

SERVICE MANUAL

**TK4030V / TK4050 /
TK4050M / TK4060**
Tractor

Part number 47830956

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SERVICE MANUAL

**TK4030V
TK4050M
TK4050
TK4060**

Link Product / Engine

Product	Market Product	Engine
TK4030V	North America	F5AE9484B
TK4050	North America	F4CE9487N
TK4050M	North America	F4CE9487N
TK4060	North America	F4CE9487A

Contents

INTRODUCTION

Engine	10
[10.001] Engine and crankcase	10.1
[10.216] Fuel tanks	10.2
[10.400] Engine cooling system	10.3
Clutch	18
[18.104] Clutch hydraulic release control.....	18.1
[18.100] Clutch mechanical release control	18.2
[18.110] Clutch and components	18.3
Transmission	21
[21.114] Mechanical transmission	21.1
[21.118] Transmission/Rear drive	21.2
[21.140] Mechanical transmission internal components.....	21.3
[21.148] Transmission/Rear drive internal components	21.4
[21.160] Creeper	21.5
[21.162] Reverser	21.6
Rear axle system	27
[27.100] Powered rear axle.....	27.1
[27.126] Spur gear and final drives.....	27.2
Power Take-Off (PTO)	31
[31.114] Two-speed rear Power Take-Off (PTO)	31.1
Brakes and controls	33
[33.120] Mechanical service brakes.....	33.1
[33.202] Hydraulic service brakes	33.2
Hydraulic systems	35
[35.114] Three-point hitch control valve	35.1

[35.322] Regulated/Low pressure system	35.2
[35.204] Remote control valves	35.3
Steering clutches	46
[46.110] Steering clutch	46.1
Tracks and track suspension	48
[48.130] Track frame and driving wheels	48.1
[48.100] Tracks	48.2
[48.110] Front suspension	48.3
[48.114] Rear suspension	48.4
[48.134] Track tension units	48.5
[48.138] Track rollers	48.6
Electrical systems	55
[55.100] Harnesses and connectors	55.1
[55.201] Engine starting system	55.2
[55.301] Alternator	55.3
[55.302] Battery	55.4
[55.640] Electronic modules	55.5
[55.404] External lighting	55.6
[55.408] Warning indicators, alarms, and instruments	55.7
[55.DTC] FAULT CODES	55.8
Platform, cab, bodywork, and decals	90
[90.150] Cab	90.1



INTRODUCTION

Contents

INTRODUCTION

Safety rules	3
Basic instructions	7
Consumables	10

Safety rules

Safety regulations

Warning and danger symbol

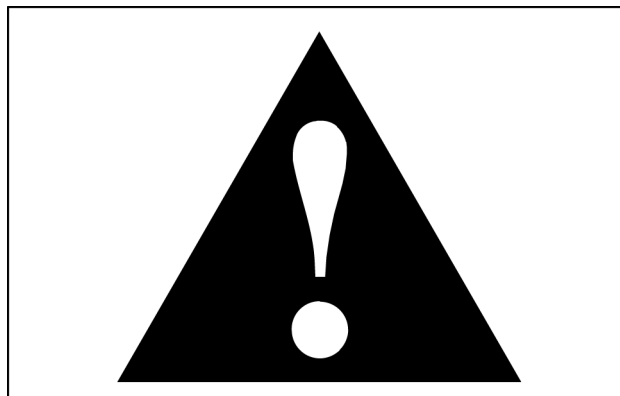
This warning symbol points out important messages concerning your safety.

Carefully read the following safety regulations and observe advised precautions in order to avoid potential hazards and safeguard your health and safety.

In this manual the symbol is accompanied by the following key-words:

“WARNING” – Warnings concerning unsuitable repair operations that may jeopardise the safety of repair personnel.

“DANGER” – Specific warnings concerning potential hazards for operator safety or for other persons directly or indirectly involved.



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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.

Safety regulations

General guidelines

- 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.
- Do not operate the vehicle or use any of the implements from different positions, other than 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.

INTRODUCTION

- 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 when manually released for repair or maintenance purposes: use blocks or similar devices to control the machine in these conditions.
- The fuel nozzle should always be in contact with the filling aperture: maintain this contact until the fuel stops flowing into the tank to avoid possible sparks due to static electricity build-up.
- Only use specified towing points for towing the vehicle. 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 vehicle to the truck or trailer and lock the wheels in the position used by the carrier.
- 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 petrol or diesel oil into open, wide or low containers.
- Never use gasoline, diesel oil or other inflammable liquids as cleaning agents: use non-inflammable, non toxic commercially available solvents.
- Wear safety goggles with side guards when cleaning parts with compressed air.
- Limit the air pressure to a maximum of **2.1 bar**, according to local regulations.
- 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. 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. 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: make sure that the hitch-up point is capable of sustaining the load in question. Keep the area near the hitch-up point, chains or cables free of all bystanders.
- 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. Always store rags in a closed metal container.
Before starting the tractor or its attachments, check, adjust and block the operator's seat. Also check that there are no persons within the vehicle or implement range of action.
- Empty pockets of all objects that may fall unobserved into the vehicle parts.
- In the presence of protruding metal parts, use protective goggles or goggles with side guards, helmets, special footwear and gloves.

- 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 directly at the welding arc without suitable eye protection.
- Metal cables tend to fray with repeated use: always use suitable protective devices (gloves, goggles, etc.) when handling cables.
- Handle all parts with great care. Do not put your hands or fingers between moving parts. Always wear suitable safety clothing-safety goggles, gloves and shoes.

Start up

- Never run 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. Filling up with coolant should only be carried out with the engine stopped or idling (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.
- Never lubricate the vehicle when the engine is running.

Electrical systems

- If it is necessary to use auxiliary batteries, remember that both ends of the cables must be connected as follows: (+) with (+) and (-) with (-). Avoid short-circuiting the terminals. Gas released from batteries is highly inflammable. During charging, leave the battery compartment uncovered to improve ventilation. Never check the battery charge using "jumpers" (metal objects placed on the terminals). Avoid sparks or flames near the battery zone. Do not smoke to prevent explosion hazards.
- Before servicing operations, check for fuel or current leaks: eliminate any eventual leaks before proceeding with work.
- Do not charge batteries in confined spaces: make sure that there is adequate ventilation in order to prevent accidental explosion hazards as a result of the accumulation of gases released during charging operations.
- Always disconnect the batteries before performing any kind of servicing on the electrical system.

Hydraulic systems

- A liquid leaking from a tiny hole may be almost invisible but, at the same time, be powerful enough to penetrate the skin. Therefore, never use hands to check for leaks, but use a piece of cardboard or wood for this purpose. If any liquid penetrates skin tissue, call for medical aid immediately. Failure to treat this condition with correct medical procedure may result in serious infection or dermatosis.
- In order to check the pressure in the system use suitable instruments.

Wheels and tyres

- Make sure that the tyres are correctly inflated at the pressure specified by the manufacturer. Periodically check the rims and tyres for damage.
- Stand away from (at the side of) the tyre when checking inflation pressure.
- Only check pressure when the vehicle is unloaded and the tyres are cold, to avoid incorrect readings as a result of over-pressure. Do not use parts of recovered wheels as incorrect welding brazing or heating may weaken and eventually cause damage to the wheel.
- Never cut or weld a rim mounted with an inflated tyre.

- To remove the wheels, lock both the front and rear vehicle wheels. After having raised the vehicle, position supports underneath, according to regulations in force. To remove the wheels, lock both the front and rear vehicle wheels. After having raised the vehicle, position supports underneath, according to regulations in force.
- Deflate the tyre before removing any object caught in the tyre tread.
- Never inflate tyres using inflammable gases; as this may result in explosions and injury to bystanders.

Removal and re-fitting

- Lift and handle all heavy parts using suitable hoisting equipment. Make sure that parts are sustained by appropriate hooks and slings. Use the hoisting eyebolts for lifting operations. Extra care should be taken if persons are present near the load to be lifted.
- Handle all parts with care. Do not put your hands or fingers between parts. Wear suitable safety clothing – safety goggles, gloves and shoes.
- Avoid twisting chains or metal cables. Always wear safety gloves when handling cables or chains.

Basic instructions

Important notice

All maintenance and repair work described in this manual must be performed exclusively by NEW HOLLAND service technicians, in strict accordance with the instructions given and using any specific tools necessary. Anyone performing the operations described herein without strictly following the instructions is personally responsible for any eventual injury or damage to property.

Battery

Before carrying out any kind of service operation disconnect and isolate the battery negative lead, unless otherwise requested for specific operations (e.g: operations that require the engine running). Once the specific operation has been completed, disconnect the lead in order to complete the operation.

Shimming

For each adjustment operation, select adjusting shims and measure individually using a micrometer, then add up the recorder values, do not rely on measuring the entire shimming set, which may be incorrect, or the rated value indicated for each on shim.

Rotating shaft seals

For correct rotating shaft seal installation, proceed as follows:

- Before assembly, allow the seal to soak in the oil it will be sealing for at least **30 min**.
- Thoroughly clean the shaft and check that the working surface on the shaft is not damaged.
- Position the sealing lip facing the fluid, with hydrodynamic lips, take into consideration the shaft rotation direction and position the grooves so that they will deviate the fluid towards the inner side of the seal.
- Smear the sealing lip with a thin layer of lubricant (use oil rather than grease) and fill the gap between the sealing lip and the dust lip on double lip seals with grease.
- Insert the seal in its seat and press down using a flat punch, do not tap the seal with a hammer or mallet.
- Whilst inserting the seal, check that the it is perpendicular to the seat, once settled, make sure that it makes contact with the thrust element, if required.
- To prevent damaging the seal lip on the shaft, position a protective guard during installation operations.

O-Ring seals

Lubricate the O-Ring seals before inserting them in the seats, this will prevent them from overturning and twisting, which would jeopardise sealing efficiency.

Sealing compounds

Apply one of the following sealing compounds on the mating surfaces marked with an "X": RTV SILMATE, **RHODORSIL® CAF 1** or **LOCTITE® 510™** or black SILASTIC AP.

Before applying the sealing compound, prepare the surfaces as follows:

- Remove any incrustations using a wire brush.
- Thoroughly de-grease the surfaces using one of the following cleaning agents: trichlorethylene, petrol or a water and soda solution.

Bearings

When installing bearings it is advised to:

- Heat the bearings to **80 - 90 °C** before fitting on the shafts.
- Allow the bearings to cool before installing them from the outside.

Spring pins

When fitting split socket elastic pins, ensure that the pin notch is positioned in the direction of the force required to stress the pin.

Spiral spring pins do not require special positioning.

Front seals

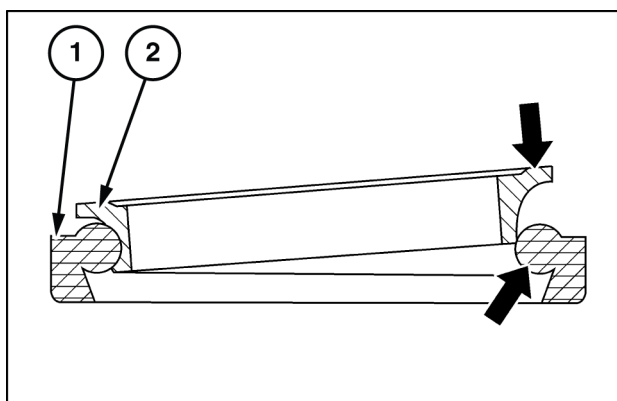
Carefully check the metal rings, making sure that the sealing surfaces show no signs of scoring, dents or wear caused by ring pair misalignment or surface flatness errors.

Even if only one of the rings is faulty, change the entire seal.

Never pair a used ring with a new one or use different pairs of rings.

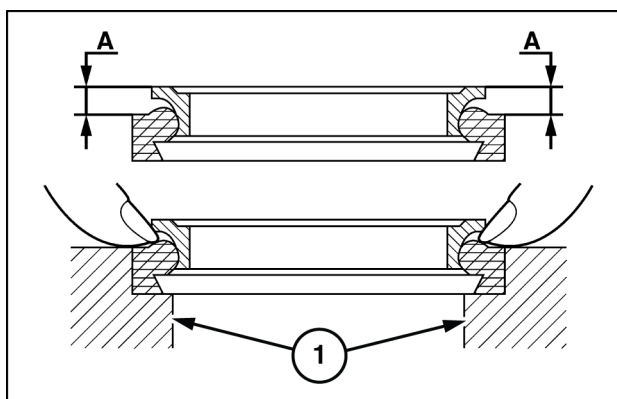
To fit the seals, proceed as follows:

1. Eliminate any sharp edges or burr and carefully clean the seats for the rubber rings.
2. Thoroughly clean the rings on the seals.
3. Insert each metal ring (**2**) on the respective rubber ring (**1**), as shown in the drawing, acting on the points indicated by the arrows.



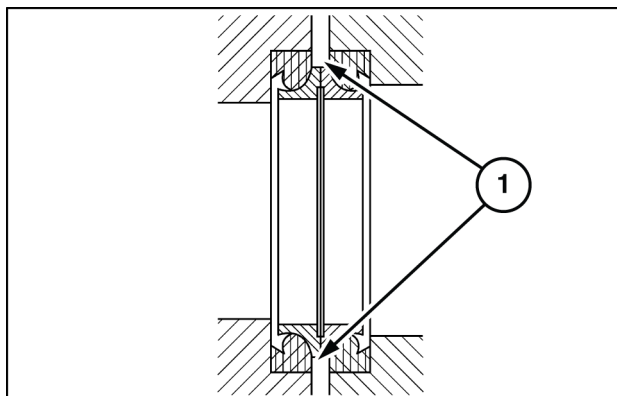
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4. Make sure that the metal ring is fitted correctly, checking that measurement "A" is constant on all of the circumference.
5. Assemble each pair of rings in their respective seats (**1**), manually positioning the rubber ring.



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6. Before terminating assembly operations, clean the sealing surfaces (**1**) with a clean (not frayed) cloth and pour a thin covering of fluid oil over the surfaces.



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Spare parts

Use only genuine CNH ORIGINAL PARTS, the only ones with this trademark.



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Only genuine spare parts guarantee the same quality, duration and safety as they are the same parts that are assembled during production. Only genuine CNH ORIGINAL PARTS can offer this guarantee.

When ordering spare parts, always provide the following information:

- Tractor model (commercial name) and frame number.
- Engine type and serial number.
- Part number of the ordered part, which can be found in the “Spare Parts Catalogue” or from “PAL ONLINE”

Notes for equipment

Equipment shown in this manual is:

- Specifically researched and designed for use with our vehicles.
- Necessary to make reliable repair.
- Accurately built and strictly tested to offer efficient and long-lasting working means.

By using these tools, repair personnel will benefit from:

- Operating in optimal technical conditions.
- Obtaining the best results.
- Saving time and effort.
- Working in safe conditions.

Important notes

Wear limit values indicated for certain parts are recommended, but not binding. The terms “front”, “rear”, “right-hand” and “left-hand” (when referred to different parts) are intended as seen from the driving position with the tractor in the normal direction of movement.

Moving the tractor with the battery removed

External power supply cables should only be connected to the respective positive and negative cable terminals, using efficient clamps that guarantee adequate and secure contact.

Disconnect all services (lights, windshield wipers, etc.) before starting the vehicle.

If the vehicle electrical system requires checking, carry out operations with the power supply connected, once checking is completed, disconnect all services and switch off the power supply before disconnecting the cables.

Consumables

Refueling

Component to be filled or topped up	Quantity	Recommended NEW HOLLAND product	NEW HOLLAND specification	International specification
Cooling system: Without cab TK4030 TK4050, TK4060 With cab TK4050, TK4060	10.5 l/min 13.0 l/min 14.0 l/min	Mixture of water and NEW HOLLAND AMBRA AGRIFLU anti-freeze at 50% + 50%	NH900A	–
Windscreen wash reservoir	2.0 l/min	Water and Detergent liquid	–	–
Fuel tank: TK4030 TK4050, TK4060	83 l/min 111 l/min	Decanted and filtered diesel fuel	–	–
Engine oil sump: Without filter: TK4030, TK4050, TK4060	8.5 l/min 9.5 l/min	NEW HOLLAND AMBRA MASTERGOLD™ HSP ENGINE OIL	NH 330G SAE 15W40 NH 324G SAE 10W30	API CI-4/CH-4 ACEA E7/E5
Servo control for central clutch (version on request)	0.8 l/min	NEW HOLLAND AMBRA SHIFTSPEED	NH 622HV	SAE 75W
Steering clutches	1.4 l/min	NEW HOLLAND AMBRA SUPER 10 W	NH 301C	API CE MIL-L-2104E SAE 10W
Transmission: (gearbox, bevel drive, brakes, and hydraulic lift) TK4030 TK4050, TK4060	33.3 l/min 39.0 l/min	NEW HOLLAND AMBRA MULTI F	NH 420A	API GL-4 ISO 46/68 SAE 20 W -30
Final drives (each one) TK4030 TK4050, TK4060	2.0 l/min 3.5 l/min	NEW HOLLAND AMBRA HYPOIDE 90	NH520A	API GL-5 MIL-L-2105 D SAE 80W90
Pressure grease fittings	–	NEW HOLLAND AMBRA GR-9 MULTI-PURPOSE GREASE lubricant grease	NH710A	NLGI 2



SERVICE MANUAL

Engine

**TK4030V
TK4050M
TK4050
TK4060**

Contents

Engine - 10

[10.001] Engine and crankcase	10.1
[10.216] Fuel tanks	10.2
[10.400] Engine cooling system	10.3



Engine - 10

Engine and crankcase - 001

**TK4030V
TK4050M
TK4050
TK4060**

Contents

Engine - 10

Engine and crankcase - 001

SERVICE

Engine

Remove	3
Install	7

Engine - Remove

⚠ 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.

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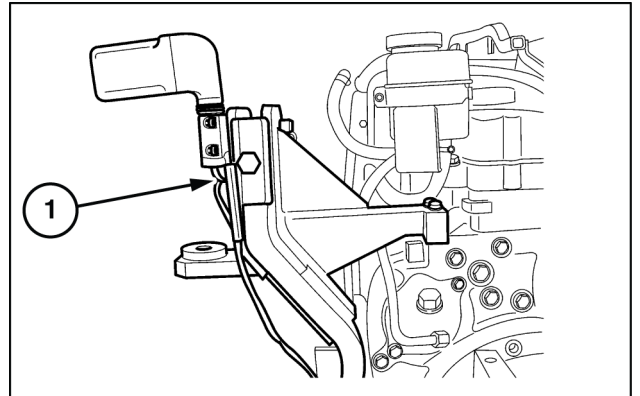
NOTE: The pictures showing disassembly were made on a machine with a NEF engine.

For the arrangement of the elements between the two engines, NEF and F5A, keep in mind that the gears of the timing system are respectively on the flywheel side for the former and on the fan side for the latter.

The removal operations are similar for both engines. A note shows the differences between the two engines.

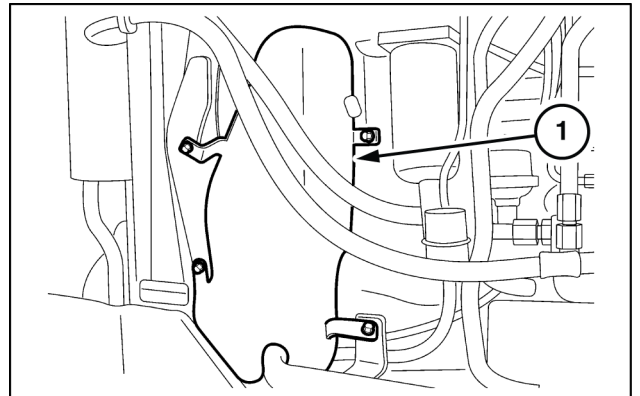
Perform operations **Clutch - Remove (18.110)**. Then proceed as follows:

1. Remove the right-hand **(1)** and left-hand support of the safety roof.



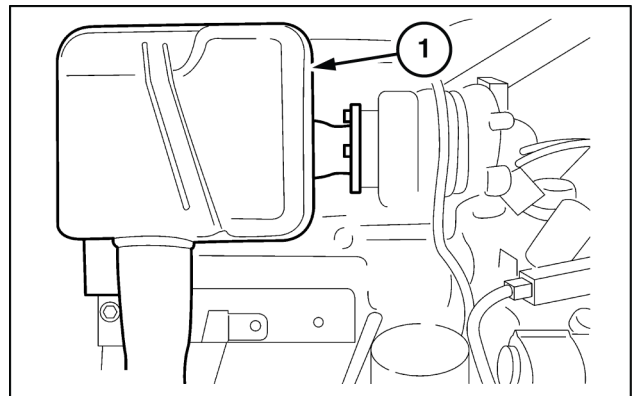
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2. Remove the left-hand **(1)** and right-hand shrouds of the radiator fans.



MOL11K0010AB 2

3. Take off the muffler **(1)** and related flame shield.



MOL11K0011AB 3

**Thanks very much for your reading,
Want to get more information,
Please click here, Then get the complete
manual**

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