

ORIGINAL INSTRUCTIONS

# OPERATOR'S MANUAL

---

**T5.90**

**T5.100**

**T5.110**

**T5.120**

Tractor

*PIN HLRT5115THLE08215 and above*

**Part number 51640945**

3rd edition English

June 2019

*Replaces part number 51532895*



# Contents

---

## 1 GENERAL INFORMATION

Note to the Owner .....	1-1
Intended use.....	1-3
Electro-Magnetic Compatibility (EMC) .....	1-5
Manual scope and required training level .....	1-6
Metric and imperial units abbreviations.....	1-8
Identification plates .....	1-10
Approval data plate.....	1-18
Operator's manual storage .....	1-19
Machine orientation.....	1-20
Health and safety related standards applied to your tractor.....	1-21
Selective catalytic reduction (SCR) system .....	1-22

## 2 SAFETY INFORMATION

Safety rules and signal word definitions .....	2-1
Safety rules - General information .....	2-1
Safety rules – Maintenance .....	2-2
Safety rules - Wheels and tires .....	2-3
Safety rules – Explosions and fires .....	2-4
Safety rules - Fire extinguisher .....	2-4
Safety rules – Battery .....	2-5
Safety rules - Instructor seat .....	2-5
Safety rules - Passenger seat .....	2-5
Safety rules – Operator presence system .....	2-6
Safety rules - Power Take-Off (PTO) .....	2-6
Safety rules - Reflectors and warning lights .....	2-6
Safety rules - Seat belts .....	2-6
Safety rules - Operator protective structure .....	2-6
Safety rules - HVAC system .....	2-8
Safety rules - Personal Protective Equipment (PPE) .....	2-8
Safety rules - "Do not use" sign .....	2-9
Safety rules - Hazardous chemicals .....	2-9
Safety rules - Near utilities .....	2-9
Safety rules - In the event of electrical storms .....	2-10
Safety rules – Mounting and dismounting the machine .....	2-10
Safety rules - Lifting and overhead loads .....	2-10
Safety rules - Front end loader .....	2-11
Ecology and the environment .....	2-11
Airborne noise emission.....	2-13
Vibration levels .....	2-14
Towing the tractor for recovery .....	2-15
Tractor jacking points.....	2-16
Burn prevention.....	2-17
Emergency escape from cab .....	2-18
Wheel chocks.....	2-19
Safety signs .....	2-20

---

## 3 CONTROLS AND INSTRUMENTS

### Access to operator's platform

Getting in and out of the machine .....	3-1
Getting to know the internal parts of the cab .....	3-2
External rear view mirrors .....	3-5
Clock adjustment .....	3-6

### Operator's seat

Mechanical suspension seat .....	3-7
Air seat .....	3-8
Air suspension seat deluxe .....	3-9
Safety belt .....	3-11

### Instructional seat

Instructional seat - Localization overview .....	3-12
--	------

### Forward controls

Dashboard .....	3-12
Front controls .....	3-18

### Left-hand side controls

Left side console .....	3-23
Left side post controls .....	3-24
Handbrake .....	3-26

### Right-hand side controls

Right-hand console .....	3-27
Right side post controls .....	3-35
Hand throttle .....	3-37
Park lock .....	3-38
Heating, ventilation or air-conditioning control .....	3-39

### Display

Performance windows .....	3-41
Programming tractor functions .....	3-45
Adjusting the dashboard/display brightness .....	3-46
Calibrating speed .....	3-48
Calibrating tool width .....	3-50
Programming maintenance work .....	3-51
Activating/deactivating buzzer .....	3-53
Setting units of measurement .....	3-54
Regenerating the diesel particulate filter (DPF) automatically/manually .....	3-55
Viewing error codes .....	3-60

---

## Warning and advisory symbols

Display warnings overview .....	3-61
---------------------------------	------

## 4 OPERATING INSTRUCTIONS

### Commissioning the unit

Basic operating safety rules .....	4-1
Fuel supply .....	4-2
Filling the Diesel Exhaust Fluid (DEF)/AdBlue® tank .....	4-3

### Starting the unit

Starting the engine .....	4-4
---------------------------	-----

### Stopping the unit

Stopping the engine .....	4-6
Electronic battery isolator - Operating .....	4-7

### Moving the unit

Machine movement start-up .....	4-8
Cold temperature operation .....	4-9
Low idle speed management .....	4-10

## 5 TRANSPORT OPERATIONS

### Road transport

Transporting the machine .....	5-1
--------------------------------	-----

### Recovery transport

Recovery and towing .....	5-2
Towing the tractor .....	5-3

## 6 WORKING OPERATIONS

### General information

Constant engine speed .....	6-1
Four-wheel drive .....	6-3
Mechanical differential lock .....	6-4
Electrohydraulic differential lock .....	6-6
Roll Over Protection Structure (ROPS) .....	6-7

### Drive

Transmission operation .....	6-9
------------------------------	-----

### Rear remote control valves

Remote control valves - Safety rules .....	6-13
Rear remote control valves .....	6-14

---

Single/double action hydraulic valves .....	6-17
Hydraulic oil level when using remote hydraulic equipment.....	6-18
<b>Rear Power Take-Off (PTO)</b>	
Safety rules .....	6-19
General .....	6-20
Changing the Power Take-Off (PTO) shaft .....	6-20
Attaching Power Take-Off (PTO) driven equipment .....	6-22
Independent Power Take-Off with electrohydraulic control .....	6-23
Synchronised power take-off with electrohydraulic control .....	6-26
Power take-off speeds .....	6-29
Power Take-Off (PTO) external controls.....	6-30
Stationary power take off operation switch .....	6-31
<b>Rear hydraulic lift</b>	
Safety rules .....	6-32
Hydraulic lift with mechanical control .....	6-33
Lift-O-Matic® control - Operating .....	6-35
Hydraulic lift with electronic control.....	6-37
Operating Instructions .....	6-41
Hydraulic lift external controls .....	6-44
<b>Rear three-point hitch</b>	
Three-point hitch adjustments .....	6-46
Rear three-point hitch - Operating — Configuring the tractor when towing a trailer with single or multiple axles .....	6-48
Hitching tools for quick coupling.....	6-49
Three-point linkage dimensions .....	6-50
<b>Towbar</b>	
Rear three-point hitch - Personal safety .....	6-51
Drawbar - Operating.....	6-52
<b>Towing hook</b>	
General safety rules .....	6-53
Towing hook .....	6-54
Automatic trailer hitch .....	6-57
<b>Tires and wheels</b>	
Wheels and tires.....	6-59
Tire dimensions.....	6-63
<b>Tread and fender settings</b>	
Track adjustment .....	6-64
Disc-to-rim coupling for front 4WD tires .....	6-65

---

Adjustment of the front mudguards.....	6-66
Adjustment of the steering angles.....	6-68
Front tracks diagram.....	6-68
Rear tracks diagram.....	6-70

## Ballasting

Safety rules.....	6-71
Ballasting.....	6-71
Front ballast.....	6-73
Liquid ballast.....	6-74

## Power sockets

Power sockets.....	6-77
--------------------	------

# 7 MAINTENANCE

## General information

General safety before you service.....	7-1
Introduction.....	7-3
Dealer service and parts.....	7-3
Body maintenance.....	7-4
General specification - Biodiesel fuels.....	7-6
General specification - Diesel fuel.....	7-7
Organic Acid Technology (OAT) coolant.....	7-9
Recommended engine oil for operating temperature ranges.....	7-10
Consumables.....	7-11
Capacities.....	7-12
Opening the hood.....	7-13

## Maintenance planning

Maintenance chart.....	7-14
------------------------	------

## As required

Radiator - Check – Liquid level.....	7-16
Windshield washer fluid reservoir - Filling.....	7-16
Air conditioning - Check.....	7-17
Hand brake lever - Check.....	7-17
Remote control valve reservoir - Check.....	7-17
Radiator - Cleaning.....	7-18
Brake pedals - Check.....	7-18
Hydraulic steering line - Check.....	7-19
External lighting - Check.....	7-19
Wheels - Check.....	7-19

## At warning message display

Air cleaner - Cleaning.....	7-20
Brake fluid reservoir - Filling.....	7-21
Fuel filters - Drain fluid.....	7-21

---

Engine - Replace - Oil and filter .....	7-22
---	------

## Every 10 hours or daily

Engine - Check — Oil level .....	7-23
----------------------------------	------

## After the first 50 hours of operation

Maintenance - Tighten .....	7-25
Maintenance - Check .....	7-25
Maintenance - Replace .....	7-25
Maintenance - Cleaning .....	7-26
Maintenance - Test .....	7-26
Maintenance - Grease .....	7-26

## Every 50 hours

Four-Wheel Drive (4WD) axle - Grease .....	7-27
Steering cylinder - Grease – SuperSteer™ axle .....	7-27
Axle articulation support - Grease – SuperSteer™ axle .....	7-28
Front drive shaft - Grease - SuperSteer™ Axle .....	7-28
Rear three-point hitch - Grease .....	7-28
Rear hitch - Grease – Mechanical lift .....	7-29
Front hitch - Grease .....	7-29
Front hitch - Grease - Coupling mounted on the axle .....	7-29

## Every 100 hours

Air-conditioning condenser - Cleaning .....	7-30
Transmission cooler - Cleaning .....	7-30
Aftercooler - Cleaning .....	7-31
Cab air filters - Cleaning .....	7-31
Cab air filters - Cleaning - Recirculation Filters .....	7-32
Accessory belt - Check - Alternator belt .....	7-32
Compressor drive belt - Check - Air conditioner belt .....	7-32

## Every 300 hours

Lift oil filters - Replace .....	7-34
Transmission oil filter - Replace - Auxiliary services .....	7-34
Transmission drive housing - Check — Oil level .....	7-35
Air cleaner - Cleaning .....	7-35
Final drive - Check .....	7-36
Four-Wheel Drive (4WD) axle - Check .....	7-36
Steering knuckle and king pin - Grease – (4WD) .....	7-37
Front Power Take-Off (PTO) housing - Check - Oil Level .....	7-37

## Every 600 hours

Engine - Replace - Oil and filter .....	7-39
Fuel filters - Replace .....	7-41

---

Rear wheel - Tighten .....	7-43
Diesel Exhaust Fluid (DEF)/AdBlue®/ARLA filters - Cleaning - In line filter .....	7-43
Diesel Exhaust Fluid (DEF)/AdBlue®/ARLA filters - Replace - In line filter .....	7-44
Driving wheel shaft - Grease - Bearing .....	7-44

## Every 1200 hours or annually

Cab air filters - Replace .....	7-45
Cab air filters - Replace - Recirculation Filters .....	7-45
Air cleaner - Replace .....	7-45
Fuel tank - Drain fluid.....	7-46
Crankcase ventilation system - Replace .....	7-47

## Every 1200 hours or two years

Four-Wheel Drive (4WD) axle - Change fluid .....	7-48
Final drive - Change fluid – (4WD) .....	7-48
Transmission drive housing - Change fluid.....	7-48
Accessory belt - Replace - Alternator belt .....	7-49
Compressor drive belt - Replace - Air conditioner belt .....	7-49

## Every two years

Receiver-dryer - Replace.....	7-50
-------------------------------	------

## Every 3600 hours or four years

Radiator - Change fluid - OAT coolant .....	7-51
---	------

## Electrical system

Battery - Check.....	7-53
Front light - Adjust .....	7-55
Front light - Replace.....	7-56
Turn signal and/or hazard lights - Replace .....	7-57
Headlight - Replace .....	7-57
Fuse and relay box - Replace – Fuse and relay .....	7-58

## Fuse and relay locations

Fuse and relay box - Part identification - Fuse and relay .....	7-60
---	------

## Storage

Tractor storage .....	7-82
Removal of tractor from storage .....	7-83

## CALIBRATION

Clutch calibration - Power shuttle transmission .....	7-83
Clutch calibration — Dual Command™ transmission .....	7-87
Electronic lift calibration .....	7-90

---



## 8 TROUBLESHOOTING

### Fault code resolution

Viewing error codes .....	8-1
Error code identification .....	8-1

### Symptom(s)

Engine - Troubleshooting .....	8-2
Electrical system - Troubleshooting .....	8-4
Hydraulic systems - Troubleshooting .....	8-5
Rear three-point hitch - Troubleshooting .....	8-6
Hydraulic service brakes - Troubleshooting .....	8-7
Cab climate control - Troubleshooting .....	8-8

## 9 SPECIFICATIONS

General dimensions .....	9-1
Maximum permitted loads on front and rear axle .....	9-4
Maximum permitted loads on towing hitch .....	9-5
Speed table for 20 x 20 gearbox .....	9-6
Speed table for 24 x 24 gearbox .....	9-10
Speed table for 24 x 24 gearbox .....	9-12
Speed table for 40 x 40 gearbox .....	9-14
Speed table for 40 x 40 gearbox .....	9-16
Additional equipment attachment points .....	9-20
Consumables .....	9-23
Capacities .....	9-24
General specification .....	9-25

## 10 ACCESSORIES

Radio .....	10-1
Single piece ballast .....	10-11
Coolant immersion heater (where fitted) .....	10-13
Front-end loader fixation points .....	10-14

---

# 1 - GENERAL INFORMATION

## Note to the Owner

This manual contains information concerning the adjustment and maintenance of your new equipment. You have purchased a dependable machine, but only by proper care and operation can you expect to receive the performance and long service built into this equipment. Please have all operators read this manual carefully and keep it available for ready reference.

The NEW HOLLAND dealer will provide instructions on the general operation of new equipment. The dealer's staff, assigned to maintenance, is available for any questions related to the operation of the machine.

Your NEW HOLLAND dealer carries a complete line of genuine NEW HOLLAND service parts. These parts are manufactured and carefully inspected to insure high quality and accurate fitting of any necessary replacement parts. Be prepared to give your dealer the model and product identification number of your new equipment when ordering parts. Locate these numbers now and record them below. Refer to the 'General Information' section of this manual for the location of the model code and product identification numbers of your machine.

PLEASE RECORD THE FOLLOWING INFORMATION
Model :
Product Identification Number (PIN):



Warning symbol. It is used with and without signal words to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

### **⚠ WARNING**

**Illustrations in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.  
Replace all shields before operating the machine.  
Failure to comply could result in death or serious injury.**

W0012A

The machine has been designed and built according to the highest standards of quality and it complies with all current safety regulations. However, the risk of accidents can never be completely excluded. That is why it is essential to observe elementary safety rules and precautions.

Read this manual carefully, paying particular attention to the instructions concerning safety, operation and maintenance so as to avoid the risk of injury while operating or servicing the machine.

Do not use this machine for any application or purpose other than those described in this manual. If the machine is to be used for work involving the use of special attachments, accessories or equipment, consult your NEW HOLLAND Dealer in order to make sure that any adaptations or modifications made are in keeping with the machine's technical specifications and with prevailing safety requirements.

Any modification or adaptation which is not approved by the manufacturer may invalidate the machine's initial conformity with safety requirements.

The machine must undergo regular inspections, the frequency of which varies according to the type of use. Consult your authorized NEW HOLLAND dealer.

Always keep this manual in the operator's compartment (in the seat back, behind the operator's seat). Make sure it is always complete and in good condition. To receive extra copies of the manual or copies in languages other than that of your country of residence, please contact your NEW HOLLAND dealer.

The manufacturer is committed to the constant improvement of its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

**NOTICE:** *The information in this manual is provided on the basis of the information that was available at the time the manual was written. Settings, procedures, part numbers, software and other items may change, which may affect the maintenance of the machine. Ensure that you have complete and current information from your dealer before you start any machine operation. All data given in this book is subject to production variations.*

**Engine tampering statement:**

**ATTENTION:** *The fuel system and engine on your machine are designed and built to government emissions standards. Tampering by dealers, customers, operators and users is strictly prohibited by law. Failure to comply with this prohibition could result in government fines, rework charges, invalid warranty, legal action and possible confiscation of the machine until rework to original condition is completed. Engine service and/or repairs must be done by a certified technician only!*

## Intended use

**NOTE:** *Your tractor is designed according to European directives related to health and safety risks; though it has been designed to minimize all the potential risks it is mandatory to carefully read, understand and observe all the decals and labels and to always refer to information and prescriptions outlined in this manual to prevent all residual potential risks. In case you may need further assistance please do not hesitate to contact your dealer.*

Your tractor is designed and made to pull, to carry and to power a variety of mounted or towed equipment, although within some physical limits. The working speed and performance may depend on a number of various parameters, such as weather and terrain conditions. Though the tractor is designed to perform in combination with a variety of equipment, there may be a number of combinations of above parameters, for which there is severe degradation of performance of the tractor and/or its mounted or trailed equipment. If you notice degradation of performance, contact your dealer for assistance, he may have useful information for improvements, or a kit may be available to enhance the performance.

Please carefully read and consider following precautions:

- Do not use the tractor for purposes other than those intended by the manufacturer and outlined in this manual.
- Do not use the tractor beyond its limits of terrain gradient and stability. Using the tractor beyond these limits may result in a roll-over or a tip-over. Observe the recommendations given in this manual.
- Do not use the tractor on higher speeds than allowed by the load and the environment. A wet surface or other low adherence conditions may increase the braking distance or result in vehicle instability. Always adapt your traveling speed according to the load of the vehicle and the characteristics of the road
- Do not use the tractor near or on soft verges of canals and brooks or banks and verges that are undermined by rodents. The tractor may sink sideways and roll over.
- Do not use the tractor on unstable bridge heads and poor bridge floors. These constructions may collapse and cause roll - over of the tractor. Always check the conditions and load capacity of bridges, crossings and ramps before driving over them.
- Do not use equipment mounted on the tractor which is not correctly matching and firmly fixed. The use of implements or accessories that have not been approved or are not correctly connected may increase the risk of roll-over of the tractor if they come loose. Ensure that the dimensions of the three- point linkage interface of both the tractor and the equipment are matching according to the categories defined in ISO 730. Ensure that the dimensions and speed of the PTO shaft on the tractors are matching those of the equipment.
- Do not use the tractor in combination with equipment, without having consulted the specific Operator's Manual provided with the equipment. The tractor is a universal tool to carry, tow and drive a variety of equipment. This manual alone cannot provide you with all the information required for the safe operation of the combination.
- Do not use the tractor for pulling work, in cases where you do not know whether the load will yield, for instance when pulling stumps; the tractor may flip over when the stump is not yielding.
- Be cautious that the centre of gravity of the tractor may increase when loads on the front – end loader or the three point linkage are raised. In these conditions, the tractor may roll – over earlier than expected.
- Do not step down from the tractor without shutting down the PTO, shifting the transmission to park or neutral and applying the park brake, unless continued PTO operation is required for some equipment, such as pumps or wood chippers. The latter equipment may have an emergency stop device on the equipment itself, as human intervention is needed during operation. But other equipment, engaged and driven by the tractor will have no means to stop the power transmission, other than the PTO clutch of the tractor.
- You shall take the necessary precautions (e.g. assistance) to always be aware of the possible presence of bystanders, certainly when manoeuvring in confined areas, such as the farm yard and sheds. Keep people away from the tractor during work. Ask bystanders to leave the field. There is not only the risk to be overrun by the tractor, but objects ejected by some equipment mounted on the tractor, such as a rotary mower, may cause harm. Stones may be thrown further than the mowed crop. Pay the necessary attention while operating next to public roads or footpaths. Thrown objects can get projected outside the field and hit unprotected people like bikers or pedestrians. Wait to cut the edge of the field till it is clear of bystanders.
- Do not allow riders on the tractor; do not allow people to stand on the access step to the cab when the tractor is moving. Your view to the left will be obstructed and a rider risks falling from the tractor during unexpected or abrupt movements.
- Always stay clear from the implements operating area and especially do not stand between the tractor and the implement or the trailed vehicle when operating lift controls; ensure no bystanders are near these operating areas.
- Certain functions of your tractor are controlled by software and some of them are safety-related. Do not attempt to modify or download software not certified and distributed by the manufacturer. Electronic settings and logics may be destroyed and seriously affect the function of the tractor. This may result in unpredictable and unsafe behaviour of the tractor. Always refer to your dealer; he has the appropriate tools and data sets and owns the officially released software versions and updates for your tractor.

- Your tractor may be equipped with a number of sensors to control safety functions. Tripping these sensors will result in a safe operation mode. Do not attempt to bypass any function on the tractor. You will be exposed to serious hazards, and moreover, the behaviour of the tractor may become unpredictable.
- The tractor has only one operator station and this is a one man operated vehicle. There is no need for other people on or around the tractor during normal operation. Do not allow people standing on the access way to the cab when the tractor is moving. Your view to the left will be obstructed and a rider risks to fall from the tractor during unforeseen or abrupt movements.

Thank you so much for reading.  
Please click the “Buy Now!”  
button below to download the  
complete manual.



After you pay.

You can download the most  
perfect and complete manual in  
the world immediately.

Our support email:

[ebooklibonline@outlook.com](mailto:ebooklibonline@outlook.com)