

# SERVICE MANUAL

## 9090LT3ROW Grape Harvester

Part number 51575409

English  
December 2018





# **SERVICE MANUAL**

**High Capacity TIER 3**

# Link Product / Engine

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<b>Product</b>	<b>Market Product</b>	<b>Engine</b>
9090L TIER 3	Middle East Africa	F4HE9687

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# INTRODUCTION

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## Safety rules

### PRECAUTIONARY STATEMENTS


#### 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 injury or death.

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.

 CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. The color associated with CAUTION is YELLOW.

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

*NOTICE: Install new decals if the old decals are destroyed, lost painted over or cannot be read. When parts are replaced that have decals make sure you install a new decal with each new part.*

### MACHINE SAFETY

*NOTICE: Notice indicates a situation which, 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 which 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.

### ACCIDENT PREVENTION

#### 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

Most accidents or injuries that occur in workshops are the result of non compliance to simple and fundamental safety principles. For this reason, IN MOST CASES THESE ACCIDENTS CAN BE AVOIDED by applying the fundamental safety principles, acting with the necessary caution and care.

Accidents may occur with all types of machine, regardless of how well the machine in question was designed and built.

### **SAFETY REQUIREMENTS FOR FLUID POWER SYSTEMS AND COMPONENTS - HYDRAULICS (EUROPEAN STANDARD EN982)**

- Flexible hose assemblies must not be constructed from hoses which have been previously used as part of a hose assembly.
- Do not weld hydraulic pipes: when flexible hoses or piping are damaged, replace them immediately.
- It is forbidden to modify a hydraulic accumulator by machining, welding or any other way.
- Before removing hydraulic accumulators for servicing, the liquid pressure in the accumulators must be reduced to zero.
- Pressure check on hydraulic accumulators must be carried out by a method recommended by the accumulator manufacturer.
- Take care not to exceed the maximum allowed pressure of the accumulator. After any check or adjustment, check for leakages or gas in the hoses or pipes.

### **SAFETY RULES**

General guidelines

- Carefully follow specified repair and maintenance procedures.
- When appropriate, use P.P.E (Personal Protective Equipment)
- Do not wear rings, wristwatches, jewellery, unbuttoned or loose articles of clothing such as: ties, torn clothing, scarves, open jackets or shirts with open zips that may remain entangled in moving parts. It is advised to wear approved safety clothing, e.g.: non-slip footwear, gloves, safety goggles, helmets, etc.
- Do not carry out repair operations with someone sitting in the driver's seat, unless the person is a trained technician who is assisting with the operation in question.
- Do not operate the machine or use any of the implements from different positions, other than the driver's seat.
- Do not carry out operations on the machine with the engine running, unless specifically indicated.
- Bring all hydraulic cylinders to the home positions (down, retracted, etc.) before engine shut down.
- Stop the engine and check that the hydraulic circuits are pressure-free before removing caps, covers, valves, etc.
- All repair and maintenance operations must be carried out using extreme care and attention.
- Service steps and platforms used in the workshop or elsewhere should be built according to the applicable standards and legislation.
- Disconnect the power take off (p.t.o). and label the controls to indicate that the machine is being serviced. Any parts that are to be raised must be locked in position.
- Brakes are inoperative when manually released for repair or maintenance purposes. Use blocks or similar devices to secure the machine in these conditions.
- Only use specified towing points for towing the machine. Connect parts carefully. Make sure that all pins and/or locks are secured in position before applying traction. Never remain near the towing bars, cables or chains that are operating under load.
- When loading or unloading the machine from the trailer (or other means of transport), select a flat area capable of sustaining the trailer or truck wheels. Firmly secure the machine to the truck or trailer and lock the wheels in the position used by the carrier.
- Electric heaters, battery-chargers and similar equipment must only be powered by auxiliary power supplies with efficient ground insulation to avoid electrical shock hazards.
- Always use suitable hoisting or lifting devices when raising or moving heavy parts.

## INTRODUCTION

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- Keep bystanders away.
- Never use gasoline, diesel oil or other inflammable liquids as cleaning agents. Use non-inflammable, non toxic commercially available solvents.
- Wear safety goggles with side guards when cleaning parts with compressed air.
- Do not run the engine in enclosed spaces without suitable ventilation or exhaust extraction.
- Never use open flames for lighting when working on the machine or checking for leaks.
- All movements must be carried out carefully when working under, on or near the machine. Wear personal protective equipment (P.P.E.): helmets, goggles and special footwear.
- When carrying out checks with the engine running, request the assistance of an operator in the driver's seat. The operator must maintain visual contact with the service technician at all times.
- If operating outside the workshop, position the machine on a flat surface and lock in position. If working on a slope, lock the machine in position. Move to a flat area as soon as is safely possible.
- Damaged or bent chains or cables are unreliable. Do not use them for lifting or towing. Always use suitable protective gloves when handling chains or cables.
- Chains should always be safely secured. Make sure that the hitch-up point is capable of sustaining the load in question. Keep the area near the hitch-up point, chains or cables free of all bystanders.
- Maintenance and repair operations must be carried out in a CLEAN and DRY area. Clean up any water or oil spillage immediately.
- Do not create piles of oil or grease-soaked rags as they represent a serious fire hazard. Always store rags in a closed metal container.
- Before engaging the machine, make sure that there are no persons within the machine or implement range of action.
- Empty your pockets of all objects that may fall accidentally unobserved into the machine inner compartments.
- When metal parts are sticking out, use protective goggles or goggles with side guards, helmets, special footwear and gloves.
- When welding, use protective safety devices: tinted safety goggles, helmets, special overalls, gloves and footwear. All persons present in the area where welding is taking place must wear tinted goggles. NEVER LOOK DIRECTLY AT THE WELDING ARC WITHOUT SUITABLE EYE PROTECTION.
- Always disconnect battery ground terminal when welding.
- Metal cables tend to fray with repeated use. Always use suitable protective devices (gloves, goggles, etc.) when handling cables.



# **SERVICE MANUAL**

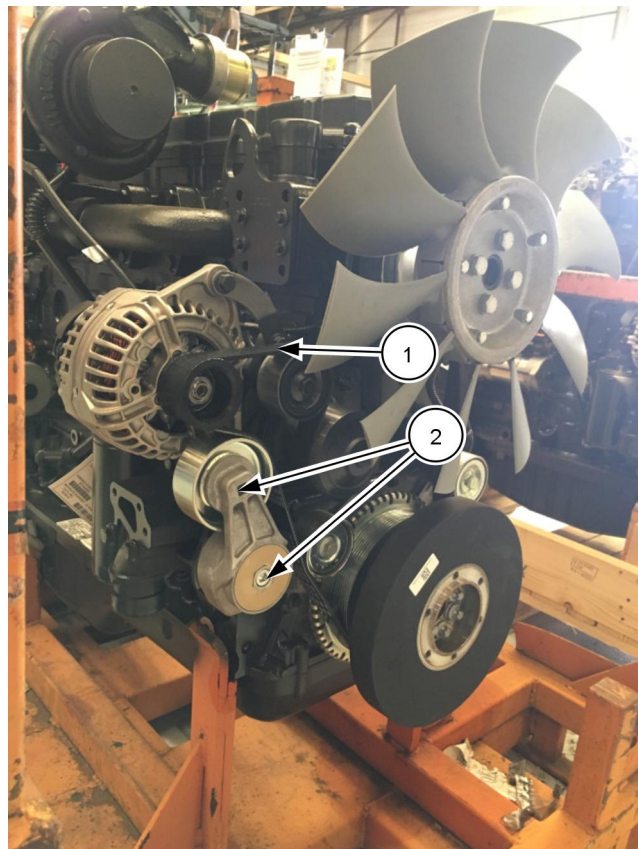
## **Engine**

### **High Capacity TIER 3**

## Engine - Detailed view - Servo belt



COIL16GR00715TA 1



COIL16GR00716TA 2

The servo belt (1) should be replaced every **1200 h**

Check the tensioner bearings **(2)** every year.

The belt drives:

- The water pump
- The alternator
- The blower fan

Servo belt replacement	<b>Water pump pulley - Replace (10.414)</b>
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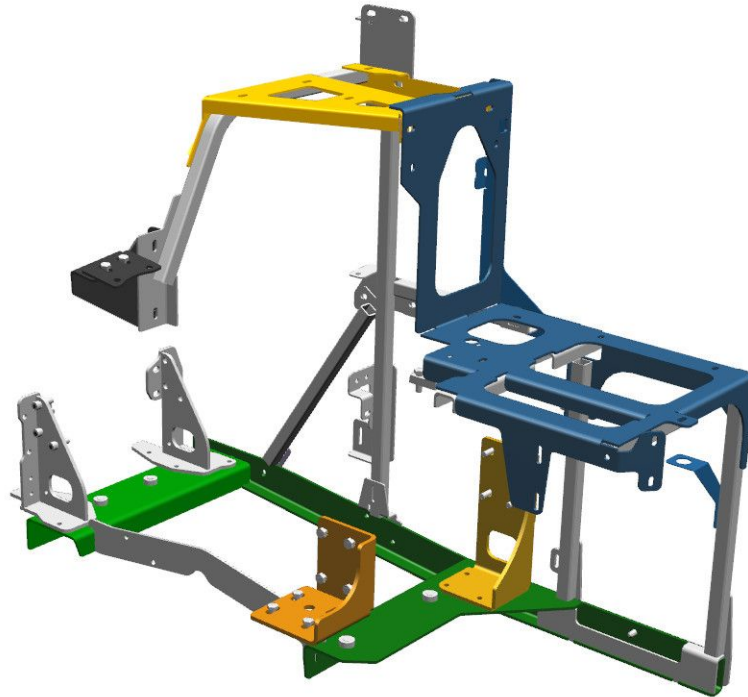
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## Engine - Detailed view - Engine mount

The engine is held in a frame that rests on an engine mount.

The engine mount provides a connection between the machine chassis and the engine.

On 9000 L and X ROW models, the 6-cylinder engine does not vibrate. The frame has no silent blocks, the engine is directly screwed onto its supports.



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COIL16GR00717TA 1

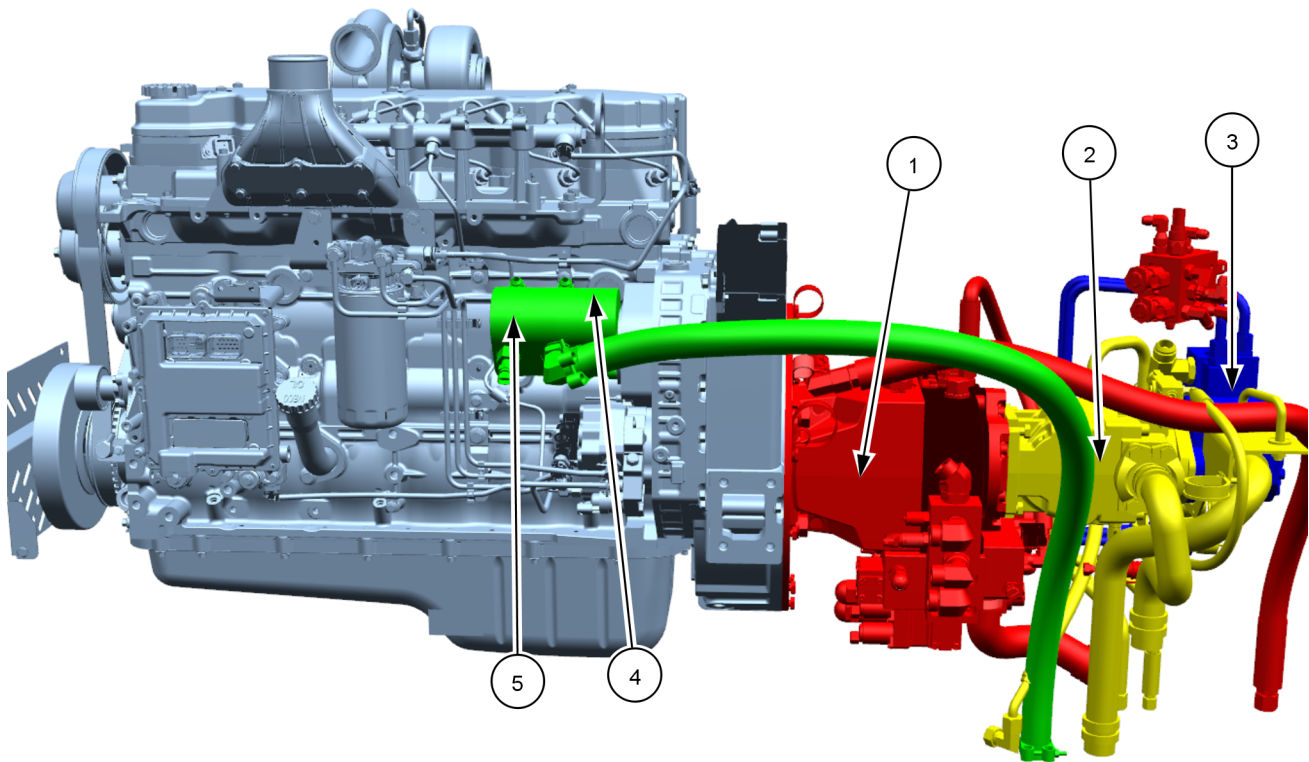
The frame surrounds the engine. The frame supports various components such as the radiators, the engine fan...

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## Engine - Detailed view - Pumps

There are four pumps on the engine:

- The forward-travel pumps (1), the cleaning pump (2) and the shaker pump (3) are flanged to the engine flywheel.
- The tandem pump (4) which supplies the lift, the steering, the noria in washing mode and the engine fan (with or without reverse control), spacing of the shaker frame and the grand export arm. The tandem pump is on the inner surface of the engine.



COIL16GR00714TA 1

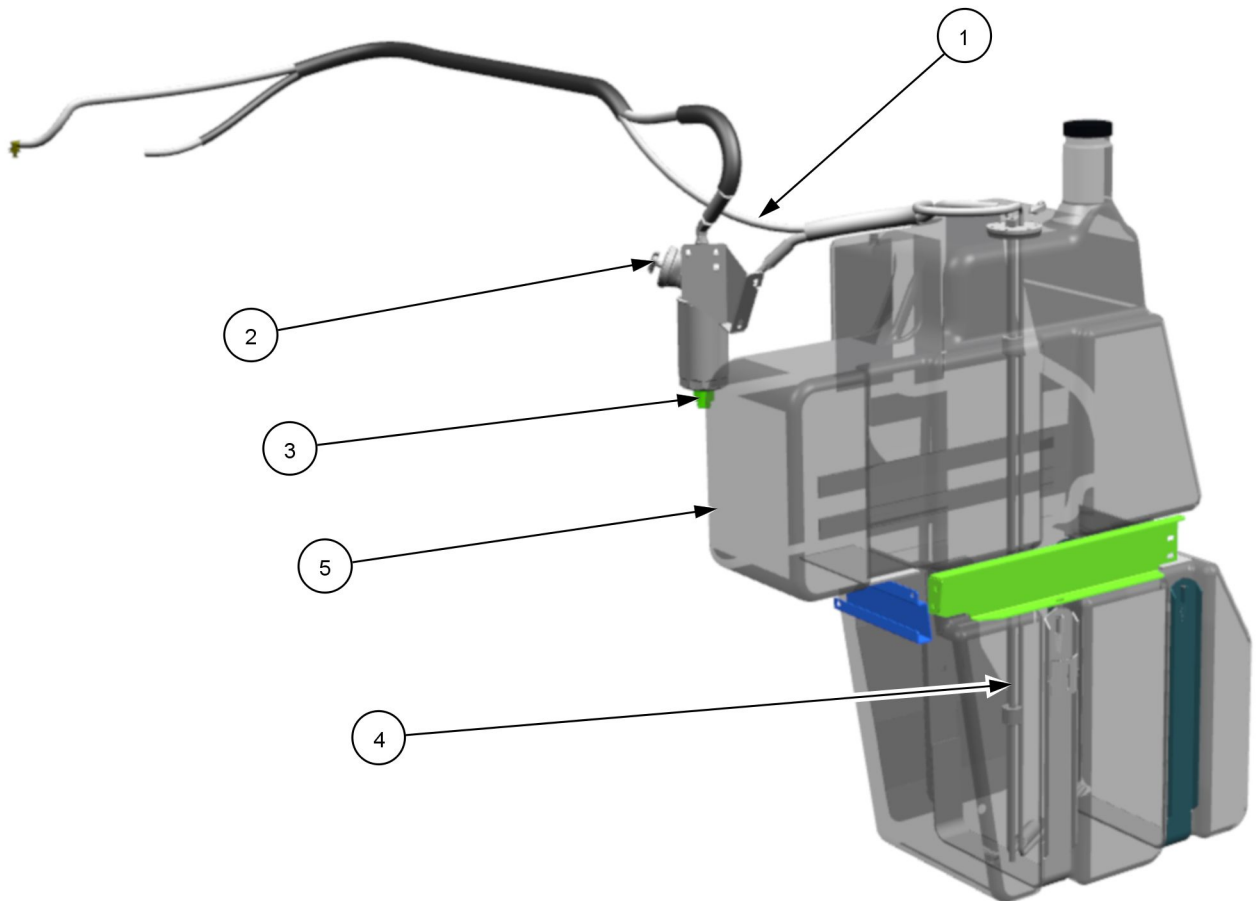
The hydraulic oil temperature sensor (5) is on the tandem pump.

## Fuel tanks - Detailed view - Fuel System

The fuel tank is on the left-hand side of the machine.

The tank capacity is **270.0 L (71.3 US gal)**. The fuel tank has a fuel gauge.

An anti-theft cap is available in a kit.



COIL18GR00734UA 1

1	Fuel return
2	Manual priming pump
3	Pre-filter + water separator
4	Fuel Gauge
5	Tank



**Suggest:**

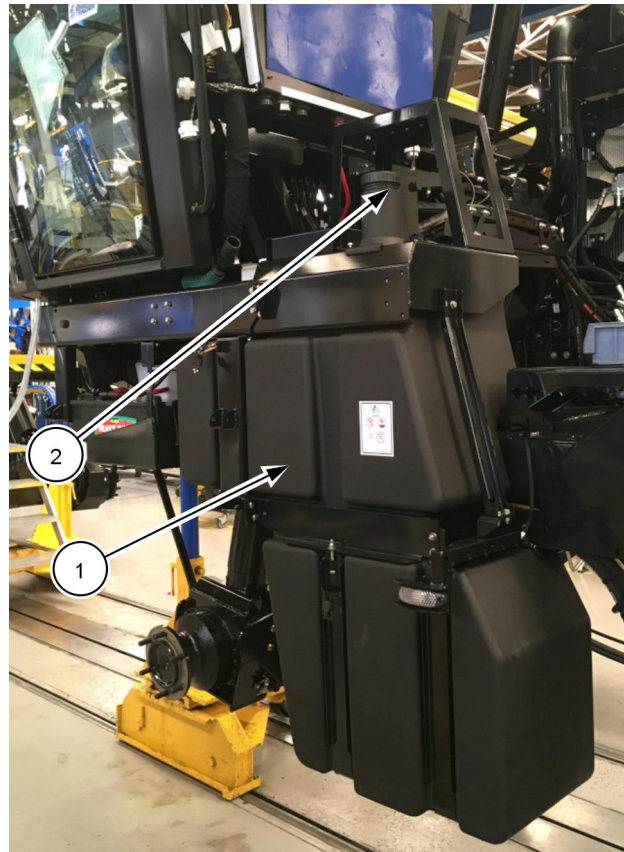
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COIL18GR01096TA 2

1	Tank
2	Filler cap

### The fuel gauge

The gauge comprises three tubes: a suction tube, a return tube, and a third tube with a float that contains a magnet, which indicates the fuel level.

The gauge also contains a resistor with values that vary based on the amount of fuel.

To check the operation of the sensor (stuck float), add fuel and observe whether the value of the resistor changes.

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