

# SERVICE MANUAL

**T5.100 Electro Command**  
**T5.110 Electro Command**  
**T5.120 Electro Command**  
Tractor

Part number 51487926

English  
May 2018



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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.

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## **Note to the Owner WARNINGS FOR AIR CONDITIONING SYSTEM REPAIR OPERATIONS**

Starting the system at low temperatures can damage the compressor. Only operate the air conditioner when the engine is hot and the temperature inside the cab is at least **20 °C (68.00 °F)**.

When disconnecting the hoses, close the ends with plastic caps to prevent foreign matter and humidity from getting inside the hoses.

Handle the thermostatic sensor carefully to avoid damage that may prevent efficient system operation.

Always use two spanners to unscrew the hose fittings to avoid twisting the fitting.

Do not use any type of engine oil to lubricate the compressor and the system.

Never leave the compressor oil container open, always make sure that it is tightly closed. If left exposed the oil will absorb humidity from the air and may, subsequently, damage the system.

Do not transfer compressor oil from the original container to another container.

Do not introduce any additives to the compressor oil. Any additional substances could contain elements which are incompatible with the chemical base of the refrigerant and thus alter its characteristics.

Check that the thermostatic sensor is correctly inserted in the fins on the evaporator to ensure efficient system operation.

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## Safety rules

T5. - TIER 4B (FINAL) and STAGE IV

ANZ --- APAC --- MEA --- WE


### 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

### ACCIDENT PREVENTION

Most accidents or injuries that occur in workshops are the result of non-observance of simple and fundamental safety regulations.

For this reason, IN MOST CASES THESE ACCIDENTS CAN BE AVOIDED: by foreseeing possible causes and consequently 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.

A careful and prudent mechanic is the best insurance against any accident.

Precise observance of the most basic safety rule is normally sufficient to avoid many serious accidents.

**DANGER:** Never carry out any cleaning, lubrication or maintenance operations when the engine is running.

### GENERALITIES

- Carefully follow specified repair and maintenance procedures.
- 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.
- Operate the vehicle and use the implements exclusively from the driver's seat.
- Do not carry out operations on the vehicle with the engine running, unless specifically indicated.
- Stop the engine and ensure that all pressure is relieved from hydraulic circuits before removing caps, covers, valves, etc.
- All repair and maintenance operations must be carried out with the greatest care and attention.
- Service stairs and platforms used in a workshop or in the field should be built in compliance with the safety rules in force.
- Disconnect the batteries and label all controls to indicate that the vehicle is being serviced. Block the machine and all equipment which should be raised.
- Do not check or fill fuel tanks, accumulator batteries, nor use starting liquid when smoking or near naked flames, as these fluids are inflammable.
- Brakes are inoperative if manually released for repair or maintenance purposes.  
In such cases, the machine should be kept constantly under control using blocks or similar devices.
- The fuel nozzle should always be in contact with the filling aperture. Maintain this position until filling operations are completed in order to avoid possible sparks caused by the accumulation of static electricity.
- Only use specified towing points for towing the tractor. Connect the parts carefully and 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
- To move a disabled machine, use a trailer or a low-boy, if available.
- When loading or unloading the vehicle from the trailer, or other means of transport, select a flat area capable of sustaining the trailer or truck wheels, firmly secure the tractor to the truck or trailer and lock the wheels in the position.
- For electrical heaters, battery-chargers and similar equipment use exclusive auxiliary power supplies with a efficient ground to avoid electrical shock hazard.
- Always use lifting equipment and similar of appropriate capacity to lift or move heavy components.
- Take extra care if bystanders are present.
- Never pour gasoline or diesel oil into open, wide and low containers.
- Never use gasoline, diesel oil or other inflammable liquids as cleaning agents. Use non-flammable non-toxic proprietary solvents.
- Wear safety goggles with side guards when cleaning parts with compressed air.

## INTRODUCTION

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- Limit the air pressure to a maximum of **2.1 bar (30.5 psi)**, according to local regulations.
- Do not run the engine in confined spaces without suitable ventilation.
- Do not smoke, use naked flames, or cause sparks in the area when fuel filling or handling highly inflammable liquids.
- Never use naked 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 vehicle and wear protective equipment: 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 vehicle in position and move to a flat area as soon as possible in order to ensure a safety position.
- Damaged or bent chains or cables are unreliable. Do not use them for lifting or trailing.  
Always use suitable protective gloves when handling chains or cables.
- Chains should always be safely secured. Ensure that the connection is strong enough to hold the expected load. No persons should stop near the fastening point, trailing chains or cables.
- Maintenance and repair operations must be carried out in a CLEAN and DRY area, eliminate any water or oil spillage immediately.
- Do not create piles of oil or grease--soaked rags as they represent a serious fire hazard; store them in a closed metal container.  
Before starting the vehicle or implements, make sure that the driver's seat is locked in position and always check that the area is free of persons or obstacles.
- Empty pockets of all objects that may unintentionally fall into the vehicle parts when disassembled.
- In the presence of protruding metal parts, use protective goggles or goggles with side guards, helmets, special footwear and gloves.
- Handle all parts carefully, do not put your hands or fingers between moving parts, wear suitable safety clothing -- safety goggles, gloves and shoes.

## WELDING OPERATIONS

- 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.  
**DO NOT LOOK AT ARC WITHOUT PROPER EYE PROTECTION.**
- Where possible, remove the part or tool that requires arc welding from the tractor.
- Disconnect both cables from the battery. Isolate the cable ends to avoid contact with each other and the tractor.
- Position the welder ground clamp as near as possible to the area where welding is taking place.
- Remove the electronic control units located on the tractor if welding is to be carried out near these control units.
- Never allow welding cables to lay on, near or across any electrical wiring or electronic component while welding is in progress.
- Metal cables tend to fray with repeated use. Always use suitable protective devices (gloves, goggles, etc.) when handling cables.

## START UP

- Never start the engine in confined spaces that are not equipped with adequate ventilation for exhaust gas extraction.
- Never bring your head, body, arms, legs, feet, hands, fingers near fans or rotating belts.

## MOTOR

- Always loosen the radiator cap slowly before removing it to allow any remaining pressure in the system to be discharged. Coolant should be topped up only when the engine is stopped or idle if hot.
- Never fill up with fuel when the engine is running, especially if hot, in order to prevent the outbreak of fire as a result of fuel spillage
- Never check or adjust fan belt tension when the engine is running.

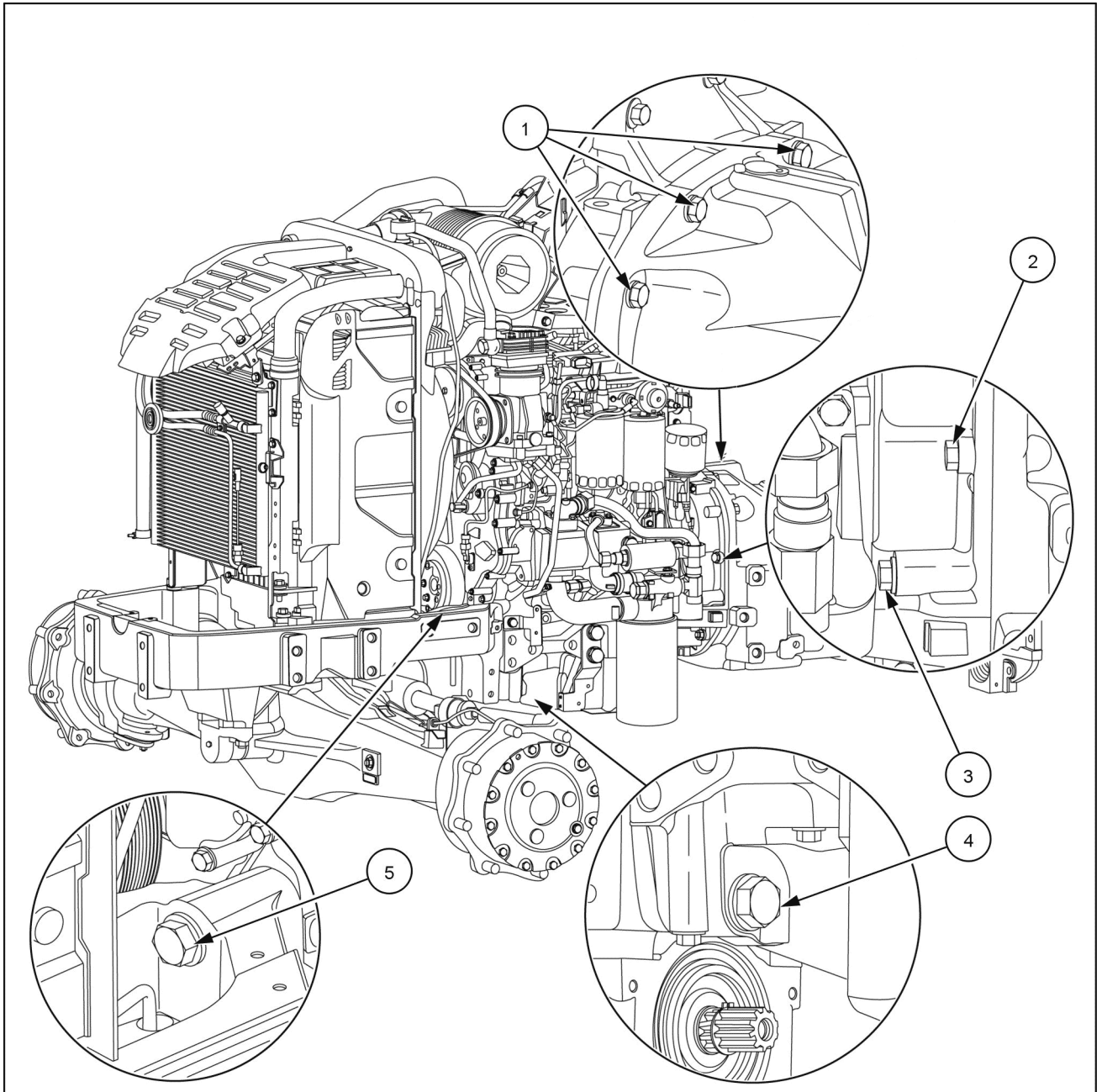
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## Engine - Torque



MOIL17TR00673GA 1

Part to tighten	Thread	Tighten torque
Bolt (5) securing the front axle to the engine block	M20 x 1.5 x 130	587 N·m (432.95 lb ft)
Bolt (4) securing the engine block to the front axle	M20 x 1.5 x 110	587 N·m (432.95 lb ft)
Bolt (1) securing the gearbox to the engine block	M12 x 1.25 x 50	121 N·m (89.25 lb ft)
Bolt (2) securing the engine block to the gearbox	M12 x 1.25 x 50	121 N·m (89.25 lb ft)
Bolt (3) securing the engine block to the gearbox	M12 x 1.25 x 90	121 N·m (89.25 lb ft)



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## Engine - Remove

### ⚠ WARNING

#### Heavy objects!

Lift and handle all heavy components using lifting equipment with adequate capacity. Always support units or parts with suitable slings or hooks. Make sure the work area is clear of all bystanders. Failure to comply could result in death or serious injury.

W0398A

### ⚠ WARNING

#### Avoid injury!

Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.

Failure to comply could result in death or serious injury.

W0208A

#### Prior operation:

Hood - Remove (90.100).

Side panels - Remove (90.100).

Battery - Remove (55.302)

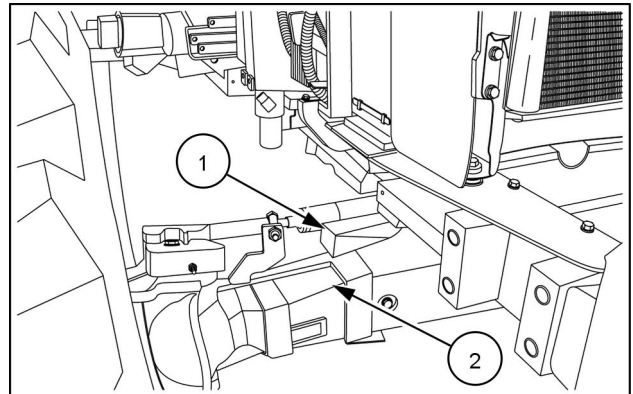
Fuel tank - Remove (10.216).

Air conditioning - Evacuate (50.200)

Selective Catalytic Reduction (SCR) muffler and catalyst - Remove (10.500) .

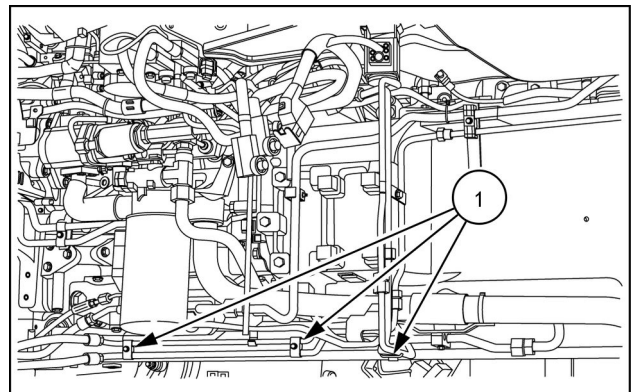
Fender - Remove (90.116)

1. Remove the front ballast (if present) as described in **Front ballast - Remove (39.140)**
2. Position wooden wedges (1) between the front axle and the front axle support (2) to prevent articulation.



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3. Release the steering cylinder control lines of the fastening clamps (1) to allow the front transmission drive shaft and its protection to be extracted.



MOIL17TR01408AA 2

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