

SERVICE MANUAL

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

CR8.90 / CR9.90

Tier 4B (final)

Combine

Part number 47865347

1st edition English

April 2015



Link Product / Engine

Product	Market Product	Engine
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

Contents

INTRODUCTION

Engine	10
[10.001] Engine and crankcase	10.1
[10.202] Air cleaners and lines	10.2
[10.304] Engine lubrication system.....	10.3
[10.310] Aftercooler.....	10.4
[10.400] Engine cooling system	10.5
[10.414] Fan and drive	10.6
[10.418] Rotary screen	10.7
[10.500] Selective Catalytic Reduction (SCR) exhaust treatment.....	10.8
Main gearbox and drive	14
[14.100] Main gearbox and drive	14.1
Transmission	21
[21.114] Mechanical transmission	21.1
[21.130] Mechanical transmission external controls.....	21.2
[21.145] Gearbox internal components.....	21.3
[21.182] Differential.....	21.4
Front axle system	25
[25.100] Powered front axle	25.1
[25.108] Final drive hub, steering knuckles, and shafts	25.2
[25.310] Final drives	25.3
Rear axle system	27
[27.100] Powered rear axle.....	27.1
[27.124] Final drive hub, steering knuckles, and shafts	27.2
Hydrostatic drive	29
[29.100] Transmission and steering hydrostatic control	29.1

<https://www.ebooklibonline.com>

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

<https://www.ebooklibonline.com>

[29.134] Two-speed assembly	29.2
[29.202] Hydrostatic transmission	29.3
[29.204] Reservoir, cooler, and lines	29.4
[29.218] Pump and motor components.....	29.5
[29.300] Rear hydrostatic transmission.....	29.6
Brakes and controls	33
[33.110] Parking brake or parking lock	33.1
[33.202] Hydraulic service brakes	33.2
Hydraulic systems.....	35
[35.000] Hydraulic systems.....	35.1
[35.102] Pump control valves.....	35.2
[35.106] Variable displacement pump	35.3
[35.220] Auxiliary hydraulic pump and lines	35.4
[35.300] Reservoir, cooler, and filters.....	35.5
[35.359] Main control valve.....	35.6
[35.410] Header or attachment height system	35.7
[35.440] Grain tank unload system	35.8
[35.450] Traction variator system.....	35.9
[35.518] Reel control system	35.10
[35.536] Crop processor system	35.11
[35.602] Header or attachment leveling system	35.12
[35.760] Header reverser drive	35.13
[35.796] Chaff spreader control	35.14
Pneumatic system	36
[36.100] Pneumatic system.....	36.1
Steering.....	41
[41.101] Steering control	41.1
[41.200] Hydraulic control components.....	41.2

[41.206] Pump	41.3
[41.216] Cylinders	41.4
[41.432] Autoguidance steering	41.5
Tracks and track suspension	48
[48.100] Tracks	48.1
[48.130] Track frame and driving wheels	48.2
[48.134] Track tension units	48.3
[48.138] Track rollers	48.4
Cab climate control	50
[50.100] Heating	50.1
[50.104] Ventilation	50.2
[50.200] Air conditioning	50.3
Electrical systems	55
[55.000] Electrical system	55.1
[55.050] Heating, Ventilation, and Air-Conditioning (HVAC) control system.....	55.2
[55.100] Harnesses and connectors.....	55.3
[55.201] Engine starting system	55.4
[55.301] Alternator	55.5
[55.302] Battery.....	55.6
[55.408] Warning indicators, alarms, and instruments	55.7
[55.421] Feeding control system	55.8
[55.423] Cleaning control system.....	55.9
[55.426] Harvest material flow control system.....	55.10
[55.610] Ground speed control	55.11
[55.624] Residue handling control.....	55.12
[55.640] Electronic modules	55.13
[55.662] Header height control	55.14
[55.675] Reel speed and position control.....	55.15

[55.780] Shaker shoe leveling system control.....	55.16
[55.785] Precision farming system	55.17
[55.988] Selective Catalytic Reduction (SCR) electrical system	55.18
[55.DTC] FAULT CODES.....	55.19
Product feeding	60
[60.105] Floating roll, feed chain, and drive	60.1
[60.110] Feeder housing	60.2
[60.112] Stone trapping system	60.3
[60.130] Feeder housing shafts	60.4
[60.150] Feeder drive system	60.5
Threshing	66
[66.000] Threshing	66.1
[66.101] Concave conveyor plate	66.2
[66.105] Concave.....	66.3
[66.110] Concave control system.....	66.4
[66.260] Threshing mechanism drive system	66.5
[66.321] Drum/Rotor variator with electrical control	66.6
[66.331] Rotor	66.7
[66.360] Drum/Rotor housing.....	66.8
Separation	72
[72.101] Straw walkers and shafts	72.1
[72.110] Straw walker drive system	72.2
[72.220] Discharge beater.....	72.3
[72.350] Beater	72.4
[72.420] Rotary separator	72.5
Residue handling.....	73
[73.210] Straw chopper drive system.....	73.1
[73.220] Straw chopper frame	73.2

[73.230] Straw chopper.....	73.3
[73.300] Positive Straw Discharge (PSD)	73.4
[73.335] Chaff spreader	73.5
[73.410] Opti-Spread™ system.....	73.6
Cleaning	74
[74.000] Cleaning.....	74.1
[74.100] Self-leveling frame	74.2
[74.101] Cleaning drive systems	74.3
[74.110] Grain pan.....	74.4
[74.114] Upper shaker shoe	74.5
[74.118] Lower shaker shoe	74.6
[74.130] Fan housing	74.7
[74.136] Fan drive system	74.8
[74.140] Tailings return system	74.9
Crop storage / Unloading	80
[80.101] Clean grain elevator.....	80.1
[80.150] Grain tank	80.2
[80.175] Grain tank unload drive system	80.3
[80.180] Grain tank unload	80.4
Platform, cab, bodywork, and decals	90
[90.100] Engine hood and panels	90.1
[90.105] Machine shields and guards	90.2
[90.118] Protections and footboards.....	90.3
[90.124] Pneumatically-adjusted operator seat.....	90.4
[90.150] Cab.....	90.5
[90.151] Cab interior.....	90.6



INTRODUCTION

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!

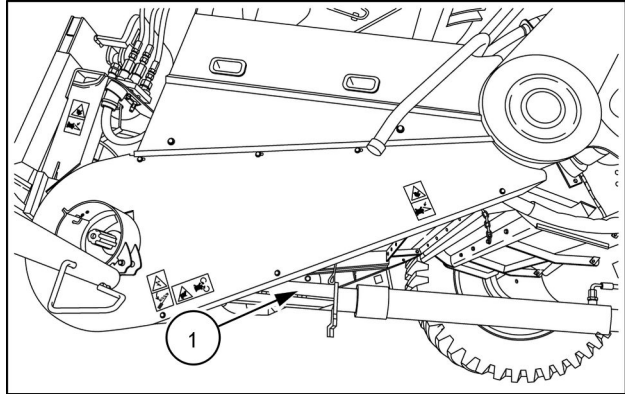
Always do the following before you enter the area below the header and/or feeder:

- 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

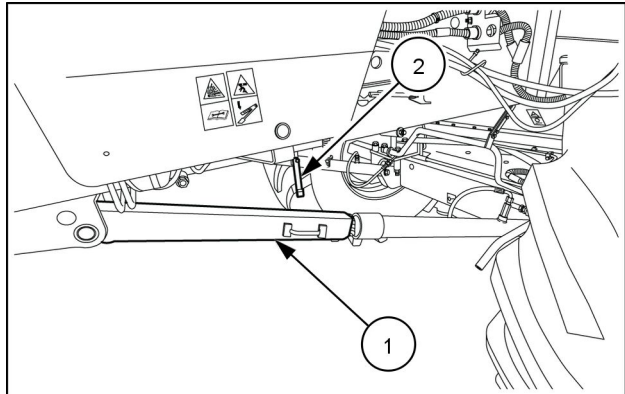
The left-hand cylinder is fitted with a lift cylinder lockout which must be lowered onto the cylinder rod to prevent accidental lowering of the header/feeder.

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.

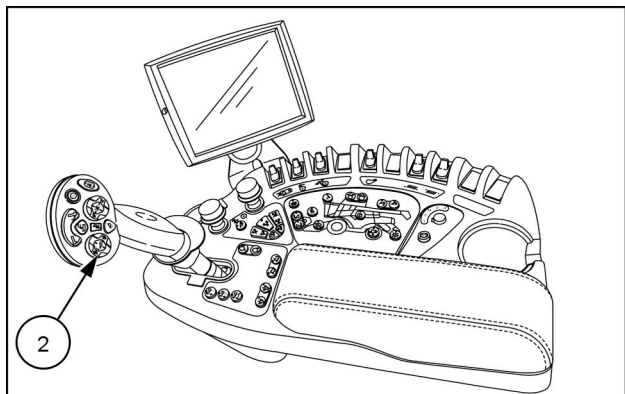


ZEIL13II00122AB 2

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.

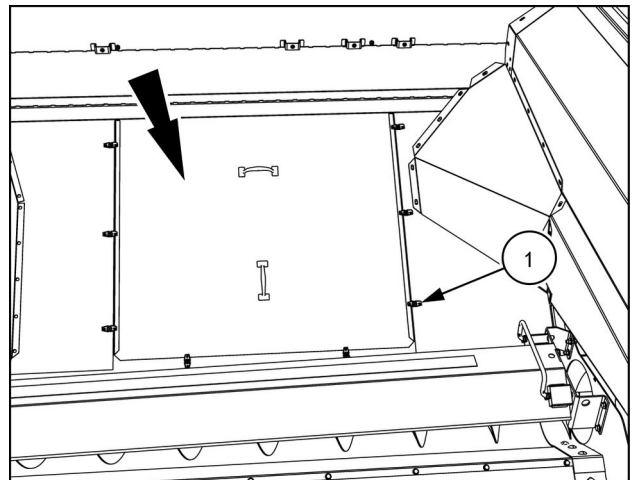
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.

Failure to comply could result in death or serious injury.

W0047A

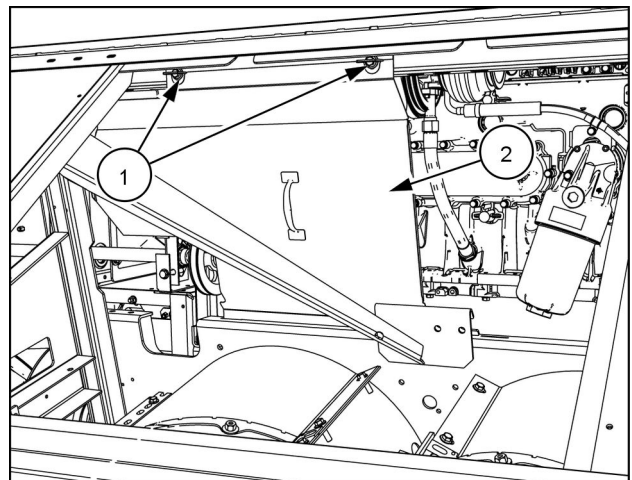
NOTE: Some components have been removed for better clarity.

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)

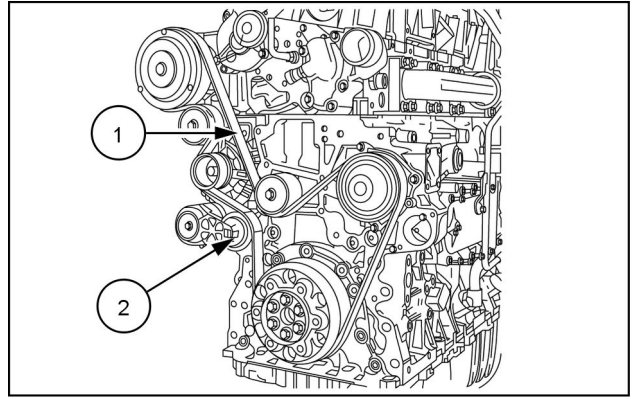
Prior operation:

Diesel Oxidation Catalyst (DOC) - Remove (10.500)

Prior operation:

Air conditioning - Service instruction (50.200)

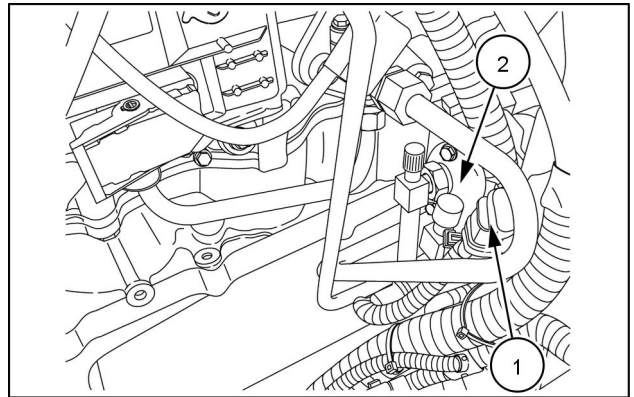
1. Remove tension from the belt (1) by rotating the belt tensioner (2) away from the belt.



NHIL13ENG0870AA 1

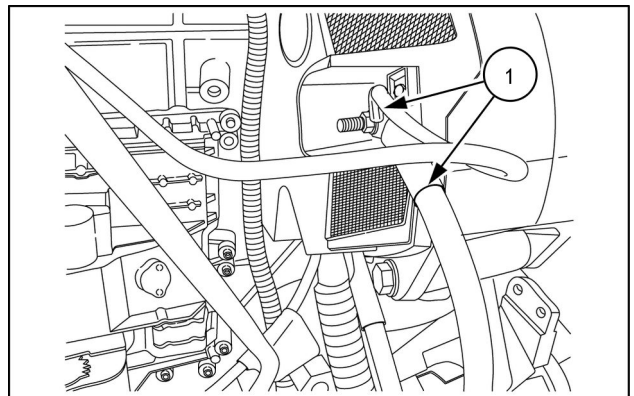
2. Disconnect the electrical connector (1) to the air conditioning compressor (2). See **Air-conditioning compressor - Remove (50.200)**

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.

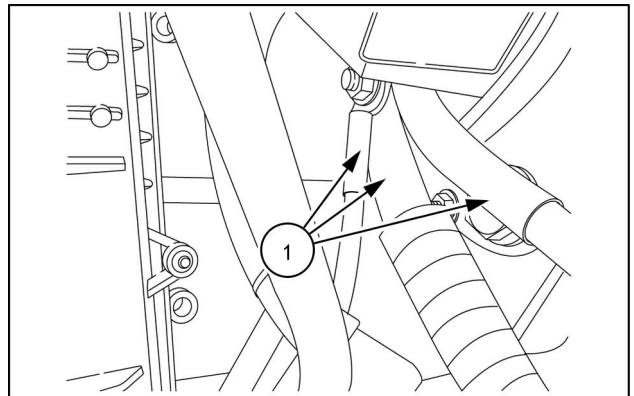


NHIL15CR00244AA 2

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



NHIL15CR00246AA 3



NHIL15CR00247AA 4



Suggest:

If the above button click is invalid.

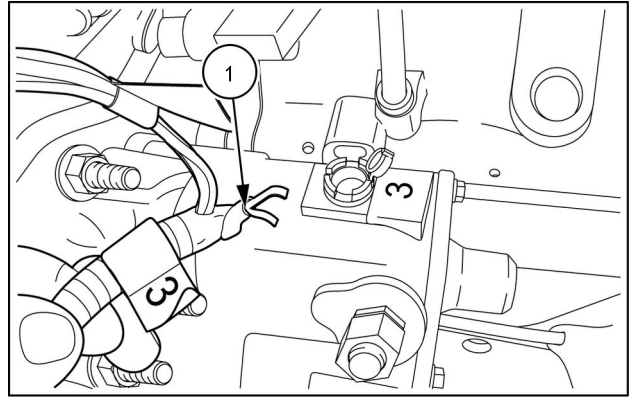
Please download this document

first, and then click the above link

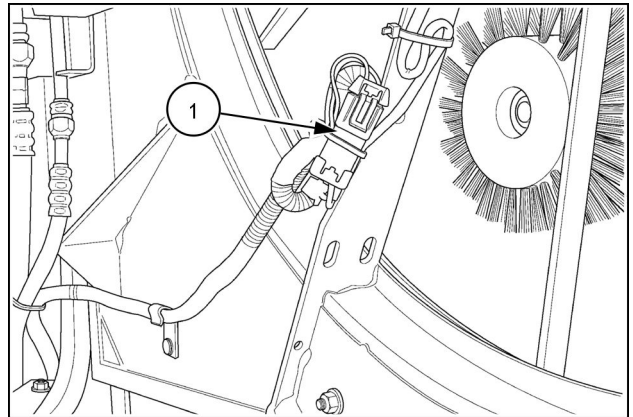
to download the complete manual.

Thank you so much for reading

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

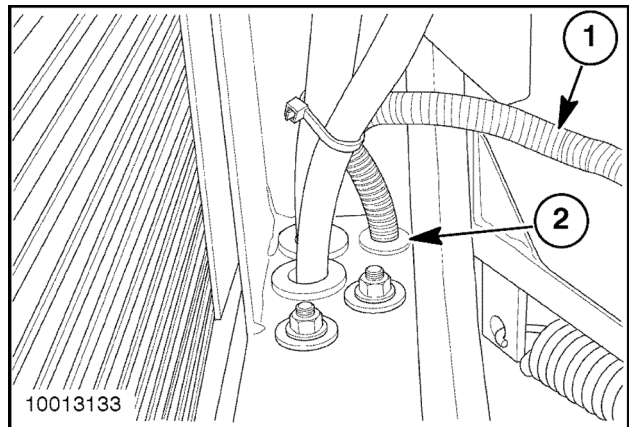


5. Open the rotary screen door and disconnect the rotary screen brush electrical connector (1) if installed.



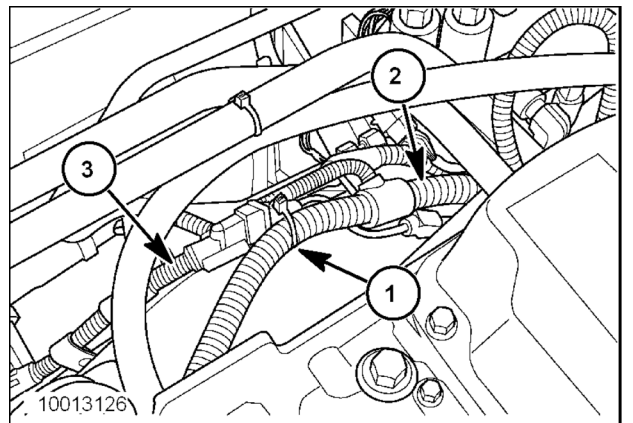
6. Feed the connector and wire loom (1) and grommet (2) through the hole in the radiator frame. Secure the wire loom and connector, if installed, to the engine to prevent damage during removal.

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



10013133_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.



10013126 8

<https://www.ebooklibonline.com>

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

<https://www.ebooklibonline.com>