

TV450
Tier 4B (final)
Alpha Series Compact Track Loader
PIN NHM435463 and above

SERVICE MANUAL

Part number 48174797

1st edition English
November 2018





SERVICE MANUAL

TV450 TIER 4B (FINAL) [NHM435463 -]

Link Product / Engine

Product	Market Product	Engine
TV450 TIER 4B (FINAL) [NHM435463 -]	North America	F5BFL413A*B007

Contents

INTRODUCTION

Engine	10
[10.001] Engine and crankcase	10.1
[10.216] Fuel tanks	10.2
[10.206] Fuel filters	10.3
[10.500] Selective Catalytic Reduction (SCR) exhaust treatment.....	10.4
[10.400] Engine cooling system	10.5
[10.414] Fan and drive	10.6
[10.310] Aftercooler.....	10.7
[10.304] Engine lubrication system.....	10.8
Power coupling	19
[19.121] Pump-drive assembly	19.1
Hydrostatic drive	29
[29.200] Mechanical control	29.1
[29.218] Pump and motor components.....	29.2
[29.202] Hydrostatic transmission	29.3
Brakes and controls	33
[33.110] Parking brake or parking lock	33.1
Hydraulic systems	35
[35.000] Hydraulic systems.....	35.1
[35.300] Reservoir, cooler, and filters.....	35.2
[35.104] Fixed displacement pump.....	35.3
[35.359] Main control valve	35.4
[35.525] Auxiliary hydraulic valves and lines	35.5
[35.600] High flow hydraulics.....	35.6
[35.724] Front loader hydraulic system control.....	35.7

[35.723] Front loader bucket hydraulic system	35.8
[35.701] Front loader arm hydraulic system	35.9
[35.734] Tool quick coupler hydraulic system	35.10
Frames and ballasting	39
[39.140] Ballasts and supports	39.1
Tracks and track suspension	48
[48.130] Track frame and driving wheels	48.1
[48.100] Tracks	48.2
[48.134] Track tension units	48.3
[48.138] Track rollers	48.4
Cab climate control	50
[50.100] Heating	50.1
[50.200] Air conditioning	50.2
Electrical systems	55
[55.000] Electrical system	55.1
[55.100] Harnesses and connectors	55.2
[55.525] Cab engine controls	55.3
[55.201] Engine starting system	55.4
[55.301] Alternator	55.5
[55.302] Battery	55.6
[55.011] Fuel tank system	55.7
[55.988] Selective Catalytic Reduction (SCR) electrical system	55.8
[55.012] Engine cooling system	55.9
[55.640] Electronic modules	55.10
[55.019] Hydrostatic drive control system	55.11
[55.512] Cab controls	55.12
[55.036] Hydraulic system control	55.13
[55.050] Heating, Ventilation, and Air-Conditioning (HVAC) control system	55.14

[55.518] Wiper and washer system.....	55.15
[55.408] Warning indicators, alarms, and instruments	55.16
[55.991] Telematics	55.17
[55.DTC] FAULT CODES.....	55.18
Front loader and bucket.....	82
[82.100] Arm.....	82.1
[82.300] Bucket.....	82.2
Platform, cab, bodywork, and decals.....	90
[90.160] Cab interior trim and panels.....	90.1
[90.120] Mechanically-adjusted operator seat.....	90.2
[90.124] Pneumatically-adjusted operator seat.....	90.3
[90.150] Cab.....	90.4
[90.154] Cab doors and hatches	90.5
[90.102] Engine shields, hood latches, and trims	90.6



INTRODUCTION

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 CASE CONSTRUCTION Sales and Service Networks.

Safety rules - Personal safety

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 CASE 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.

Safety rules - Ecology and the environment

Soil, air, and water quality is important for all industries and life in general. When legislation does not yet rule the treatment of some of the substances that advanced technology requires, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

Familiarize yourself with the relative legislation applicable to your country, and make sure that you understand this legislation. Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, anti-freeze, cleaning agents, etc., with regard to the effect of these substances on man and nature and how to safely store, use, and dispose of these substances.

Helpful hints

- Avoid the use of cans or other inappropriate pressurized fuel delivery systems to fill tanks. Such delivery systems may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of these products 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 you drain fluids such as used engine coolant mixtures, engine oil, hydraulic fluid, brake fluid, etc. Do not mix drained brake fluids or fuels with lubricants. Store all drained fluids safely until you can dispose of the fluids in a proper way that complies with all local legislation and available resources.
- Do not allow coolant mixtures to get into the soil. Collect and dispose of coolant mixtures properly.
- The air-conditioning system contains gases that should not be released into the atmosphere. Consult an air-conditioning specialist or use a special extractor to recharge the system properly.
- Repair any leaks or defects in the engine cooling system 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. Penetrating weld splatter may burn a hole or weaken hoses, allowing the loss of oils, coolant, etc.

Battery recycling

Batteries and electric accumulators contain several substances that can have a harmful effect on the environment if the batteries are not properly recycled after use. Improper disposal of batteries can contaminate the soil, groundwater, and waterways. CASE CONSTRUCTION strongly recommends that you return all used batteries to a CASE CONSTRUCTION dealer, who will dispose of the used batteries or recycle the used batteries properly. In some countries, this is a legal requirement.



Mandatory battery recycling

NOTE: The following requirements are mandatory in Brazil.

Batteries are made of lead plates and a sulfuric acid solution. Because batteries contain heavy metals such as lead, CONAMA Resolution 401/2008 requires you to return all used batteries to the battery dealer when you replace any batteries. Do not dispose of batteries in your household garbage.

Points of sale are obliged to:

- Accept the return of your used batteries
- Store the returned batteries in a suitable location
- Send the returned batteries to the battery manufacturer for recycling



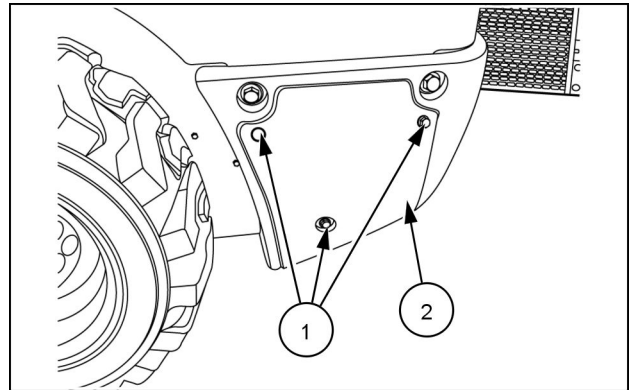
SERVICE MANUAL

Engine

TV450 TIER 4B (FINAL) [NHM435463 -]

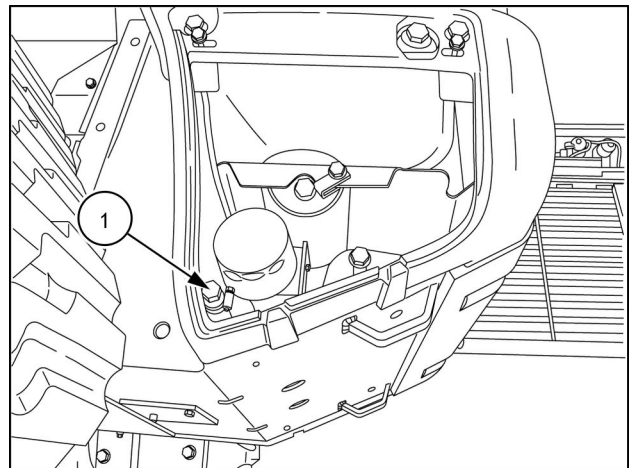
Engine - Drain fluid - Remote oil drain

1. Remove the access cover (2) by removing the mounting bolts (1).



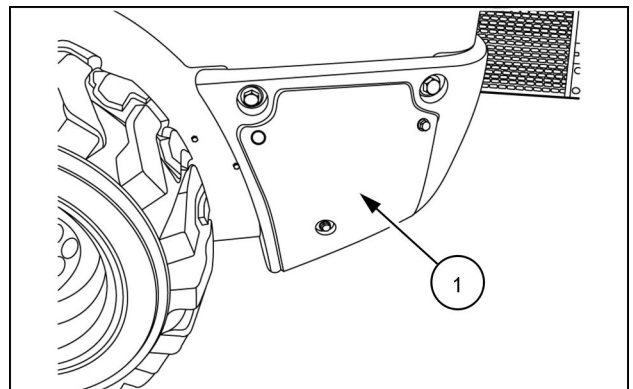
931001637 1

2. Remove the drain plug (1).
3. When the oil has drained from the engine, install the drain plug (1). Torque the drain plug (1) to **68 – 82 N·m (50 – 60 lb ft)**.



RAIL14SSL0709AA 2

4. Install the access cover (1).



931001637 3

Next operation:

See **Engine - Filling (10.001)** for the proper procedure to refill the engine oil fluid.

Engine - Drain fluid - Quick-disconnect oil drain

⚠ DANGER

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 will result in death or serious injury.

D0076A

⚠ CAUTION

Burn hazard!

Do not handle any service fluid (engine coolant, engine oil, hydraulic oil, etc.) at temperatures that exceed 49 °C (120 °F). Allow fluids to cool before proceeding. Failure to comply could result in minor or moderate injury.

C0107B

⚠ CAUTION

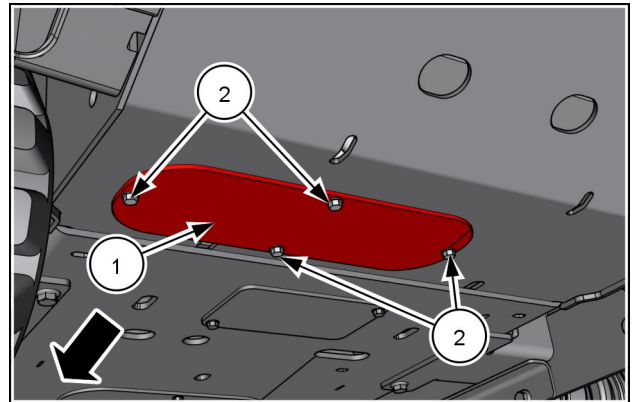
Chemical hazard!

Avoid getting engine oil on your skin. In case of skin contact, wash with running water. Failure to comply could result in minor or moderate injury.

C0202B

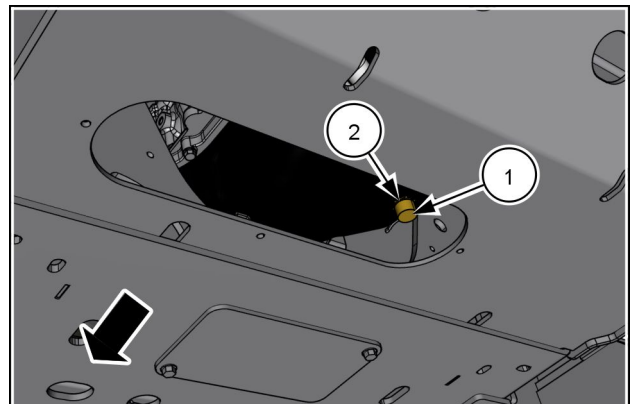
NOTE: The images may differ slightly based on the machine configuration. The procedure is the same.

1. Remove the cover (1) underneath the machine by removing the hardware (2).



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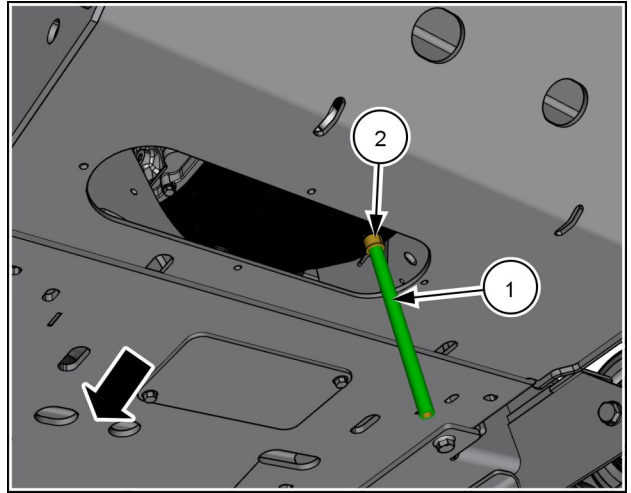
2. Remove the cap (1) (47786509) from the quick disconnect drain fitting (2) (48103849).



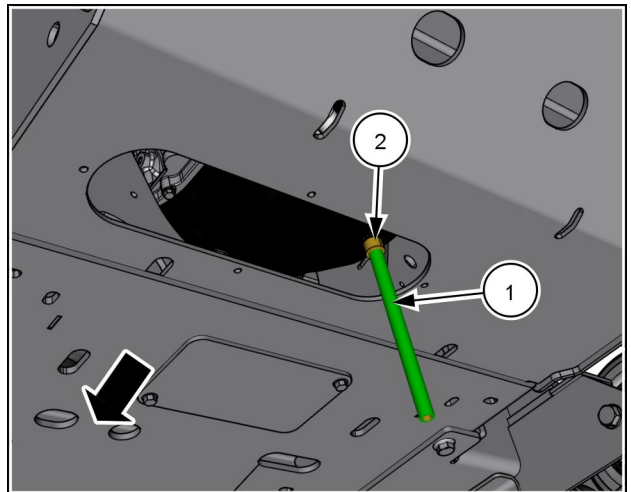
RAPH17SSL0169QA 2

3. Place the drain receptacle under the machine.

4. Thread the quick-disconnect hose assembly (1) (48109944) onto the quick-disconnect drain fitting (2) (48103849).
5. Allow the oil to drain completely from the crankcase.
6. Remove the receptacle, with the used oil, from under the machine.



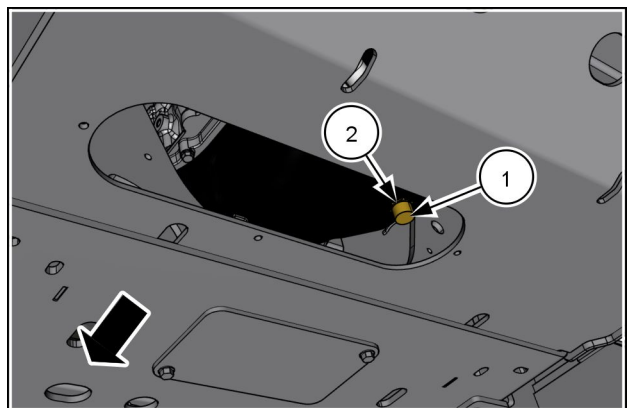
7. Remove the quick-disconnect hose assembly (1) (48109944) from the quick-disconnect drain fitting (2) (48103849).



8. Install the cap (1) (47786509) onto the quick-disconnect drain fitting (2) (48103849).

NOTE: Make sure the o-ring is installed on the drain fitting (2), if it is damaged, then replace with new.

NOTE: The cap (1) is only hand tight on the drain fitting (2).



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