**NEW HOLLAND TM120 TM130** TM140 TM155 TM175 **TM190** 

2006 Production

**82999263** 2/06





## CONTENTS

#### Section 1

General Information and Safety	1-1
o the Owner	1-1
Product Identification	1-2
Ecology and the Environment	1-4
Personal Safety	1-5
Achine Safety	1-5
nformation	1-5
Safety Precautions	1-6
Safety Decals	-14
nternational Symbols	-19

#### Section 2

Controls, Instruments and Operation 2-1			
Cab and Platform Controls - TM120, TM130, TM140 and TM155			
Cab and Platform Controls - TM175 and TM190 2-4			
Cab 2-6			
Roof-Mounted Controls			
Electrical Power Panel and Monitor Mounting 2-15			
Cleaning the Tractor			
Seats			
Handbrake, Throttle and Foot Controls 2-24			
Instrument Console			
Analog and Analog / Digital Instrument Panels 2-28			
Electronic Instrument Panel - TM175, TM190 2-35			
Programming the Main Display			
Tractor Performance Monitor			
Programming the Tractor Performance Monitor 2-54			
20 X 16 Shuttle Command Transmission 2-59			
Range Command Transmission - TM120, TM130, TM140 and TM155			
Power Command Transmission			
Electronic Management Unit			

#### Section 3

Operation	3-1
Starting the Engine	3-4
Engine Power Management - TM175 and TM190	3-9
Engine Speed Management - TM175 and TM190	3-10
Headland Turn Sequence - TM175 and TM190	3-12
Rear Power Take-Off	3-19
Mechanical Lower Link Sensing Hydraulics (Where Fitted)	3-25
Remote Control Valves (With Open Center Pump)	3-30
Electronic Draft Control (Where Fitted)	3-39
Remote Control Valves - Load-sensing Type (Where Fitted)	3-51
Remote Control Valves - Electro-hydraulic Type (Where Fitted)	3-59
Additional Oil Supply For Remote Hydraulic Services (Where Fitted)	3-70
Three-point Linkage	3-72
Drawbars and Towing Attachments	3-81
Hydraulic Trailer Brakes (Where Fitted)	3-84
Equipment Mounting Points	3-85
Track Adjustment (Two Wheel Drive)	3-86
Front Wheel Track Adjustment (Four Wheel Drive)	3-93
Terraglide Front Axle Suspension	3-98
Rear Wheel Track Adjustment	3-101
Ballasting and Tires	3-115

#### Section 4

Lubrication and Maintenance 4-1
General Lubrication and Maintenance Information 4-1
Fueling the Tractor
Guards
Lubrication and Maintenance Chart 4-7
Lubricants and Coolants 4-8
When the Warning Lamp Lights 4-10
Every 10 Hours Of Operation or Daily Maintenance (Whichever Occurs First) 4-16
Every 50 Hours Maintenance
Every 300 Hours Maintenance 4-28
Every 600 Hours Maintenance 4-35
Every 1200 Hours or 12 Months Maintenance (Whichever Occurs First) 4-39
Every 1200 Hours or 2 Years Maintenance (Whichever Occurs First) 4-45
Every 1800 Hours Maintenance 4-51
Every 3 Years Maintenances 4-54
General Maintenance 4-55
Protecting the Electronic and Electrical Systems During Battery Charging or Welding 4-77

#### Section 5

Troubleshooting	5-1
Troubleshooting Introduction	5-1
System Troubleshooting	5-2

#### Section 6

Vehicle Storage	 6-1
Tractor Storage	 6-1

#### Section 7

Accessories	
General Accessory Information	

#### Section 8

Tractor Specifications	3-1
General Tractor Specifications Information	3-1
Tractor Dimensions - TM120, TM130, TM140 and TM155 8	3-2
Tractor Dimensions - TM175 and TM1908	3-4
Tractor Weight	3-6
Tractor Engine Specifications	3-7
Tractor Fuel System Specifications	3-7
Tractor Cooling System Specifications	3-8
Tractor Transmission Specifications	3-8
Tractor Hydraulic System Specifications         8	}-9
Tractor Three-point Linkage Specifications 8	}-9
Tractor Brakes Specifications	10
Tractor Steering Specifications	10
Tractor Maximum Operating Angle Specifications	10
Tractor Rear Power Take-off Specifications 8-1	10
Tractor Electrical Equipment Specifications 8-	11
Tractor Fluid Capacities Specifications	12

#### Section 9

First 50-Hour Service Forms	9-1
Check and Adjust, As Required (Dealer's Copy)	9-1
Check and Adjust, As Required (Owner's Copy)	9-3
Section 10	
Index	10-1

### 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	Intake Manifold
Fuel Injection Pump	Charge Air Cooler
Fuel Injectors	Exhaust Manifold
Turbocharger	Boost Pressure Tubing (connection to Aneroid Device on F.I.P.)
Turbocharger	Boost Pressure Tubing (connection to Aneroid Device on

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.

# SECTION 1 GENERAL INFORMATION AND SAFETY

#### TO THE OWNER

#### General

This Manual has been prepared to assist you in the correct procedure for running-in, driving and operating and for the maintenance of your new tractor. Read this Manual carefully. Your tractor is intended for use in normal and customary agricultural applications.

If at any time you require advice concerning your tractor, do not hesitate to contact your authorized dealer. They have factory trained personnel, genuine manufacturers' parts and the necessary equipment to carry out all your service requirements.

Your tractor has been designed and built to give maximum performance, economy and ease of operation under a wide variety of operating conditions. Prior to delivery, the tractor was carefully inspected, both at the factory and by your dealer to ensure that it reaches you in optimum condition. To maintain this condition and ensure trouble-free operation, it is important that the routine services, as specified in Section 4 of this Manual, are carried out at the recommended intervals.

#### **OPERATORS MANUAL STORAGE**

A storage pocket for the Operators Manual can be found on the rear of the seat. The manual should be kept in this pocket at all times when not in use.

#### **CLEANING THE TRACTOR**

Your tractor is a state-of-the-art machine with sophisticated, electronic controls. This should be borne in mind when cleaning the tractor, particularly if using a high pressure washer. Even though every precaution has been taken to safeguard electronic components and connections, the pressure generated by some of these machines is such that complete protection against water ingress cannot be guaranteed.

When using a high pressure washer, do not stand too close to the tractor and avoid directing the jet at electronic components, electrical connections, breathers, seals, filler caps, etc. Never direct a cold water jet at a hot engine or exhaust.

#### SAFETY

Pages 1-6 to 1-13 inclusive list the precautions to be observed to ensure your safety and the safety of others. Read the safety precautions and follow the advice offered before operating the tractor.

#### **FIRST 50 HOUR SERVICE**

In Section 9, at the back of this Manual, you will find the 50-hour service reports.

After you have operated the tractor for 50 hours, take your tractor, together with this Manual, to your dealer. He will then perform the factory recommended 50 hour service and complete the service report sheets (pages 9-1 and 9-3). The first sheet (page 9-1) is the dealer's copy and should be removed by the dealer after the service has been carried out. The second sheet (page 9-3) is your copy of the service performed. **Ensure that you and the dealer sign both copies.** 

#### SERVICE PARTS

It should be pointed out that genuine parts have been examined and approved by the Company. The installation and/or use of 'non-genuine' products could have negative effects upon the design characteristics of your tractor and thereby affect it's safety. The Company is not liable for any damage caused by the use of 'non-genuine' parts and accessories. Only genuine CNH original replacement parts should be used. The use of non-genuine parts may invalidate legal approvals associated with this product.

It is prohibited to carry out any modifications to the tractor unless specifically authorized, in writing, by the After Sales Service department of the Company.

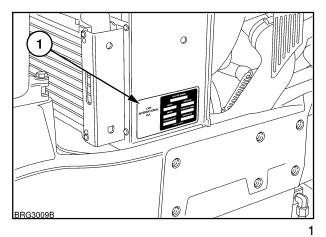
#### WARRANTY

Your tractor is warranted according to legal rights in your country and the contractual agreement with the selling dealer. No warranty shall, however, apply if the tractor has not been used, adjusted and maintained according to the instructions given in the Operator's Manual.

#### **PRODUCT IDENTIFICATION**

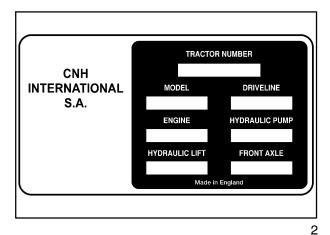
The tractor and major components are identified using serial numbers and/or manufacturing codes. Tractor identification data must be supplied to the dealer when requesting parts or service and will also be needed to aid in identifying the tractor if it is ever stolen.

The following provides the locations of the identification data.



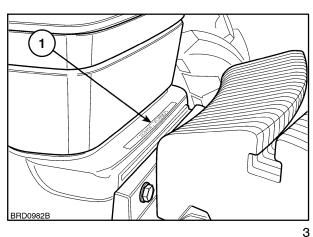
#### VEHICLE IDENTIFICATION PLATE

The vehicle identification plate, 1, Figure 1 is located on the right-hand radiator support. Record the information on the sample identification plate provided below.



#### TRACTOR IDENTIFICATION

The serial number and model identification information is stamped on the top of the front support, 1. These numbers are also repeated on the vehicle identification plate reproduced above.



#### **ENGINE IDENTIFICATION**

The engine serial number and date code are stamped on a lug, 1, protruding from the rear, right-hand side of the engine. This information is repeated on the emission control decal located on the engine valve cover, and on the vehicle identification plate reproduced on page1-2.

Engine Serial No.

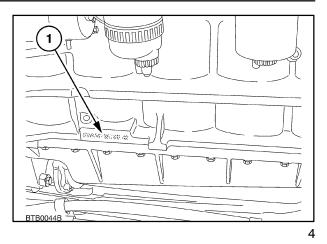
#### **EMISSION CONTROL DECAL**

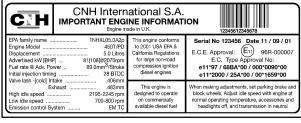
Located on the engine valve cover, the Emission Control Decal provides information on engine adjustments and compliance with emission regulations where required.

#### **DRIVELINE IDENTIFICATION**

The serial number, 1, is stamped on the right-hand side of the transmission housing. This information is repeated on the vehicle identification plate. Record the information below for quick reference.

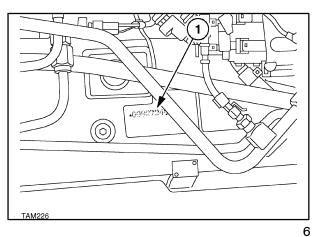
Driveline Serial No.





5

7



#### **CAB IDENTIFICATION**

The cab serial number and other information is on the OECD certification plate on the inner surface of the left-hand crossrail, beneath the windscreen. Record the cab serial number below for quick reference.

Cab Serial No.

CNH International SA Made in the U.K. APPROVED SAFETY CAB SLTV 10 TYPE / VERSION / MODEL SERIAL NO. OECD APPROVAL NO. T GODKENDT AF DIREKTOREN FOR ARBEJDSTILSYNET

#### ECOLOGY AND THE ENVIRONMENT

Soil, air and water are vital factors of agriculture and life in general. Where legislation does not yet rule the treatment of some of the substances which are required by advanced technology, common sense should govern the use and disposal of products of a chemical and petrochemical nature.

The following are recommendations which may be of assistance:

- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, anti freeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use and dispose of these substances. Agricultural consultants will, in many cases, be able to help you as well.

#### **HELPFUL HINTS**

- 1. Avoid filling tanks using unsuitable containers or inappropriate pressurized fuel delivery systems which may cause considerable spillage.
- 2. In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them contain substances which can be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and/or waste oils in ordinary heating systems.

- 4. Avoid spillage when draining off used engine coolant mixtures, engine, gearbox and hydraulic oils, brake fluids, etc. Do not mix drained brake fluids or fuels with lubricants. Store them safely until they can be disposed of in a proper way to comply with local legislation and available resources.
- Modern coolant mixtures, i.e. antifreeze and other additives, should be replaced every two years. They should not be allowed to get into the soil but should be collected and disposed of safely.
- Do not open the air-conditioning system yourself. It contains gases which should not be released into the atmosphere. Your dealer or air conditioning specialist has a special extractor for this purpose and will have to recharge the system anyway.
- 7. Repair any leaks or defects in the engine cooling or hydraulic system immediately.
- 8. Do not increase the pressure in a pressurized circuit as this may lead to the components exploding.
- 9. Protect hoses during welding as penetrating weld splatter may burn a hole or weaken them, causing the loss of oils, coolant, etc.

## 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.

Δ

### 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 PRECAUTIONS

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

Failure to follow the **CAUTION**, **WARNING** and **DANGER** instructions may result in serious bodily injury or even death.

#### THE TRACTOR

- 1. Read the Operator's Manual carefully before using the tractor. Lack of operating knowledge can lead to accidents.
- 2. Only allow properly trained and qualified persons to operate the tractor.
- 3. To prevent falls, use the handrails and step plates when getting on and off the tractor. Keep steps and platform clear of mud and debris.
- 4. Replace all missing, illegible or damaged safety decals.
- 5. Keep safety decals free of dirt or grime.
- 6. Do not permit anyone but the operator to ride on the tractor unless driver instruction or training is being carried out. When used for these purposes, an additional seat may be fitted in the cab.
- 7. Keep children away from the tractor and farm machinery at all times.
- Do not modify or alter or permit anyone else to modify or alter the tractor or any of its components or any tractor function without first consulting your dealer.
- 9. Install all guards before starting the engine or operating the tractor.

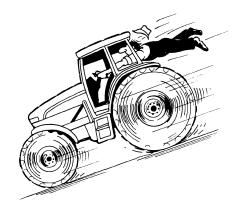
#### **DRIVING THE TRACTOR**

- 1. Always sit in the driver's seat while starting or driving the tractor.
- 2. When driving on public roads, have consideration for other road users. Pull in to the side of the road occasionally to allow any following traffic to pass. Do not exceed the legal speed limit set in your country for agricultural tractors.
- 3. Use a rotating beacon when driving on public roads to indicate that the vehicle is slow moving and is a possible hazard.



- 4. Dim the tractor lights when meeting a vehicle at night. Make sure the lights are adjusted to prevent blinding the driver of an oncoming vehicle.
- 5. Reduce speed before turning or applying the brakes. Brake both wheels simultaneously when making an emergency stop. Ensure that both brake pedals are locked together when travelling at road speeds or when on public roads to ensure correct operation of trailer brakes, balanced operation of the tractor brakes and four wheel braking (4WD tractors only).
- 6. On four wheel drive tractors, the drive to the front axle is automatically engaged, to provide four wheel braking, when both footbrakes are applied. Owners should be aware of the effectiveness of four wheel braking which greatly enhances braking performance. Appropriate care should be exercised during fierce braking.
- 7. Use extreme caution and avoid hard application of the tractor brakes when towing heavy loads at road speeds.
- 8. Keep the tractor in the same gear when going downhill as would be used when going uphill. Do not coast or freewheel down hills.
- 9. For safe operation any towed vehicle whose total weight exceeds that of the towing tractor must be equipped with a braking system that complies with the legal requirements of that country.
- 10. Never apply the differential lock when turning. When engaged, the differential lock will prevent the tractor from turning.
- 11. Always check overhead clearance, especially when transporting the tractor. Watch where you are going, especially at row ends, on roads and around trees and low overhanging obstacles.
- 12. To avoid overturns, drive the tractor with care and at speeds compatible with safety, especially when operating over rough ground, when crossing ditches or slopes and when turning corners.





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