

SERVICE MANUAL

9090X Grape Harvester

Part number 51617596

English
September 2019



Link Product / Engine

Product	Market Product	Engine
9090X Olive Olive harvester with Tier 4B engine [770085001 -]	North America	F4HFE6139*B004
9090X Side Conveyor T4B - MY18 [770096001 -]	North America	F4HFE6139*B004
9090X Olive Side Conveyor Olive harvester TIER 4B Side Conveyor version	North America	F4HFE6139*B004
9090X Dual T4B - MY18 [770090001 -]	North America	F4HFE6139*B004

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INTRODUCTION

Safety rules

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.

Safety rules - Ecology and the environment

Soil, air, and water quality is important for all industries and life in general. When legislation does not yet rule the treatment of some of the substances that advanced technology requires, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

Familiarize yourself with the relative legislation applicable to your country, and make sure that you understand this legislation. Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, anti-freeze, cleaning agents, etc., with regard to the effect of these substances on man and nature and how to safely store, use, and dispose of these substances.

Helpful hints

- Avoid the use of cans or other inappropriate pressurized fuel delivery systems to fill tanks. Such delivery systems may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of these products contain substances that may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when you drain fluids such as used engine coolant mixtures, engine oil, hydraulic fluid, brake fluid, etc. Do not mix drained brake fluids or fuels with lubricants. Store all drained fluids safely until you can dispose of the fluids in a proper way that complies with all local legislation and available resources.
- Do not allow coolant mixtures to get into the soil. Collect and dispose of coolant mixtures properly.
- The air-conditioning system contains gases that should not be released into the atmosphere. Consult an air-conditioning specialist or use a special extractor to recharge the system properly.
- Repair any leaks or defects in the engine cooling system or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding. Penetrating weld splatter may burn a hole or weaken hoses, allowing the loss of oils, coolant, etc.

Battery recycling

Batteries and electric accumulators contain several substances that can have a harmful effect on the environment if the batteries are not properly recycled after use. Improper disposal of batteries can contaminate the soil, groundwater, and waterways. NEW HOLLAND strongly recommends that you return all used batteries to a NEW HOLLAND dealer, who will dispose of the used batteries or recycle the used batteries properly. In some countries, this is a legal requirement.



Mandatory battery recycling

NOTE: *The following requirements are mandatory in Brazil.*

Batteries are made of lead plates and a sulfuric acid solution. Because batteries contain heavy metals such as lead, CONAMA Resolution 401/2008 requires you to return all used batteries to the battery dealer when you replace any batteries. Do not dispose of batteries in your household garbage.

Points of sale are obliged to:

- Accept the return of your used batteries
- Store the returned batteries in a suitable location
- Send the returned batteries to the battery manufacturer for recycling

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.

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INFORMATION

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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.

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SERVICE MANUAL

Engine

Extra High Capacity TIER 4B

Engine and crankcase - Overview - of the engine frame - 9090L and 9090X

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 9090X 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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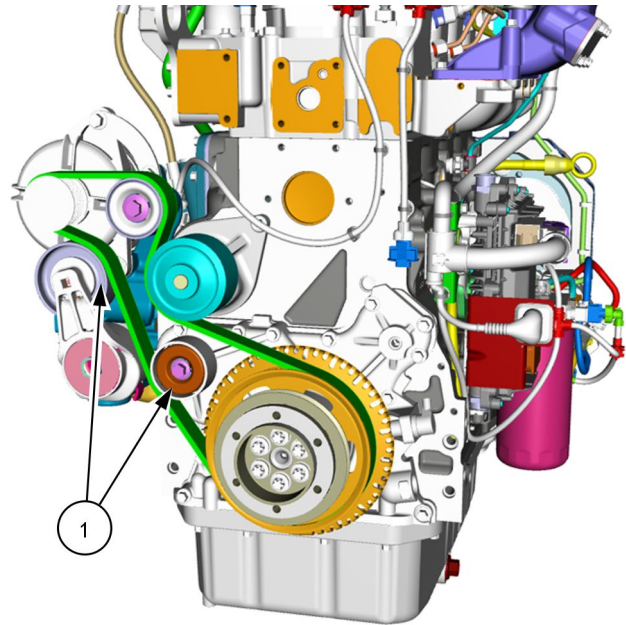
The frame surrounds the engine. The frame supports various components such as the radiators, the engine fan, the emission control system, etc.

Engine and crankcase - Detailed view - Servo belt

Check the rotation of the tensioners (1) every year.
The servo belt should be replaced every **1200 h**.

The servo belt drives:

- The water pump
- The alternator



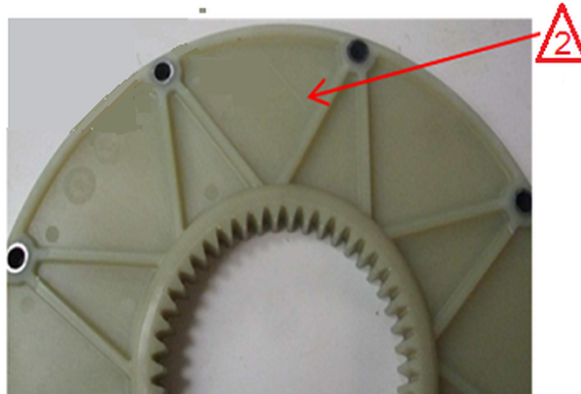
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Replacing the belt/water pump

Water pump pulley - Replace (10.414)

Engine and crankcase - Detailed view - The flex disc

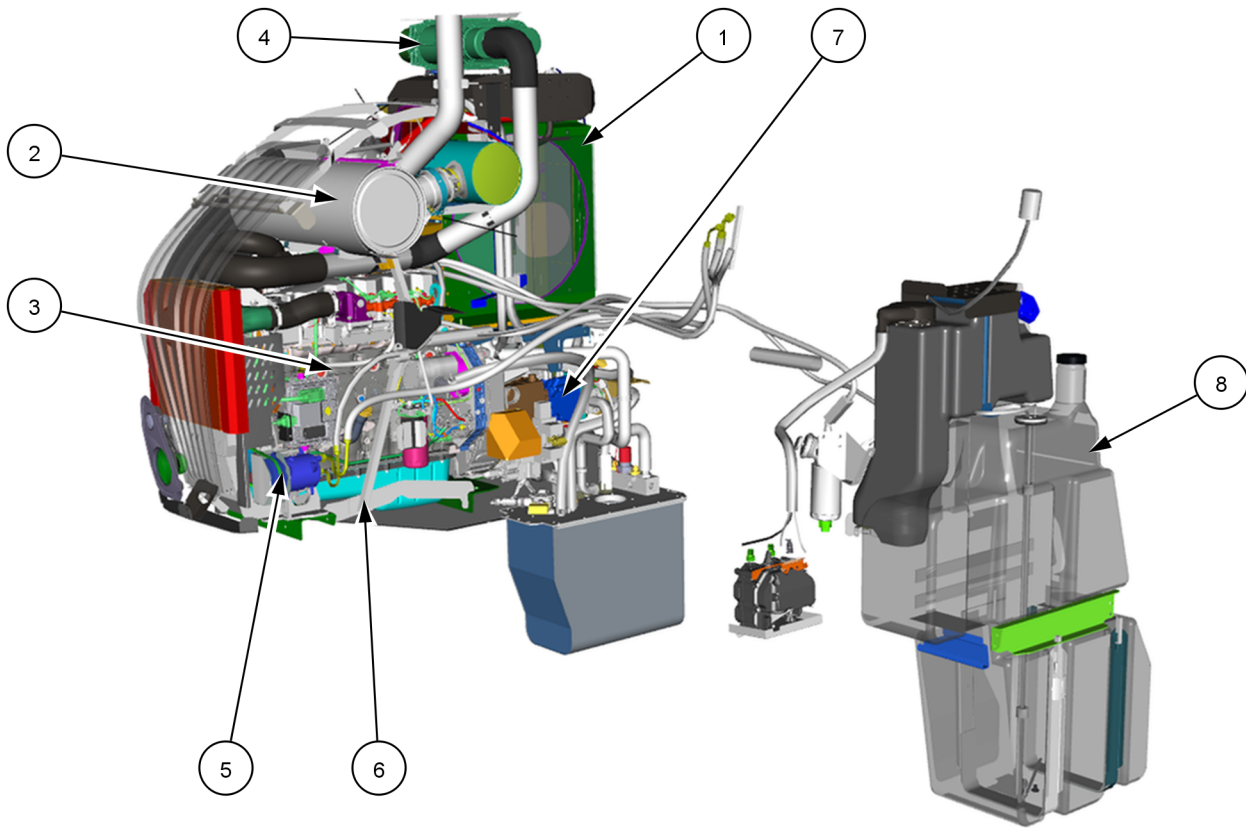
The junction between the engine and the H1P 130 (9000MLX) or H1P 115 (7030M/7030L/8030L) pump or Rexroth pump (9080N) is provided by a flex disc.



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NOTE: On the flex disc, the marking (2) (mounted long side) must be directed towards the engine flywheel.

Engine and crankcase - Overview - GENERAL COMBUSTION ENGINE



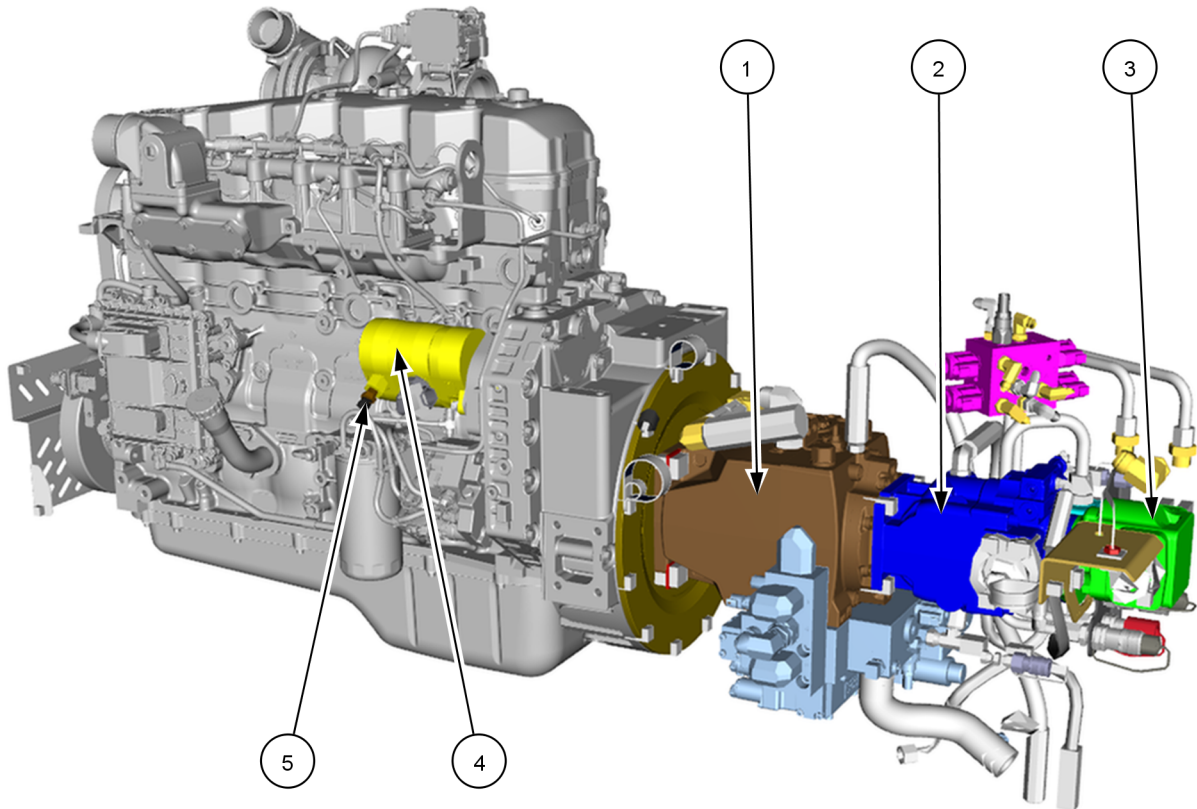
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1	Cooling system	Engine cooling system - Overview - General specifications - Engine coolant (10.400)
2	Exhaust gas after treatment - SCR	Selective Catalytic Reduction (SCR) exhaust treatment - Overview (10.500)
3	Engine – General specifications	Engine - Detailed view (10.001)
4	Air cleaner	Air cleaner - Detailed view (10.202)
5	Servo belt	Engine - Detailed view - Servo belt (10.001)
6	Engine stand	Engine and crankcase - Overview - of the engine frame - 9090L and 9090X (10.001)
7	Pumps	Engine and crankcase - Detailed view - Pumps (10.001)
8	Fuel system	Fuel tank - Overview (10.216)
9	Flector	Engine and crankcase - Detailed view - The flex disc (10.001)

Engine and crankcase - 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.



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



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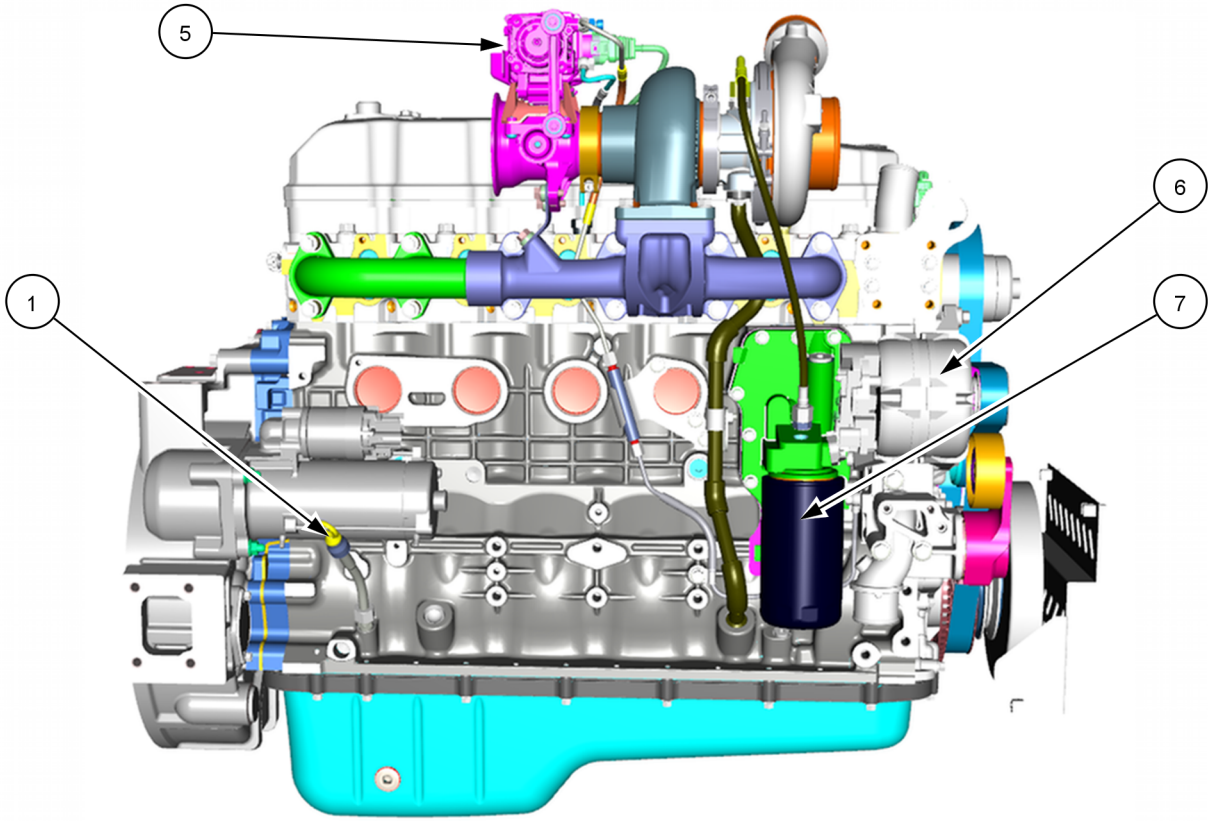
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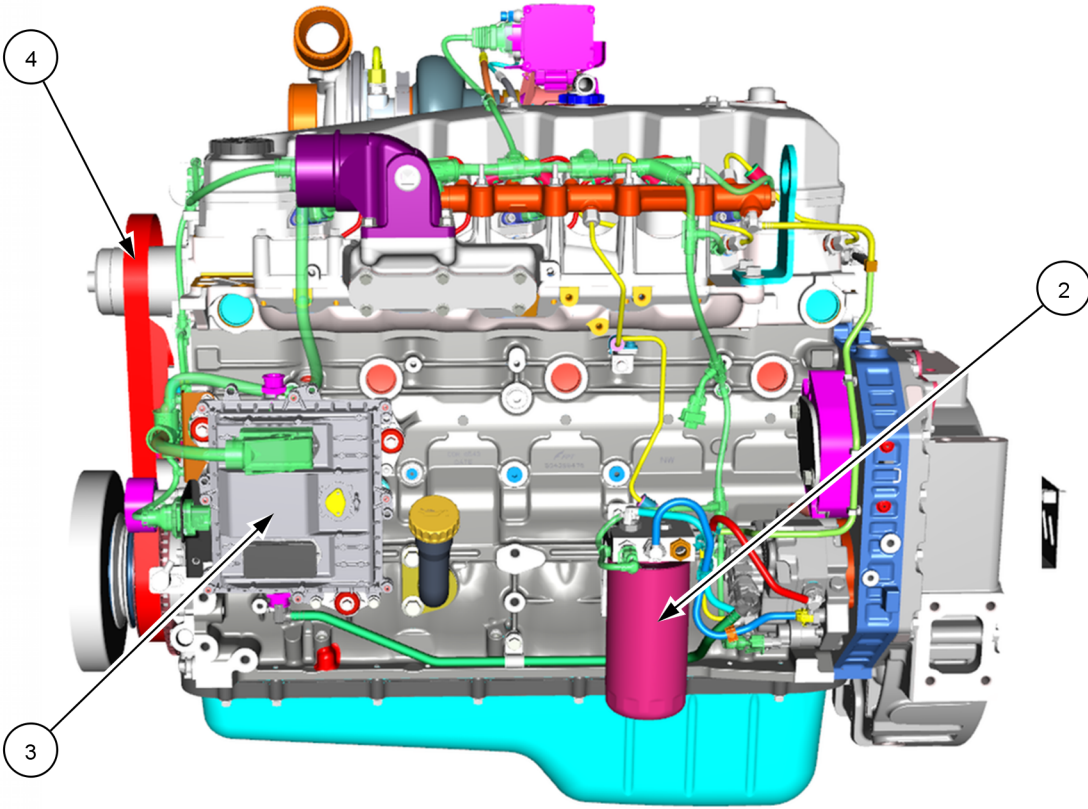
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Engine - Detailed view

Location of components



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