

# 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

1<sup>st</sup> edition English

May 2014





# **SERVICE MANUAL**

**L213 TIER 3 [NEM459110 - ]**

**L216 TIER 4 [NEM477964 - ]**

# Link Product / Engine

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

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# INTRODUCTION

# Contents

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## INTRODUCTION

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(\*) See content for specific models

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## 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

L213	WE
L216	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.

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## 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.**

W0398A

#### **Prior operation:**

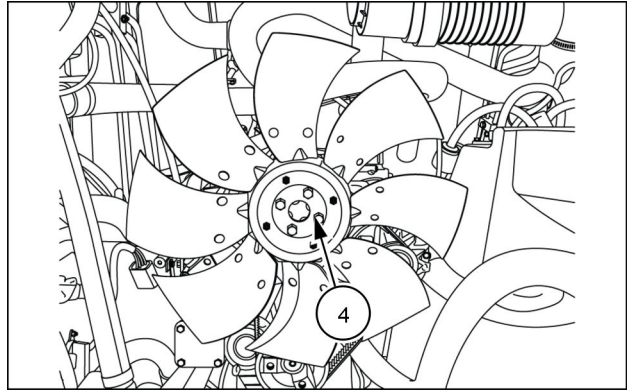
Disconnect the negative battery cable from the battery.

#### **Prior operation:**

Remove the engine hood.

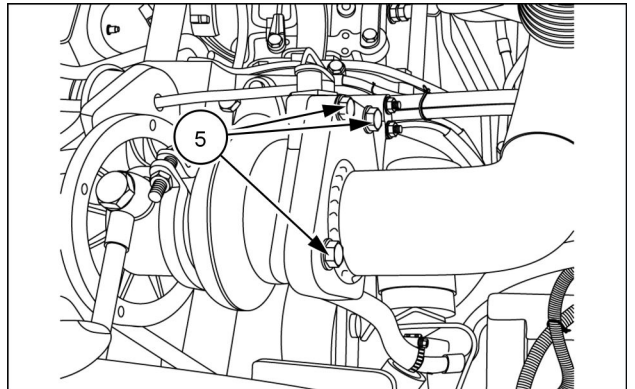
1. Remove the rear access door. See **Engine inspection door - Remove (90.102)** . . .
2. Drain the engine oil.
3. Remove the radiator. See **Radiator - Remove (10.400)**.
4. Remove the oil cooler. See **Oil cooler/Heat exchanger - Remove (35.300)**.

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



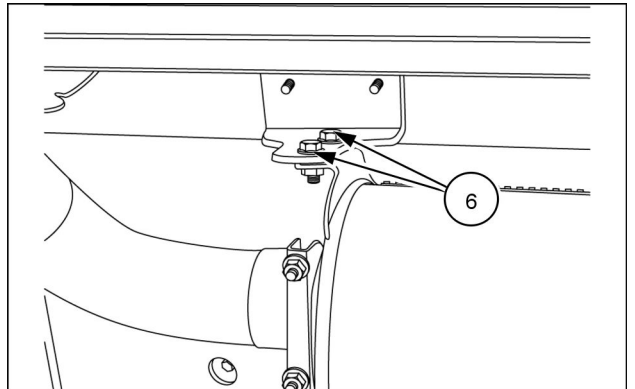
931002027 1

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



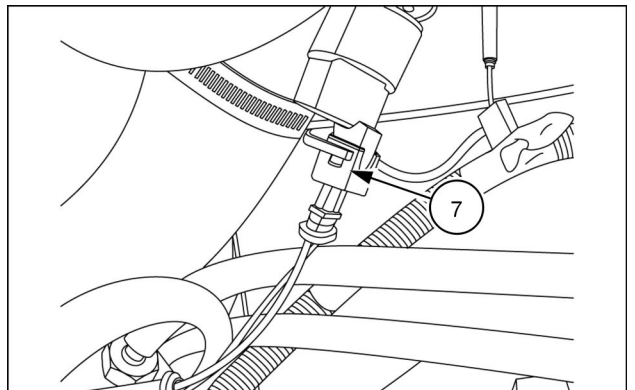
931002028 2

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



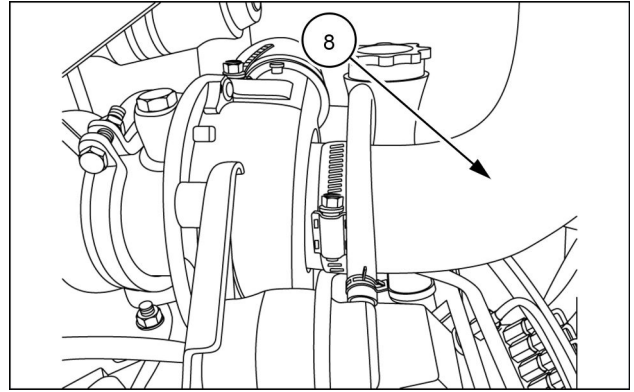
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8. Disconnect air restriction sensor (7).



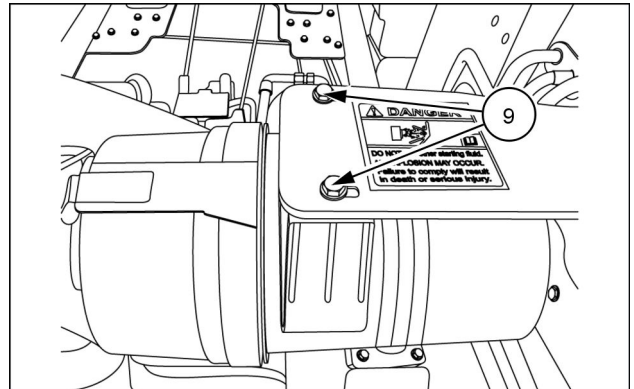
931002030 4

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.



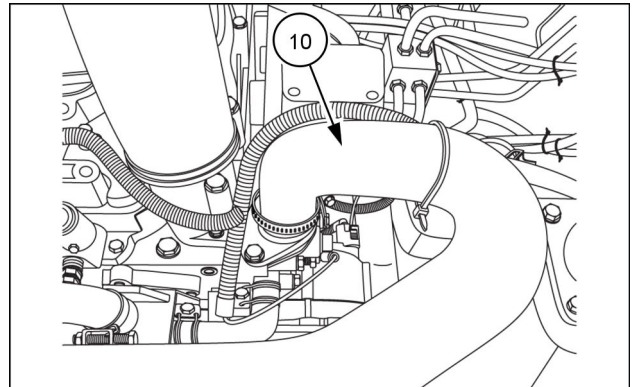
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10. Remove air cleaner housing (9).



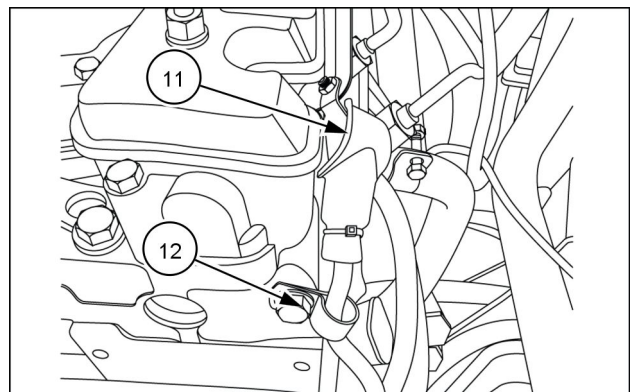
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11. Loosen hose clamp and remove upper radiator hose (10) from engine.



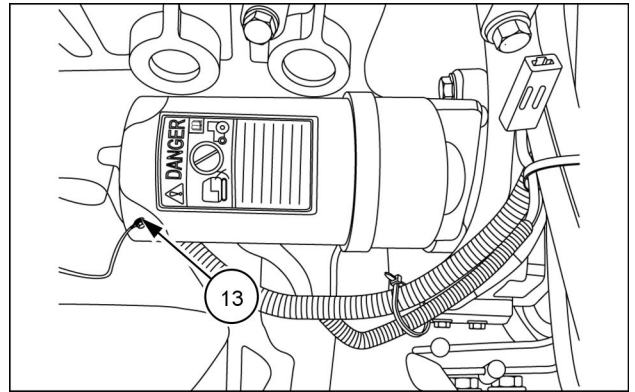
931002033 7

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



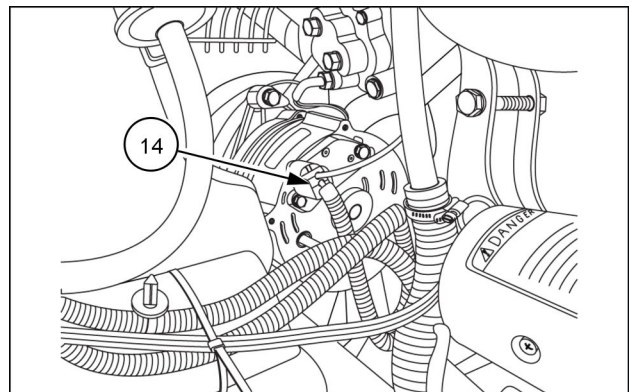
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13. Disconnect the starter connections (13).



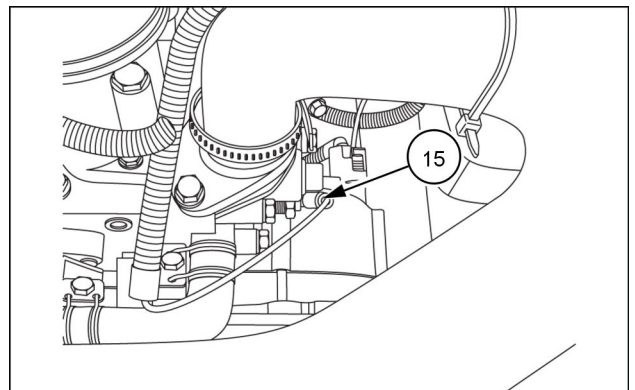
931002035 9

14. Disconnect the alternator connection (14).



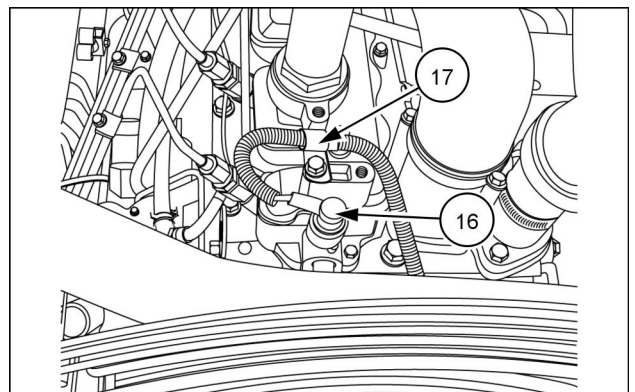
931002036 10

15. Disconnect temperature sender wire (15).



931002037 11

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



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**Suggest:**

**If the above button click is invalid.**

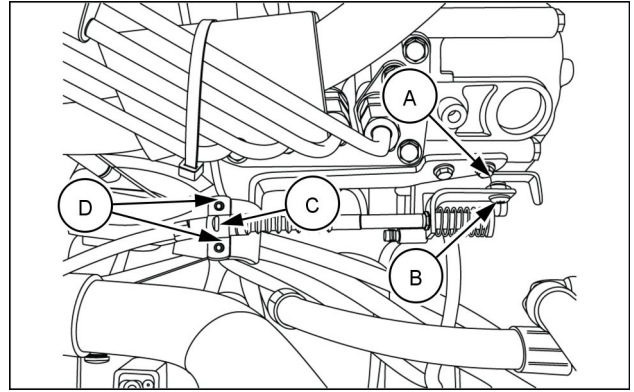
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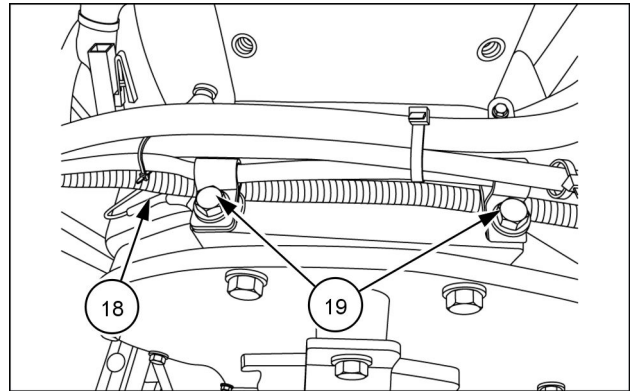
**Thank you so much for reading**

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:**

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.

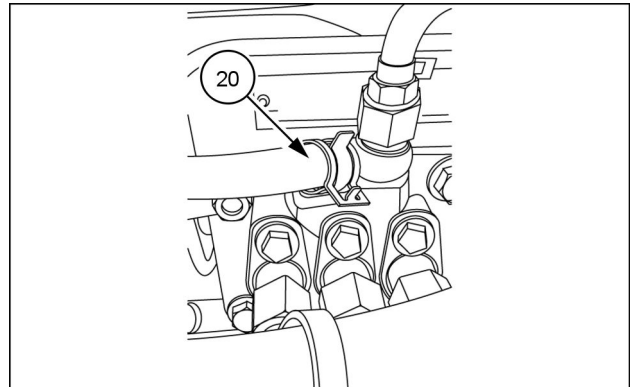
W0099A

**▲ 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



931002042 15

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

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