

# SERVICE MANUAL

## 9090X Grape Harvester

Part number 47399849B

English  
April 2014



# Link Product / Engine

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<b>Product</b>	<b>Market Product</b>	<b>Engine</b>
9090X H	Europe	F4HE9687
9090X	Europe	F4HE9687
9090X GE	Europe	F4HE9687
9090X O	Europe	F4HE9687

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# INTRODUCTION

## **Foreword**

### **IMPORTANT INFORMATION**

All repair and maintenance operations described in this manual must be carried out exclusively by the New Holland Service network, strictly complying with the instructions provided and using specific tools as required.

Any operator who carries out the operations specified in this document without complying strictly with the instructions provided shall be personally liable for the damages that may result.

The manufacturer and all organizations in its distribution chain, including, without limitation, national, regional, and local dealers, do not accept any liability for damages resulting from a malfunction of parts and/or components not approved by the manufacturer and used for maintenance operations and/or repair of products manufactured or marketed by the manufacturer. In no case is a warranty granted to the product manufactured or marketed by the manufacturer in case of damage caused by improper operation of parts and/or components not approved by the manufacturer.

No reproduction, partial or complete, of the text or illustrations is permitted.

## Foreword

### Technical Information

This information in this manual has been structured using a unique coding environment. This is the way in which technical information is created, stored and retrieved in the Technical Information Database. The location (on the machine) has been coded using SAP coding to align locations with the warranty system.

The coding classifies all information in three ways.

The first category is the Location, the second category is the Information Type and the third category is the Product:

- LOCATION - is the component or function on the machine, that the piece of technical information is going to describe e.g., Fuel tank.
- INFORMATION TYPE - is the piece of technical information that has been written for a particular component or function on the machine e.g. Capacity would be a type of Technical Data that would describe the amount of fuel held by the Fuel tank.
- PRODUCT - is the model that the piece of technical information is written for.

Every piece of technical information will have those 3 categories attached to it. You will be able to use any combination of those categories to find the right piece of technical information you need to resolve that customers concern on his machine.

That information could be:

- the description of how to remove the cylinder head
- a table of specifications for a hydraulic pump
- a fault code
- a troubleshooting table
- a special tool

### How to Use this Manual

This manual is divided into Sections. Each Section is then divided into Chapters. Contents pages are included at the beginning of the manual, then inside every Section and inside every Chapter. An alphabetical Index is included at the end of a Chapter. Page number references are included for every piece of technical information listed in the Chapter Contents or Chapter Index.

Each Chapter is divided into four Information types:

- Technical Data (specifications) for all the mechanical, electrical or hydraulic devices, components and, assemblies.
- Functional Data (how it works) for all the mechanical, electrical or hydraulic devices, components and assemblies.
- Diagnostic Data (fault codes, electrical and hydraulic troubleshooting) for all the mechanical, electrical or hydraulic devices, components and assemblies.
- Service data (remove disassembly, assemble, install) for all the mechanical, electrical or hydraulic devices, components and assemblies.



# **SERVICE MANUAL**

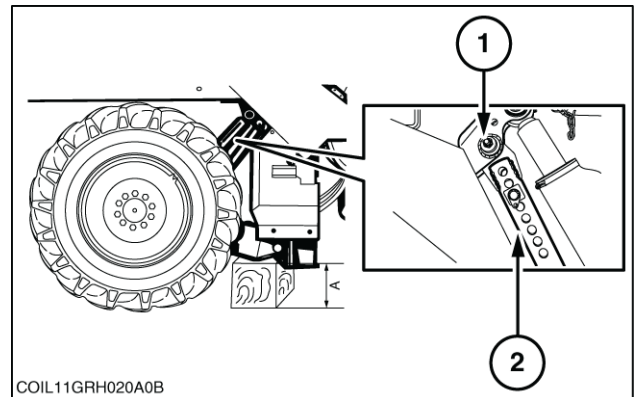
**Rear axle system**

**9000 X**

## Rear axle - Transform - Changing the rear track -

**NOTE:** To change the rear track of the machine by **160 mm (6.3 in)**, you must turn over the wheel arm fastening bearings. The bearings are moved by **40 mm (1.6 in)**.

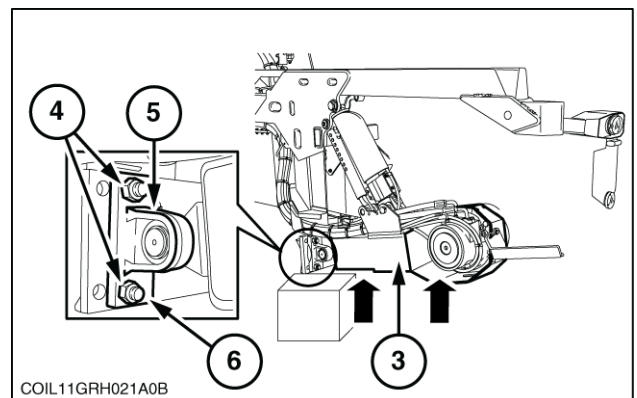
1. Remove the corresponding rear wheel. To do this:
  - Apply the parking brake.
  - Lift the machine using its standalone system.
  - Place a cubed wooden block measuring **A = 450 mm (17.7 in)** under the rear wheel arm pivot.
  - Lower the machine using its standalone system until the wheel is just off the ground.
  - Shut down the engine.
  - Remove the wheel.
2. Remove the pin **(1)** of the height stop telescopic tube **(2)**.



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3. Place a mobile lifting device under the wheel arm **(3)**.
4. Remove the 4 fixing screws **(4)** from the 2 fastening bearings **(5)**.



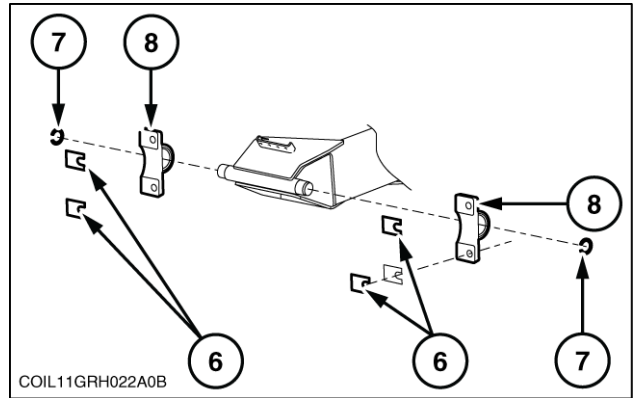
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5. Mark the position of the spacer rings **(6)**.

**ATTENTION:** When reassembling, you must put spacer rings of the same thickness under each bearing.

6. Remove the spring retaining rings (7) and pull out the bearings (5).



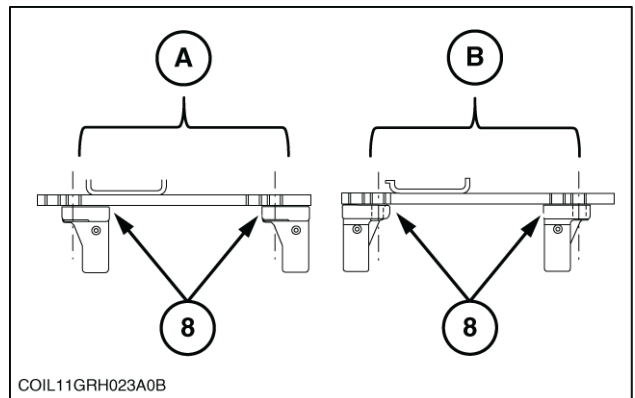
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7. Fit the bearings (8) onto the wheel arms at the required track width.

- Position A = wide track.
- Position B = narrow track.

8. Replace the spring retaining rings (7).

9. Replace the screws (4), inserting the corresponding spacer rings. The tightening torque of the screws (4) is **650 N·m (5753.0 lb in)**.

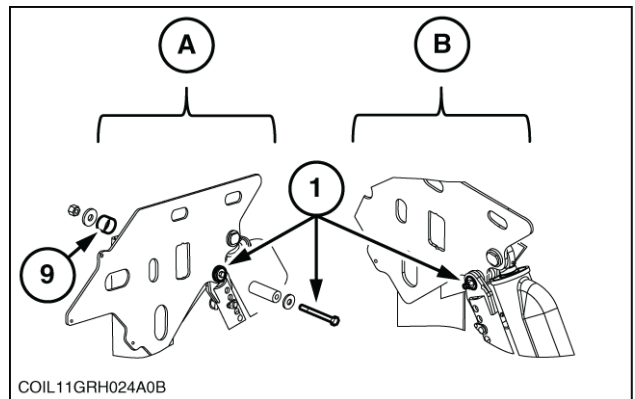


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**NOTE:** The diagrams show the positions of the right-hand wheel arm. The bearings are always fitted in the same holes located towards the outside of the machine. To change the track width, the bearings are simply turned over. For information, the other holes are not used.

10. Replace the pin (1) of the height stop tube according to the desired track width.

- Position A = wide track, the spacer (9) will be on the outside of the chassis.
- Position B = narrow track, the spacer (9) will be on the inside of the chassis.

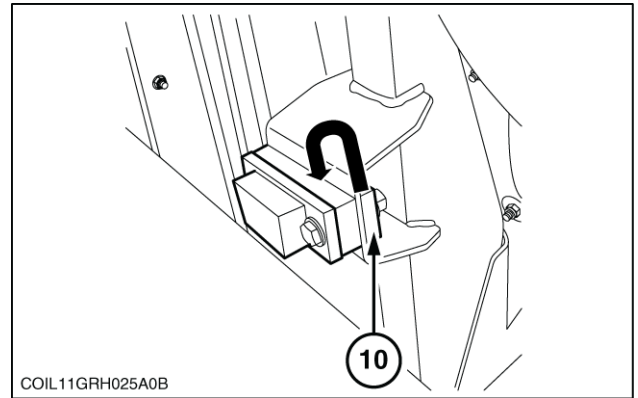


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11. Remove the mobile lifting device.
12. Replace the wheel. The tightening torque of the wheel is **700 N·m (6195.5 lb in)**.
13. Start the engine and raise the machine using its hydraulic system. Remove the wooden wedge.

14. Adjust the side stops of the harvesting equipment.

- The diagram shows how the stop is fitted when the machine track is in the wide position. The spacer ring (10) is fitted inside the bracket.
- When the machine track is in the narrow position, this spacer ring (10) must be fitted on the outside of the bracket. The 2 spacer rings are both on the outside of the bracket.



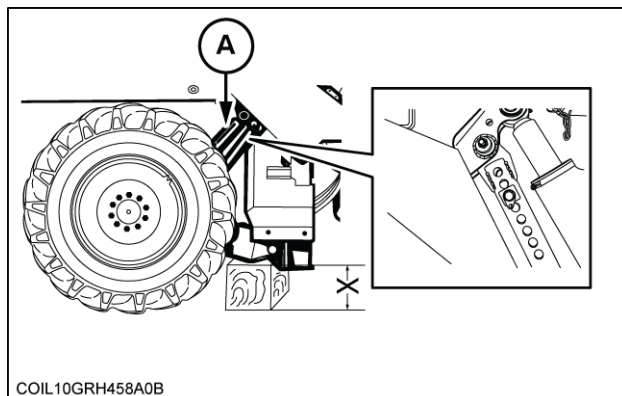
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**NOTE:** The swinging of the harvesting machine will therefore be reduced.

## Motor - Remove - Rear wheel motor -

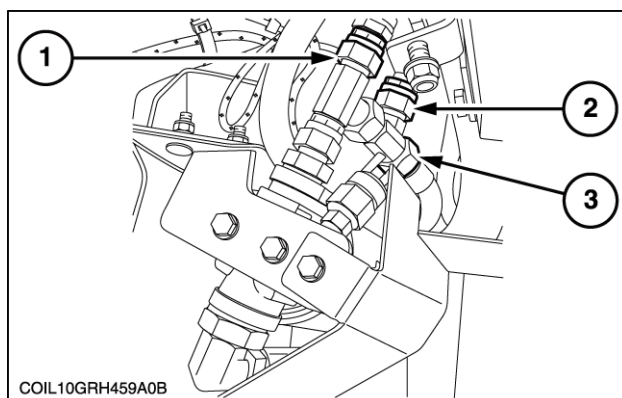
**NOTE:** When removing the hydraulic piping, have a suitable container readily available to capture any residual hydraulic oil.

1. Remove the corresponding rear wheel. To do this:
  - Apply the parking brake.
  - Lift the machine using its self-powered device.
  - Place a cubed wooden block measuring  $X = 450 \text{ mm}$  ( $17.7 \text{ in}$ ) under the rear wheel arm pivot.
  - Lower the machine using its self-powered device until the wheel is just off the ground.
  - Lock it in position by placing the telescopic tube pin in **(A)**.
  - Remove the wheel.



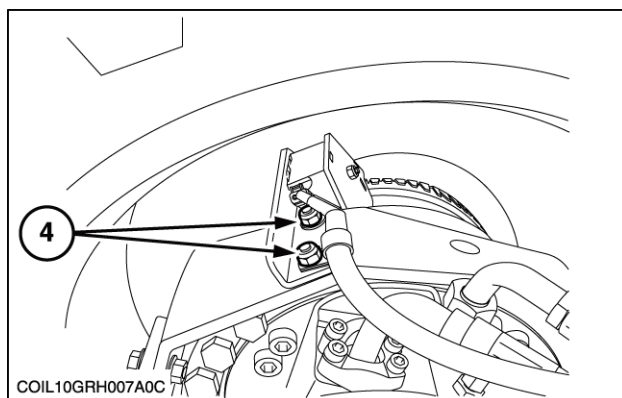
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2. Before disconnecting the motor hoses, the drainage hose at the filter located at the front of the hydraulic reservoir must be disconnected. This will prevent the reservoir from draining **(1)** Common drain for the two front and rear left-hand wheel motors.  
**(2)** Front right-hand wheel motor drain.  
**(3)** Rear right-hand wheel motor drain.



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3. For the rear left-hand wheel only, remove the speed sensor and its bracket by removing the screws **(4)**.

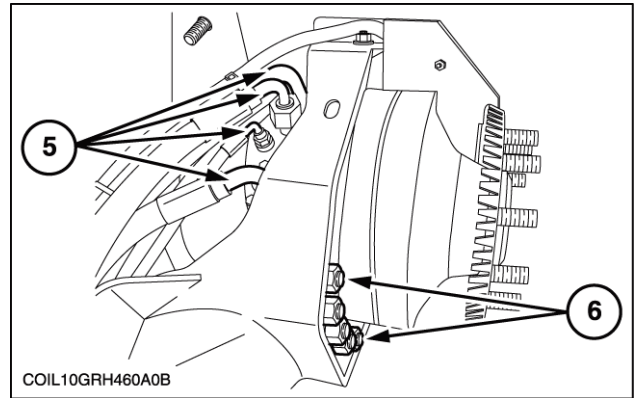


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4. Disconnect and plug all the hoses **(5)**.

**NOTE:** Recover the retaining clamp joints.

5. Remove the fixing screws (6) and take out the motor.



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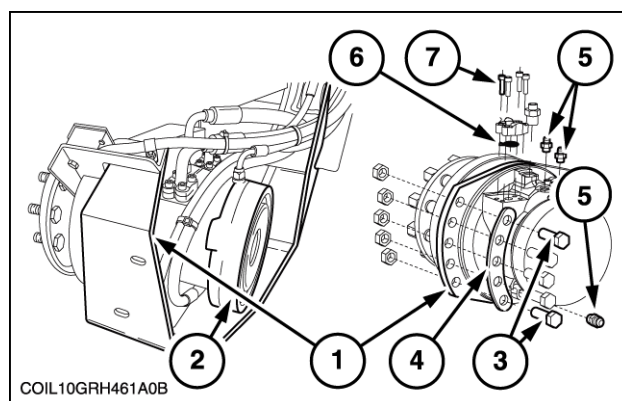
**ATTENTION:** The component weighs approximately **160 kg (352.7 lb)**. Install a suitable lifting device.

6. Remove the hose installations from the motor and plug them.

## Motor - Install - Rear wheel motor -

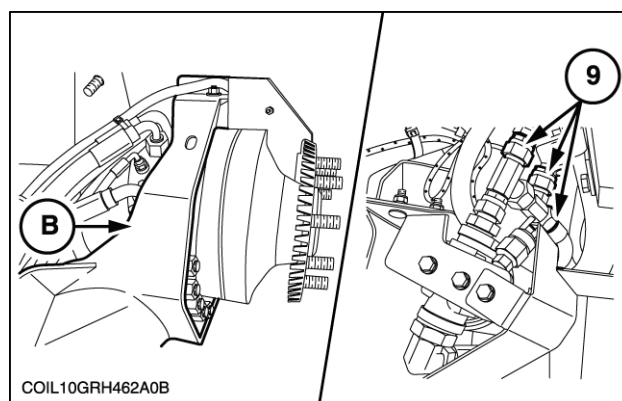
**ATTENTION:** The component weighs approximately **160 kg (352.7 lb)**. Have a suitable lifting device ready.

1. Check that the motor is installed on the correct side of the machine. These motors have a specific direction of rotation. To ascertain the direction of rotation, check the part number NEW HOLLAND on the manufacturer's plate for the motor:
  - 87672923 — right-hand motor.
  - 87672924 — left-hand motor.
2. Slide the motor **(1)** into the wheel arm **(2)** and secure it using the screws **(3)**. The plate **(4)** will be placed on the motor side. The tightening torque of the screws is **500 N·m (4425.4 lb in)**
3. Fit the installations **(5)** and connect the corresponding hoses.
4. Fit the HP hose flange joints **(6)** and secure them with grease. Fit the flanges on the motor by tightening the screws **(7)**.



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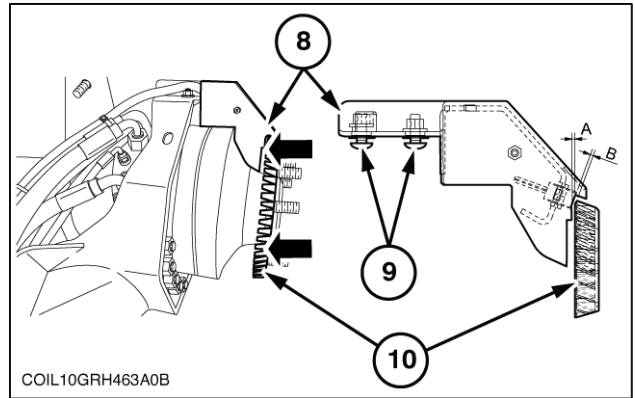
5. Before starting the hydraulic motor, its housing must first be filled. To do this:
  - Remove the bleed plug **(B)**, located above the motor, by passing a spanner through an existing hole in the wheel arm.
  - Fit a hand pump to the end of the drainage hose at the filter located at the front of the hydraulic reservoir (see removal instructions) **Motor - Remove - Rear wheel motor - (29.218)**
  - Pump oil into this hose until it runs out of the bleed hole **(B)**.
  - Re-fit the bleed plug **(B)**.
  - Remove the pump and connect the drainage hose **(9)**.
6. Install the groundspeed sensor bracket **(8)** on the left-hand motor only.



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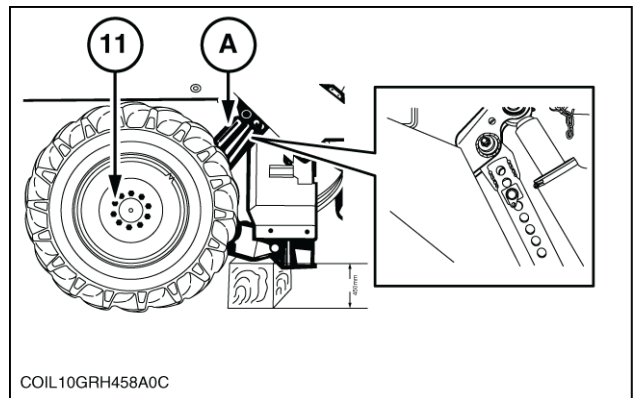
7. Adjust the speed sensor. To do this:

- Press the target (disc) against the hub using the wheel nuts.
- Position the bracket between **(8)** and **3 mm (0.118 in)** from the ends of the target (disc) **(10)**.
- Tighten the fixing screws **(9)**.
- Check that the sensor is positioned at a distance of **B = 4.3 mm (0.2 in)** from the target **(10)**, or adjust as necessary.



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8. Re-fit the wheel and tighten the nuts **(11)** to **700 N·m (6195.5 lb in)**.
9. Re-fit the pin **(A)** at working height.



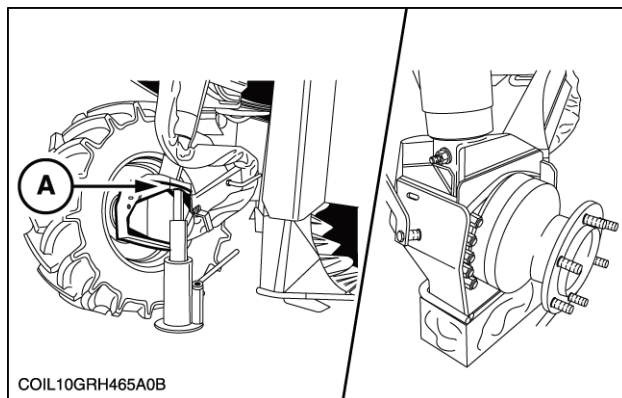
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10. Start the engine and check that the force-feed pressure indicator lights up, then check the oil level in the reservoir.
11. Bleed the brakes. To do this, leave the engine running, and then:
- Disengage the parking brake control lever. (lever forward)
  - Open the bleed screw to remove the air.

## Motor - Remove - Front wheel motor -

**NOTE:** When removing the hydraulic piping, have a suitable container readily available to capture any residual hydraulic oil.

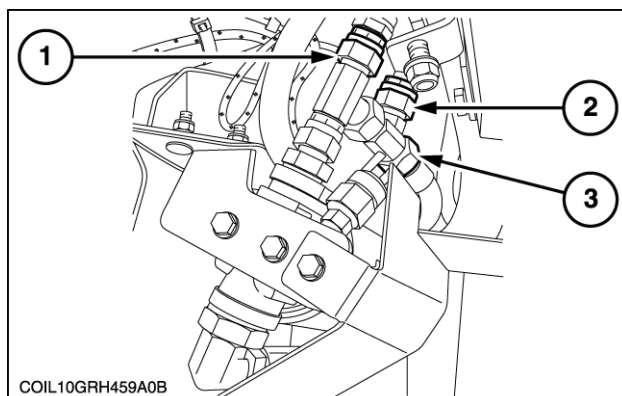
- Remove the corresponding front wheel. To do this:
  - Park on a level surface and apply the parking brake.
  - Lower the machine fully using the self-powered device.
  - Engage the backhoe in order to activate the front yoke. The engine must be stopped.
  - Place a suitable jack, approximately **13 t (28660.09 lb)**, in the area intended for this purpose **(A)**, and raise the wheel so it lifts off the ground.
  - Remove the wheel.
  - Place a cubed wooden block under the strut and remove the jack.
  - Switch off the ignition.



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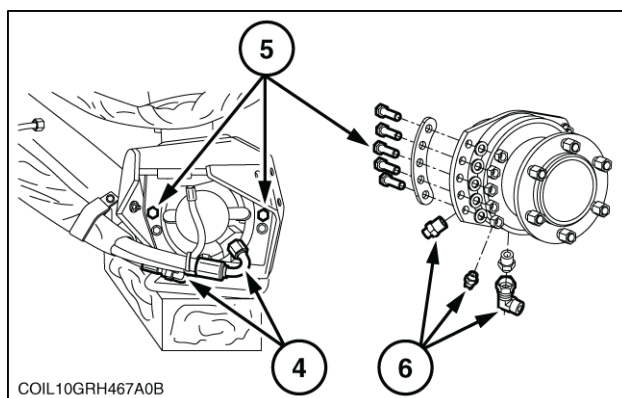
- Remove the protective housing.
- Before disconnecting the motor hoses, the drainage hose at the filter located at the front of the hydraulic reservoir must be disconnected. This will prevent the reservoir from draining **(1)** Common drain for the two front and rear left-hand wheel motors.  
**(2)** Front right-hand wheel motor drain.  
**(3)** Rear right-hand wheel motor drain.



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- Disconnect and plug all the hoses **(4)**.
- Remove the fixing screws **(5)** and take out the motor.



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**ATTENTION:** The component weighs approximately **70 kg (154.3 lb)**. Install a suitable lifting device.

- Remove the hose installations **(6)** from the motor and plug them.



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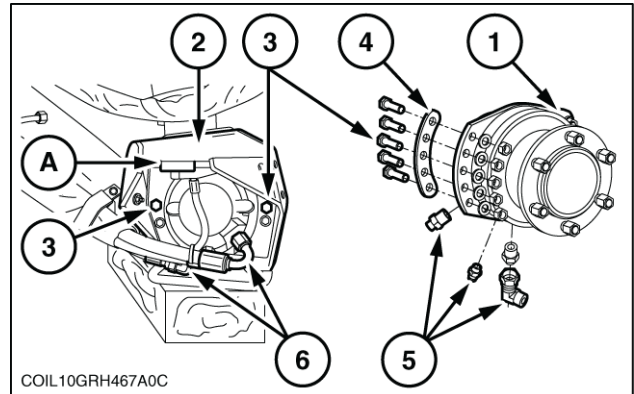
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## Motor - Install - Front wheel motor -

**ATTENTION:** The component weighs approximately **70 kg (154.3 lb)**. Install a suitable lifting device.

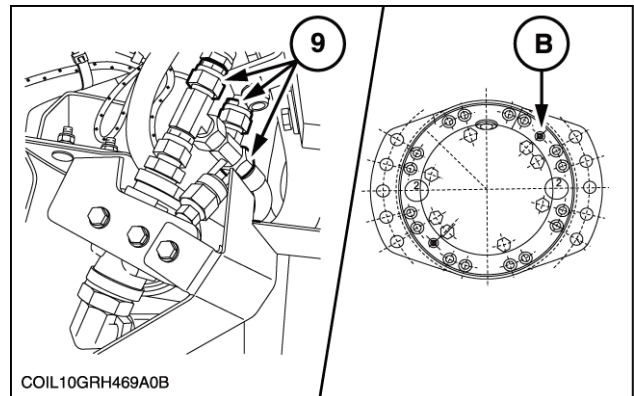
1. The left-hand and right-hand motors are identical and have no specific direction of rotation.
2. Slide the motor (1) into the wheel strut (2) and secure it using the screws (3). The plate (4) will be placed on the motor side. The tightening torque of the screws is **200 N·m (1770.1 lb in)**
3. Fit the installations (5) and connect the corresponding hoses (6).



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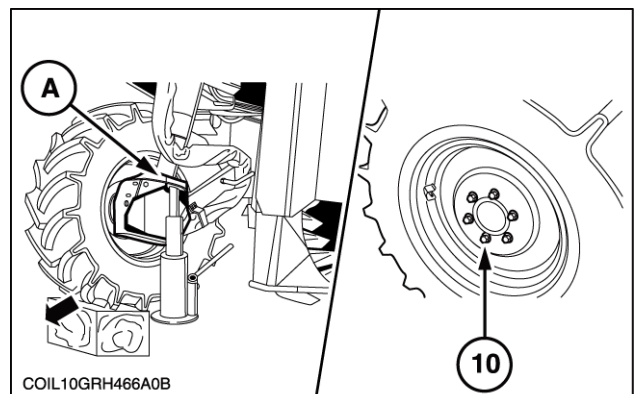
4. Before starting the hydraulic motor, its housing must first be filled. To do this:

- Remove the bleed plug (B) located on the motor side.
- Fit a manual pump at the end of the drainage hose at the filter, located at the front of the hydraulic reservoir. (see removal instructions) **Motor - Remove - Front wheel motor - (29.218)**.
- Pump oil into this hose until it runs out of the bleed hole (B).
- Re-fit the bleed plug (B).
- Remove the pump and connect the drainage hose (9).



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5. Place a suitable jack, approximately **13 t (28660.09 lb)**, in the area intended for this purpose (A), and raise the strut to remove the wooden block.
6. Fit the wheel and tighten the nuts (10) to a torque of **420 N·m (3717.3 lb in)**



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