

## TW 85 SERVICE - MANUAL

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- **5** Setting Instructions
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PRESSURE AND SETTING VALUES	travel	up to Se. No. TL00801878
Suction pressure:	max. bar	0.5 ±0.1
Charge pressure (high idle):	bar	30 <sup>±1</sup>
High pressure (SV):	bar	480
Pressure cut-off:	bar max. bar	450 2.5
Case pressure at + 50° C: Regulation start:	bar	230
Start-up speed:	min <sup>-1</sup>	1,150
Engine stalling (rabbit) - dynamic:	min <sup>-1</sup>	2,000 <sup>-100</sup> at 220 bar HP
Brake inching beginning / end:	bar	5 - 13
Pressure switch (hydrostatic brake):	bar	22
PRESSURE AND SETTING VALUES	travel	from Se. No. TL00801879
Suction pressure:	max. bar	0.5 <sup>±0.1</sup>
Charge pressure (high idle):	bar	30 <sup>±1</sup>
High pressure (SV):	bar	430
Pressure cut-off:	bar	410
Case pressure at + 50° C:	max. bar	2.5
Regulation start:	bar	2,100 <sup>-50</sup> at 200 bar HP
(see setting instructions	s, chapter 5, r	
Start-up speed:	min <sup>-1</sup>	1,150 2,000 <sup>-100</sup> at 220 bar HP
Engine stalling (rabbit) - dynamic:	min <sup>-1</sup>	2,000 at 220 bar HP 5 - 13
Brake inching beginning / end: Pressure switch (hydrostatic brake):	bar bar	5 - 13 22
r ressure switch (hydrostatic brake).	Dai	22
STEERING		
Steering unit:	type	Rexroth LAGC100-15/LD 240-1
Steering pump:	make	Cassappa
Displacement:	cm³/rev:	27
Steering pressure (high idle):	bar	175
Priority valve:	type	Rexroth LPS80RM/LD7-643-0
WORKING HYDRAULICS		
Working pump:	make	Cassappa
Displacement:	l/min.	64
Servo-controlled valve:	type	Brown PRSV
up to Se. No. TL00801821 without 1815 to 1		D   D 70
Valve bank:	type	Parker P 70
from Se. No. TL00801822 with 1815 to 1819 Valve bank:	type	Bucher HDM19
	-71	
PRESSURE AND SETTING VALUES	working	
Main pressure relief valve (high idle): Line relief pressures:	max. bar	250
- lifting frame lift:	bar	280
- lifting frame lower:	bar	anti-cavitation
- shovel dump out:	bar	280
- shovel dump out: - additional control circuit:	bar bar	130 230 / 230
- pilot pressure (charge pressure):	bar	30 <sup>±1</sup>
WORKING CYCLES		
Lifting frame lift:	S	4.7
Lifting frame lower:	S	3.2
Shovel dump out:	S	
Shovel dump out:	S	<del></del>

### AXLES up to Se. No. TL00801878

Front axle with self-locking differential - 20 km/h-version: Rear axle with self-locking differential - 20 km/h-version:	, , , , , , , , , , , , , , , , , , ,	
Front axle with self-locking differential - 36 km/h-version: Rear axle with self-locking differential - 36 km/h-version:		

AXLES from Se. No. TL00801879

Front axle with self-locking differential - 20 km/h-version: make/type ZF / AP - R - 720 or MT-L 3020 ZF / AP - R - 720 or MT-L 3020 Rear axle with self-locking differential - 36 km/h-version: make/type ZF / AP - R - 720 or MT-L 3020 Rear axle with self-locking differential - 36 km/h-version: make/type ZF / AP - R - 720 or MT-L 3020 ZF / AP - R - 720 or MT-L 3020

#### **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 Itr.

Engine oil with oil filter - change: approx. 9.0 engine oil hydraulic oil Hydraulic oil (tank and system) - first filling: approx. 55.0 Hydraulic oil tank (change): approx. 46.0 hydraulic oil Fuel tank: approx. 75.0 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 transmission oil, each Rear axle - wheel hub: approx. 0.3 Service brake: ATF oil approx. 0.25 Coolant fluid water with anti-corrosive approx. 15,0 and anti-freeze agent

(Gramm)

Air condition: approx. 800 (1.764 lb) R134a



#### **DIESEL ENGINE Tier 3**

Manufacturer: Deutz

Type: D 2011 L04W

Performance according to

(ECE-R24/ISO1585/ISO9249): kW 44 at 2,200 min<sup>-1</sup> Construction: 4 cylinders in line

Cooling: water

Injection: direct injection

Capacity: cm<sup>3</sup> 3,600 2,350 +50 min<sup>-1</sup> High idle: 850 <sup>+50</sup> Low idle: min<sup>-1</sup> Spec. fuel consumption under full load: 225 g/kWh Tappet clearance - inlet cold: 0.30 mm Tappet clearance - outlet cold: 0.50 mm

Torque of cylinder head studs Nm 30 / 80 / 160

(only in case of repair): Tightening angle 90°

Further data: see engine instruction book or chapter 3

#### **ELECTRICAL SYSTEM**

Voltage: V 12

Battery: V/Ah/A 12 / 100 / 900 (EN)

Generator: V/A 14 / 95
Starter: V/kW/PS 12 / 2.6 / 3.5
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. cm³/rev. 56

Travel motor 20/36 km/h version: type/make A6VM80 / Hydromatik (max 80 cm³/rev.)

#### **TRAVEL RANGE**

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

TL 80: 20 km/h - version:

tortoise / rabbit km/h 0 to 7.0 / 0 to 20

TL 80 S: 36 km/h - version:

Gearbox position 1, tortoise / rabbit: km/h 0 to 7.0 / 0 to 18 Gearbox position 2, tortoise / rabbit: km/h 0 to 14 / 0 to 36

Cardan shaft rev. at 20 km/h - version and standard tyres

adjustment at nominal speed / Rabbit

min<sup>-1</sup> 2,200

Cardan shaft rev. at **36 km/h - version** min<sup>-1</sup> 3,600

#### PRESSURE AND SETTING VALUES travel

Suction pressure:	max. bar	$0.5^{\pm0.1}$
Charge pressure (high idle):	bar	30 <sup>±1</sup>
High pressure (SV):	bar	430
Pressure cut-off:	bar	410
Case pressure at + 50° C:	max. bar	2.5

 $2,100^{-50}$  at 200 bar HP Regulation start: bar

(see setting instructions, chapter 5, measuring method 2)

Start-up speed: min<sup>-1</sup> 1,150

min<sup>-1</sup>  $2,000^{-100}$  at 220 bar HP Engine stalling (rabbit) - dynamic:

Brake inching beginning / end: bar 5 - 13 Pressure switch (hydrostatic brake): 22 bar

#### **STEERING**

Rexroth LAGC100-15/LD 240-1 Steering unit: type

Steering pump: make Cassappa Displacement: cm³/rev: 27 Steering pressure (high idle): 175 bar

Priority valve: Rexroth LPS80RM/LD7-643-0 type

#### **WORKING HYDRAULICS**

Working pump: make Cassappa Displacement: I/min. 64

**Brown PRSV** Servo-controlled valve: tvpe Valve bank: **Bucher HDM19** type

#### PRESSURE AND SETTING VALUES working

250 Main pressure relief valve (high idle): max. bar Line relief pressures:

- lifting frame lift: 280 bar - lifting frame lower: bar anti-cavitation

- shovel dump in: bar 280 - shovel dump out: bar 130 - additional control circuit: bar 230 / 230 30 ±1

- pilot pressure (charge pressure): bar

## **WORKING CYCLES**

4.7 Lifting frame lift: s Lifting frame lower: 3.2 s Shovel dump in: s Shovel dump out: s

#### **AXLES**

Front axle with self-locking differential - 20 km/h-version: make/type ZF MT-L 3020 Rear axle with self-locking differential - 20 km/h-version: make/type ZF MT-L 3020

Front axle with self-locking differential - 36 km/h-version: make/type ZF MT-L 3020 Rear axle with self-locking differential - 36 km/h-version: make/type ZF MT-L 3020

#### **BRAKE SYSTEM**

hydraulically operated disc brake, Service brake:

front axle

Parking brake: disc brake at the front axle

Master cylinder: ATE (mineral oil) make

#### **LUBRICANTS**

see engine instruction book Engine:

Hydraulic oil: see TEREX hydraulic oil recommendation

table

ltr.

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**

Engine oil with oil filter - change: engine oil approx. 9.0 Hydraulic oil (tank and system) - first filling: approx. 55.0 hydraulic oil Hydraulic oil tank (change): hydraulic oil approx. 46.0 diesel

approx. 75.0 Fuel tank: Front axle - central housing: approx. 4.0

transmission oil 0.3 Front axle - wheel hub: approx. transmission oil, each

approx. 4.5 Rear axle - central housing and reduction gearbox: transmission oil 0.3 Rear axle - wheel hub: approx. transmission oil, each

Service brake: approx. 0.25 ATF oil

water with anti-corrosive Coolant fluid approx. 15,0

and anti-freeze agent

## (Gramm)

approx. 800 (1.764 lb) R134a Air condition:



#### **DIESEL ENGINE**

Manufacturer: Deutz Type: F4M 2011

Performance according to

(ECE-R24/ISO1585/ISO9249): 44 at 2,400 min<sup>-1</sup> kW Construction: 4 cylinders in line Cooling: external oil cooling Injection: direct injection

Capacity: 3,100 cm<sup>3</sup> 2,550 +50 min<sup>-1</sup> High idle: 850 +50 min<sup>-1</sup> Low idle: Spec. fuel consumption under full load: 218 g/kWh Tappet clearance - inlet cold: mm 0.30 Tappet clearance - outlet cold: 0.50 mm

Torque of cylinder head studs 30 / 80 / 160 Nm

(only in case of repair): Tightening angle 90°

Further data: see engine instruction book

#### **ELECTRICAL SYSTEM**

Voltage: 12

V/Ah/A 12 / 80 / 720 (EN) Battery:

Generator: 14 / 95 V/A V/kW/PS 12 / 2.3 / 3.1 Starter: 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.

Two working lights at the rear (option)

#### **TRANSMISSION**

Travel pump: A 4 VG 56 DA with pressure cut-off type

Displacement: max. cm³/rev. 56

Travel motor ( 20 km/h ): A 6 VM 80 DA 2 type/make

Displacement: max. cm³/rev. 80

### TRAVEL RANGE 20 km/h:

Tortoise / rabbit km/h 0 to 7.0 / 0 to 20

Cardan shaft rev. adjustment at nominal speed

tortoise / rabbit

min<sup>-1</sup> and standard tyres 12,5-20: 650 / 1,865

> 340/80 R20: min<sup>-1</sup> 650 / 1,830 405/70 R18: min<sup>-1</sup> 650 / 1,850

#### PRESSURE AND SETTING VALUES travel

 $0.5^{\pm0.1}$ max. bar Suction pressure:  $30^{\pm1}$ Charge pressure (high idle): bar High pressure (SV): 480 bar Pressure cut-off: 450 bar Case pressure at + 50° C: max. bar 2.5

2300<sup>-50</sup> at 180 bar HP min<sup>-1</sup> Regulation start:

(see setting instructions, chapter 5, measuring method 2)

Start-up speed: min<sup>-1</sup> 1,150

min<sup>-1</sup>  $2.200^{-100}$  at 220 bar HP Engine stalling (rabbit) - dynamic:

Brake inching beginning / end: bar 5 - 13 Pressure switch (hydrostatic brake): 22 bar

(see setting instructions, chapter 5, measuring method 2)

#### **STEERING**

Rexroth LAGC100-15/LD240-1 Steering unit: type

Steering pump: make Cassappa Displacement: cm³/rev: 27 Steering pressure (high idle): 175 bar

Priority valve: Rexroth LPS80RM/LD7-643/0 type

### **WORKING HYDRAULICS**

Working pump: make Cassappa

Displacement: I/min. 64

Valve bank: type Walvoil SDM 100/3

#### PRESSURE AND SETTING VALUES working

250 Main pressure relief valve (high idle): max. bar Line relief pressures: - lifting frame lift: 280 bar

- 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: 6.2 s Lifting frame lower: 4.4 s Shovel dump in: 3.0 s 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**

hydraulically operated drum brake, Service brake:

front axle

drum brake at the front axle Parking brake:

Master cylinder: ATE (mineral oil) make

#### **LUBRICANTS**

Engine: see engine instruction book

Hydraulic oil: see TEREX hydraulic oil recommendation

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Transmission oil: MIL-L 2105 B or API-GL 5 resp.,

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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 and oil cooler - change: approx. 14.0 engine oil Hydraulic oil (tank and system) - first filling: approx. 70.0 hydraulic oil Hydraulic oil tank (change): approx. 46.0 hydraulic oil

approx. 70.0 Fuel tank: diesel

Front axle - central housing: transmission oil approx. 4.0 0.3 Front axle - wheel hub: approx. transmission oil, each

approx. 4.5 approx. 0.3 Rear axle - central housing and reduction gearbox: transmission oil Rear axle - wheel hub: transmission oil, each

Service brake: approx. 0.25 ATF oil



#### **DIESEL ENGINE Tier 3**

Manufacturer: Deutz

Type: D 2011 L04W

Performance according to

(ECE-R24/ISO1585/ISO9249): kW 44 at 2,400 min<sup>-1</sup> Construction: 4 cylinders in line

Cooling: water

Injection: direct injection

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Torque of cylinder head studs Nm 30 / 80 / 160

(only in case of repair): Tightening angle 90°

Further data: see engine instruction book

#### **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 (option)
Two working lights at the rear (option)

#### **TRANSMISSION**

Travel pump: type A 4 VG 56 DA with pressure cut-off

Displacement: max. cm³/rev. 56

Travel motor ( 20 km/h ): type/make A 6 VM 80 DA 2

Displacement: max. cm³/rev. 80

### TRAVEL RANGE 20 km/h:

Tortoise / rabbit km/h 0 to 7.0 / 0 to 20

Cardan shaft rev. adjustment at nominal speed

tortoise / rabbit

and standard tyres 12,5-20: min<sup>-1</sup> 650 / 1,865

340/80 R20: min<sup>-1</sup> 650 / 1,830 405/70 R18: min<sup>-1</sup> 650 / 1,850 Thank you very much for reading.

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