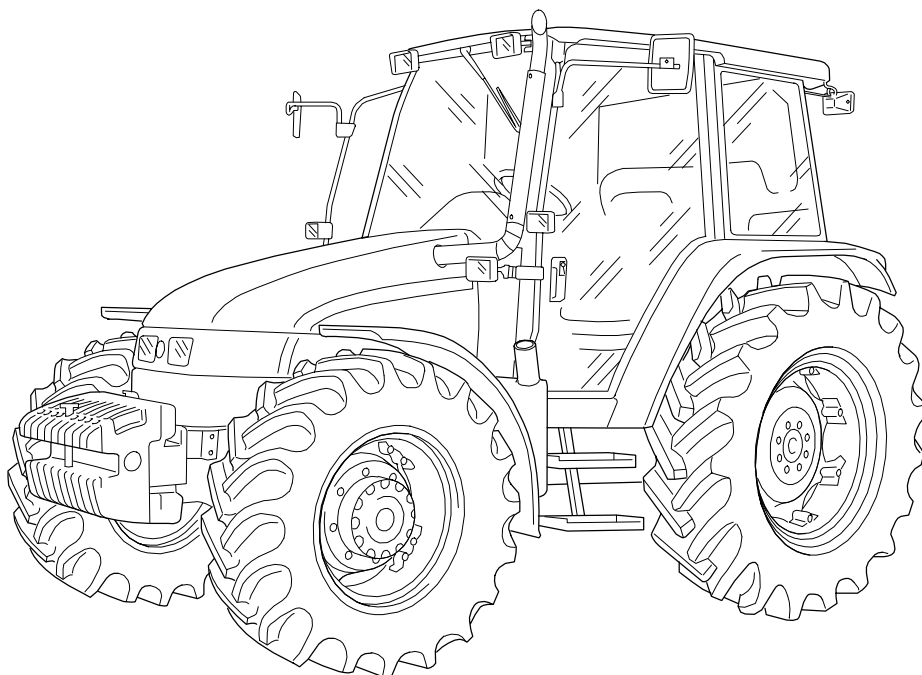




NEW HOLLAND



TRACTORS

TL70A - TL80A - TL90A - TL100A SERVICE MANUAL

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S E R V I C E

INTRODUCTION

- ◇ *This manual is divided into sections identified by two-figure numbers and each section has independent page numbering.
For easy reference, these sections have the same numbers and names as the Repairs Rate Book sections.*
- ◇ *The different sections can easily be found by consulting the table of contents on the following pages.*
- ◇ *The document number of the manual and the edition/update dates are given at the bottom of each page.*
- ◇ *Pages updated in the future will be identified by the same document number followed by a two-figure update number (e.g., 1st Update 603.54.511.01; 2nd Update 603.54.511.02; etc.) and by the corresponding issue date.
These pages will be supplemented by a reprint of the updated contents page.*
- ◇ *The information contained in this manual was current on the date printed on each section. As NEW HOLLAND constantly improves its product range, some information may be out of date subsequent to modifications implemented for technical or commercial reasons, or to meet legal requirements in different countries.
In the event of conflicting information, consult the NEW HOLLAND Sales and Service Departments.*

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PRINTED IN ITALY

CNH ITALIA S.p.A. - Viale delle Nazioni, 55 - 41100 MODENA - Italy
Product Support - Technical Information
Print No. **603.54.511.00** - 03 - 2006

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(*) Chapters prior to section **55** are in **volume 2**.

GENERAL INSTRUCTIONS

IMPORTANT NOTICE

All maintenance and repair work described in this manual must be performed exclusively by NEW HOLLAND service technicians, in strict accordance with the instructions given and using any specific tools necessary.

Anyone performing the operations described herein without strictly following the instructions is personally responsible for any eventual injury or damage to property.

SHIMMING

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

ROTATING SHAFT SEALS

For correct rotating shaft seal installation, proceed as follows:

- before assembly, allow the seal to soak in the oil it will be sealing for at least thirty minutes;
- thoroughly clean the shaft and check that the working surface on the shaft is not damaged;
- position the sealing lip facing the fluid; with hydrodynamic lips, take into consideration the shaft rotation direction and position the grooves so that they will deviate the fluid towards the inner side of the seal;
- coat the sealing lip with a thin layer of lubricant (use oil rather than grease) and fill the gap between the sealing lip and the dust lip on double lip seals with grease;
- insert the seal in its seat and press down using a flat punch; do not tap the seal with a hammer or mallet;
- whilst inserting the seal, check that it is perpendicular to the seat; once settled, make sure that it makes contact with the thrust element, if required;
- to prevent damaging the seal lip on the shaft, position a protective guard during installation operations.

“O-RING” SEALS

Lubricate the O-RING seals before inserting them in the seats, this will prevent them from overturning and twisting, which would jeopardise sealing efficiency.

SEALING COMPOUNDS

Apply one of the following sealing compounds on the mating surfaces marked with an X: RTV SILMATE, RHO-DORSIL CAF 1 or LOCTITE PLASTIC GASKET.

Before applying the sealing compound, prepare the surfaces as follows:

- remove any incrustations using a wire brush;
- thoroughly de-grease the surfaces using one of the following cleaning agents: trichlorethylene, petrol or a water and soda solution.

BEARINGS

When installing bearings it is advised to:

- heat the bearings to $80 \div 90$ °C before fitting on the shafts;
- allow the bearings to cool before installing them.

SPRING PINS

When fitting split socket spring pins, ensure that the pin notch is positioned in the direction of the force required to stress the pin.

Spiral spring pins do not require special positioning.

SPARE PARTS

Use solely **genuine parts**, which guarantee the same quality, duration and safety as the original parts as they are identical to the ones fitted during production.

Only **genuine parts** can offer this guarantee.

When ordering spare parts, always provide the following information:

- tractor model (commercial name) and frame number;
- engine type and number;
- part number of the ordered part, which can be found in the "Microfiches" or the "Spare Parts Catalogue", used for order processing.

TOOLS

The tools that NEW HOLLAND offer and illustrate in this manual are:

- specifically researched and designed for use with NEW HOLLAND vehicles;
- essential for reliable repair operations;
- accurately built and rigorously tested so as to offer efficient and long-lasting operation.

By using these tools, repair personnel will benefit from:

- operating in optimal technical conditions;
- obtaining the best results;
- saving time and effort;
- working in safe conditions.

IMPORTANT NOTES

Wear limit values indicated for certain parts are recommended, but not binding. The terms "front", "rear", "right-hand" and "left-hand" (when referred to different parts) are intended as seen from the driving position with the vehicle in the normal direction of movement.

MOVING THE TRACTOR WITH THE BATTERY REMOVED

External power supply cables should only be connected to the respective positive and negative cable terminals, using efficient clamps that guarantee adequate and secure contact.

Disconnect all services (lights, windshield wipers, etc.) before starting the vehicle.

If the vehicle electrical system requires checking, carry out operations with the power supply connected. Once checking is completed, disconnect all services and switch off the power supply before disconnecting the cables.

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GENERAL SPECIFICATIONS	4 Cylinders
Engine, technical type:	
- model TL70A - type F4CE0404D*D601 (BOSCH pump) .	-
- model TL70A - type F4CE0404D*D681 (BOSCH pump) .	-
- model TL80A - type F4CE0404C*D601 (BOSCH pump) .	-
- model TL80A - type F4CE0404C*D681 (BOSCH pump) .	-
- model TL90A - type F4CE0454E*D601 (BOSCH pump) .	-
- model TL90A - type F4CE0454E*D681 (BOSCH pump) .	-
- model TL100A - type F4CE0454D*D601 (BOSCH pump)	-
- model TL100A - type F4CE0454D*D681 (BOSCH pump)	-
Cycle	diesel, 4-stroke
Fuel injection	direct
Number of cylinders in line	4
Piston diameter	
- model TL70A - TL80A - TL90A - TL100A	4.0944 in. (104 mm)
Piston stroke	5.1968 in. (132 mm)
Total displacement:	
- model TL70A - TL80A - TL90A - TL100A	273.67 in ³ . (4485 cm ³)
Compression ratio for Models TL70A - TL80A - TL90A - TL100A	17.5:1
Maximum power:	
- model TL70A - type F4CE0404D*D601	53 kW (70 HP)
- model TL70A - type F4CE0404D*D681	53 kW (70 HP)
- model TL80A - type F4CE0404C*D601	60 kW (80 HP)
- model TL80A - type F4CE0404C*D681	60 kW (80 HP)
- model TL90A - type F4CE0454E*D601	67 kW (90 HP)
- model TL90A - type F4CE0454E*D681	67 kW (90 HP)
- model TL100A - type F4CE0454D*D601	73,5 kW (100 HP)
- model TL100A - type F4CE0454D*D681	73,5 kW (100 HP)
Maximum power speed	2500 rev/min
- Maximum torque: model TL70A - type F4CE0404D*D601	280 (Nm)
- Maximum torque: model TL70A - type F4CE0404D*D681	280 (Nm)
- Maximum torque: model TL80A - type F4CE0404C*D601	320 (Nm)
- Maximum torque: model TL80A - type F4CE0404C*D681	320 (Nm)
- Maximum torque: model TL90A - type F4CE0454E*D601	350 (Nm)
- Maximum torque: model TL90A - type F4CE0454E*D681	350 (Nm)
- Maximum torque: model TL100A - type F4CE0454D*D601	370 (Nm)
- Maximum torque: model TL100A - type F4CE0454D*D681	370 (Nm)
Maximum torque speed	1400 rev/min
Number of main bearings	5
Sump	structural, cast iron

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GENERAL SPECIFICATIONS	4 Cylinders
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	forced, with lobe pump camshaft 1:1 mesh filter on oil intake and filtering cartridge on delivery line 17.4 psi (1.2 bar) 55.1 psi (3.8 bar)
Cooling system Radiator on Models TL70A - TL80A - TL90A - TL100A 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	coolant circulation 4 lines of vertical pipes with copper fins intake, in plastic with 11 blades centrifugal vane-type 1:1.977 coloured scale divided into 3 sections 104 to 140 °F (40° to 60 °C) 140 to 230 °F (60° to 110 °C) 230 to 248 °F (110° to 120 °C) via thermostat valve 177.0 ± 35.6 °F (81 ± 2 °C)
Timing system Intake: - start: before T.D.C. - end: after B.D.C. Exhaust: - 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	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 10° ± 30' 10° ± 30' 64° 26° (0.30 ± 0.05 mm) (0.55 ± 0.05 mm) see page 8

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