

# SERVICE MANUAL

**CR6.80 / CR6.90 / CR7.90 /**

**CR8.90 / CR9.90**

**Tier 4B (final)**

Combine

**Part number 47865347**

1<sup>st</sup> edition English

April 2015



# Link Product / Engine

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| <b>Product</b> | <b>Market Product</b> | <b>Engine</b>  |
|----------------|-----------------------|----------------|
| CR6.80 TIER 4B | North America         | F2CFE613C*B006 |
| CR6.90 TIER 4B | North America         | F2CFE613C*B006 |
| CR7.90 TIER 4B | North America         | F2CFE613A*B    |
| CR8.90 TIER 4B | North America         | F3GFE613B*B001 |
| CR9.90 TIER 4B | North America         | F3HFE613A*B003 |

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# INTRODUCTION

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## **Foreword - Important notice regarding equipment servicing**

All repair and maintenance work listed in this manual must be carried out only by qualified dealership personnel, strictly complying with the instructions given, and using, whenever possible, the special tools.

Anyone who performs repair and maintenance operations without complying with the procedures provided herein shall be responsible for any subsequent damages.

The manufacturer and all the organizations of its distribution chain, including - without limitation - national, regional, or local dealers, reject any responsibility for damages caused by parts and/or components not approved by the manufacturer, including those used for the servicing or repair of the product manufactured or marketed by the manufacturer. In any case, no warranty is given or attributed on the product manufactured or marketed by the manufacturer in case of damages caused by parts and/or components not approved by the manufacturer.

The manufacturer reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on units previously sold. Specifications, descriptions, and illustrative material herein are as accurate as known at time of publication but are subject to change without notice.

In case of questions, refer to your NEW HOLLAND Sales and Service Networks.

## Foreword - Note to the dealer

### Company policy

Company policy, which is one of continuous improvement, reserves the right to make changes in design and specifications at any time without notice and without obligation to modify units previously built.

All data given in this book is subject to production variations. Dimensions and weights are approximate only and the illustrations do not necessarily show windrowers in standard condition.

### Parts and accessories

Genuine NEW HOLLAND parts and accessories have been specifically designed for NEW HOLLAND MACHINES.

We would like to point out those "NON-GENUINE" parts and accessories have not been examined and released by NEW HOLLAND. The installation and or use of such products could have negative effects upon the design characteristics of your machine and thereby affect its safety. NEW HOLLAND is not liable for any damage caused by the use of "NON-GENUINE" NEW HOLLAND parts and accessories.

### Lubrication

Adequate lubrication and maintenance on a regular schedule is vital to maintaining your equipment. To ensure long service and efficient operation, follow the lubrication and maintenance schedules outlined in this manual. The use of proper fuels, oils, grease and filters, as well as keeping the systems clean, will also extend machine and component life.

**NOTICE:** Always use genuine NEW HOLLAND replacement parts, oils and filters to ensure proper operation, filtration of engine and hydraulic systems. See your NEW HOLLAND dealer for additional oil quantities.

## Safety rules

|        |    |
|--------|----|
| CR6.80 | NA |
| CR6.90 | NA |
| CR7.90 | NA |
| CR8.90 | NA |
| CR9.90 | NA |


### Personal safety





This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

 DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

 WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

### **FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.**

### Machine safety

**NOTICE:** Notice indicates a situation that, if not avoided, could result in machine or property damage.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

### Information

**NOTE:** Note indicates additional information that clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

## Header or attachment height system - Personal safety

### **⚠ DANGER**

#### **Crushing hazard!**

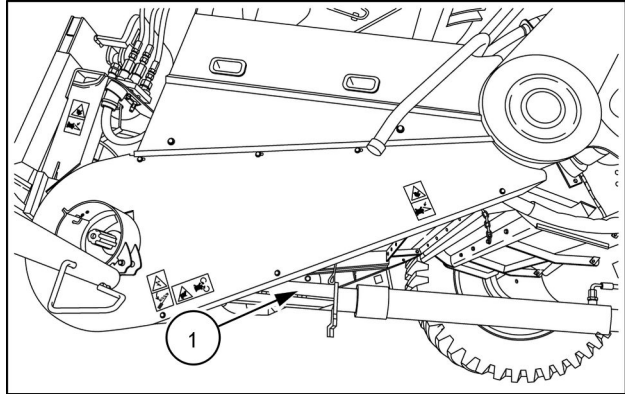
**Always do the following before you enter the area below the header and/or feeder:**

- Disengage the threshing mechanism.
  - Lift the header to its maximum height.
  - Apply the parking brake.
  - Stop the engine.
  - Place the lift cylinder lockout over the cylinder rod.
- Failure to comply will result in death or serious injury.**

D0158B

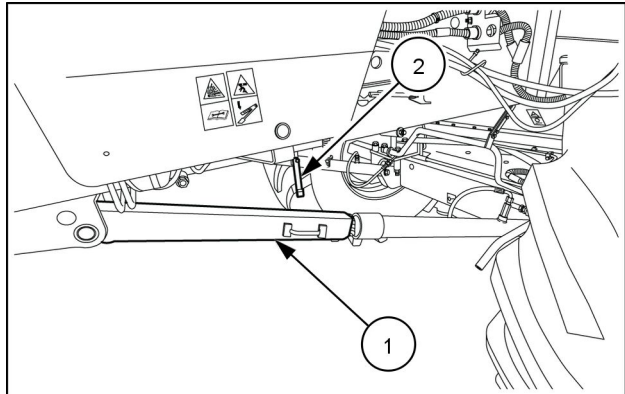
The left-hand cylinder is fitted with a lift cylinder lockout which must be lowered onto the cylinder rod to prevent accidental lowering of the header/feeder.

Whenever work is carried out underneath the header/feeder, the lockout must be lowered onto the cylinder rod as shown at (1).



ZEIL14CR00308AA 1

Engage the lift cylinder lockout (1) by unhooking the lift cylinder lockout (1) from the hook (2) as shown.

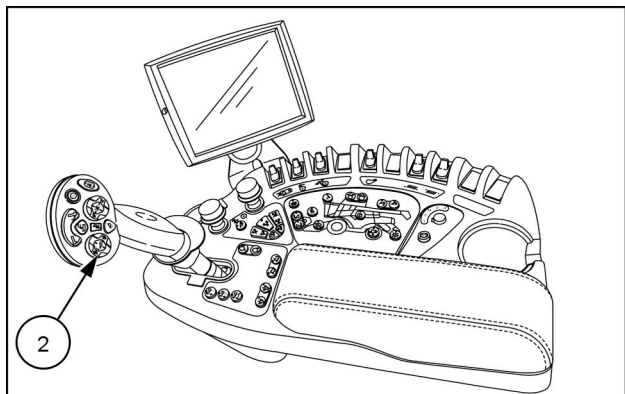


ZEIL13II00122AB 2

To engage or disengage the lift cylinder lockout it is necessary to lift the feeder to its maximum height.

1. Select field mode using the field/road mode selector switch.
2. Move the feeder up by pressing on the top of the header height rocker switch (2) on the multifunction handle until the header stops near its maximum height.
3. Release the switch and press again for a minimum of **1.5 s**. The header will now move quickly until its maximum height.

**NOTICE:** Make sure you lower the reel on grain headers **BEFORE** raising the header/feeder all the way to its maximum height.



ZEIL14CR00105AA 3

4. Place the lift cylinder lockout over the cylinder rod.

**NOTICE:** Never use lift cylinder lockout (1) as a support for the header when travelling along public roads otherwise damage may occur to the cylinder.



# **SERVICE MANUAL**

## **Engine**

**CR6.80 TIER 4B  
CR6.90 TIER 4B  
CR7.90 TIER 4B  
CR8.90 TIER 4B  
CR9.90 TIER 4B**

## Engine - Service instruction Grain tank access to engine

|                |    |
|----------------|----|
| CR6.80 TIER 4B | NA |
| CR6.90         | NA |
| CR7.90         | NA |
| CR8.90         | NA |
| CR9.90         | NA |

### **⚠ WARNING**

**Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.**

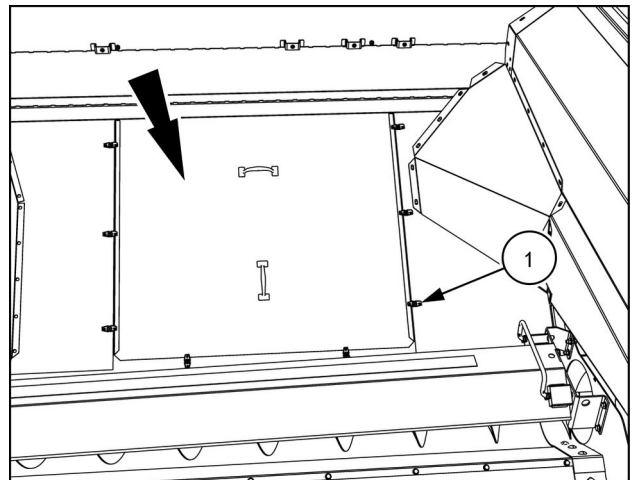
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.

**Failure to comply could result in death or serious injury.**

W0047A

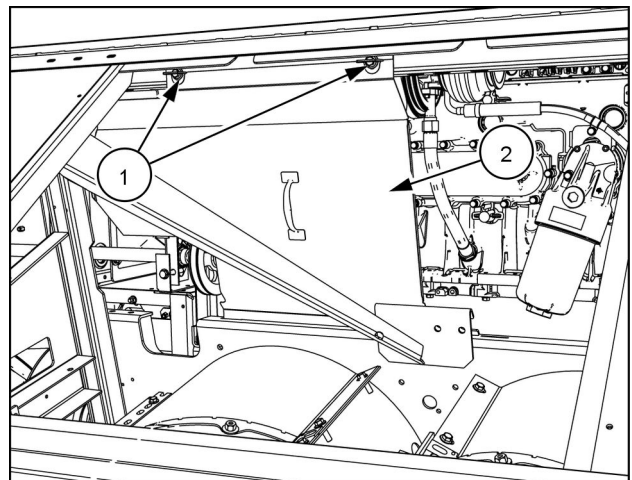
**NOTE:** Some components have been removed for better clarity.

1. To access the front of the engine, you will have to enter through the grain tank door. Turn the locking fasteners (1) to remove the door. Place in a safe place out of the way.



NHIL13CR00479AA 1

2. Turn the locking fasteners (1) securing the shields (2) to the frame. Remove the two shields (left hand side shown removed). Place in a safe place out of the way.



NHIL13CR00472BB 2

## Engine - Remove

|                |    |
|----------------|----|
| CR6.80 TIER 4B | NA |
| CR6.90         | NA |
| CR7.90         | NA |
| CR8.90         | NA |
| CR9.90         | NA |

### **⚠ WARNING**

**Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.**

1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.

Failure to comply could result in death or serious injury.

W0047A

### **⚠ DANGER**

**Unexpected movement!**

**Make sure parking brake is applied. Secure machine with wheel chocks.**

Failure to comply will result in death or serious injury.

D0013A

**Prior operation:**

**Battery - Disconnect key switch (55.302)**

**Prior operation:**

**Engine cooling system - Drain fluid (10.400)**

**Prior operation:**

**Engine lubrication system - Drain fluid (10.304)**

**Prior operation:**

**Engine hood and panels - Remove (90.100)**

**Prior operation:**

**Air cleaner - Remove (10.202)**

**Prior operation:**

**Aftercooler - Remove charge air cooler tubes (CAC) (10.310)**

**Prior operation:**

**Deaeration tank - Remove (10.400)**

**Prior operation:**

**Radiator to water pump hoses - Remove Coolant Hoses (10.400)**

**Prior operation:**

**Fan and drive - Remove (10.414)**

**Prior operation:**

**Diesel Exhaust Fluid (DEF)/AdBlue® lines - Remove hoses and tubes (10.500)**

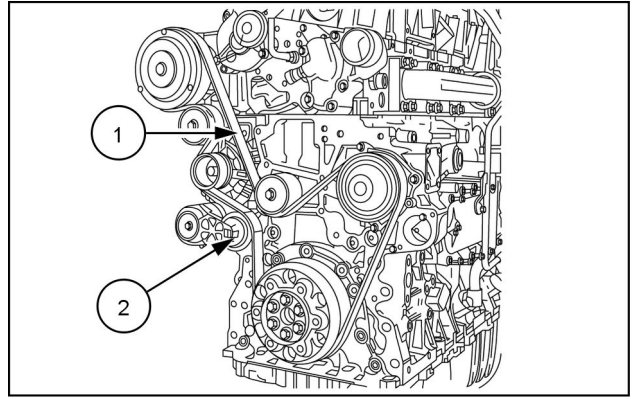
**Prior operation:**

**Diesel Oxidation Catalyst (DOC) - Remove (10.500)**

**Prior operation:**

**Air conditioning - Service instruction (50.200)**

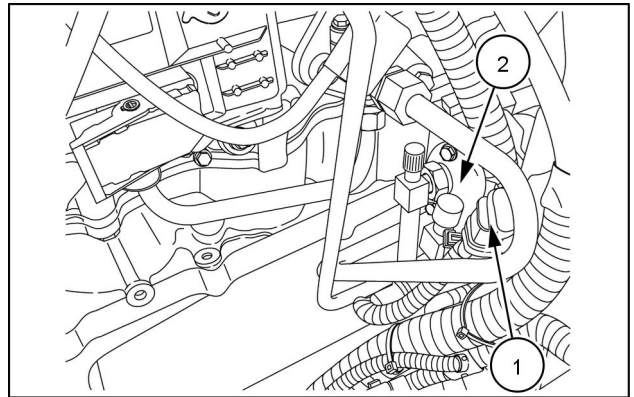
1. Remove tension from the belt (1) by rotating the belt tensioner (2) away from the belt.



NHIL13ENG0870AA 1

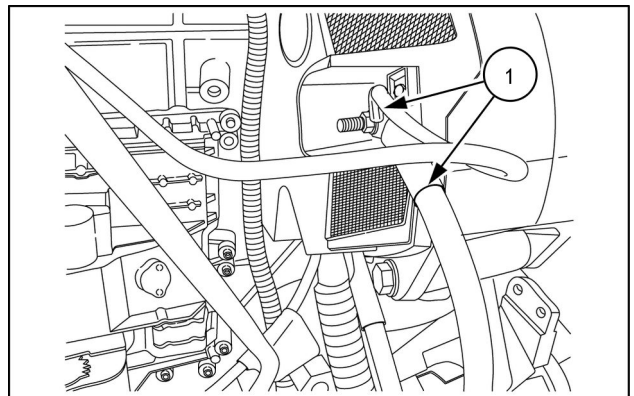
2. Disconnect the electrical connector (1) to the air conditioning compressor (2). See **Air-conditioning compressor - Remove (50.200)**

**NOTE:** It may be necessary to cut the wire ties to the electrical wiring harness to pull back and tie the a/c unit out of the way.

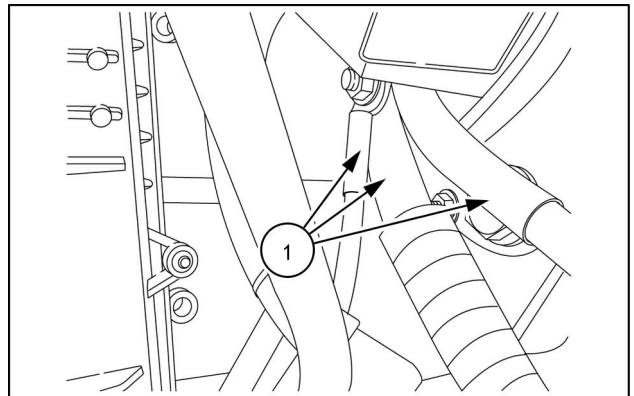


NHIL15CR00244AA 2

3. Label and disconnect the alternator wires (1). See **Alternator - Remove (55.301)**



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NHIL15CR00247AA 4



**Suggest:**

**If the above button click is invalid.**

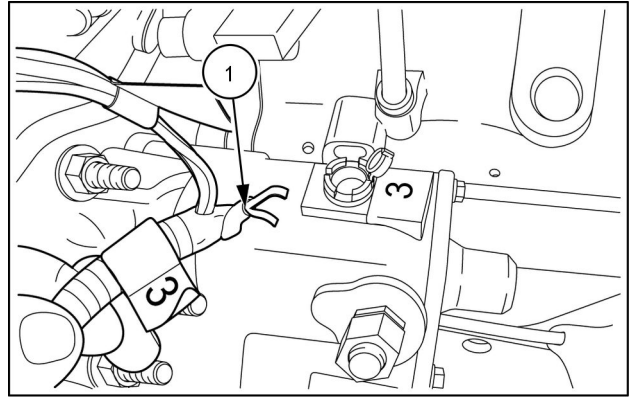
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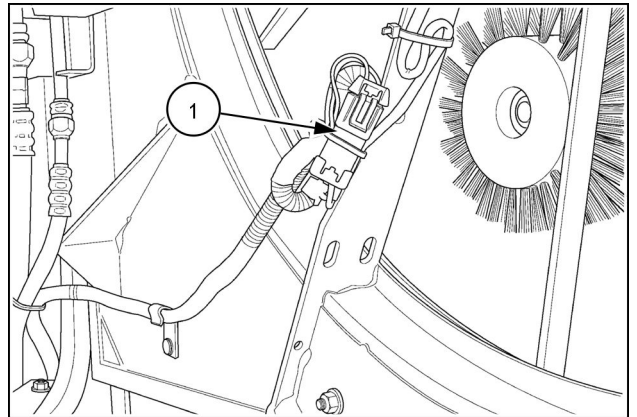
**Thank you so much for reading**

4. Label and disconnect the starter wires (1). See **Engine starter - Remove (55.201)**



NH12AF001299A 5

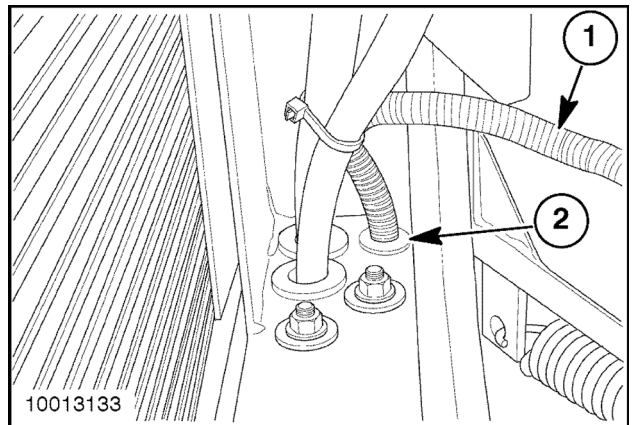
5. Open the rotary screen door and disconnect the rotary screen brush electrical connector (1) if installed.



10013132 6

6. Feed the connector and wire loom (1) and grommet (2) through the hole in the radiator frame. Secure the wire loom and connector, if installed, to the engine to prevent damage during removal.

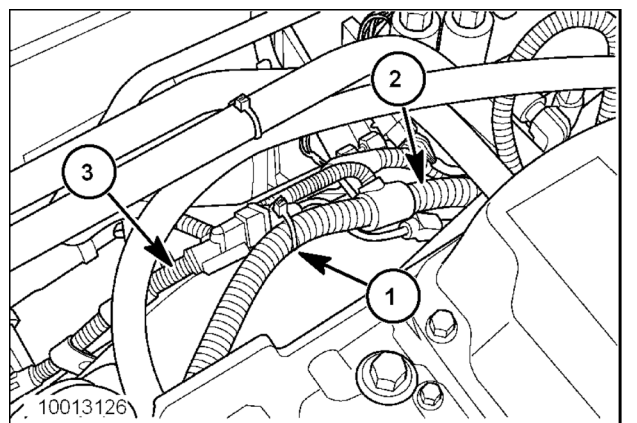
**NOTE:** Removal of the rubber grommet in the radiator frame hole may be necessary to remove the radiator screen brush electrical connector.



10013133

10013133\_794 7

7. Cut the wire ties (1) and separate the engine wire harness (2) from the gearbox wire harness (3). Secure each harness to prevent damage during engine removal.



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