

# SERVICE MANUAL

**TD5.65 / TD5.75 / TD5.85**  
**TD5.95 / TD5.105 / TD5.115**  
Tractor

Part number 47445474

English  
August 2013





## **SERVICE MANUAL**

**TD5.105 , TD5.115 , TD5.65 , TD5.75 , TD5.85 , TD5.95**

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# INTRODUCTION

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## Note to the Owner

### General instructions

#### Important notice

All maintenance and repair operations described in this manual should be carried out exclusively by the NEW HOLLAND authorised workshops. All instructions detailed should be carefully observed and special equipment indicated should be used if necessary.

Everyone who carries out service operations described without carefully observing these prescriptions will be directly responsible of deriving damages.

#### Shimming

At each adjustment, select adjusting shims, measure them individually using a micrometer and then sum up recorded values. Do not rely on measuring the whole shimming set, which may be incorrect, or on rated value indicated for each shim.

#### Rotating shaft seals

To correctly install rotating shaft seals, observe the following instructions:

- Let the seal soak into the same oil as it will seal for at least half an hour before mounting.
- Thoroughly clean the shaft and ensure that the shaft working surface is not damaged.
- Place the sealing lip towards the fluid. In case of a hydrodynamic lip, consider the shaft rotation direction and orient grooves in order that they deviate the fluid towards the inner side of the seal.
- Coat the sealing lip with a thin layer of lubricant (oil rather than grease) and fill with grease the gap between the sealing lip and the dust lip of double lip seals.
- Insert the seal into its seat and press it down using a flat punch. Do not tap the seal with a hammer or a drift.
- Take care to insert the seal perpendicularly to its seat while you are pressing it. Once the seal is settled, ensure that it contacts the thrust element if required.
- To prevent damaging the sealing lip against the shaft, place a suitable protection during installation.

#### O-rings

Lubricate the O-rings before inserting them into their seats. This will prevent the O-rings from rolling over and twine during mounting which will jeopardise sealing.

#### Sealers

Apply one of the following sealers: **RTV SILMATE**, **RHODORSIL CAF 1**, or **LOCTITE PLASTIC GASKET** over the mating surfaces marked with an X.

Before applying the sealer, prepare the surface as follows:

- Remove possible scales using a metal brush.
- Thoroughly degrease the surfaces using one of the following cleaning agent: trichlorethylene, petrol or a water and soda solution.

#### Bearings

It is advisable to heat the bearings to **80 - 90 °C (176 - 194 °F)** before mounting them on their shafts and cool them down before inserting them into their seats with external tapping.

#### Roll pins

When fitting straight roll pins, ensure that the pin notch is oriented in the direction of the effort to stress the pin. Coil roll pins can be installed in any position.

## Notes for spare parts

Use exclusively genuine NEW HOLLAND spare parts.

Only genuine parts guarantee same quality, life, safety as original components as they are the same as mounted in production.

Only the NEW HOLLAND genuine spare parts can offer this guarantee.

All spare parts orders should be complete with the following data:

- Tractor model (commercial name) and frame number.
- Engine type and number.
- Part number of the ordered part, which can be found on the "Microfiches" or the "Spare parts catalogue", which is the base for order processing.

## Notes for equipment

Equipment which NEW HOLLAND proposes and shows in this manual are as follows:

- Studied and designed expressly for use on NEW HOLLAND tractors.
- Necessary to make a reliable repair.
- Accurately built and strictly tested to offer efficient and long-lasting working means.

We also remind the repair personnel that having these equipment means:

- Work in optimal technical conditions.
- Obtain best results.
- Save time and effort.
- Work more safely.

## Notices

Wear limits indicated for some details should be intended as advised, but not binding values. The words "front", "rear", "right hand", and "left hand" referred to the different parts should be intended as seen from the operator's seat oriented to the normal sense of movement of the tractor.

## How to move the tractor with the battery removed

Cables from the external power supply should be connected exclusively to the respective terminals of the tractor positive and negative cables using pliers in good condition which allow proper and steady contact.

Disconnect all services (lights, wind-shield wipers, etc.) before starting the tractor

If it is necessary to check the tractor electrical system, check it only with the power supply connected. At check end, disconnect all services and switch the power supply Off before disconnecting the cables.

---

## Safety rules

### Pay attention to this symbol



This warning symbol points out important messages involving personal safety. Carefully read the safety rules contained herein and follow advised precautions to avoid potential hazards and safeguard your safety and personal integrity. In this manual you will find this symbol together with the following key-words:

**WARNING** – It gives warning about improper repair operations and deriving potential consequences affecting the service technician's personal safety.

**DANGER** – It gives specific warning about potential dangers for personal safety of the operator or other persons directly or indirectly involved.

### To prevent accidents

Most accidents and personal injuries taking place in workshops are due from non-observance of some simple and essential prudential rule and safety precautions. For this reason, **IN MOST CASES THEY CAN BE AVOIDED**. It suffices to foresee possible causes and act consequently with necessary caution and care.

The possibility that an accident might occur with any type of machines should not be disregarded, no matter how well the machine in question was designed and built.

A wise and careful service technician is the best precautions against accidents.

Careful observance of this only basic precaution would be enough to avoid many severe accidents.

**DANGER:** Never carry out any cleaning, lubrication or maintenance operations when the engine is running.

## Safety rules

### Generalities

- Carefully follow specified repair and maintenance procedures.
- Do not wear rings, wristwatches, jewels, unbuttoned or flapping clothing such as ties, torn clothes, scarves, open jackets or shirts with open zips which could get hold into moving parts. We advise to use approved safety clothing such as anti-slipping footwear, gloves, safety goggles, helmets, etc.
- Never carry out any repair on the machine if someone is sitting on the operator's seat, except if they are certified operators to assist in the operation to be carried out.
- Never operate the machine or use attachments from a place other than sitting at the operator's seat.
- Never carry out any operation on the machine when the engine is running, except when specifically indicated.
- Stop the engine and ensure that all pressure is relieved from hydraulic circuits before removing caps, covers, valves, etc.
- All repair and maintenance operations should be carried out with the greatest care and attention.
- Service stairs and platforms used in a workshop or in the field should be built in compliance with the safety rules in force.
- Disconnect the batteries and label all controls to warn that the tractor is being serviced. Block the machine and all equipment which should be raised.
- Never check or fill fuel tanks and accumulator batteries, nor use starting liquid if you are smoking or near open flames as such fluids are flammable.
- Brakes are inoperative when they are manually released for maintenance purposes. In such cases, the machine should be kept constantly under control using blocks or similar devices.
- The fuel filling gun should remain always in contact with the filler neck. Maintain this contact until the fuel stops flowing into the tank to avoid possible sparks due to static electricity buildup.
- Use exclusively specified towing points for towing the tractor. Connect parts carefully. Ensure that foreseen pins and/or locks are steadily fixed before applying traction. Do not stop near towing bars, cables or chains working under load.



# **SERVICE MANUAL**

## **Engine**

**TD5.105 , TD5.115 , TD5.65 , TD5.75 , TD5.85 , TD5.95**

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## **Engine - 10**

### **Engine and crankcase - 001**

**TD5.105 , TD5.115 , TD5.65 , TD5.75 , TD5.85 , TD5.95**

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## Engine - 10

### Engine and crankcase - 001

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## Engine - General specification

TD5.

Table 1

General specification	4 Cylinders
<p>Engine, technical type:                      TD5.95 model - type F4CE9487N*J (BOSCH pump)                      TD5.105 model - type F4CE9484L*J (BOSCH pump)                      TD5.115 model - type F4CE9484C*J (BOSCH pump)</p> <p>Cycle                      Fuel injection                      Number of cylinders in line                      Piston diameter:                      Model TD5.95, TD5.105, TD5.115                      Piston stroke                      Total displacement:                      Model TD5.95, TD5.105, TD5.115                      Compression ratio for models TD5.95, TD5.105, TD5.115                      Maximum power:                      Model TD5.95 - type F4CE9487N*J                      Model TD5.105 - type F4CE9484L*J                      Model TD5.115 - type F4CE9484C*J                      Maximum torque: : TD5.95 - type F4CE9487N*J                      Maximum torque: TD5.105 - type F4CE9484L*J                      Maximum torque: TD5.115 - type F4CE9484C*J                      Maximum torque speed                      Number of main bearings                      Sump</p>	<p>Diesel, 4-stroke                      Direct                      4</p> <p><b>104 mm (4.0945 in)</b>  <b>132 mm (5.1969 in)</b></p> <p><b>4485 cm<sup>3</sup> (273.69 in<sup>3</sup>)</b>                      17.5:1</p> <p><b>70 kW (95 Hp)</b>  <b>78 kW (106 Hp)</b>  <b>83 kW (113 Hp)</b>  <b>390 N·m (3452 lb in)</b>  <b>425 N·m (3762 lb in)</b>  <b>450 N·m (3983 lb in)</b>  <b>1300 RPM</b>                      5                      Structural, cast iron</p>
<p>Lubrication                      Pump drive                      Engine speed/oil pump speed ratio                      Oil cleaning                      Normal oil pressure with motor warmed-up                      At slow idling speed                      At fast idling speed</p>	<p>Forced, with lobe pump                      Camshaft                      1:1                      Mesh filter on oil intake and filtering cartridge on delivery line</p> <p><b>1.2 bar (17.4 psi)</b>  <b>3.8 bar (55.1 psi)</b></p>
<p>Cooling system                      Radiator on models TD5.95, TD5.105, TD5.115                      Fan, attached to the pulley                      Coolant pump                      Engine speed/coolant pump speed ratio                      Coolant thermometer                      Temperature ranges corresponding to each section:                      Initial blue section                      Middle green section (normal working conditions)                      Final red section                      Temperature control                      Initial opening</p>	<p>Coolant circulation                      4 lines of vertical pipes with copper fins                      Intake, in plastic with 10 blades                      Centrifugal vane-type                      1:1.977                      Coloured scale divided into 3 sections</p> <p><b>40 - 60 °C (104 - 140 °F)</b>  <b>60 - 110 °C (140 - 230 °F)</b>  <b>110 - 120 °C (230 - 248 °F)</b>                      Via thermostat valve  <b>81 - 85 °C (178 - 185 °F)</b></p>
<p>Timing system                      Intake:                      Start: before T.D.C.                      End: after B.D.C.                      Exhaust:</p>	<p>Overhead valves operated by tappets, rods and rocker arms via the camshaft located in the engine block; the camshaft is driven by the crankshaft using straight-tooth gears</p> <p>10°± 30'                      10°± 30'</p>



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Engine - Engine and crankcase

General specification	4 Cylinders
Start: before B.D.C. End: after B.D.C. Valve-rocker arm clearance (with engine cold) Intake Exhaust For further timing system technical data	64° 26°  <b>0.20 - 0.30 mm (0.0079 - 0.0118 in)</b> <b>0.45 - 0.55 mm (0.0177 - 0.0217 in)</b> see 8
Fuel system Air cleaning Fuel pump Fuel filtering Minimum fuel flow rate with pump shaft rotating at <b>1800 RPM</b> Cam operated BOSCH injection pump All-speed governor, incorporated in pump: BOSCH Automatic advance regulator, incorporated in pump: BOSCH For further fuel system technical data: Fixed advance (pump setting for start of delivery before TDC) - Pressure setting - Injection order, and other information regarding the BOSCH pump	Dual cartridge dry air filter, with clogged filter indicator with centrifugal pre-filter and automatic dust ejector With double diaphragm Through wire filter in fuel supply pump, and replaceable cartridge on delivery line to injection pump <b>127.6 l/hour (34 US gal/hour)</b> Engine timing Rotating distributor type  Centrifugal counterweights  Hydraulic  Refer to the data for the relevant engine type in the table 1

Table 2

Turbo charger: For versions F4CE9487N*J: Type HOLSET HX25W For versions F4CE9484L*J: Type HOLSET HX25W For versions F4CE9484L*J: Type HOLSET HX25W	TB11H/A085BXL  TB11K/A11CXL  TB11K/A11CXL
Injection pump BOSCH pump: TD5.95 model - type F4CE9487N*J TD5.105 model - type F4CE9484L*J TD5.115 model - type F4CE9484C*J Direction of rotation Injection order	Rotating distributor with speed governor and advance regulator incorporated  VE 4/12 F1250 L2023 (S/N 504218827) E 4/12 F E 4/12 F Anticlockwise 1-3-4-2 (For all models)

Table 3

	TD5.95	TD5.105	TD5.115
BOSCH - type injectors:			
F4CE9487N*J	504254390 DSLA 145 P 1441	-	-
F4CE9484L*J	-	504254390 DSLA 145 P 1441	-
F4CE9484C*J	-	-	504254390 DSLA 145 P 1441
Number of nozzle holes	7	7	7
Nozzle hole diameter mm:			
F4CE9487N*J	0 192	-	-
F4CE9484L*J	-	0 192	-

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