Performance according to (ECE-R24/ISO1585/ISO9249):	kW	54 at 2,200 min ⁻¹
Construction:		4 cylinders in line
Cooling:		external oil cooling
Injection:		direct injection, turbo charged
Capacity:	cm ³	3,100
High idle:	min ⁻¹	2,350 ⁺⁵⁰
Low idle:	min ⁻¹	850 ⁺⁵⁰
Spec. fuel consumption under full load:	g/kWh	205
Tappet clearance - inlet cold:	mm	0.30
Tappet clearance - outlet cold:	mm	0.50
Torque of cylinder head studs (only in case of repair):	Nm	30 / 80 / 160 Tightening angle 90°
Further data:		see engine instruction book or chapter 3

ELECTRICAL SYSTEM

Voltage:	V	12
Battery:	V/Ah/A	12 / 80 / 720 (EN)
Generator:	V/A	14 / 95
Starter:	V/kW/PS	12 / 2.3 / 3.1
Cold start aid:		heater plug
Lighting:		acc. to German motor vehicle construction and use regulation ("StVZO") and Euronorm. H4 halogen headlamp. Two working lights at the front.

TRANSMISSION

Travel pump:	type	A 4 VG 56 DA with pressure cut-off
Displacement:	max. cm ³ /rev.	56
Travel motor 20/36 km/h version:	type	A 6 VM 80 DA 5 / 63 W
Displacement 20/36 km/h version:	max. cm ³ /rev.	80

TRAVEL RANGE

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

TL 100:	20 km/h - version:			
	tortoise / rabbit	km/h	0 to 6.0	/ 0 to 20
TL 100 S:	36 km/h - version:			
	Gearbox position 1, tortoise / rabbit:	km/h	0 to 6.0	/ 0 to 18
	Gearbox position 2, tortoise / rabbit:	km/h	0 to 12	/ 0 to 36
Cardan shaft rev. at 20 km/h - version			adjustment at nominal speed	
tyres			tortoise / rabbit	
standard:	405/70 R20:	min ⁻¹	600 / 1,990	
option:	14,5-20:	min ⁻¹	600 / 2,005	
	16/70-20:	min ⁻¹	600 / 2,070	
	375/75 R20:	min ⁻¹	600 / 2,040	
Cardan shaft rev. at 36 km/h - version			adjustment at nominal speed	
tyres			tortoise / rabbit	
standard:	405/70 R20:	min ⁻¹	1./2. gear	/ 1./2. gear
option:	14,5-20:	min ⁻¹	580 / 1,190	1,750 / 3,570
	16/70-20:	min ⁻¹	580 / 1,190	1,760 / 3,595
	375/75 R20:	min ⁻¹	580 / 1,190	1,800 / 3,700
		min ⁻¹	580 / 1,190	1,775 / 3,660

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	450
Case pressure at + 50° C:	max. bar	2.5
Regulation start, dynamic:	min ⁻¹	2,100 ⁻⁵⁰ at 250 bar (see setting instructions, chapter 5, measuring method 2)
Start-up speed:	min ⁻¹	1,150
Engine stalling (rabbit) - dynamic:	min ⁻¹	2,000 ⁻¹⁰⁰ at 280 bar HP
Brake inching beginning / end:	bar	5 - 13
Pressure switch (hydrostatic brake):	bar	22

STEERING

Steering unit:	type	LAGU 400/130-11/LD240-175M01
Steering pump:	make	WSP 20.14-045
Displacement:	cm ³ /rev:	33
Steering pressure (high idle):	bar	175
Priority valve:	type	LPS 80R11/LD7-643/01

WORKING HYDRAULICS

Working pump:	make	WSP 20.14-045
Displacement:	l/min.	72
Valve bank:	type	Parker P 70
Servo-controlled valve:	type	Brown PRSV C01 S053 FO

PRESSURE AND SETTING VALUES

	working	
Main pressure relief valve (high idle):	max. bar	250
Line relief pressures:		
- lifting frame lift:	bar	280
- lifting frame lower:	bar	anti-cavitation
- shovel dump in:	bar	280
- shovel dump out:	bar	130
- additional control circuit:	bar	230 / 230
- pilot pressure (charge pressure):	bar	30 ^{±1}

WORKING CYCLES

Lifting frame lift:	s	5.1
Lifting frame lower:	s	3.2
Shovel dump in:	s	---
Shovel dump out:	s	---

AXLES

Front axle	with self-locking differential - 20 km/h-version:	make/type	ZF / AP - R - 720 // 4472 025 009
Rear axle	with self-locking differential - 20 km/h-version:	make/type	ZF / AP - R - 720 // 4472 025 010
Front axle	with self-locking differential - 36 km/h-version:	make/type	ZF / AP - R - 720 // 4472 025 009
Rear axle	with self-locking differential - 36 km/h-version:	make/type	ZF / AP - R - 720 // 4472 025 011

BRAKE SYSTEM

Service brake:		hydraulically operated drum brake, front axle
Parking brake:		drum brake at the front axle
Master cylinder:	make	ATE (mineral oil)

LUBRICANTS

Engine:		see engine instruction book
Hydraulic oil:		see Schaeff hydraulic oil recommendation table
Transmission oil:		MIL-L 2105 B or API-GL 5 resp., SAE 85 W 90 LS or SAE 90 LS
Multi-purpose grease:		acc. to DIN 51825. Dripping point over 170° C. Lithium-saponified.
Brake medium:		ATF type A Suffix A or Dexron II D

MAINTENANCE PARTS

see instruction book

CAPACITIES

		litr.	
Engine oil with oil filter and oil cooler - change:	approx.	13.0	engine oil
Hydraulic oil (tank and system) - first filling:	approx.	88.0	hydraulic oil
Hydraulic oil tank (change):	approx.	62.0	hydraulic oil
Fuel tank:	approx.	102.0	diesel
Front axle - central housing:	approx.	4.0	transmission oil
Front axle - wheel hub:	approx.	0.3	transmission oil, each
Rear axle - central housing and reduction gearbox:	approx.	4.5	transmission oil
Rear axle - wheel hub:	approx.	0.3	transmission oil, each
Service brake:	approx.	0.25	ATF oil

DIESEL ENGINE

Manufacturer:		Deutz
Type:		BF4M 2011 Turbo
Performance according to (ECE-R24/ISO1585/ISO9249):	kW	54 at 2,200 min ⁻¹
Construction:		4 cylinders in line
Cooling:		external oil cooling
Injection:		direct injection, turbo charged
Capacity:	cm ³	3,100
High idle:	min ⁻¹	2,350 ⁺⁵⁰
Low idle:	min ⁻¹	850 ⁺⁵⁰
Spec. fuel consumption under full load:	g/kWh	205
Tappet clearance - inlet cold:	mm	0.30
Tappet clearance - outlet cold:	mm	0.50
Torque of cylinder head studs (only in case of repair):	Nm	30 / 80 / 160
Further data:		Tightening angle 90° see engine instruction book or chapter 3

ELECTRICAL SYSTEM

Voltage:	V	12
Battery:	V/Ah/A	12 / 80 / 720 (EN)
Generator:	V/A	14 / 95
Starter:	V/kW/PS	12 / 2.3 / 3.1
Cold start aid:		heater plug
Lighting:		acc. to German motor vehicle construction and use regulation ("StVZO") and Euronorm. H4 halogen headlamp. Two working lights at the front.

TRANSMISSION

Travel pump:	type	A 4 VG 56 DA with pressure cut-off
Displacement:	max. cm ³ /rev.	56
Travel motor 20/36 km/h version:	type/make	51D080 / Danfoss
Displacement 20/36 km/h version:	max. cm ³ /rev.	80

TRAVEL RANGE

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

TL 100:	20 km/h - version:			
	tortoise / rabbit	km/h	0 to 6.0	/ 0 to 20
TL 100 S:	36 km/h - version:			
	Gearbox position 1, tortoise / rabbit:	km/h	0 to 6.0	/ 0 to 18
	Gearbox position 2, tortoise / rabbit:	km/h	0 to 12	/ 0 to 36
Cardan shaft rev. at 20 km/h - version			adjustment at nominal speed	
tyres			tortoise / rabbit	
standard:	405/70 R20:	min ⁻¹	600 / 1,990	
option:	14,5-20:	min ⁻¹	600 / 2,005	
	16/70-20:	min ⁻¹	600 / 2,070	
	375/75 R20:	min ⁻¹	600 / 2,040	
Cardan shaft rev. at 36 km/h - version			adjustment at nominal speed	
tyres			tortoise / rabbit	
standard:	405/70 R20:	min ⁻¹	1./2. gear	/ 1./2. gear
option:	14,5-20:	min ⁻¹	580 / 1,190	1,750 / 3,570
	16/70-20:	min ⁻¹	580 / 1,190	1,760 / 3,595
	375/75 R20:	min ⁻¹	580 / 1,190	1,800 / 3,700
		min ⁻¹	580 / 1,190	1,775 / 3,660

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	450
Case pressure at + 50° C:	max. bar	2.5
Regulation start:	bar	290
Start-up speed:	min ⁻¹	1,150
Engine stalling (rabbit) - dynamic:	min ⁻¹	2,000 ⁻¹⁰⁰ at 280 bar HP
Brake inching beginning / end:	bar	5 - 13
Pressure switch (hydrostatic brake):	bar	22

STEERING

Steering unit:	type	LAGU 400/130-11/LD240-175M01
Steering pump:	make	WSP 20.14-045
Displacement:	cm ³ /rev:	33
Steering pressure (high idle):	bar	175
Priority valve:	type	LPS 80R11/LD7-643/01

WORKING HYDRAULICS

Working pump:	make	WSP 20.14-045
Displacement:	l/min.	72
Valve bank:	type	Parker P 70
Servo-controlled valve:	type	Brown PRSV C01 S053 FO

PRESSURE AND SETTING VALUES

	working	
Main pressure relief valve (high idle):	max. bar	250
Line relief pressures:		
- lifting frame lift:	bar	280
- lifting frame lower:	bar	anti-cavitation
- shovel dump in:	bar	280
- shovel dump out:	bar	130
- additional control circuit:	bar	230 / 230
- pilot pressure (charge pressure):	bar	30 ^{±1}

WORKING CYCLES

Lifting frame lift:	s	5.1
Lifting frame lower:	s	3.2
Shovel dump in:	s	---
Shovel dump out:	s	---

AXLES

Front axle	with self-locking differential - 20 km/h-version:	make/type	ZF / AP - R - 720 // 4472 025 009
Rear axle	with self-locking differential - 20 km/h-version:	make/type	ZF / AP - R - 720 // 4472 025 010
Front axle	with self-locking differential - 36 km/h-version:	make/type	ZF / AP - R - 720 // 4472 025 009
Rear axle	with self-locking differential - 36 km/h-version:	make/type	ZF / AP - R - 720 // 4472 025 011

BRAKE SYSTEM

Service brake:		hydraulically operated drum brake, front axle
Parking brake:		drum brake at the front axle
Master cylinder:	make	ATE (mineral oil)

LUBRICANTS

Engine:		see engine instruction book
Hydraulic oil:		see Schaeff hydraulic oil recommendation table
Transmission oil:		MIL-L 2105 B or API-GL 5 resp., SAE 85 W 90 LS or SAE 90 LS
Multi-purpose grease:		acc. to DIN 51825. Dripping point over 170° C. Lithium-saponified.
Brake medium:		ATF type A Suffix A or Dexron II D

MAINTENANCE PARTS

see instruction book

CAPACITIES

	litr.	
Engine oil with oil filter and oil cooler - change:	approx. 13.0	engine oil
Hydraulic oil (tank and system) - first filling:	approx. 88.0	hydraulic oil
Hydraulic oil tank (change):	approx. 62.0	hydraulic oil
Fuel tank:	approx. 102.0	diesel
Front axle - central housing:	approx. 4.0	transmission oil
Front axle - wheel hub:	approx. 0.3	transmission oil, each
Rear axle - central housing and reduction gearbox:	approx. 4.5	transmission oil
Rear axle - wheel hub:	approx. 0.3	transmission oil, each
Service brake:	approx. 0.25	ATF oil

DIESEL ENGINE Tier 3

Manufacturer:		Deutz
Type:		TD 2011 L04W
Performance according to (ECE-R24/ISO1585/ISO9249):	kW	54 at 2,200 min ⁻¹
Construction:		4 cylinders in line
Cooling:		water
Injection:		direct injection, turbo charged
Capacity:	cm ³	3,600
High idle:	min ⁻¹	2,350 ⁺⁵⁰
Low idle:	min ⁻¹	850 ⁺⁵⁰
Spec. fuel consumption under full load:	g/kWh	237
Tappet clearance - inlet cold:	mm	0.30
Tappet clearance - outlet cold:	mm	0.50
Torque of cylinder head studs (only in case of repair):	Nm	30 / 80 / 160
Further data:		Tightening angle 90° see engine instruction book or chapter 3

ELECTRICAL SYSTEM

Voltage:	V	12
Battery:	V/Ah/A	12 / 100 / 850 (EN)
Generator:	V/A	14 / 95
Starter:	V/kW/PS	12 / 2.3 / 3.1
Cold start aid:		heater plug
Lighting:		acc. to German motor vehicle construction and use regulation ("StVZO") and Euronorm. H4 halogen headlamp. Two working lights at the front.

TRANSMISSION

Travel pump:	type	A 4 VG 56 DA with pressure cut-off
Displacement:	max. cm ³ /rev.	56
to Se. No. TL01001005		
Travel motor 20/36 km/h version:	type/make	51D080 / Danfoss (80 cm ³ /rev.)
from Se. No. TL01001006		
Travel motor 20/36 km/h version:	type/make	A6VM80 / Hydromatik (80 cm ³ /rev.)

TRAVEL RANGE

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

TL 100:	20 km/h - version:			
	tortoise / rabbit	km/h	0 to 6.0	/ 0 to 20
TL 100 S:	36 km/h - version:			
	Gearbox position 1, tortoise / rabbit:	km/h	0 to 6.0	/ 0 to 18
	Gearbox position 2, tortoise / rabbit:	km/h	0 to 12	/ 0 to 36
	Cardan shaft rev. at 20 km/h - version		adjustment at nominal speed	
	tyres		tortoise / rabbit	
	standard: 405/70 R20:	min ⁻¹	600 / 1,990	
	option: 14,5-20:	min ⁻¹	600 / 2,005	
	16/70-20:	min ⁻¹	600 / 2,070	
	375/75 R20:	min ⁻¹	600 / 2,040	
	Cardan shaft rev. at 36 km/h - version		adjustment at nominal speed	
	tyres		tortoise / rabbit	
	standard: 405/70 R20:	min ⁻¹	1./2. gear / 1./2. gear	
	option: 14,5-20:	min ⁻¹	580 / 1,190 / 1,750 / 3,570	
	16/70-20:	min ⁻¹	580 / 1,190 / 1,760 / 3,595	
	375/75 R20:	min ⁻¹	580 / 1,190 / 1,800 / 3,700	
		min ⁻¹	580 / 1,190 / 1,775 / 3,660	

Thank you very much for reading.

This is part of the demo page.

GET MORE:

**Diesel Engine, Hydraulic
System, Setting
Instructions, Functional
Description, Electrical
System And more.....**

Click Here BUY NOW

**Then Instant Download
the Complete Manual.**