

SERVICE MANUAL

L213 Tier 3

200 Series Skid Steer Loader

PIN NEM459110 and above

L216 Tier 4B (final)

200 Series Skid Steer Loader

PIN NEM477964 and above

Part number 47711677

1st edition English

May 2014





SERVICE MANUAL

L213 TIER 3 [NEM459110 -]
L216 TIER 4 [NEM477964 -]

Link Product / Engine

Product	Market Product	Engine
L213 TIER 3 [NEM459110 -]	Europe	N844L
L216 TIER 4 [NEM477964 -]	Europe	N844LT-F-45SL

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Contents

INTRODUCTION

Engine.....	10
[10.001] Engine and crankcase	10.1
[10.220] Throttle linkage.....	10.2
[10.400] Engine cooling system	10.3
[10.414] Fan and drive	10.4
[10.501] Exhaust Gas Recirculation (EGR) - Diesel Particulate Filter (DPF) exhaust treatment	10.5
Front axle system	25
[25.450] Chain drive system.....	25.1
Rear axle system.....	27
[27.650] Chain drive system	27.1
Hydrostatic drive.....	29
[29.202] Hydrostatic transmission	29.1
[29.200] Mechanical control	29.2
[29.218] Pump and motor components.....	29.3
Brakes and controls	33
[33.110] Parking brake or parking lock	33.1
Hydraulic systems.....	35
[35.000] Hydraulic systems.....	35.1
[35.104] Fixed displacement pump.....	35.2
[35.128] Auxiliary hydraulic function control	35.3
[35.300] Reservoir, cooler, and filters.....	35.4
[35.350] Safety and main relief valves	35.5
[35.359] Main control valve	35.6
[35.701] Front loader arm hydraulic system	35.7

[35.723] Front loader bucket hydraulic system	35.8
[35.724] Front loader hydraulic system control	35.9
[35.734] Tool quick coupler hydraulic system	35.10
Frames and ballasting	39
[39.140] Ballasts and supports	39.1
Wheels	44
[44.511] Front wheels.....	44.1
[44.520] Rear wheels	44.2
Cab climate control	50
[50.100] Heating	50.1
[50.200] Air conditioning	50.2
Electrical systems	55
[55.000] Electrical system	55.1
[55.010] Fuel injection system.....	55.2
[55.011] Fuel tank system	55.3
[55.012] Engine cooling system	55.4
[55.014] Engine intake and exhaust system.....	55.5
[55.015] Engine control system.....	55.6
[55.019] Hydrostatic drive control system	55.7
[55.031] Parking brake electrical system	55.8
[55.036] Hydraulic system control	55.9
[55.050] Heating, Ventilation, and Air-Conditioning (HVAC) control system.....	55.10
[55.100] Harnesses and connectors.....	55.11
[55.201] Engine starting system	55.12
[55.302] Battery.....	55.13
[55.404] External lighting	55.14
[55.408] Warning indicators, alarms, and instruments	55.15
[55.415] Loader arm and bucket control system	55.16

[55.512] Cab controls.....	55.17
[55.525] Cab engine controls.....	55.18
[55.640] Electronic modules.....	55.19
[55.DTC] FAULT CODES.....	55.20
Front loader and bucket.....	82
[82.100] Arm.....	82.1
[82.300] Bucket.....	82.2
Platform, cab, bodywork, and decals.....	90
[90.154] Cab doors and hatches	90.1



INTRODUCTION

Contents

INTRODUCTION

Foreword - Important notice regarding equipment servicing (*)	3
Safety rules (*)	4
Safety rules - Personal safety (*)	5
Safety rules - Ecology and the environment (*)	6
Torque - Minimum tightening torques for normal assembly (*)	7
Torque - Standard torque data for hydraulics (*)	12
Basic instructions - Shop and assembly (*)	14
Hydraulic contamination – Contamination (*)	16
General specification - Left-hand instrument cluster (*)	17
General specification - Electronic Instrument Cluster (EIC) (*)	19
General specification - Advanced Instrument Cluster (AIC) (*)	24
General specification - Biodiesel fuels (*)	29
Capacities (*)	32
Capacities (*)	33
Product identification (*)	34
Product identification (*)	36
Product identification (*)	39

(*) See content for specific models

Foreword - Important notice regarding equipment servicing

L213	WE
L216	WE

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 information in this manual is up-to-date at the date of the publication. It is the policy of the manufacturer for continuous improvement. Some information could not be updated due to modifications of a technical or commercial type, or changes to the laws and regulations of different countries.

In case of questions, refer to your NEW HOLLAND CONSTRUCTION Sales and Service Networks.

Safety rules

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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 - Personal safety

L213	WE
L216	WE

Carefully study these precautions, and those included in the external attachment operators manual, and insist that they be followed by those working with and for you.

1. Thoroughly read and understand this manual and the attachment Operator's Manual before operating this or any other equipment.
2. Be sure all people and pets are clear of the machine before starting. Sound the horn, if equipped, three times before starting engine.
3. Only the operator should be on the machine when in operation. Never allow anyone to climb on to the machine while it is in motion. If the machine is equipped with an Instructors Seat, this must only be used for training purposes. Passengers must not be allowed to use the Instructors Seat.
4. Keep all shields in place. Never work around the machine or any of the attachments while wearing loose clothing that might catch on moving parts.
5. Observe the following precautions whenever lubricating the machine or making adjustments.
 - Disengage all clutching levers or switches.
 - Lower the attachment, if equipped, to the ground or raise the attachment completely and engage the cylinder safety locks. Completing these actions will prevent the attachment from lowering unexpectedly.
 - Engage the parking brake.
 - Shut off the engine and remove the key.
 - Wait for all machine movement to stop before leaving the operators platform.
6. Always keep the machine in gear while travelling downhill.
7. The machine should always be equipped with sufficient front or rear axle weight for safe operation.
8. Under some field conditions, more weight may be required at the front or rear axle for adequate stability. This is especially important when operating in hilly conditions or/when using heavy attachments.
9. Always lower the attachment, shut off the engine, set the parking brake, engage the transmission gears, remove the key and wait for all machine movement to stop before leaving the operators platform.
10. If the attachment or machine should become obstructed or plugged; set the parking brake, shut off the engine and remove the key, engage the transmission gears, wait for all machine or attachment motion to come to a stop, before leaving the operators platform to removing the obstruction or plug.
11. Never disconnect or make any adjustments to the hydraulic system unless the machine and/or the attachment is lowered to the ground or the safety lock(s) is in the engaged position.
12. Use of the flashing lights is highly recommended when operating on a public road.
13. When transporting on a road or highway, use accessory lights and devices for adequate warning to the operators of other vehicles. In this regard, check local government regulations. Various safety lights and devices are available from your NEW HOLLAND CONSTRUCTION dealer.
14. Practice safety 365 days a year.
15. Keep all your equipment in safe operating condition.
16. Keep all guards and safety devices in place.
17. Always set the parking brake, shut off the engine and remove the key, engage the transmission gears, wait for all machine or attachment motion to come to a stop, before leaving the operators platform to service the machine and attachment.
18. Remember: A careful operator is the best insurance against an accident.
19. Extreme care should be taken in keeping hands and clothing away from moving parts.



SERVICE MANUAL

Engine

L213 TIER 3 [NEM459110 -]
L216 TIER 4 [NEM477964 -]

Engine - Remove

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

WARNING

Fire hazard!

When handling diesel fuel, observe the following precautions:

1. Do not smoke.
2. Never fill the tank when the engine is running.
3. Wipe up spilled fuel immediately.

Failure to comply could result in death or serious injury.

W0099A

WARNING

Escaping fluid!

Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately.

Failure to comply could result in death or serious injury.

W0178A

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.

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Prior operation:

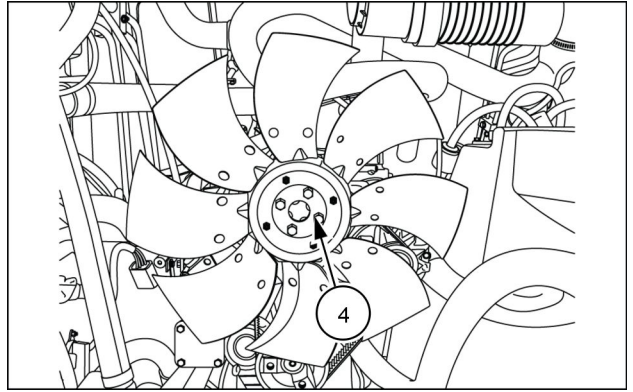
Disconnect the negative battery cable from the battery.

Prior operation:

Remove the engine hood.

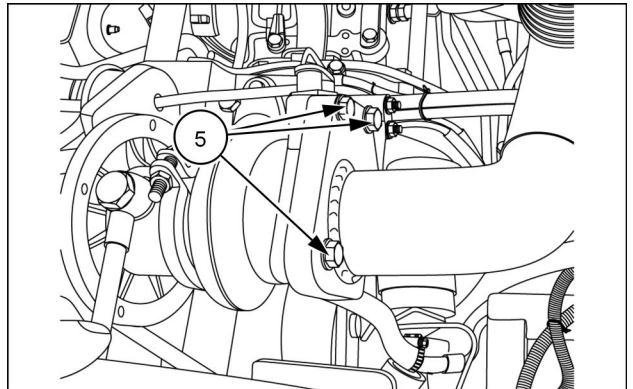
1. Remove the rear access door. See **Engine inspection door - Remove (90.102)** . ..
2. Drain the engine oil.
3. Remove the radiator. See **Radiator - Remove (10.400)**.
4. Remove the oil cooler. See **Oil cooler/Heat exchanger - Remove (35.300)**.

5. Remove the four mounting bolts **(4)** and slide the fan off the hub.



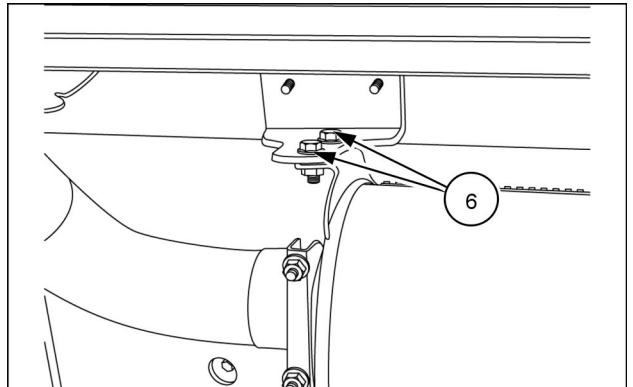
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6. Remove the five mounting bolts **(5)** retaining the muffler inlet pipe mounting flange to the turbocharger and remove muffler.



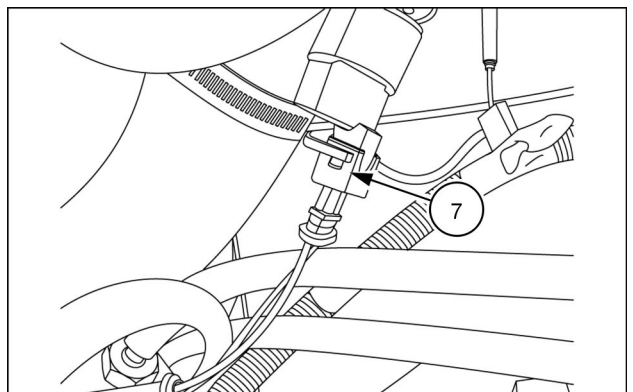
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7. Remove the two retaining bolts **(6)** from the muffler support.



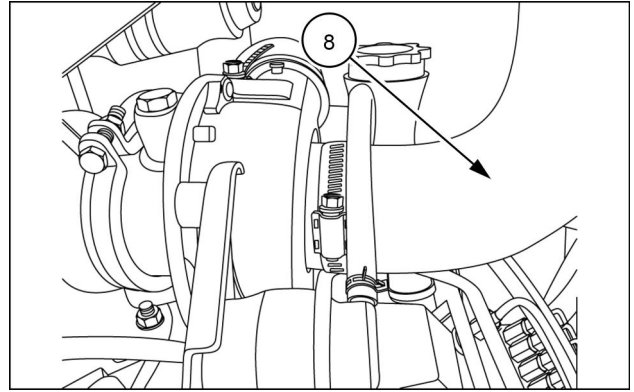
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8. Disconnect air restriction sensor **(7)**.



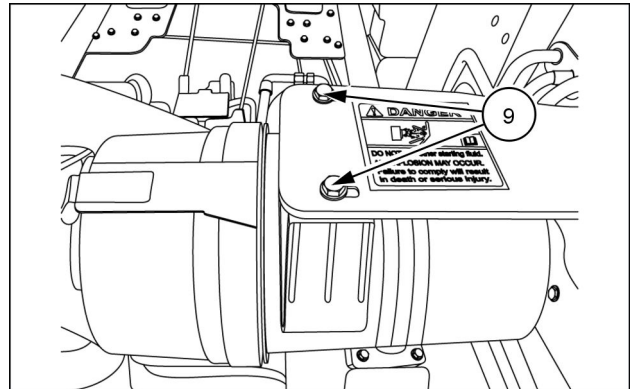
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9. Loosen the hose clamps on the intake tube at both ends, remove the intake tube **(8)**, cover turbocharger inlet to avoid entry of debris.



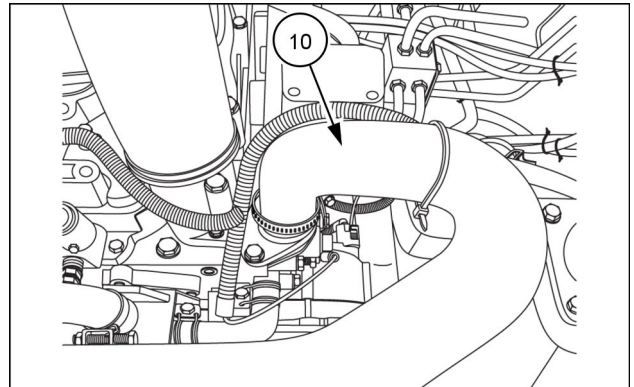
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10. Remove air cleaner housing **(9)**.



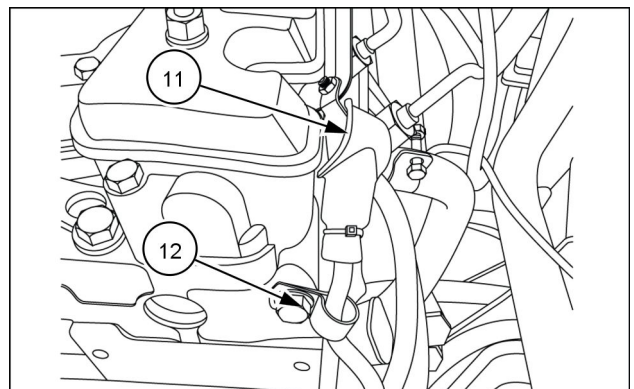
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11. Loosen hose clamp and remove upper radiator hose **(10)** from engine.



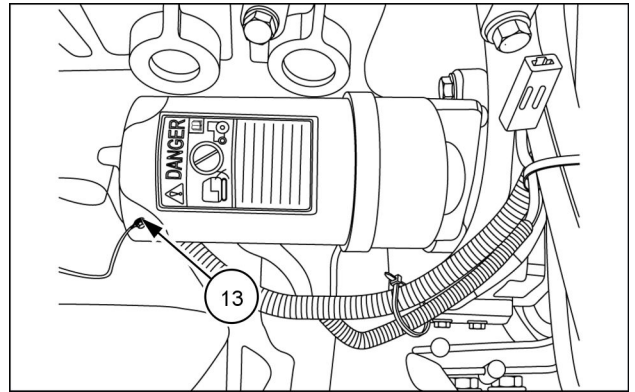
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12. Disconnect the glow plug connection **(11)**. Remove wire clamp **(12)**.



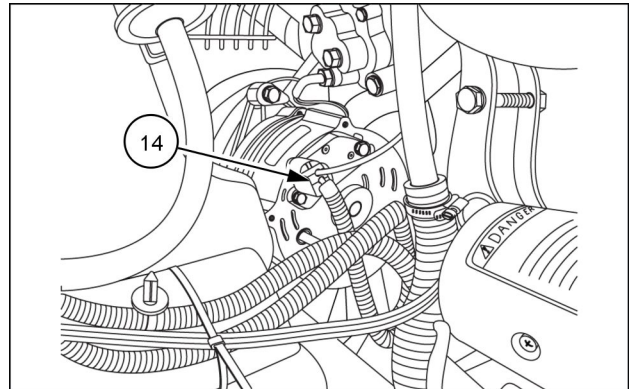
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13. Disconnect the starter connections **(13)**.



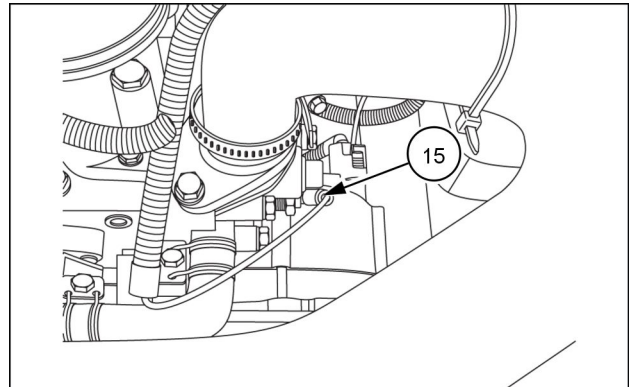
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14. Disconnect the alternator connection **(14)**.



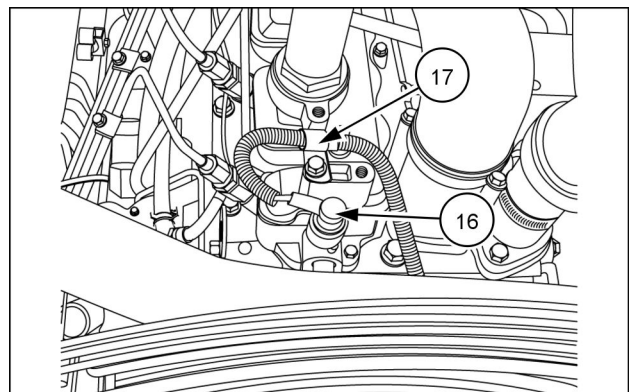
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15. Disconnect temperature sender wire **(15)**.



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16. Disconnect oil pressure sender wire **(16)** and wire clamp **(17)**.



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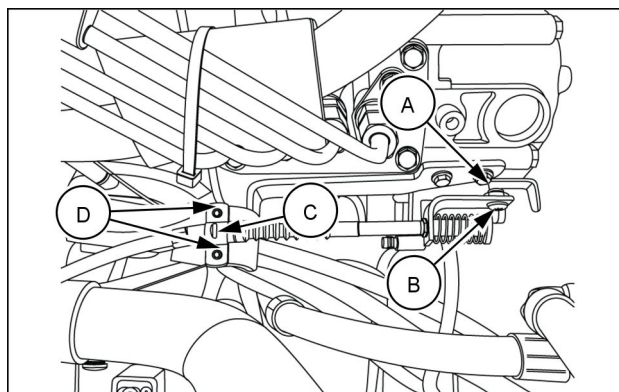
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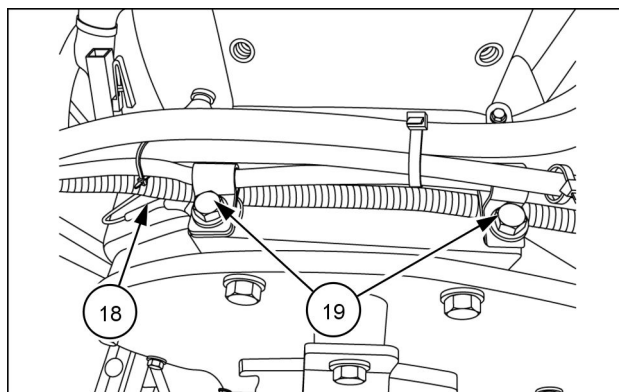
Thank you so much for reading

17. Disconnect throttle cable by removing the nut **(A)** and bolt **(B)** from the throttle body. Remove cable support clamp **(C)** by loosening the two hex head bolts **(D)**.



931002039 13

18. Disconnect wire harness **(18)** and clamps **(19)** from the top of the flywheel housing.



931002040 14

19. **⚠ WARNING**

Fire hazard!

When handling diesel fuel, observe the following precautions:

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 2. Never fill the tank when the engine is running.
 3. Wipe up spilled fuel immediately.
- Failure to comply could result in death or serious injury.

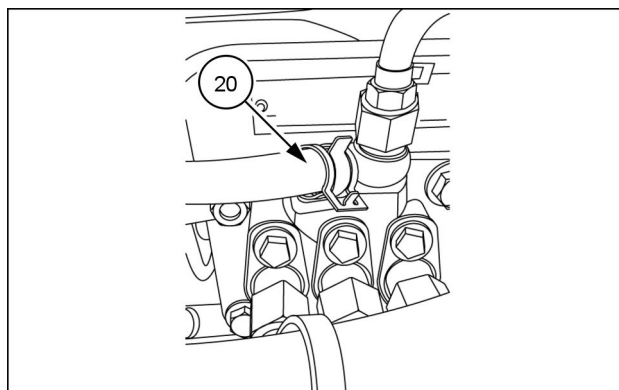
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⚠ WARNING

Escaping fluid!

Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately. Failure to comply could result in death or serious injury.

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931002042 15

Place a suitable container under lines to prevent spillage and remove the fuel supply line **(20)**.

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