

NEW HOLLAND

TS90

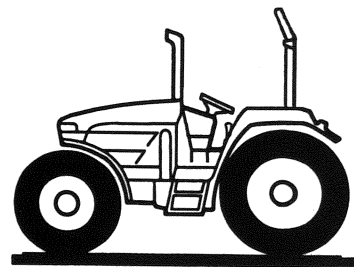
TS100

TS110

with EconoShift
transmission

86562958 1/98

OPERATOR'S MANUAL



NEW HOLLAND

Reprinted

TO THE OWNER:

The warranty coverage that is extended to your tractor is explained in the Warranty and Limitation of Liability form. Your dealer will provide you with a copy of the warranty and retain a copy which you have signed. After you read the warranty, ask your dealer to explain any points that you may not understand.

This tractor was designed to power and propel itself. It is intended for use in normal and customary agricultural and light duty commercial applications.

Do not modify or alter or permit anyone else to modify or alter this tractor or any of its components or any tractor function without first consulting an authorized New Holland dealer. If you have any questions regarding tractor modifications, contact New Holland North America, Inc., 500 Diller Ave., New Holland, PA 17557.

A safety cab incorporating a Roll Over Protection Structure (ROPS) and a seat belt are standard equipment for the tractor. A safety cab/ROPS is effective in reducing injuries during tractor overturn accidents. Overturning a tractor without a ROPS can result in serious injury or death. If your tractor is not equipped with a seat belt, see your New Holland dealer.

Your safety and the safety of those around you depends upon the care and good judgment you use while operating this equipment. Read the safety precautions carefully.

For a complete list of the delivery service checks performed by your dealer, refer to DELIVERY REPORT in this manual. The first copy is your record of the service performed and the second copy, which is to be removed from the manual, is your dealer's record. **MAKE SURE THAT YOU AND THE DEALER SIGN BOTH COPIES.**

After you have operated the tractor for 50 hours, take your tractor and this manual to your selling dealer. He will perform the factory recommended 50-hour service. You will be responsible for the cost of lubricants, fluids, filters and other items replaced as part of normal maintenance. Prior to taking the tractor to your selling dealer for service, it is recommended that you contact them to determine any other charges for which you may be responsible.

All data given in this book is subject to production variations. Dimensions and weights are approximate only and the illustrations do not necessarily show tractors in standard condition. For exact information about any particular tractor please consult your New Holland dealer.



CAUTION: THIS SYMBOL IS USED THROUGHOUT THIS BOOK WHENEVER PERSONAL SAFETY IS INVOLVED. TAKE TIME TO READ AND FOLLOW THE INSTRUCTIONS. BE CAREFUL!

CAUTION: 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

New Holland North America, Inc. 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.



NEWHOLLAND WARRANTY AND LIMITATION OF LIABILITY - AGRICULTURAL PRODUCTS

COVERAGE PROVIDED

New Holland North America, Inc. or New Holland Canada, Ltd., hereinafter called "Company" warrants to the retail purchaser of each new Product (as listed below) that the Selling Dealer will repair or replace any part thereof found to be defective in materials or workmanship within the following periods. This warranty is for the benefit of the original or subsequent purchaser when purchased from an authorized New Holland dealer.

BASIC WARRANTY

Product	Warranty Period (whichever comes first)
— Harvesting, Materials Handling Equipment and Implements	12 Months
— Extended New Holland Engines Warranty for Self Propelled Harvesting Products*	24 Months or 2000 Hours
— Compact Tractors, Model 1530, 1630, 1725 and 1925	24 Months or 1500 Hours
— Extended Power Train Warranty**	36 Months or 1500 Hours
— Tractors, 1000 thru 8000 Series (except as noted), Model 9030 and SP Windrower	12 Months
— Extended Power Train Warranty**	24 Months or 2000 Hours
— Tractors, 8030 and 8070 Series	36 Months or 3000 Hours
— Articulated 4 Wheel Drive Models (except Model 9030) and Auger Headers	24 Months or 2000 Hours
— Replacement Parts	90 days or to end of Basic Warranty (whichever is longer)

*Allison transmissions, Caterpillar, Cummins and Deutz engines are warranted by their respective manufacturers.

**The components covered by extended warranty consists of the following:

ENGINE - The rocker arm cover, crankshaft seals, cylinder head, engine block, crankcase pan and timing gear cover of the engine, and the parts fully enclosed within these units.

TRANSMISSION AND REAR AXLE (Tractors and SP Windrowers) - The clutch housing (excludes clutch), transmission case, dual power housing, differential housing, differential pinion, PTO seals, final drive housings, transfer case, front wheel drive housing, and parts fully enclosed within these housings, including the drive axles. Includes PTO clutch and PTO drop box, hydrostatic pump/motor and high pressure hoses on the Model 9030 tractors and SP Windrowers.

LIMITATIONS, INCLUDING DISCLAIMER OF IMPLIED WARRANTIES AND CONSEQUENTIAL DAMAGES

This warranty gives you specific legal rights and you may also have other rights which vary, depending on state or provincial laws.

New Holland North America, Inc. or New Holland Canada, Ltd. does not authorize any person or dealer to create for it any other obligation or liability in connection with these products. TO THE EXTENT ALLOWED BY LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS APPLICABLE TO THIS PRODUCT IS LIMITED TO THE STATED DURATION OF THIS WRITTEN WARRANTY. NEITHER COMPANY NOR THE SELLING DEALER SHALL BE LIABLE FOR LOSS OF THE USE OF THE PRODUCT, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS OR CONSEQUENTIAL DAMAGES.

Some states and provinces do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

The remedy of repair or replacement of a defective part during the warranty period herein specified shall be the purchaser's exclusive remedy.

EXTENDED SERVICE PLAN (ESP)

When offered by the Company, the option to purchase an Extended Service Plan has been explained and:

- I accept and have signed the completed registration form
- I decline the Extended Service Plan
- I will consider within 180 days (12 months on 8070 series)

PROTECTIVE EQUIPMENT

Rollover protective structure (ROPS) and seat belts are provided as standard equipment on all New Holland agricultural tractors and we strongly recommend their use. Customers who elect to remove or not use this protection do so at their own risk.

- I acknowledge the existence of OSHA regulations pertaining to ROPS. _____
- A PTO master shield, if applicable, has been installed on the machine. _____
- The correct Operator's Manual has been furnished. _____
- Safety precautions were explained to me by the Selling Dealer. _____

ACKNOWLEDGEMENT/WARRANTY TRANSFER

The blank spaces under "Protective Equipment" have been filled in and are correct, and I acknowledge that I have read and I accept this Warranty and Limitation of Liability.

Purchaser _____	Dealer _____ Code _____
Address _____	Address _____
City _____ State _____ Zip _____	City _____ State _____ Zip _____
Model _____ Serial No. _____	Retail Date _____ / _____ / _____
Attachment Model _____ SN _____	Extended Service Plan Expires on _____ / _____ / _____ (Subject to confirmation by NH)
Attachment Model _____ SN _____	
Purchaser _____ Date _____	Dealer _____ Date _____
Signature	Signature

New Holland Warranty Detail

The warranty period will begin on date of original retail sale or date of original use, whichever is earlier.

- The obligation of Company to the purchaser under this warranty is limited to the repair or replacement of defective parts by an authorized New Holland dealer and will be done free of charge for both parts and labor using genuine New Holland replacement parts. Repair or replacement in accordance with this warranty shall constitute fulfillment of all liabilities of Company and the Selling Dealer in respect to such Products.
- Repairs or replacements will be performed by the Selling Dealer, following delivery of the Product by the purchaser to the Dealer's place of business. When the purchaser has moved a long distance from the Selling Dealer, or the Selling Dealer is no longer in business, any New Holland dealer authorized to sell and service the described Products may perform the repair at its dealership.
- The Selling Dealer shall review these warranty provisions with the purchaser prior to retail sale, secure his acknowledgement of delivery of this warranty and record the date of original retail sale or date of original use.
- To obtain warranty service, the purchaser must (1) report the product defect to an authorized New Holland dealer and request repair within the applicable warranty term and (2) present evidence of the warranty start date.

WHAT IS NOT COVERED BY THE WARRANTY?

This warranty shall NOT apply under the following conditions:

- (i) With respect to vendor warranty items such as Allison transmissions and Deutz, Cummins and Caterpillar engines, or tires, tubes, and attachments which shall be warranted by their manufacturer, or local representative thereof.
- (ii) If the unit has been subject to misapplication, abuse, misuse, negligence of proper maintenance or other negligence, fire or other accident.
- (iii) If parts or attachments other than those made or marketed by New Holland North America, Inc. or New Holland Canada, Ltd., have been used in connection with the unit, and in the sole judgment of Company such use affects its performance, stability or reliability.
- (iv) If the unit has been altered or repaired outside of a New Holland dealership in a manner which, in the sole judgment of Company, affects its performance, stability or reliability.
- (v) Batteries are covered by a separate pro rata adjustment warranty. The pro-rata plan covers the battery fully for the basic product warranty period as indicated, with any remaining warranty pro-rated according to the months of service.
- (vi) The purchaser shall be responsible for payment of dealer travel time to the machine or to deliver the machine to the dealer's service shop for repair. New Holland warranty does not cover delivery charges or travel time.
- (vii) The Company shall have no liability for used equipment sold beyond the specified coverage period.
- (viii) No warranty shall apply to damage resulting from accident or damage caused by environment (such as exposure to corrosive material). The Company shall not be responsible for rental equipment used to replace the equipment being repaired.
- (ix) This warranty shall NOT apply to normal maintenance services (such as tune-ups, fuel injection system cleaning or wheel, brake and clutch adjustments), to normal replacement of service items (such as filters and brake or clutch linings), or to normal deterioration due to use or exposure (such as belts and exterior finish). New Holland shall not be responsible for normal replacement parts such as cutting knives, chains, belts, clutches, filters, oil, or other parts which are worn out, unless they are determined to be defective in material or workmanship.
- (x) This warranty shall NOT apply to any New Holland Product which is retailed or distributed by anyone other than New Holland North America, Inc. or New Holland Canada, Ltd., through its authorized dealers. This warranty shall NOT apply to any Product which is normally operated outside of the United States, and/or Canada.
- (xi) This warranty shall NOT apply if the purchaser, insurance company, or any other entity or individual acting on behalf of the purchaser seeks reimbursement for the dollar value of the repair(s) or replacement(s) covered under this warranty.
- (xii) If the injection pump has been set for fuel delivery above New Holland specifications.

RIGHT TO MAKE DESIGN CHANGES

Company reserves the right to make changes in the design and other changes in its products at any time and from time to time without notice and without incurring any obligation with respect to any product previously ordered from it, sold or shipped by it.

FEDERAL EMISSIONS WARRANTY

(California owner's emissions warranty is covered elsewhere)

New Holland warrants that your new 1997 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 top of your engine's rocker arm cover. 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 New Holland 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. New Holland 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 New Holland Service Parts to maintain the quality originally designed into your emission certified engine. The use of non-New Holland parts does not invalidate the warranty on other components unless the use of such parts causes damage to warranted parts.

New Holland 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 New Holland Branch Office for assistance. The address and phone number of each Branch Office is in your vehicle owner's manual. If additional assistance or information is needed, contact:

Service Department
New Holland North America, Inc.
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 New Holland.
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 New Holland'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 New Holland 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 New Holland dealers.

Coverage

This emission control system warranty applies to the following 450T/PD emission control parts.

Fuel Injection Pump
Fuel Injectors
Turbocharger
Intake Manifold
Exhaust Manifold

FEDERAL EMISSIONS WARRANTY

(California owner's emissions warranty is covered elsewhere)

New Holland warrants that your new 1998 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 top of your engine's rocker arm cover. The warranty period begins on the date the new equipment is sold to the first retail purchaser.

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

New Holland 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 New Holland Branch Office for assistance. The address and phone number of each Branch Office is in your vehicle owner's manual. If additional assistance or information is needed, contact:

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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 New Holland'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 New Holland 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 New Holland dealers.

Coverage

This emission control system warranty applies to the following 450/NE emission control parts.

Fuel Injection Pump
Fuel Injectors
Intake Manifold
Exhaust Manifold

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