Farmlift 632
Farmlift 635
Farmlift 735
Farmlift 742
Farmlift 935
Stage IV
Telescopic Handler

SERVICE MANUAL

Part number 51425750
English
November 2017

CASE IH
AGRICULTURE

Link Product / Engine

Product	Market Product	Engine
FARMLIFT 632 STAGE IV TELEHANDLER FARMLIFT 632	Europe	F4HFE413Z*B002
FARMLIFT 635 STAGE IV TELEHANDLER FARMLIFT 635	Europe	F4HFE4149*B001
FARMLIFT 735 STAGE IV TELEHANDLER FARMLIFT 735	Europe	F4HFE413Z*B002
FARMLIFT 742 STAGE IV TELEHANDLER FARMLIFT 742	Europe	F4HFE4149*B001
FARMLIFT 935 STAGE IV TELEHANDLER FARMLIFT 935	Europe	F4HFE413Z*B002

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INTRODUCTION

Foreword - Ecology and the environment

Soil, air, and water are vital factors of agriculture and life in general. When legislation does not yet rule the treatment of some of the substances required by advanced technology, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

NOTE: *The following are recommendations that may be of assistance:*

- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, antifreeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use, and dispose of these substances.
- Agricultural consultants will, in many cases, be able to help you as well.

Helpful hints

- Avoid filling tanks using cans or inappropriate pressurized fuel delivery systems that may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them 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 draining off used engine coolant mixtures, engine, gearbox and hydraulic oils, brake fluids, etc. Do not mix drained brake fluids or fuels with lubricants. Store them safely until they can be disposed of in a proper way to comply with local legislation and available resources.
- Modern coolant mixtures, i.e. antifreeze and other additives, should be replaced every two years. They should not be allowed to get into the soil, but should be collected and disposed of properly.
- Do not open the air-conditioning system yourself. It contains gases that should not be released into the atmosphere. Your CASE IH dealer or air conditioning specialist has a special extractor for this purpose and will have to recharge the system properly.
- Repair any leaks or defects in the engine cooling 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 as penetrating weld splatter may burn a hole or weaken them, allowing the loss of oils, coolant, etc.

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 which, if not avoided, will result in death or serious injury.

⚠ WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION, used with the safety alert symbol, indicates a hazardous situation which, 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 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.

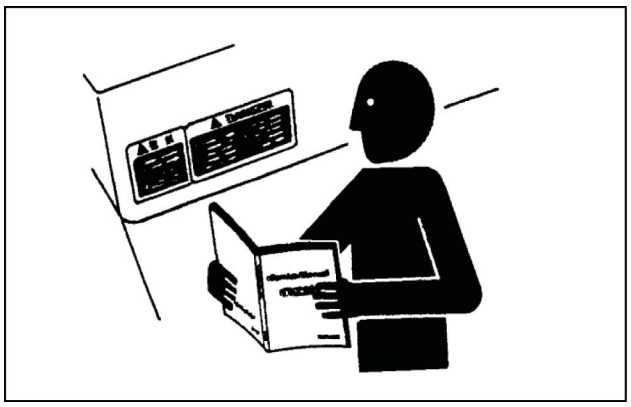
Information

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.

Personal safety

Carefully read this Manual before proceeding with maintenance, repairs, refuelling or other machine operations.



TULI12WEX2004AA 1

Repairs have to be carried out only by authorized and instructed staff; specific precautions have to be taken when grinding, welding or when using mallets or heavy hammers.

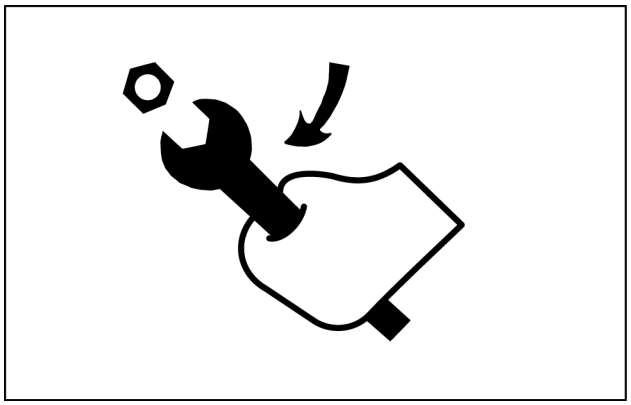
Not authorized persons are not allowed to repair or carry out maintenance on this machine. Do not carry out any work on the equipment without prior authorization.

Ask your employer about the safety instructions in force and safety equipment.

Nobody is allowed to seat on the operator's place during machine maintenance unless he is a qualified operator helping with the maintenance work.

If it is necessary to move the equipment to carry out repairs or maintenance, do not lift or lower the equipment from any other position than the operator's seat.

Never carry out any operation on the machine when the engine is running, except when specifically indicated.



TULI12WEX2005AA 2

Stop the engine and ensure that all pressure is relieved from hydraulic circuits before removing caps, covers, valves, etc.

All repair and maintenance operations should 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.

Any functional disorders, especially those affecting the safety of the machine, should therefore be rectified immediately.

⚠ DANGER

Unexpected movement!
Make sure parking brake is applied. Secure machine with wheel chocks.
Failure to comply will result in death or serious injury.

D0013A

Before performing any work on the machine, attach a maintenance in progress tag. This tag can be applied on the left-hand control lever, safety lever or cab door.

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Engine

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Engine - Remove

⚠ WARNING

Hot surface possible!
Wait for all components to cool before performing any operation.
Failure to comply could result in death or serious injury.

W0251A

⚠ WARNING

Chemical hazard!
When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals.
Failure to comply could result in death or serious injury.

W0371A

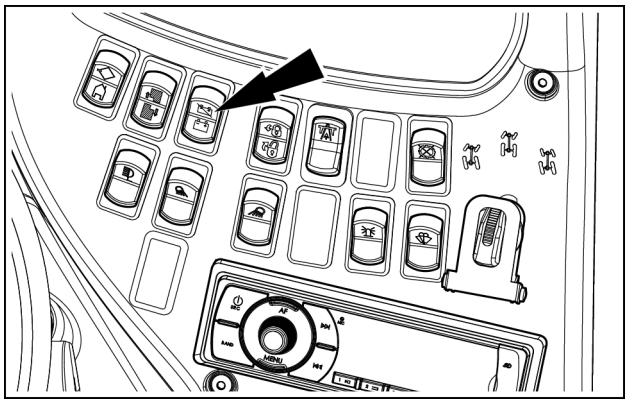
⚠ WARNING

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

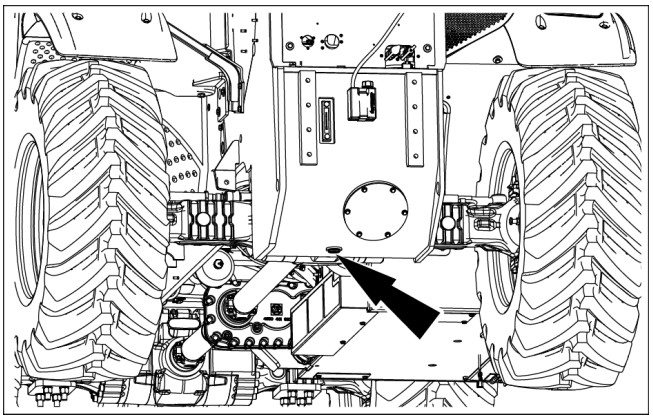
NOTE: *emissions sensors mounted in the exhaust stream are sensitive to extreme vibrations. Use of tools that generate extreme vibrations, such as impact wrenches and hammers, will result in damage to emission sensors. Avoid using these tools during any service procedure in close proximity of emission sensors. If the use of these tools cannot be avoided, remove the sensors using extreme caution prior to performing any service procedure.*

1. Park the machine on a firm level ground and lower the boom arm to the floor.
2. Engage the parking brake.
3. Press the upper side of the battery isolator switch to disconnect the battery. Stop the engine.
4. Move the joystick in all directions to release the hydraulic pressure.



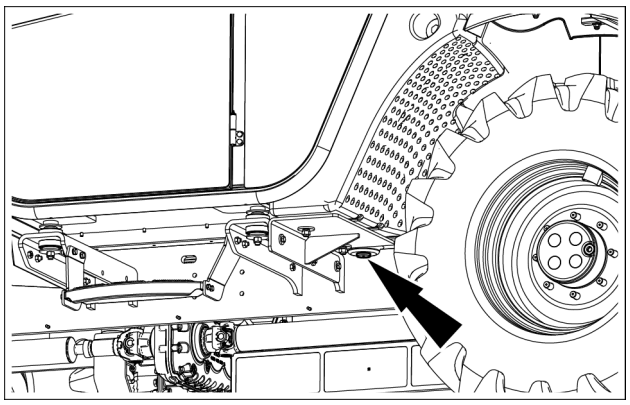
LEIL17TLH1186AA 1

5. Remove the drain plug of the hydraulic tank.
   Drain the hydraulic oil from the hydraulic tank. Collect the escaping fluid in a proper container.



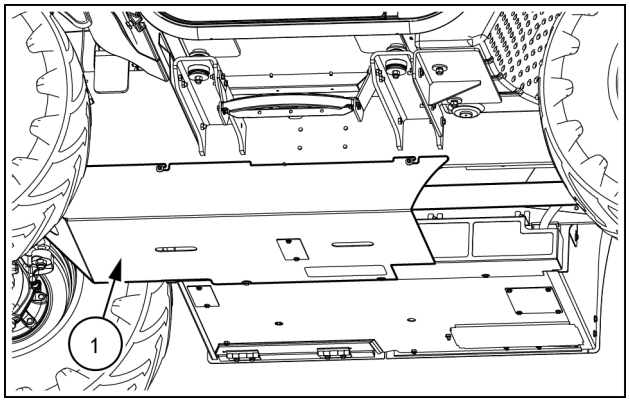
LEIL17TLH1253AB 2

6. Remove the drain plug of the fuel tank.
   Drain the fuel tank. Collect the escaping fluid in a proper container.



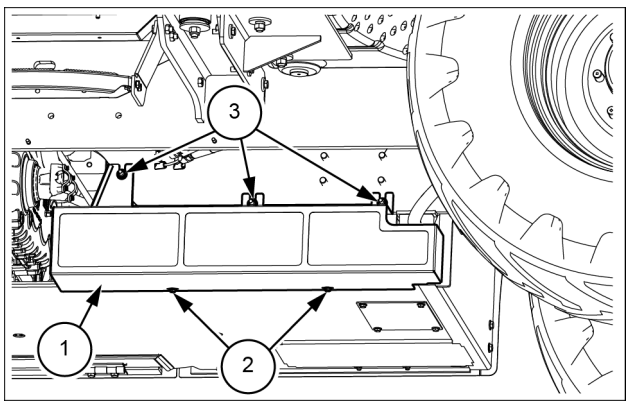
LEIL17TLH1255AB 3

7. If equipped, remove the drive shaft cover guard **(1)**.



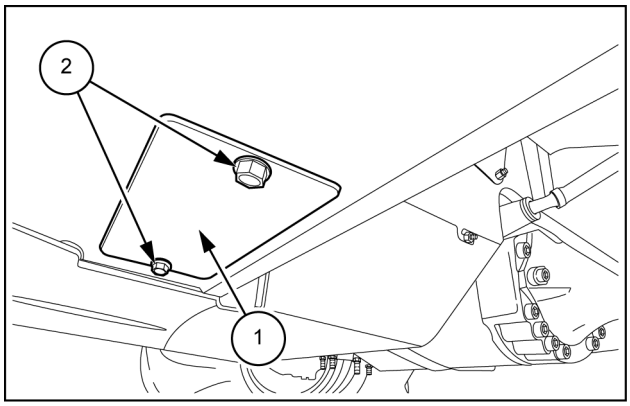
LEIL17TLH1254AA 4

8. Remove the retaining bolts **(2)** and the nuts **(3)** that fix the cover **(1)** to the frame lower side and to the engine compartment.
9. Remove the cover **(1)** from the bottom side of the machine.



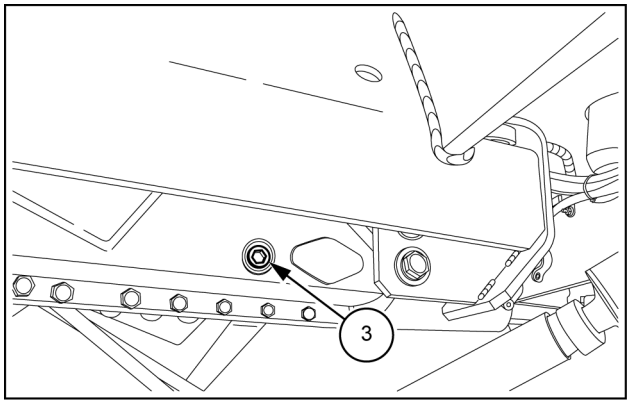
LEIL17TLH1178AB 5

10. Locate the plate **(1)** under the lower hood.
    Remove the two screws **(2)** and the plate **(1)** from to the lower hood.



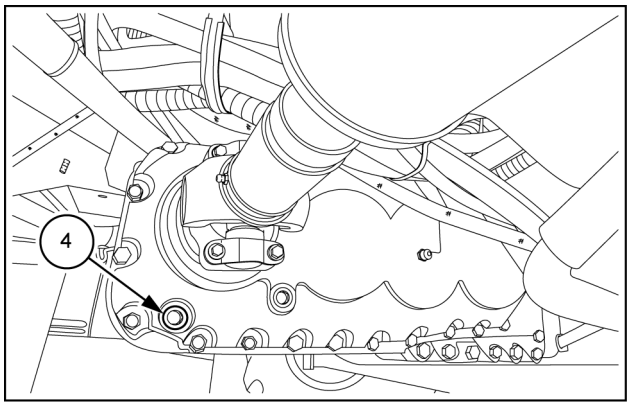
LEIL13TLH0427AB 6

11. Remove the drain plug **(3)** from the transmission main housing and drain the transmission oil.
    Tighten the drain plug **(3)** after the transmission oil is drained off.



LEIL13TLH0428AB 7

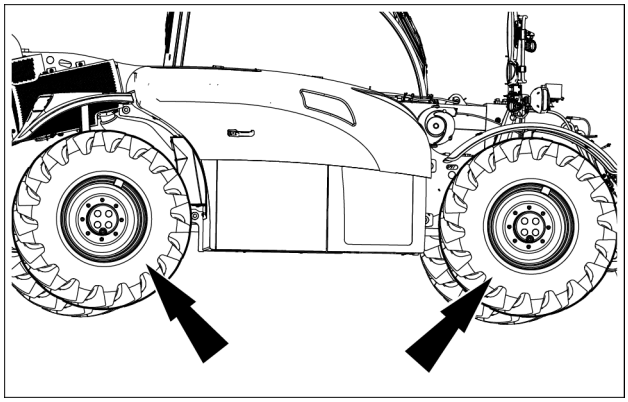
12. Remove the drain plug **(4)** from the transmission transfer box and drain the transmission oil.
    Tighten the drain plug **(4)** after the transmission oil is drained off.



LEIL13TLH0429AB 8

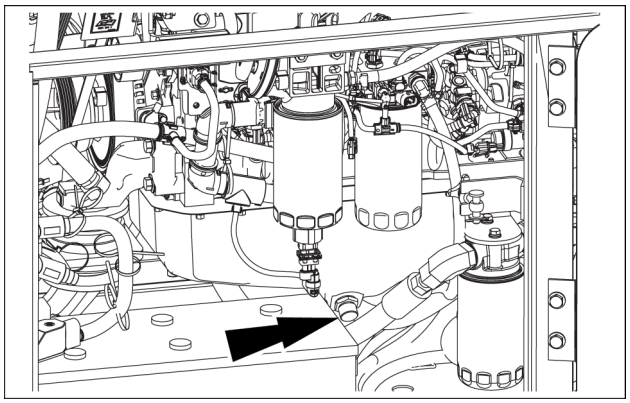
13. Drain the air conditioning system (if equipped). Refer to **Air conditioning - Service instruction - Evacuating the refrigerant (50.200)**.

14. Use an acceptable hydraulic jack to raise the tires off the ground. Install acceptable jack stands under the axles to support the machine.
    Remove the wheels of the right-hand side of the machine.



LEIL17TLH1228AB 9

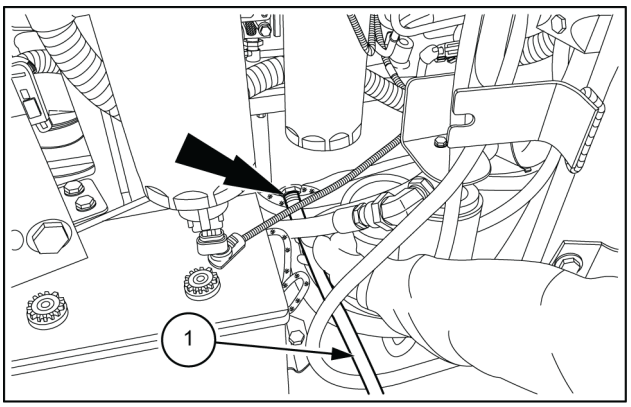
15. Open the battery compartment. Remove the remote drain plug on the engine oil pan.



LEIL17TLH0870AA 10

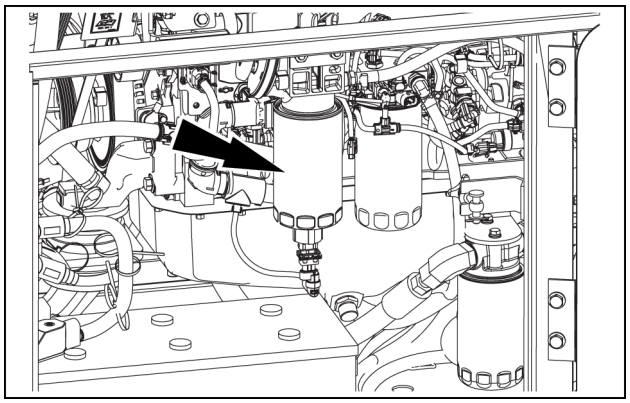
16. Attach the drain hose **(1)** (provided in the inner side of the opening panel of the battery compartment) to the remote drain plug.
Drain the engine oil completely and discard it following the local environmental and waste regulations.

NOTE: *see the operator's manual for more information.*



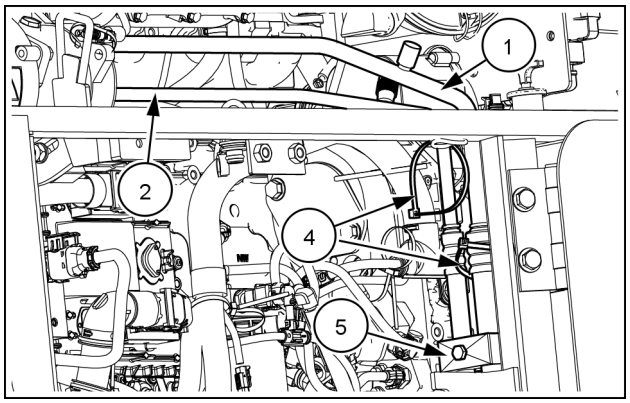
LEIL13TLH2138AB 11

17. Remove the fuel-prefilter from the lower hood frame. Refer to **Pre-filter - Remove (10.206)**.



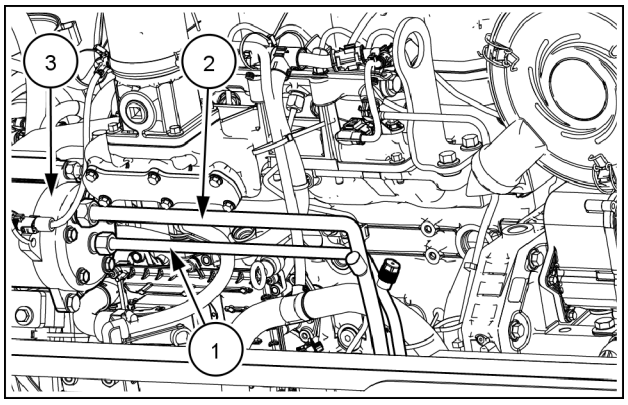
LEIL17TLH0870AA 12

18. Remove the two cable ties **(4)**.
Remove the block **(5)** from the air conditioning hoses **(1)** and **(2)**.



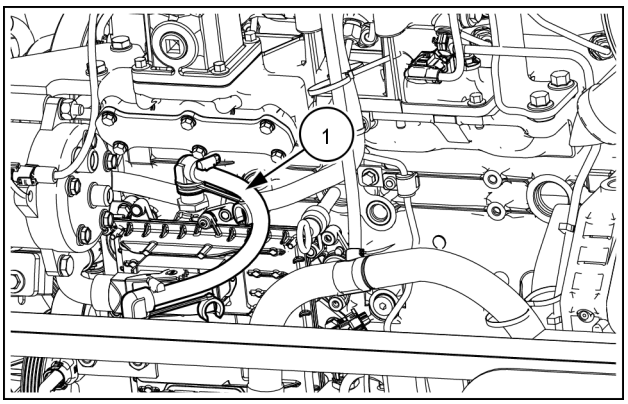
LEIL17TLH1263AA 13

19. Disconnect the air conditioning hoses **(1)** and **(2)** from the air conditioning compressor **(3)**.



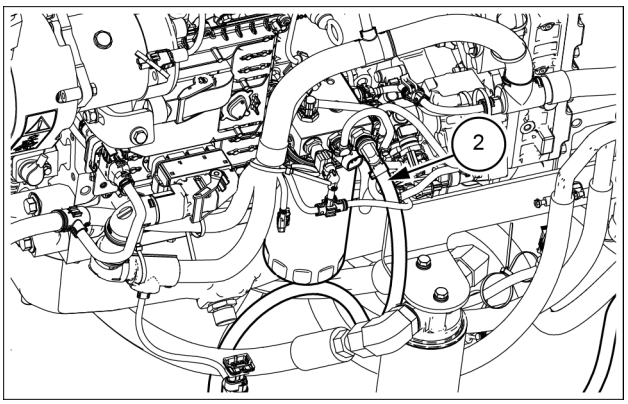
LEIL17TLH1260AA 14

20. Disconnect and remove the fuel pre-filter hose **(1)** from the engine.



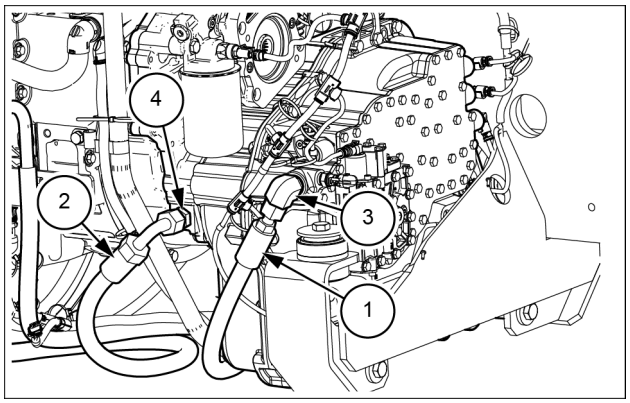
LEIL17TLH1261AA 15

21. Remove the battery from the machine. Refer to **Battery - Remove (55.302)**.
22. Remove the lower hood together with the secondary cooling package radiators. Refer to **Lower guard - Remove (90.105)**.
23. Remove the engine hood. Refer to **Engine hood - Remove (90.105)**.
24. Disconnect and remove the fuel hose **(2)** from the fuel filter.



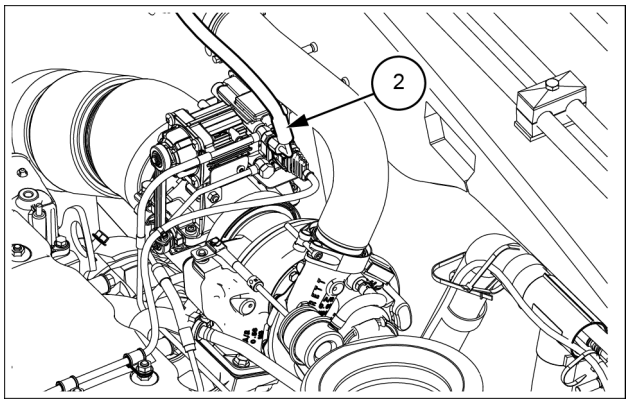
LEIL17TLH1264AB 16

25. Disconnect and remove the transmission oil cooling hose **(1)** from the **90°** elbow **(3)** installed on the transmission.
26. Disconnect and remove the transmission oil cooling hose **(2)** from the fitting **(4)** installed on the transmission.
27. Remove the **90°** elbow **(3)** and the fitting **(4)** from the transmission.



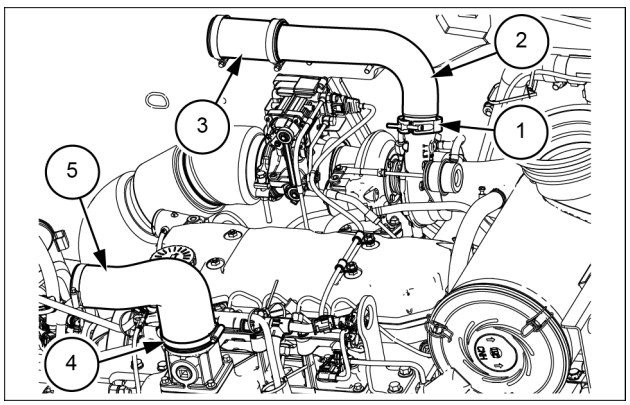
LEIL17TLH1265AB 17

28. Drain the engine coolant and remove the main cooling package radiators. Refer to **Engine cooling system - Remove - Main cooling package (10.400)**.
29. Disconnect and remove the main cooling package hose **(2)** from the engine.



LEIL17TLH1256AB 18

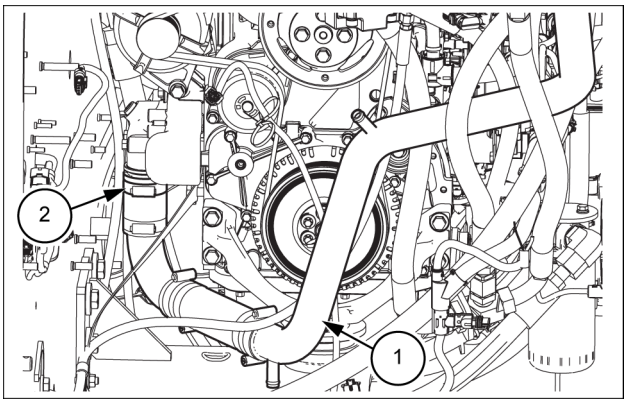
30. Remove the clamp **(1)**. Disconnect and remove the aftercooler pipe **(2)** with the relevant air charge cooler hose **(3)** from the engine.
31. Remove the clamp **(4)**. Disconnect and remove the aftercooler sleeve **(5)** from the engine.



LEIL17TLH1262AB 19

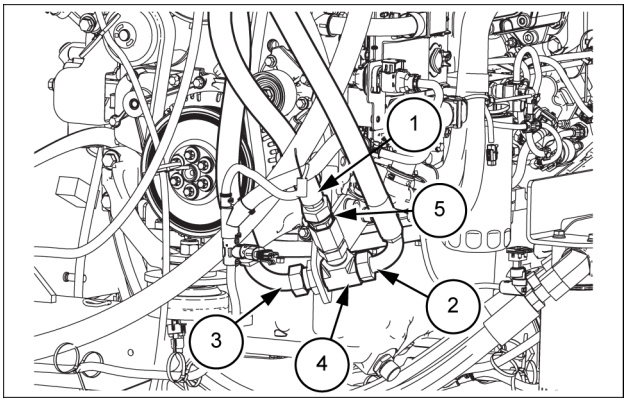
32. Remove the air-conditioning compressor. Refer to **Air-conditioning compressor - Remove (50.200)**.
33. Remove the Diesel Oxidation Catalyst (DOC) together with all the relevant sensors. Refer to **Diesel Oxidation Catalyst (DOC) - Remove (10.500)**.
34. Remove the Selective Catalytic Reduction (SCR) muffler and catalyst together with all the relevant sensors. Refer to **Selective Catalytic Reduction (SCR) muffler and catalyst - Remove (10.500)**.

35. Remove the clamp **(2)** that secure the radiator tube assembly **(1)** to the engine (frame side).
Disconnect and remove the radiator tube assembly **(1)** from the engine.



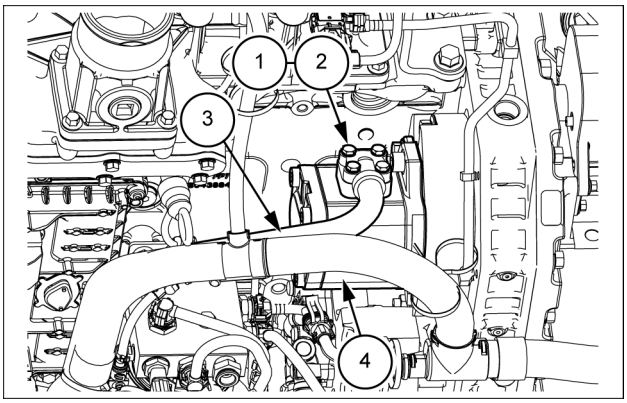
LEIL17TLH1342AB 20

36. Remove the Supply Module. Refer to **Diesel Exhaust Fluid (DEF)/AdBlue®/ARLA supply module - Remove (55.988)**.
37. Remove the PDU fuse box and the air cleaner assembly. Refer to **Air cleaner - Remove (10.202)**.
38. Disconnect and remove the oil cooler bypass hose **(1)** from the check valve **(5)**.
39. Disconnect and remove the hose **(3)** from the T-fitting **(4)**.
40. Disconnect and remove the hose **(2)** from the T-fitting **(4)**.



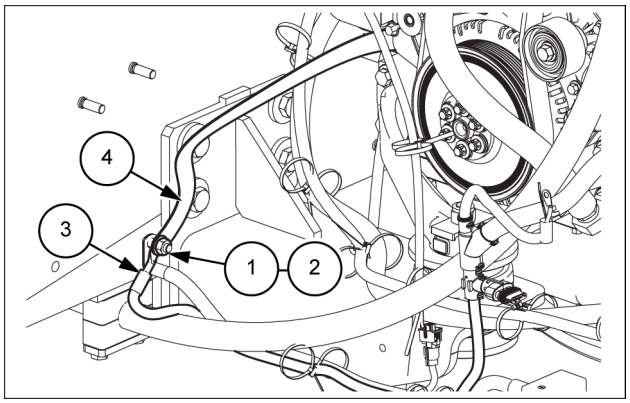
LEIL17TLH1336AB 21

41. Remove the four bolts **(1)** and related washers **(2)** that secure the tube **(3)** to the pump **(4)**.
Remove the tube **(3)** from the pump **(4)**.



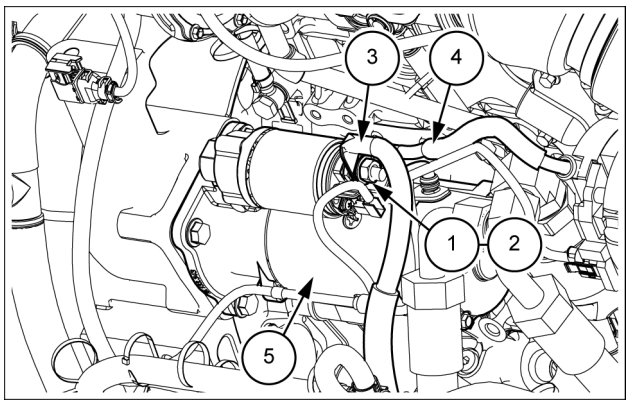
LEIL17TLH1308AB 22

42. Remove the nut **(1)** and related washer **(2)** that secure the ground strap **(4)** and the engine harness **(3)** to the frame.
Disconnect the ground strap **(4)** and the engine harness **(3)** from the frame.



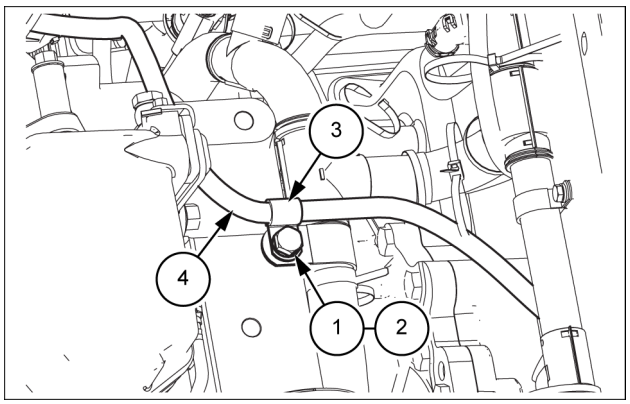
LEIL17TLH1309AB 23

43. Remove the nut **(1)** and related washer **(2)** that secure the battery disconnect cable **(3)** and the alternator cable **(4)** to the engine starter **(5)**.
Disconnect the battery disconnect cable **(3)** and the alternator cable **(4)** from the engine starter **(5)**.



LEIL17TLH1317AB 24

44. Remove the bolt **(1)** and related washer **(2)** that secure the P-clamp **(3)** to the engine block.
Remove the P-clamp **(3)** to separate the battery disconnect to PDU fuse box cable **(4)** from the engine block.

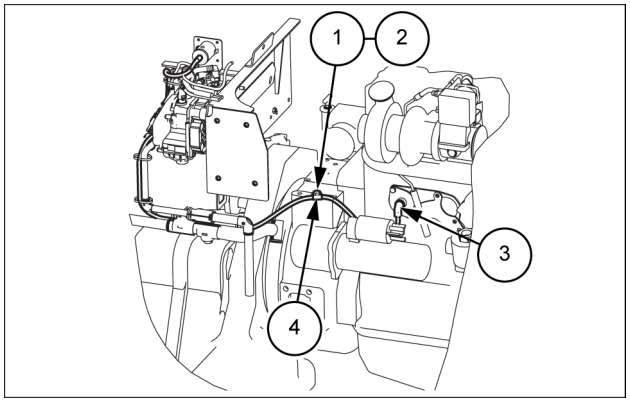


LEIL17TLH1319AB 25

45. Remove the **DEF/ADBLUE®** heating control valve as indicated in **Coolant control valve - Remove - DEF/AdBlue® heating control valve (10.500)**.

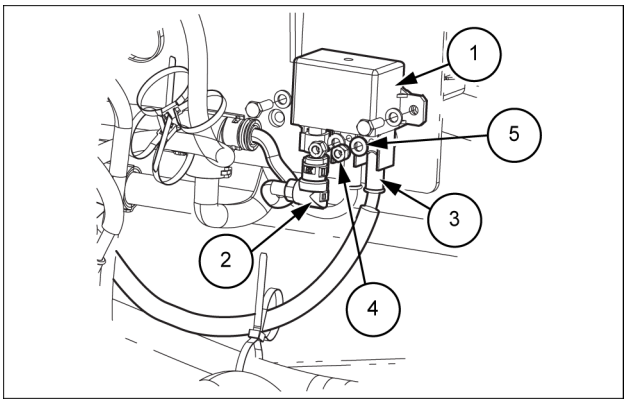
46. If equipped with engine coolant heater, disconnect the cord **(3)** from the engine block.

47. Remove the bolt **(1)** and related washer **(2)** that secure the P-clamp **(4)** to the engine block.
Remove the P-clamp **(4)** to separate the cord **(3)** of the engine coolant heater from the engine block.



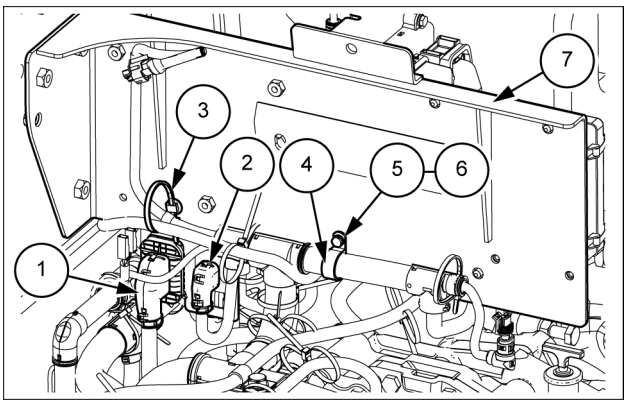
LEIL17TLH1320AB 26

48. If equipped with cold start device, disconnect the engine harness **(2)** from the grid heater relay **(1)**.
49. Remove the nut **(4)** and related washer **(5)** that secure the grid heater cable **(3)** to the grid heater relay **(1)**.
Disconnect the grid heater cable **(3)** from the grid heater relay **(1)**.



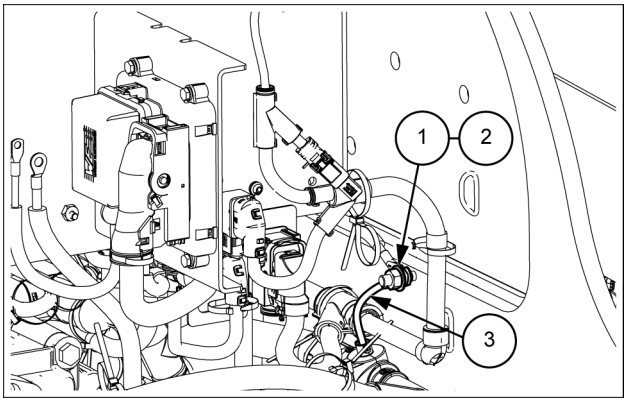
LEIL17TLH1315AB 27

50. Disconnect the connector **(1)** and the connector **(2)**from the respective connectors mounted on the support bracket **(7)**.
51. Cut and remove the cable tie **(3)** that secure the engine harness to the support bracket **(7)**.
52. Remove the nut **(5)** and related washer **(6)** that secure the P-clamp **(4)** to the support bracket **(7)**.
Remove the P-clamp **(4)** to separate the engine harness from the support bracket **(7)**.



LEIL17TLH1311AB 28

53. Remove the nut **(1)** and related washer **(2)** that secure the engine harness **(3)** to the frame.
Disconnect the engine harness **(3)** from the frame.

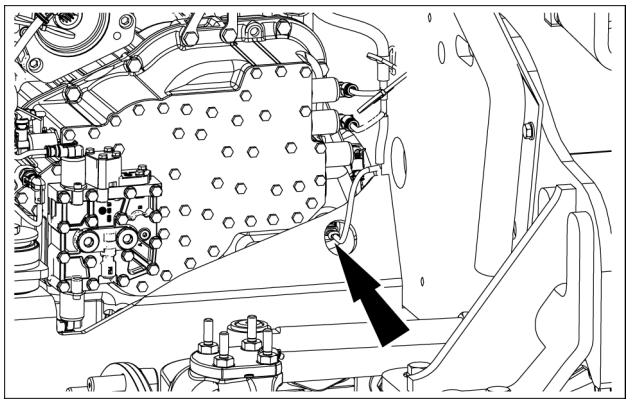


LEIL17TLH1312AB 29

54. Remove the main hydraulic pump from the transmission. Refer to **Variable displacement pump - Remove (35.106)**.

NOTE: *if equipped with fixed displacement gear pump, refer to* ***Fixed displacement pump - Remove (35.104)*** *instead.*

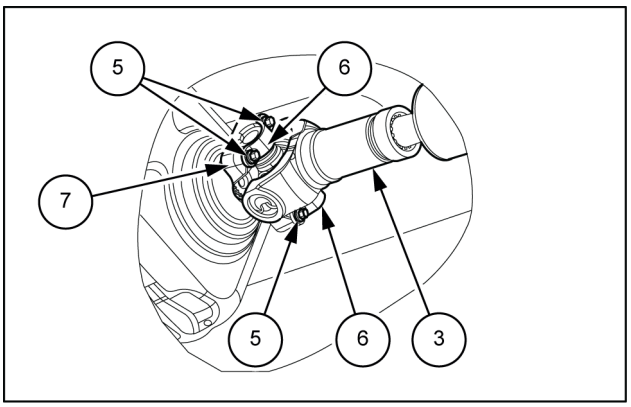
55. Disconnect the engine harness from the transmission speed sensor.



LEIL17TLH1313AB 30

56. Loosen and remove the four screws **(5)** and the two bearing straps **(6)** to disconnect the rear part of the front drive shaft **(3)** from the drive shaft joint **(7)** of the transfer box.

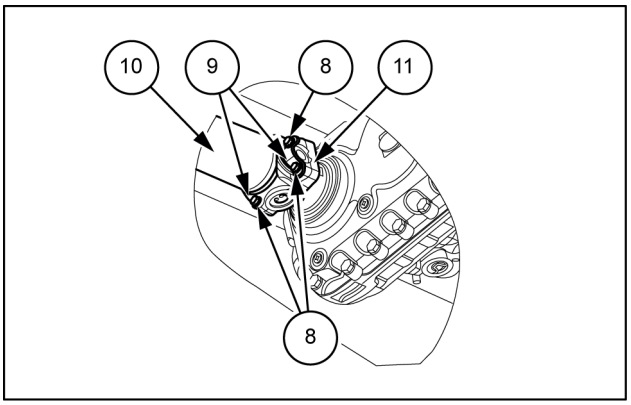
NOTICE: *support the front drive shaft during removal using a suitable tool.*



LEIL14TLH1138AB 31

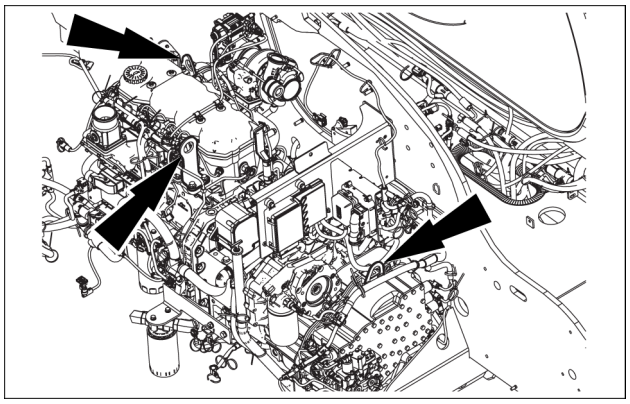
57. Loosen and remove the four screws **(8)** and the two bearing straps **(9)** to disconnect the front part of the rear drive shaft **(10)** from the drive shaft joint **(11)** of the transfer box.

NOTICE: *support the rear drive shaft during removal using a suitable tool.*



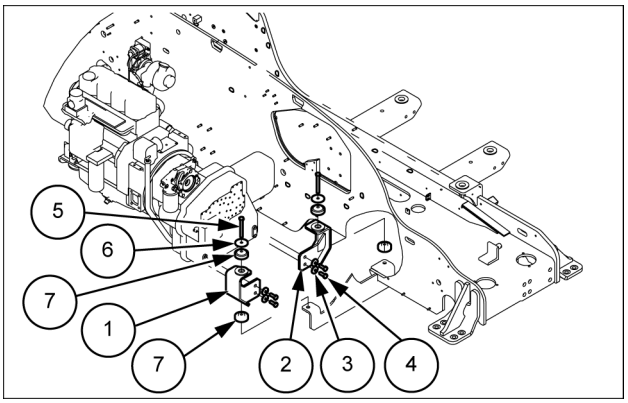
LEIL14TLH1140AB 32

58. Attach a suitable lifting device to support the engine and transmission assembly at the points provided.



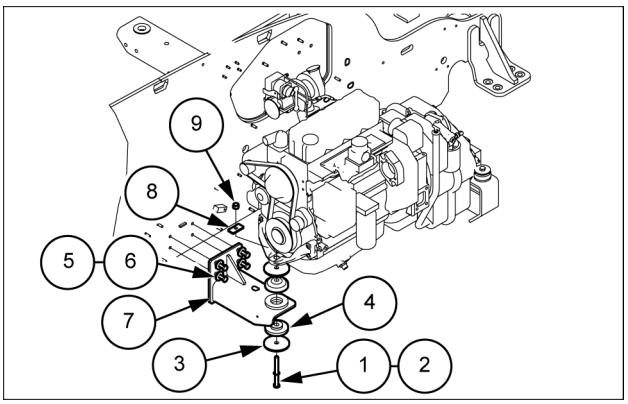
LEIL17TLH1323AB 33

59. Remove the two bolts **(5)**, the related washers **(6)** and the four shock absorbers **(7)** to disconnect the support brackets **(1)** and **(2)** from the frame.
60. Remove the four bolts **(4)** and related washers **(3)** to disconnect the support brackets **(1)** and **(2)** from the transmission.



LEIL17TLH1321AB 34

61. Remove the bolt **(1)**, the related washer **(2)**, the two spacers **(3)**, the two shock absorbers **(4)**, the spacer **(8)** and the nut **(9)** to disconnect the support bracket **(7)** from the engine block.
62. Remove the four bolts **(5)** and related washers **(6)** to disconnect the support bracket **(7)** from the frame.



LEIL17TLH1322AB 35

63. Slowly raise engine from the frame. Be sure that all the wire harness connections and the hoses have been disconnected and are clear of the engine. Remove the engine from the machine.

Suggest:

If the above button click is invalid.

Please download this document

first, and then click the above link

to download the complete manual.

Thank you so much for reading

Engine - Install

⚠ WARNING

Chemical hazard!
When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals.
Failure to comply could result in death or serious injury.

W0371A

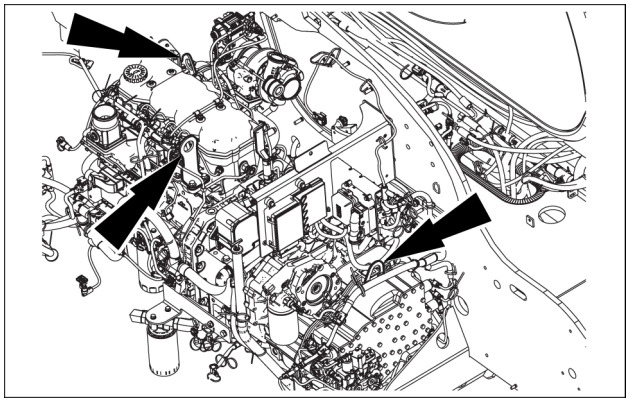
⚠ WARNING

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

NOTE: *emissions sensors mounted in the exhaust stream are sensitive to extreme vibrations. Use of tools that generate extreme vibrations, such as impact wrenches and hammers, will result in damage to emission sensors. Avoid using these tools during any service procedure in close proximity of emission sensors. If the use of these tools cannot be avoided, remove the sensors using extreme caution prior to performing any service procedure.*

1. Attach a suitable lifting device to support the engine and transmission assembly at the points provided.



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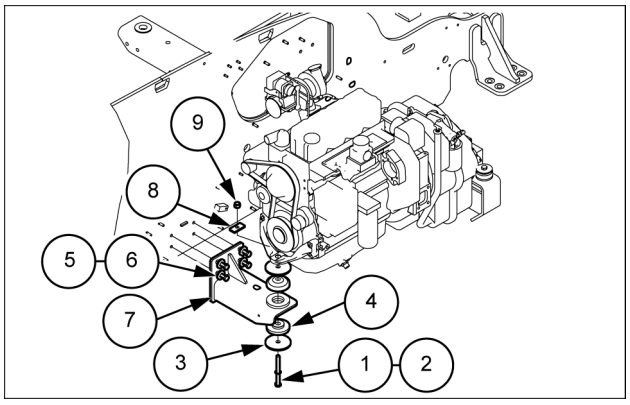
2. Slowly move engine into position to the right of the frame. Be sure all harness connections and hoses are out of the way or positioned correctly for reconnecting, before lowering engine.
3. Install the four bolts **(5)** and related washers **(6)** to connect the support bracket **(7)** to the frame.
   Tighten the four bolts **(5)** to **210.0 – 285.0 N·m** (**154.9 – 210.2 lb ft**).
4. Install the bolt **(1)**, the related washer **(2)**, the two spacers **(3)**, the two shock absorbers **(4)**, the spacer **(8)** and the nut **(9)** to connect the support bracket **(7)** to the engine block.
   Tighten the bolt **(1)** to **210.0 – 285.0 N·m** (**154.9 – 210.2 lb ft**).



LEIL17TLH1322AB 2