

NEW HOLLAND

T2310

T2320

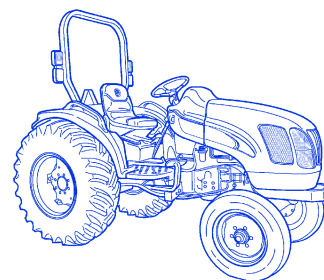
T2330

With 12x12 Gear Transmission

87395020
1st Printing

10/07

OPERATOR'S MANUAL



NEW HOLLAND

TO THE OWNER

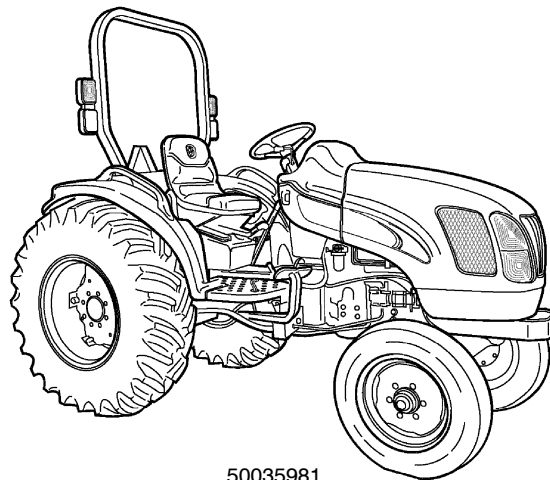
This manual contains information concerning the adjustment and maintenance of your New Holland Models T2310, T2320 and T2330 tractors. You have purchased a dependable machine, but only by proper care and operation can you expect to receive the performance and long service built into this tractor. Please have all operators read this manual carefully and keep it available for ready reference.

Your New Holland dealer will instruct you in the general operation of your tractor. (Refer to the "Delivery Report" at the back of this manual.) Your dealer's staff of factory-trained service technicians will be glad to answer any questions that may arise regarding the operation of your tractor.

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 the tractor, 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 and pin numbers of your tractor.

Model _____

Product Identification Number _____



⚠ WARNING ⚠

This safety alert symbol indicates important safety messages in this manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.

⚠ WARNING ⚠

Pictures in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.

Be certain, however, to close or replace all shielding before operating the machine.

IMPROVEMENTS

CNH America LLC is continually striving to improve 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.

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FEDERAL EMISSIONS WARRANTY

(North America Only)

(California owner's emissions warranty is covered elsewhere)

CNH UK Ltd warrants that your new 1996 and later heavy-duty off-road diesel engine was designed, built, and equipped to conform to applicable U.S. Environmental Protection Agency regulations for a period of use of five years or 3,000 hours of operation, whichever occurs first.

The new model year, class of diesel engine, and emission application determination for your engine are identified on the emission control information label affixed to the engine. The warranty period begins on the date the new equipment is sold to the first retail purchaser.

Any emission control system parts which are proven defective during normal use will be repaired or replaced during the warranty period. The warranty repairs and service will be performed by any authorized CNH dealer at the dealer's place of business, with no charge for parts or labor (including diagnosis).

As the engine owner, you are responsible to perform all the required maintenance listed in your owner's manual. CNH UK Ltd will not deny an emission warranty claim solely because you have no record of maintenance; however, a claim may be denied if your failure to perform maintenance resulted in the failure of a warranted part. Receipts covering regular maintenance should be retained in the event of questions and these receipts should be passed on to each subsequent owner of the engine.

It is recommended replacement parts used for maintenance or repairs be CNH Service Parts to maintain the quality originally designed into your emission certified engine. The use of non-CNH parts does not invalidate the warranty on other components unless the use of such parts causes damage to warranted parts.

CNH UK Ltd wishes to assure the emission control systems warranty is being properly administered. If you believe you have not received the service entitled to under this warranty, you should contact the nearest CNH Office for assistance. The address and phone number of each Office is in your equipment owner's manual. If additional assistance or information is needed, contact:

Service Department
CNH America, LLC
500 Diller Avenue
New Holland, PA 17557
(717) 355-1121

Please note that the Emission Warranty does not cover:

1. Systems and parts that were not first installed on the new equipment or engine as original equipment by CNH UK Ltd.
2. Part malfunctions caused by abuse, misuse, improper adjustment, modification, alteration, tampering, disconnection, improper or inadequate maintenance, or use of non-recommended fuels and lubricating oils.
3. Accident caused damage, acts of nature, or other events beyond CNH UK Ltd's control.
4. Replacement of expendable items made in connection with scheduled maintenance.
5. Parts requiring replacement, inspection or adjustment maintenance intervals for reasons other than being defective.
6. Parts which are not CNH Service Parts.
7. Loss of time, inconvenience, loss of use of equipment/engine or commercial loss.
8. Equipment with altered or disconnected hourmeter where the hours cannot be determined.
9. Equipment normally operated outside the United States.
10. Non-defective parts replaced by other than CNH dealers.

Coverage

This emission control system warranty applies only to the following emission control parts.

Electronic Control Unit
Fuel Injection Pump
Fuel Injectors
Turbocharger
Intake Manifold
Exhaust Manifold
Boost Pressure Tubing-connection to Aneroid Device ON F.I.P.

CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT

(North America Only)

(California Only)

Your Warranty Rights and Obligations

The California Air Resources Board and CNH UK LTD are pleased to explain the emission control system warranty on your engine. In California, new 2004 and later heavy-duty off-road engines from 50 to 750 HP must be designed, built and equipped to meet the State's stringent anti-smog standards. CNH UK LTD must warrant the emission control system on your engine for the periods of time listed below, provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system includes parts such as the fuel injection system and the air induction system.

Where a warrantable condition exists, CNH UK LTD will repair your heavy-duty off-road engine at no cost to you including diagnosis, parts and labor.

Manufacturer's Warranty Coverage:

The 2004 and later heavy-duty off-road engines are warranted from the original date of delivery for five years or 3000 hours of operation, whichever occurs first. If any emission-related part on your engine is defective, the part will be repaired or replaced by CNH UK LTD.

Owner's Warranty Responsibilities:

- As the heavy-duty off-road engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. CNH UK LTD recommends that you retain all receipts covering maintenance on your heavy-duty off-road engine, but CNH UK LTD cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the heavy-duty off-road engine owner, you should, however, be aware that CNH UK LTD may deny you warranty coverage if your heavy-duty off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
- Your engine is designed to operate on commercially available diesel fuel only. Use of any other fuel may result in your engine no longer operating in compliance with California's emissions requirements.
- You are responsible for initiating the warranty process. The ARB suggests that you present your heavy-duty off-road engine to a CNH dealer as soon as a problem exists. The warranty repairs should be completed by the dealer as expeditiously as possible.
- If you have any questions regarding your warranty rights and responsibilities, you should contact your nearest CNH Office at the address and telephone number listed on the Owner Assistance page of your equipment's operator manual.
- Prior to the expiration of the warranty, you must give notice of any failure of an emission control warranted part. Such notice must be given to CNH UK LTD or an authorized CNH dealer, and you must deliver the engine to the repair location.
- You, the owner, are responsible for incidental costs incurred by yourself or your employees as a result of an unwarrantable failure. Examples of such costs are communication expenses, meals and lodging.
- The owner is responsible for any business costs or losses, any "downtime" expenses and any "cargo" damage which result from the failure of a warranted part. CNH UK LTD is not responsible for other incidental or consequential damages, including, but not limited to fines, theft, vandalism or collisions.

Parts covered:

This emission control system warranty applies to the following emission control parts:

Electronic Control Unit
Fuel Injection Pump
Fuel Injectors
Turbocharger

Intake Manifold
Charge Air Cooler
Exhaust Manifold
Boost Pressure Tubing (connection to Aneroid Device on F.I.P.)

Any replacement part, equivalent in performance and durability, may be used in the performance of any maintenance or repairs and must be provided without charge to the owner. The use of these parts does not reduce the warranty obligations of CNH UK LTD. However, CNH UK LTD recommends the use of new, genuine CNH service parts or CNH approved rebuilt parts and assemblies. CNH UK LTD also recommends that the engine be serviced by a CNH authorized dealer.

CNH UK LTD Responsibilities:

Warranty work will be provided at no charge to the owner at any authorized dealer, using genuine CNH service parts or CNH approved rebuilt parts or assemblies.

The owner will not be charged for diagnostic labor which leads to the determination that a warranted part is defective, if the diagnostic work was performed at a warranty station.

CNH UK LTD is liable for damages to other engine components caused by the failure under warranty of any warranted part.

Warranty Limitations

CNH UK LTD is not responsible for failures resulting from abuse or neglect by owner or operator.

CNH UK LTD warrants to the ultimate purchaser and each subsequent purchaser that the engine is designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board, and that it is free from defects in materials and workmanship which cause the failure of a warranted part.

Any warranted part which is not scheduled for replacement as required maintenance, or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" is warranted for the warranty period.

Any warranted part which is scheduled for replacement as required maintenance is warranted for the period of time prior to the first scheduled replacement point of that part.

CNH UK LTD is not liable to warrant failures caused by the use of add-on or modified parts.

CNH UK LTD is concerned to ensure proper maintenance of the engine to maximise emissions performance. Information on care and replacement of engine air cleaner, and all other aspects of engine maintenance is provided in a manual supplied to the owner. A maintenance schedule chart is provided in the manual.

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

PRECAUTIONARY STATEMENTS

PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements (“**DANGER**”, “**WARNING**”, and “**CAUTION**”) followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.



DANGER



This word “**DANGER**” indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.



WARNING



This word “**WARNING**” indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.



CAUTION



This word “**CAUTION**” indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

FAILURE TO FOLLOW THE “DANGER”, “WARNING”, AND “CAUTION” INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

MACHINE SAFETY

The precautionary statement (“**IMPORTANT**”) is followed by specific instructions. This statement is intended for machine safety.

IMPORTANT: *The word “IMPORTANT” is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.*

INFORMATION

NOTE: *Instructions used to identify and present supplementary information.*

SAFETY

PRECAUTIONARY STATEMENTS

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read the following precautions before operating this equipment. Equipment should be operated only by those who are responsible and instructed to do so.

Carefully review the procedures given in this manual with all operators. It is important that all operators be familiar with and follow safety precautions.

THE TRACTOR

1. Read the Operator's Manual carefully before using the tractor. Lack of operating knowledge can lead to accidents.
2. Use an approved roll bar and seat belt for safe operation. Overturning a tractor without a roll bar can result in death or injury. If your tractor is not equipped with a roll bar and seat belt, see your New Holland Dealer.
3. Always use the seat belt. The only instance when the seat belt should not be used is if the roll bar has been removed from the tractor or folding ROPS is in down position.
4. If a front end loader is to be installed, always use a FOPS (Falling Object Protective Structure) canopy to avoid injury from falling objects.
5. Use the handholds and step plates when getting on and off the tractor to prevent falls. Keep steps and platform cleared of mud and debris.
6. Do not permit anyone but the operator to ride on the tractor. There is no safe place for extra riders.
7. Keep all safety decals clean of dirt and grime, and replace all missing, illegible, or damaged safety decals. See the list of decals in the Decal section of this manual.
3. Keep the tractor and equipment, particularly brakes and steering, maintained in a reliable and satisfactory condition to ensure your safety and comply with legal requirements.
4. Keep open flame or cold weather starting aids away from the battery to prevent fires or explosions. Use jumper cables according to instructions to prevent sparks which could cause explosion.
5. Stop the engine before performing any service on the tractor.
6. Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injury. If fluid is injected into the skin, obtain medical attention immediately or gangrene may result.
 - DO NOT use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks.
 - Stop the engine and relieve pressure before connecting or disconnecting lines.
 - Tighten all connections before starting the engine or pressurizing lines.
7. Do not modify or permit anyone else to modify or alter this tractor or any of its components or functions without first consulting a New Holland Dealer.

SERVICING THE TRACTOR

1. The cooling system operates under pressure which is controlled by the radiator cap. It is dangerous to remove the cap while the system is hot. Always turn the cap slowly to the first stop and allow pressure to escape before removing the cap entirely.
2. Keep any type of open flame away from the tractor and do not smoke while refueling. Wait for the engine to cool before refueling.
8. The fuel oil in the injection system is under high pressure and can penetrate the skin. Unqualified persons should not remove or attempt to adjust a pump, injector, nozzle, or any other part of the fuel injection system. Failure to follow these instructions can result in serious injury.
9. Continuous long-term contact with used engine oil may cause skin cancer. Avoid prolonged contact with used engine oil. Wash skin promptly with soap and water.

10. Some components of your tractor, such as gaskets and friction surfaces (brake linings, clutch linings, etc.) may contain asbestos. Breathing asbestos dust is dangerous to your health. You are advised to have any maintenance or repair on such components carried out by an authorized New Holland Dealer. However, if service operations are to be undertaken on parts that contain asbestos, the essential precautions listed below must be observed:

- Work out of doors or in a well ventilated area.
- Dust found on the tractor or produced during work on the tractor should be removed by extraction, not by blowing.
- Dust waste should be dampened, placed in a sealed container, and marked to ensure safe disposal.
- If any cutting, drilling, etc. is attempted on materials containing asbestos, the item should be dampened and only hand tools or low speed power tools used.

OPERATING THE TRACTOR

1. Before starting the tractor, apply the parking brake, place the PTO lever in the "OFF" position, the lift control lever in the down position, the remote control valve levers in the neutral position, and the transmission in neutral.
2. Always sit in the tractor seat when starting the engine or operating controls. Do not start the engine or operate controls while standing beside the tractor.
3. Do not bypass the neutral start switches. Consult your New Holland Dealer if your neutral start controls malfunction. Use jumper cables only in the recommended manner. Improper use can result in tractor runaway.
4. Avoid accidental contact with the gear shift lever while the engine is running, as this can cause unexpected tractor movement.
5. Before getting off the tractor, disengage the PTO, turn the engine off, and apply the parking brake. Never get off the tractor while it is in motion.
6. Do not park the tractor on a steep incline.
7. Do not operate the tractor engine in an enclosed building without adequate ventilation. Exhaust fumes can cause death or illness.
8. If the power steering or engine ceases operating, stop the tractor immediately.

9. Pull only from the drawbar or the lower link drawbar in the down position. Use only a drawbar pin that locks in place. Pulling from the tractor rear axle or any point above the axle may cause the tractor to upset.

10. If the front end of the tractor tends to rise when heavy implements are attached to the three-point hitch, install front end or front wheel weights. Do not operate the tractor with a light front end.

11. Always set the hydraulic selector lever in position control when attaching or transporting equipment. Ensure hydraulic couplers are properly mounted and will disconnect safely in case of accidental detachment of implement.

12. Do not leave equipment in the raised position.

13. Use the flasher/turn signal lights and SMV signs when traveling on public roads both day and night (unless prohibited by law).

14. When operating at night, adjust lights to prevent blinding oncoming drivers.

DRIVING THE TRACTOR

1. Watch where you are going, especially at row ends, on roads, around trees and low hanging obstacles.

2. To avoid upsets, drive the tractor with care and at a safe speed. Use extra caution when operating over rough ground, when crossing ditches or slopes, and when turning corners.

3. To provide two-wheel braking, lock tractor brake pedals together when transporting on roads.

4. Do not coast or free wheel down hills. Use the same gear when going downhill as is used when going uphill.

5. Any towed vehicle with a total weight exceeding that of the towing tractor should be equipped with brakes for safe operation.

6. If the tractor becomes stuck or the tires become frozen to the ground, back up the tractor to prevent upset.

7. Always check overhead clearance, especially when transporting the tractor.

8. When operating at night, adjust lights to prevent blinding oncoming drivers.

OPERATING THE PTO

1. When operating PTO driven equipment, shut off the engine and wait until the PTO stops before getting off the tractor and disconnecting the equipment.
2. Do not wear loose clothing when operating the power take-off or when near rotating equipment.
3. When operating stationary PTO driven equipment, always place all three gear shift levers in neutral position:
 - Main shift lever
 - Shuttle shift lever
 - Range shift lever
 - Apply the tractor parking brake, and block the rear wheels front and back.
4. To avoid injury, do not clean, adjust, unclog, or service PTO driven equipment when the tractor engine is running.
5. Ensure the PTO master shield is installed at all times. Always replace the PTO shield cap when the PTO is not in use.

DIESEL FUEL

1. **UNDER NO CIRCUMSTANCES** should gasoline, alcohol, or blended fuels be added to diesel fuel. These combinations can create an increased fire or explosive hazard. Such blends are more explosive than pure gasoline in a closed container such as a fuel tank. **DO NOT USE THESE BLENDS.**
2. Never remove the fuel cap or refuel with the engine running or hot.
3. Do not smoke while refueling or when standing near fuel.
4. Maintain control of the fuel filler pipe nozzle when filling the tank.
5. Do not fill the fuel tank to capacity. Allow room for expansion.

6. Wipe up spilled fuel immediately.
7. Always tighten the fuel tank cap securely.
8. If the original fuel tank cap is lost, replace it with a New Holland approved cap. A non-approved, proprietary cap may not be safe.
9. Keep equipment clean and properly maintained.
10. Do not drive equipment near open fires.
11. Never use fuel for cleaning purposes.
12. Arrange fuel purchases so that winter grade fuels are not held over and used in the spring.

SAFETY FRAME (ROPS)

Your New Holland tractor is equipped with a safety frame. It must be maintained in a serviceable condition. Be careful when driving through doorways or working in confined spaces with low headroom.

UNDER NO CIRCUMSTANCES should you:

- modify, drill, or alter the safety frame in any way. Doing so may render you liable to legal prosecution.
- attempt to straighten or weld any part of the main frame or retaining brackets which have suffered damage. Doing so may weaken the structure and endanger your safety.
- secure any parts on the main frame or attach your safety frame with anything other than the special high tensile bolts and nuts specified.
- attach chains or ropes to the main frame for pulling purposes.
- take unnecessary risks even though your safety frame affords you the maximum protection possible.



WHEN YOU SEE THIS SYMBOL

IT MEANS:

ATTENTION!

BECOME ALERT!

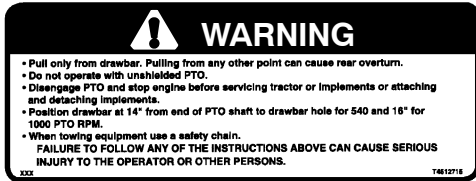
YOUR SAFETY IS INVOLVED!

SAFETY DECALS

The following safety decals have been placed on your machine in the areas indicated. They are intended for your personal safety and for those working with you. Please take this manual and walk around your machine to note the content and location of these warning signs. Review these warning signs

and the operating instructions detailed in this manual with your machine operators.

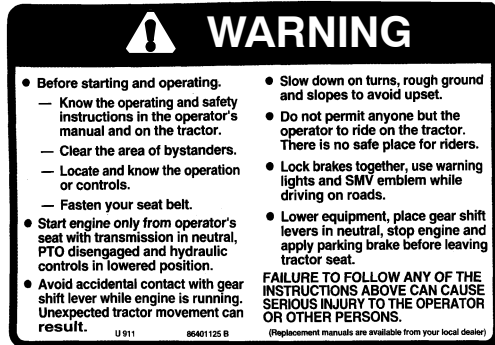
Keep the decals legible. If they are not, obtain replacements from your authorized dealer. The decal replacement part numbers are listed with each decal.



WARNING: Pull Only From Drawbar
PART NO: 86532904
LOCATION: PTO Shield



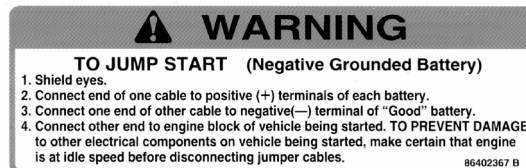
DANGER: ROPS
PART NO: 86543805
LOCATION: Top under side of ROPS



WARNING: Before Starting and Operating
PART NO: 86401125
LOCATION: Left Console Panel



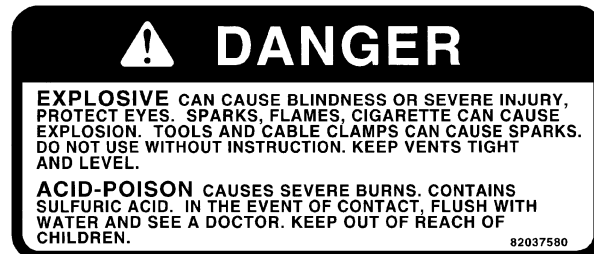
WARNING: Start Engine Only From Operator's Seat
PART NO: 82985062
LOCATION: Left side of firewall above starter



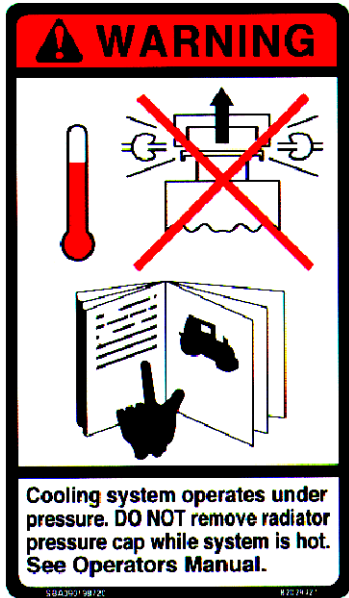
WARNING: To Jump Start
PART NO: 86402367
LOCATION: Coolant overflow tank



WARNING: Rotating Fan and Belts
PART NO: 86532907
LOCATION: Both Sides of Fan Shroud



DANGER: Battery Safety
PART NO: 82037580
LOCATION: Top of Coolant Overflow Tank



WARNING: Cooling System Under Pressure
 PART NO: 82029421
 LOCATION: Coolant Overflow Tank



WARNING: Operate Controls only from Tractor seat
 PART NO: 87300025
 LOCATION: Rear of Right Fender

INSTRUCTION DECALS



Front-Wheel Drive Control Lever
 PART NO: 86400177
 LOCATION: Left Fender



Position Control Lever
 PART NO: 86567896
 LOCATION: Right-Hand Quadrant



Operating Remote Control Valve
 Single Spool
 PART NO: 86405827
 LOCATION: Right-Hand Fender
 OPTIONAL

PTO Engagement
 PART NO: 87301626
 LOCATION: Left-Hand Seat Pan



Range Selector Lever (Manual)
 PART NO: 86567891
 LOCATION: Left fender



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