

Farmall 55C
Farmall 65C
Farmall 75C
Efficient Power - Tractor

PIN ZDAL00012 and above

SERVICE MANUAL

Part number 47772181

English

September 2014

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Link Product / Engine

Product	Market Product	Engine
Farmall® 55C senza cabina	Australia New Zealand	F5DFL463C*F004
Farmall® 55C senza cabina	Europe	F5DFL463C*F004
Farmall® 55C senza cabina	Asia Pacific	F5DFL463C*F004
Farmall® 55C senza cabina	Middle East Africa	F5DFL463C*F004
Farmall® 55C con cabina	Middle East Africa	F5DFL463C*F004
Farmall® 55C con cabina	Europe	F5DFL463C*F004
Farmall® 55C con cabina	Asia Pacific	F5DFL463C*F004
Farmall® 55C con cabina	Australia New Zealand	F5DFL463C*F004
Farmall® 65C senza cabina	Australia New Zealand	F5DFL463B*F006
Farmall® 65C senza cabina	Europe	F5DFL463B*F006
Farmall® 65C senza cabina	Asia Pacific	F5DFL463B*F006
Farmall® 65C senza cabina	Middle East Africa	F5DFL463B*F006
Farmall® 65C con cabina	Middle East Africa	F5DFL463B*F006
Farmall® 65C con cabina	Europe	F5DFL463B*F006
Farmall® 65C con cabina	Asia Pacific	F5DFL463B*F006
Farmall® 65C con cabina	Australia New Zealand	F5DFL463B*F006
Farmall® 75C senza cabina [ZxALxxxxx]	Europe	F5DFL463A*F017
Farmall® 75C senza cabina [ZxALxxxxx]	Australia New Zealand	F5DFL463A*F017
Farmall® 75C senza cabina [ZxALxxxxx]	Asia Pacific	F5DFL463A*F017
Farmall® 75C senza cabina [ZxALxxxxx]	Middle East Africa	F5DFL463A*F017
Farmall® 75C con cabina [ZxALxxxxx]	Europe	F5DFL463A*F017
Farmall® 75C con cabina [ZxALxxxxx]	Middle East Africa	F5DFL463A*F017
Farmall® 75C con cabina [ZxALxxxxx]	Asia Pacific	F5DFL463A*F017
Farmall® 75C con cabina [ZxALxxxxx]	Australia New Zealand	F5DFL463A*F017

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INTRODUCTION

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.

Safety rules SAFETY REGULATIONS

TO PREVENT ACCIDENTS

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 vehicle, regardless of how well it was designed and built.

A careful and judicious service technician is the best guarantee against accidents.

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.

GENERAL

- 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 using extreme care and attention.
- Service steps 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 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
- Transport vehicles that cannot be driven using a trailer or a low-loading platform trolley, 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.
- 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.
- 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.
- Limit the air pressure to a maximum of **2.1 bar (30.5 psi)**, according to local regulations.

INTRODUCTION

- 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 vehicle 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 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. Ensure that fastening device is strong enough to hold the load foreseen. 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 fall unobserved 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.
NEVER LOOK AT THE WELDING ARC IF YOUR EYES ARE NOT SUITABLY PROTECTED.
- Where possible, remove the part or tool that requires arc welding from the tractor.
- Disconnect both battery leads. 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 place the head, body, limbs, feet, hands or fingers near fans or rotating belts.

ENGINE

- 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.
Never adjust the fuel injection pump when the vehicle is moving.



SERVICE MANUAL

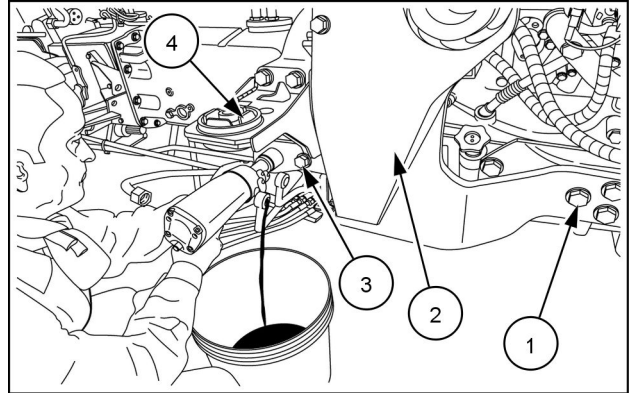
Engine

**Farmall® 55C without cab, Farmall® 55C with cab, Farmall® 65C without cab,
Farmall® 65C with cab, Farmall® 75C without cab [ZxALxxxxx], Farmall® 75C
with cab [ZxALxxxxx]**

Engine - Remove

NOTE: For models with front-end loaders only, perform the following points before carrying out the instructions below:

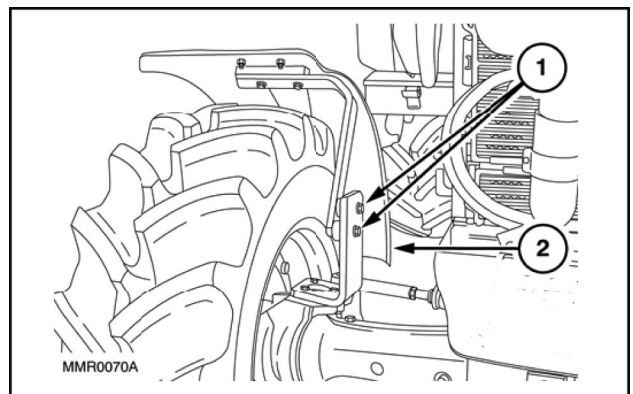
- Remove the cab including the platform (see **Cab - Remove (90.150)**) or just the platform (see **Operator platform less cab - Remove (90.110)**)
- Remove the mid mount valves (see **Mid-mount remote control valve - Remove (35.204)**)
- Loosen the retaining bolts (1) and (3). Remove the cab support or platform (4). Remove the front-end loader support (2).



MOIL13TR02963AA 1

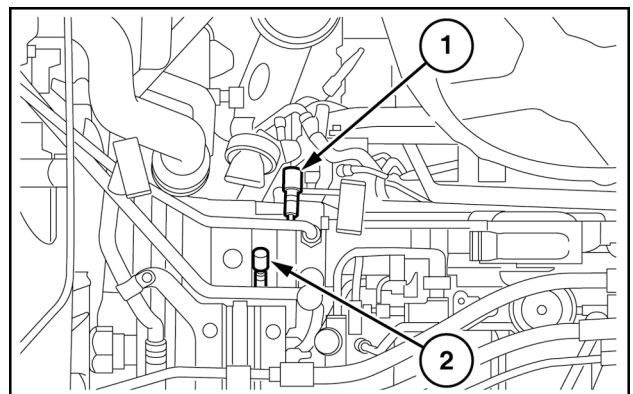
NOTE: The following operations are valid for all versions.

1. Remove the hood, as described in **Hood - Remove (90.100)**.
2. Remove the battery, as described in **Battery - Remove (55.302)**.
3. Remove the fuel tank, as described in **Fuel tank - Remove (10.216)**.
4. Loosen the retaining bolts (1). Remove the front wheel fenders (2), if any, from both sides.



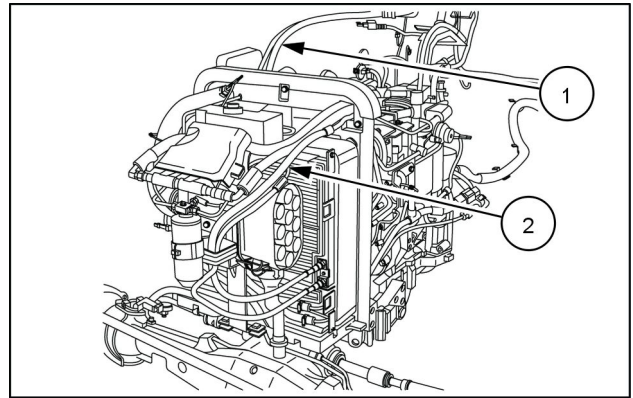
WLAPL4S10C104A 2

5. Recover the refrigerant from the system via the fittings (1) and (2), using the special tool **380000315**. Detach the two lines by disconnecting any support straps.



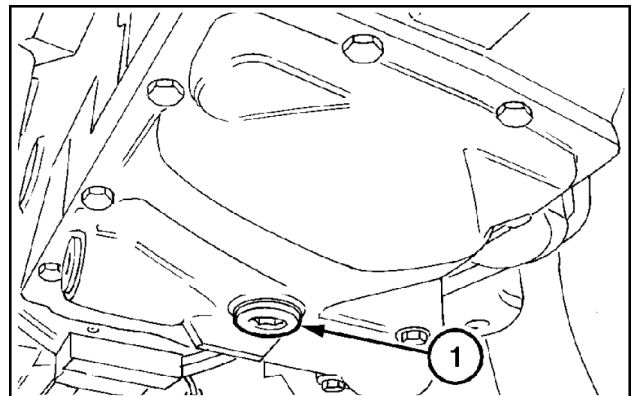
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6. Disconnect and remove the lines from the cab air conditioning and heating (if any) **(1)** and **(2)**.



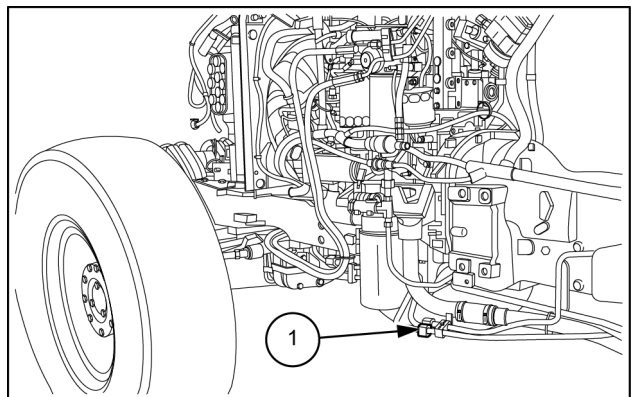
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7. Place a suitable container under the drain plug **(1)** for the gearbox-transmission oil. Loosen the plug. Drain the oil.



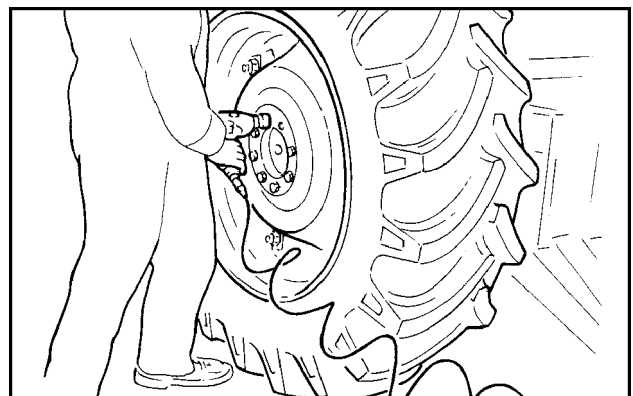
MOIL13TR00197AA 5

8. Detach the supply and return pipes for the transmission cooling oil at the connection point **(1)**. Release the pipes from their anchorage on the engine block.



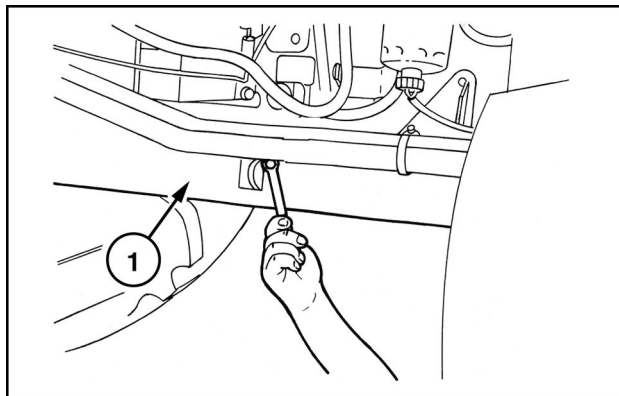
MOIL13TR02886AB 6

9. Raise the rear of the tractor with a hydraulic jack. Place a mechanical jack stand under the reduction gear case. Use a pneumatic gun to remove the retaining nuts of the left-hand rear wheel. Then remove the wheel.



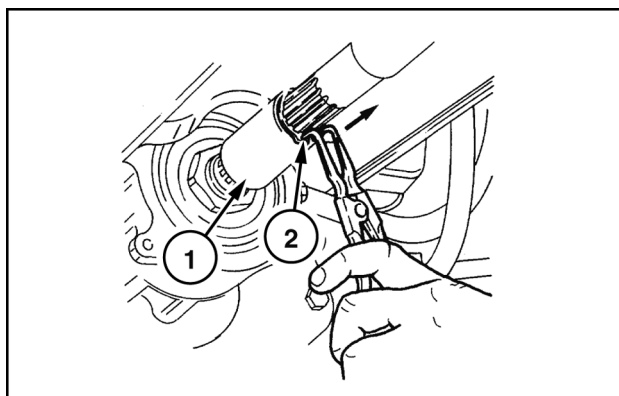
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10. Remove the front, central, and rear retaining bolts on the guard of the front-wheel drive control shaft. Then remove the guard **(1)**.



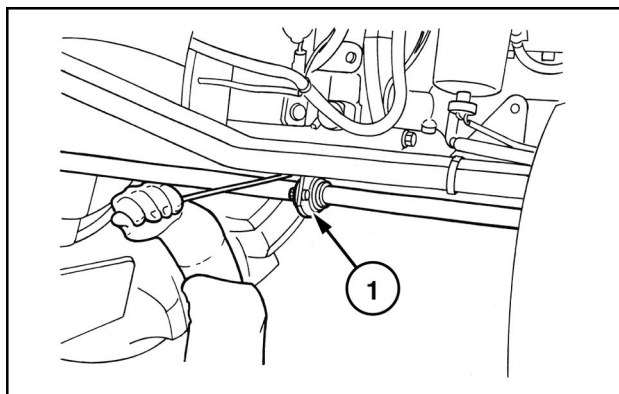
WLAPL4S10C112AA 8

11. Remove the snap ring **(2)** and move the front sleeve **(1)** in the direction indicated by the arrow in order to release it from the groove on the front axle.



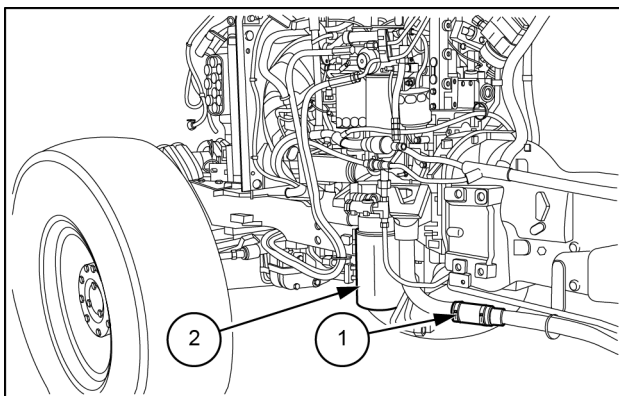
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12. Remove the bolts that secure the central support **(1)** of the drive shaft. Remove the shaft complete with the support. Also remove the shim that adjusts the clearance of the shaft on the back.



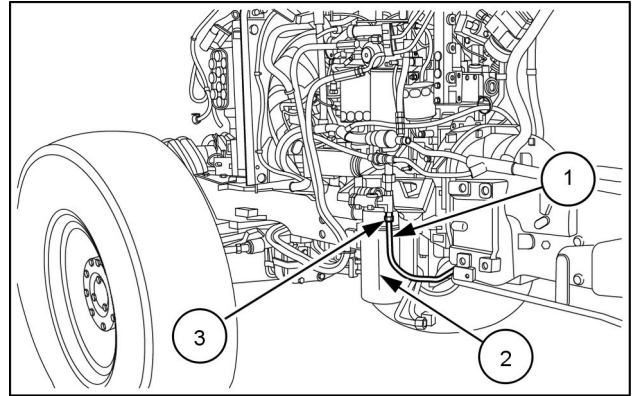
WLAPL4S10C115AA 10

13. Loosen the straps. Detach the suction tube **(1)** to the oil filter from the transmission **(2)**.



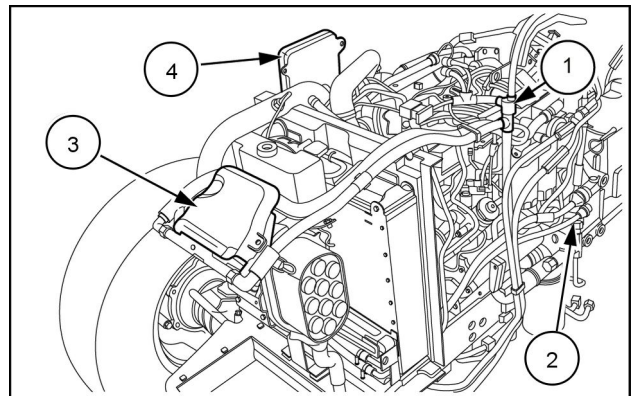
MOIL13TR02887AB 11

14. For machines with a hydraulic lift and mid mount valves, disconnect the oil supply tube to the distributor of the lift and of the mid mount valves **(1)**, if any, at the connection point **(3)**.
Remove the transmission oil filter **(2)**.



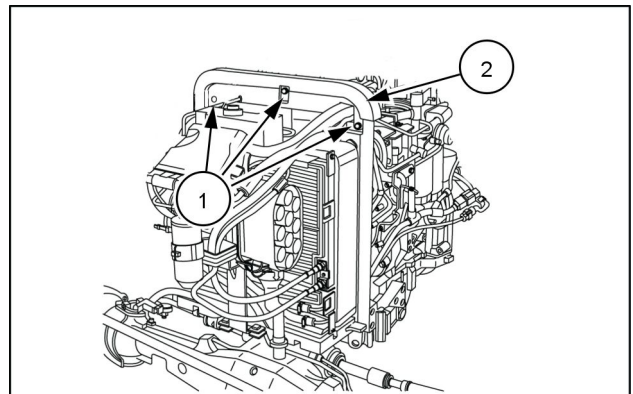
MOIL13TR02888AB 12

15. Disconnect all of the electrical connections that prevent the detachment of the engine from the gear-box-transmission case, such as main connections **(1)**, main cab connection and power **(2)**, engine control unit connections **(3)**, fuse compartment **(4)**, sensors, and extensions according to the tractor model.



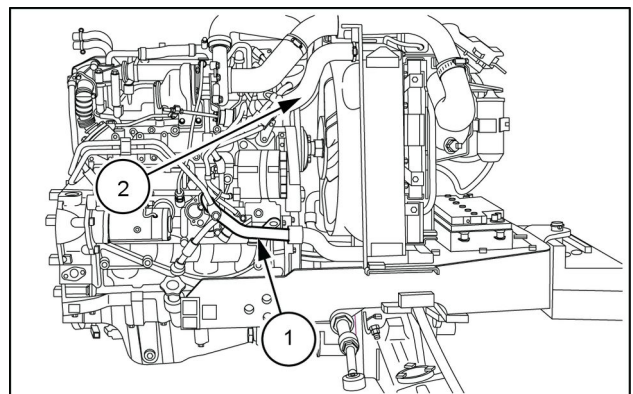
MOIL13TR02889AB 13

16. Loosen the retaining bolts **(1)**. Remove the top radiator guard **(2)**.
Remove all of the remaining free wire harnesses.



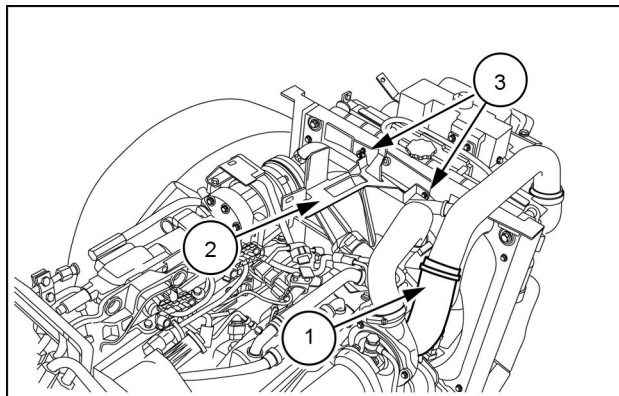
MOIL13TR02942AA 14

17. Loosen the strap on the inlet of the tubing **(1)** that supplies water to the radiator. Disconnect the tube. Drain and recharge the engine coolant.
18. Loosen the retain strap. Disconnect the tube **(2)** that returns the coolant to the engine.



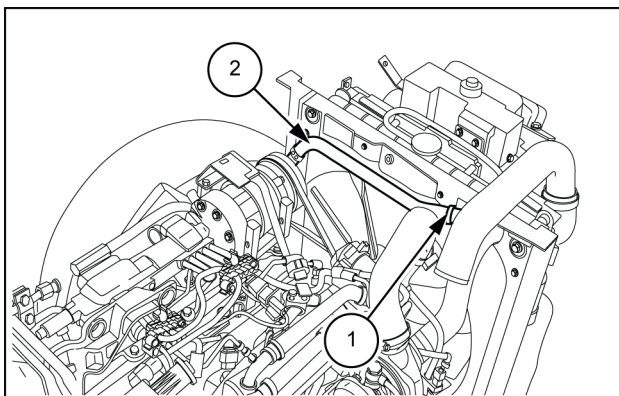
MOIL13TR02877AB 15

19. Loosen the strap. Disconnect the tube (1) that goes from the air cleaner to the turbine. Then remove the hood support (2) by removing the two bolts (3).



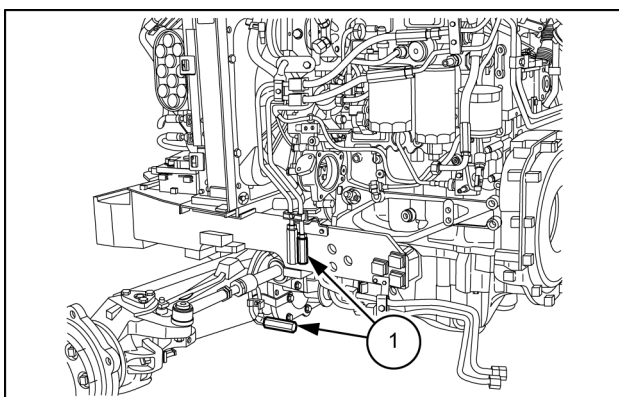
MOIL13TR02890AB 16

20. Loosen the strap (1). Disconnect the tube (2) that connects the air cleaner to the injection pump.



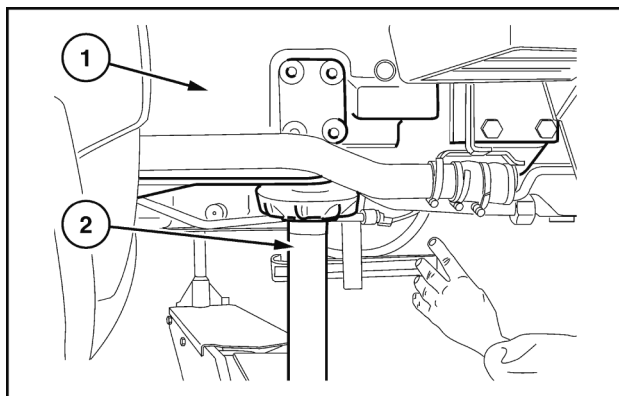
MOIL13TR02891AB 17

21. Disconnect the hydraulic steering lines (1). Release the lines from the front axle support.



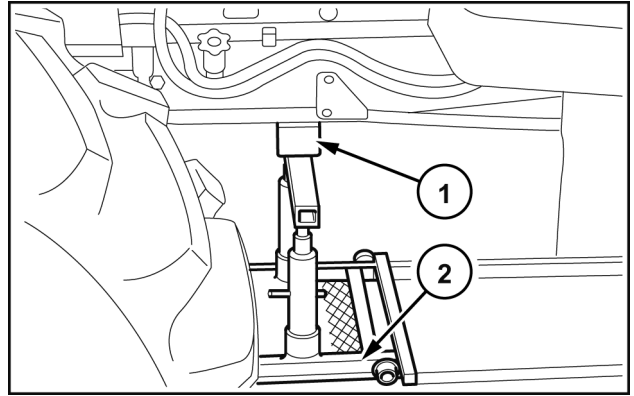
MOIL13TR02881AB 18

22. Hook the rear of the engine to a hoist using chains or ropes for lifting and eyebolts. Position a fixed jack stand (2) under the clutch case (1) near the engine attachment flanging. Apply the hand brake.



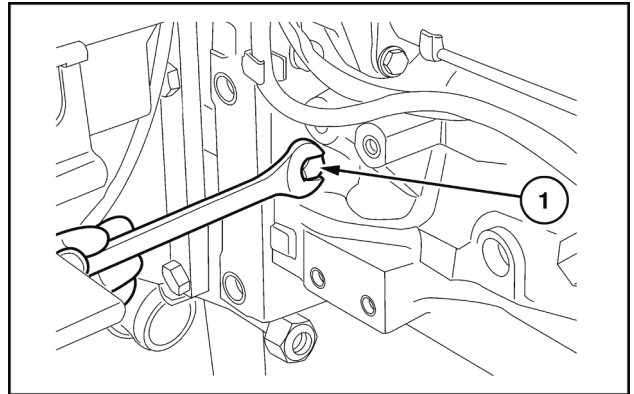
WLAPL4S10C129A 19

23. Position the movable tractor splitting tool **380000405 (2)** with the mounting bracket and adapter plate under the engine. Place a block of wood **(1)** at the points of contact between the tool and the engine. Wedge the axle to prevent swinging.



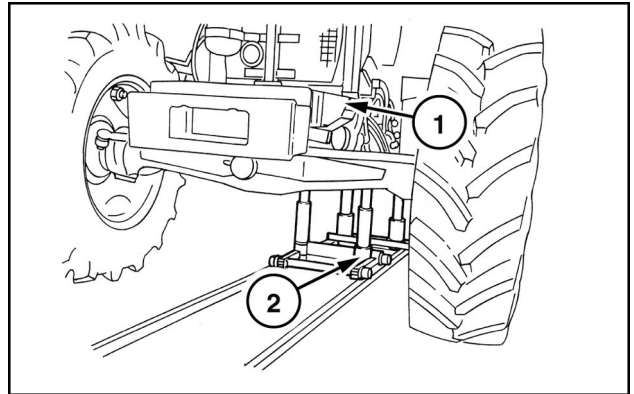
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24. Remove the retaining bolts **(1)** between the engine and the transmission.



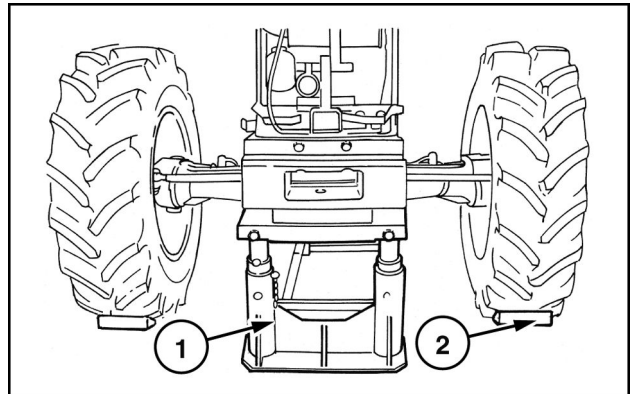
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25. Separate the engine from the transmission with the tool **380000405 (2)**.



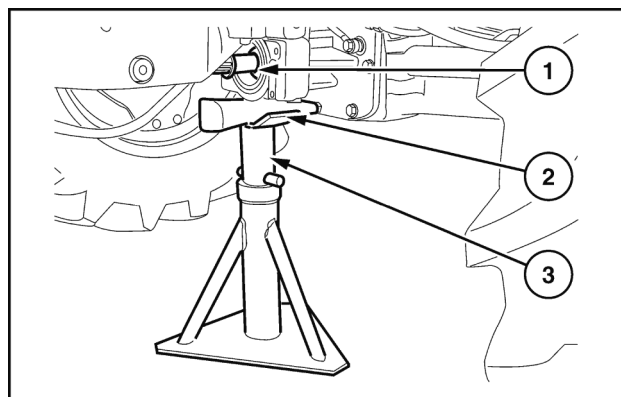
WLAPL4S10C131AA 22

26. Insert the fixed jack stand **(1)** under the ballast support. Chock the front wheels with wooden blocks **(2)**.



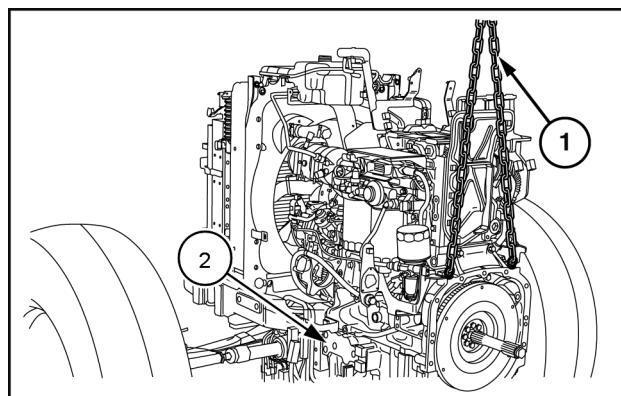
WLAPL4S10C132AA 23

27. Position a fixed jack stand **(3)** under the support of the groove **(1)** of the front axle drive, inserting a wooden stopper **(2)** between parts **(3)** and **(1)**.



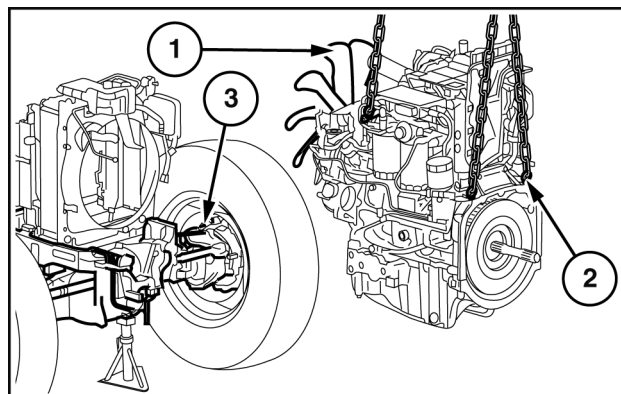
WLAPL4S10C133A 24

28. Position a jack stand under the rear of the engine so as to be able to release the hoist with the coupling device with maximum safety. Add a rope or chain **(1)** also on the front of the engine. Take up the slack with the lifting device, keeping the engine balanced.
29. Remove the bolts **(2)** that secure the front axle support to the engine.



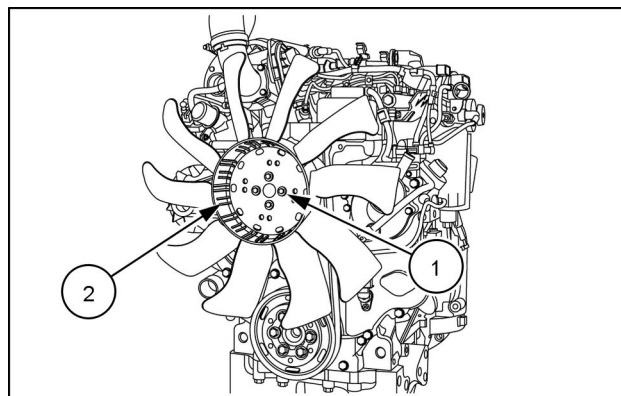
WLAPL4S10C136A 25

30. Check that there are no brackets between the engine and the cooling assembly. Detach the engine **(2)** from the front axle **(3)**. Try to avoid incorrect maneuvers with the hoist in order to not damage the fins of the radiator on the axle with the engine fan **(1)**. Rest the engine **(2)** on a support.



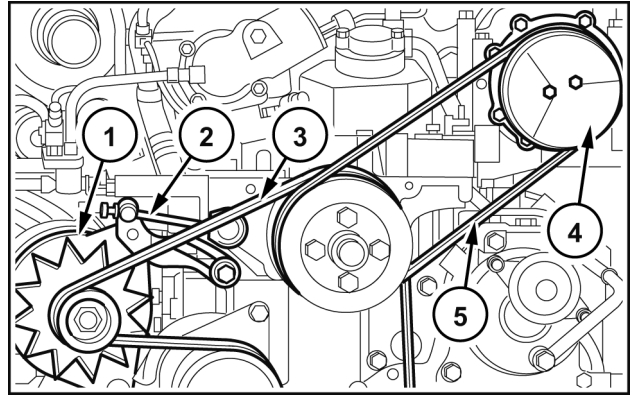
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31. Loosen the four bolts **(1)**. Remove the fan **(2)**.



MOIL13TR02885AA 27

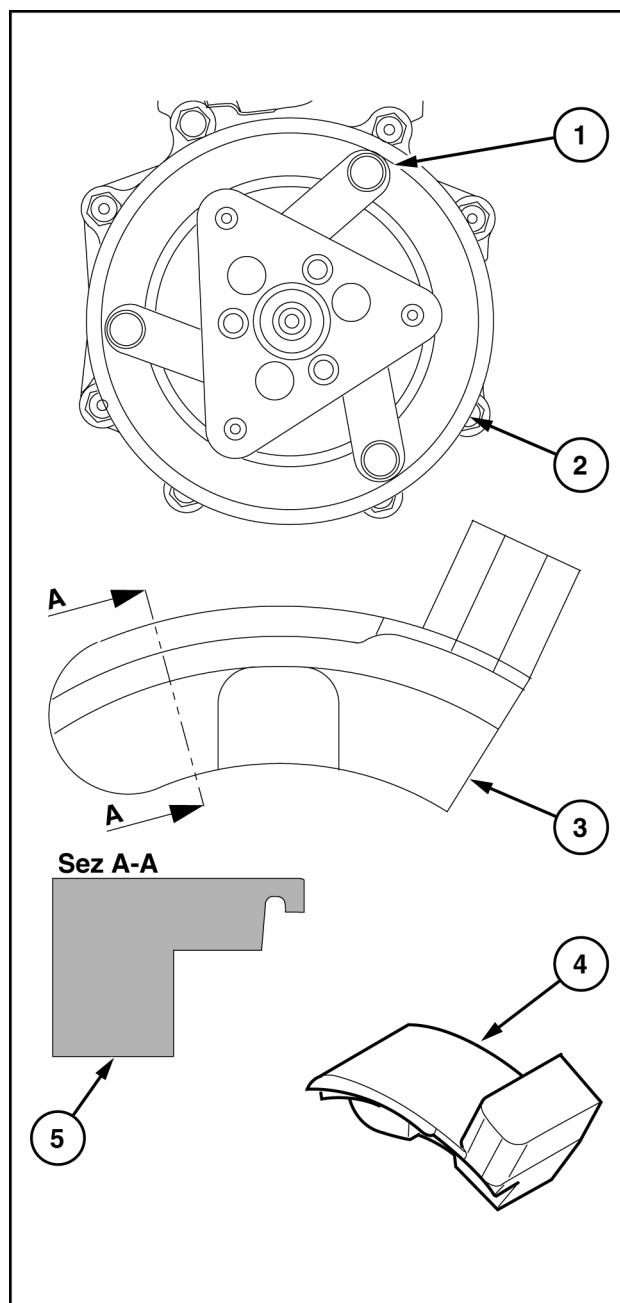
32. Loosen the compressor retaining bolts (4). Remove the belt (5). Then remove the compressor. Completely loosen the belt tensioner (2). Remove the elastic belt (3). Then remove the alternator (1).



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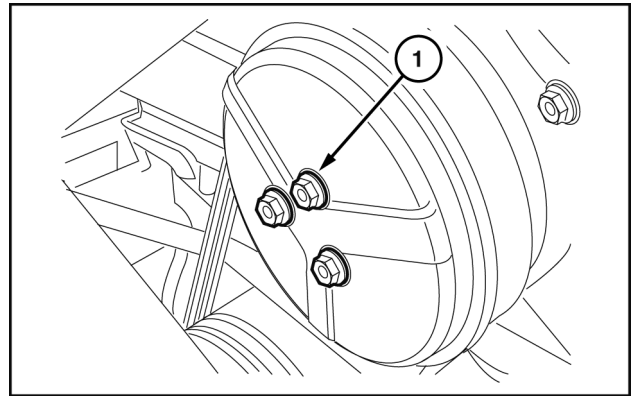
Engine - Install

1. Refit the flexible belt on the alternator and take up the slack according to the procedure in **Alternator - Tension adjust (55.301)**.
2. Reposition the compressor and the relevant belt following this procedure:
 - Put the compressor back on the support and with the related pipe support. Secure with the bolts
 - To mount the polyv belt, use the special tool **380200011**.
 - (1) Compressor clutch actuator drive bracket.
 - (2) polyv belt pulley outer edge.
 - (3) Tool recess. Used to drive the tool. This recess houses the bracket (1).
 - (4) Tail. Used to drive the polyv belt in the pulley seat.
 - (5) Hitching. Thanks to this recess, where the outer edge (2) is housed, the tool remains hitched to the compressor.



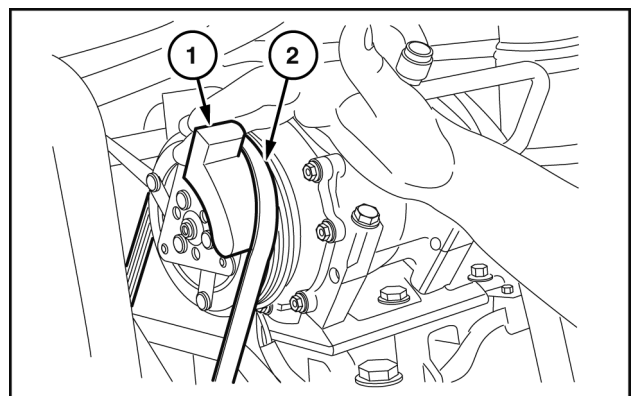
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3. Remove the three bolts **(1)** and the related dust cover for the compressor clutch.



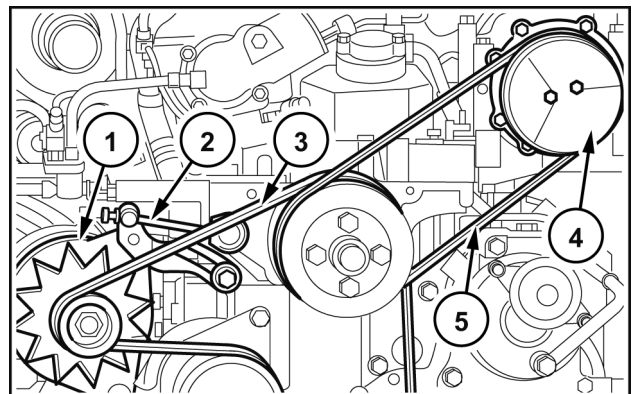
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4. Ensure that the polyv belt **(2)** is perfectly housed on the fan pulley.
5. Move the belt **(2)** near to the compressor pulley. Keeping the tool **380200011** under the belt, hook the tool onto the compressor clutch at the innermost part in order to slightly force the belt.



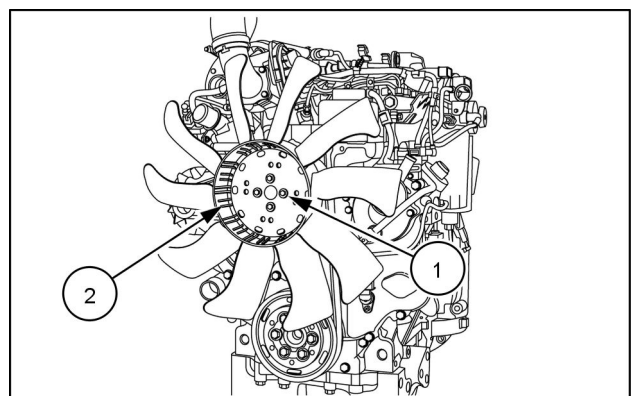
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6. With your left hand on the fan and right hand on the tool, move both clockwise in order to take the belt onto the compressor pulley. Put the dust cup back onto the compressor clutch. Tighten the three screws, ensuring that you spread a film of thread lock on the ends so that they do not come loose.
7. Position the alternator **(1)** and the elastic belt **(3)**. Tighten the belt tensioner **(2)**.



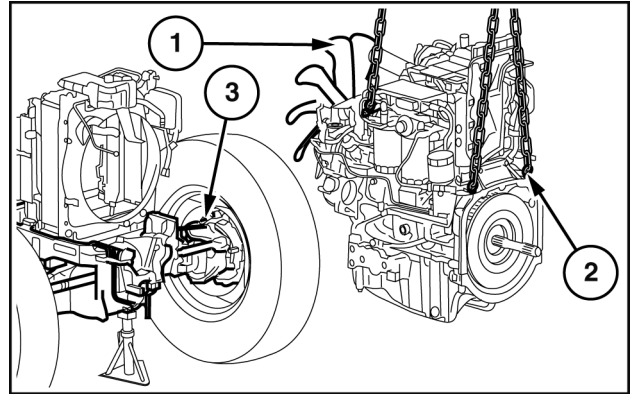
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8. Position the fan **(2)**. Torque the four screws **(1)**.



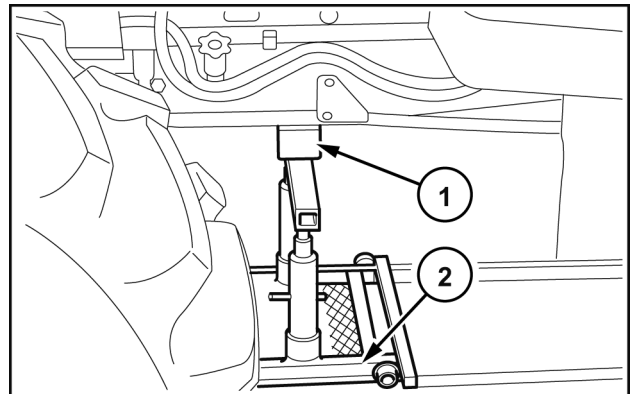
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9. Insert the three hooks of the chain in the eyelets on the engine. Using a hoist, lift the assembly off the platform support.
10. Position the engine (2) on the front axle (3). Try to avoid incorrect maneuvers with the hoist in order to not damage the radiator fins with the engine fan (1). Then join the two assemblies with the special retaining bolts and the necessary adjustment spacers of the sump/cylinder block support.



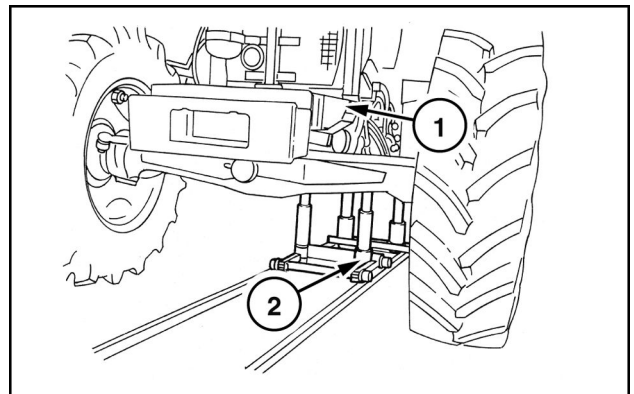
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11. Reposition the movable tool for dismantling tractors (2) under the engine. Place a wooden block (1) in the point of contact between the tool and the engine.



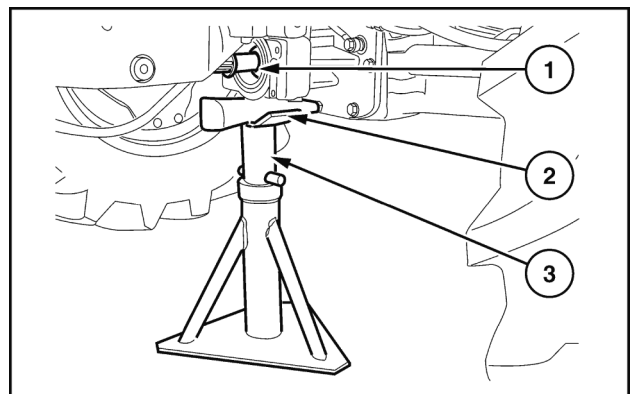
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12. With the aid of the hoist, place the engine (1) on the tool (2). Remove the lifting eyebolts previously fitted on the rear of the engine.



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13. Remove the fixed jack stand (3) previously positioned under the support of the groove (1) of the drive of the front axle and the wooden plug (2).



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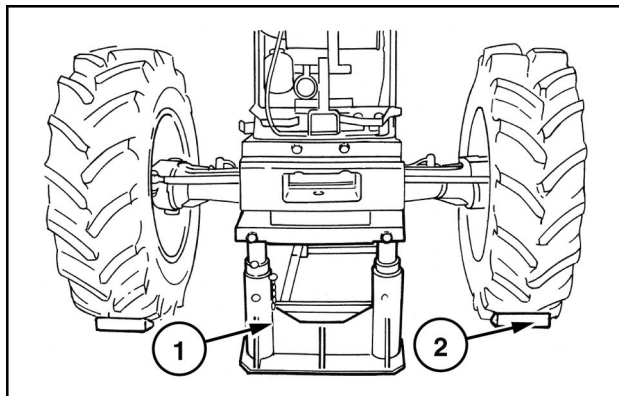
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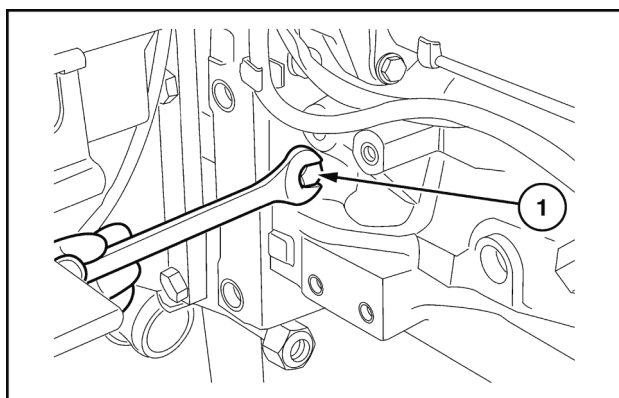
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14. Remove the fixed jack stand **(1)** previously fitted under the ballast support and the wooden wedges **(2)** locking the front wheels.



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15. Remove the old sealing paste from the two surfaces between the engine and clutch case.
16. Apply **LOCTITE® 518™** sealing compound on the mating surfaces of the engine and clutch case.
17. Put a wooden wedge under the right-hand rear wheel. Make sure that the hand brake is fully applied and that all fixed and mobile stands are safely positioned.
18. The installation phase described here requires the presence of two or three workers to use the specific movable tool for dismantling tractors to move the engine/front axle assembly close to the gearbox case.
19. In the phase of installing the engine/front axle assembly to the gearbox case, it is necessary to push on the front wheels, taking great care in the end phase of coupling over both the pipes and the cables/electrical connections to prevent crushing between the two bodies. Moreover, during this phase it is necessary to turn the crankshaft with the aid of the radiator cooling fan to aid coupling between the sleeve and the drive shaft.
20. Secure both assemblies by tightening all the bolts **(1)** locking the engine to the gearbox case.



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