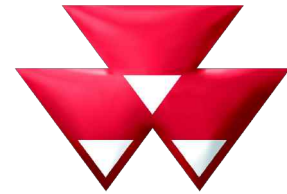


**Operator's Manual**



**MASSEY FERGUSON**

# **MF 7700 - Maintenance**

**MF 7719  
MF 7720  
MF 7722  
MF 7724  
MF 7726**



**Dyna-VT**

**Beauvais  
AGCO S.A.S. - 41 avenue Blaise Pascal - 60000  
Beauvais - France - RC B562 104 539  
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Original Operator's Manual**

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## Foreword

We would like to welcome you to the ever-growing number of people who own a Massey Ferguson tractor; people who appreciate quality. We are proud of every tractor that leaves our factories, each being technically advanced and of a high quality.

This Operator's Manual contains the specifications for your new tractor. Please ensure that all operators read the instructions and follow them carefully. The pages that follow contain vital information on your tractor; please read them carefully.

This Operator's Manual contains the specifications for your new equipment. Please ensure that all operators read the instructions and follow them carefully. This will allow you to benefit from a long service life with complete safety and peace of mind. The pages that follow contain vital information about your new equipment; please read them carefully.

Your Massey Ferguson dealer will guarantee you quality servicing and will provide you with all the assistance you need. When it comes to servicing, remember that your dealer knows your tractor best and that he wants you to be completely satisfied.

Your Massey Ferguson dealer will guarantee you all the assistance you need.

Please leave this Operator's Manual in the tractor if resold. The subsequent owner will need the information it contains.

All information and specifications in this manual are up to date at the time of publication. However, our ongoing policy to improve our products obliges us to reserve the right to make alterations at any time without notice.

Please note that this manual relates to all models and refers to both standard and optional equipment. You may therefore find details relating to equipment that is not fitted on your tractor.

This Operator's Manual complies with Directive 2010/52 EC.

**Massey Ferguson**



# MF 7700 - Maintenance

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## 1.1 Introduction

### 1.1.1 Introduction - Safety instructions

#### Operator's Manual

**NOTE:** *This Operator's Manual is widely published and distributed and the availability of the attachments indicated, whether fitted to the basic tractor or as an accessory, may vary depending on the country or region in which the tractor is used. To find out which attachments are available in a given region, contact a Massey Ferguson dealer.*

The purpose of this manual is to enable the owner and the operator to operate the tractor appropriately under normal conditions of use. Providing they follow the instructions carefully, the tractor will give many years of service in the Massey Ferguson tradition.

Use for any other activity (particularly forestry work) is considered to be contrary to the intended use.

The commissioning of equipment by the Massey Ferguson dealer on the user's premises enables the dealer to ensure that these operating and service instructions are properly understood. Always consult the Massey Ferguson dealer if there is any part of this manual that you do not understand. It is important that these instructions are understood and followed.

This manual does not cover all operation and safety instructions relevant to the implements and accessories that may be fitted at the time of tractor delivery or later. It is essential that operators use and understand the Operator's Manuals relating to these implements and accessories.

**IMPORTANT:** *This manual must always be kept with the tractor. For extra copies, contact your Massey Ferguson dealer.*

This chapter in the Operator's Manual highlights certain basic safety-related situations that may be encountered during normal operation and servicing of the tractor and provides the information needed to handle these situations.

This chapter supplements any safety instructions given in other chapters of this manual.

It may be necessary to take additional precautions, depending on the implements and accessories used and the working conditions on-site or in the service area. Massey Ferguson can under no circumstances exercise direct control over the commissioning, operation, inspection, lubrication or servicing of the tractor. It is therefore YOUR responsibility to take suitable safety precautions in such areas.



**WARNING:**

**It is your responsibility to read and understand the instructions that appear in this chapter before using the tractor.**

**They must then be strictly adhered to throughout the working day.**

#### Servicing, spare parts, accessories and conditions of use

Daily servicing should become a routine, and a logbook of operating hours should be kept.

When spare parts are required, it is important to use only genuine Massey Ferguson parts. Massey Ferguson dealers supply genuine parts and can offer advice concerning their fitting and use. The use of lower quality parts may cause serious damage. Customers are advised only to purchase their spare parts from an approved Massey Ferguson dealer. In the same way, you must only use accessories specifically adapted to your tractor.

Owing to the considerable variation in operating conditions, it is not possible for the manufacturer to formulate complete or absolute assertions in its publications concerning the performance or operating methods of its machines or to accept liability for any loss or damage which may result from such assertions or possible errors or omissions.

If the tractor is to be used in abnormal conditions which could cause damage (use in deep water or in paddy fields for instance), you should consult your Massey Ferguson dealer to obtain special instructions to prevent the warranty from becoming void.

These tractors are designed only for usual farming activities (intended use). Use for any other activity (particularly forestry work) is considered to be contrary to the intended use.

Strict compliance with the repairs, service and operating conditions as specified by Massey Ferguson is also an essential component of the intended use.

**IMPORTANT:** *Massey Ferguson accepts no responsibility in the event of damage to equipment or personal injury resulting from improper use.*

The tractor must only be used, serviced and repaired by personnel who have full knowledge of its specific features and who are aware of the applicable safety measures (prevention of accidents).

Customers are strongly advised to contact a Massey Ferguson dealer in the event of after-sales problems and for any adjustments which may be necessary.

## 1.2 Safety – Symbols and terms

### 1.2.1 Safety – Symbols and terms

#### Signal



This safety alert symbol means **CAUTION! BE ALERT! YOUR SAFETY DEPENDS ON IT!**

The safety alert symbol identifies important safety notices on machines, safety signs, in instruction books or elsewhere. When you see this symbol, be alert to the risk of injury or death. Follow the instructions in the safety notice.

#### **SAFETY is paramount! Why?**

- ACCIDENTS DISABLE AND KILL
- ACCIDENTS ARE COSTLY
- ACCIDENTS CAN BE AVOIDED

#### Terms

The terms **DANGER**, **WARNING** and **CAUTION** are used with the safety alert symbol. It is essential to learn how to recognize these safety messages and to follow the recommended safety measures and instructions.



#### **DANGER:**

**indicates an imminently hazardous situation which, if not avoided, will result in DEATH or VERY SERIOUS INJURY.**



#### **WARNING:**

**indicates a potentially hazardous situation which, if not avoided, could result in DEATH or SERIOUS INJURY.**



#### **CAUTION:**

**indicates a potentially hazardous situation which, if not avoided, may result in MINOR or MODERATE INJURY.**

The terms **IMPORTANT** and **NOTE** are not directly related to personal safety, but are used to provide additional information and advice on the operation or maintenance of equipment.

**IMPORTANT:** *identifies specific instructions or procedures which, if not strictly applied, could damage or destroy the tractor, its equipment or the surrounding area.*

**NOTE:** *identifies points of particular interest for the most effective and suitable operation or repair.*

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## 1.3 Safety decals and instructions

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### 1.3.1 Checking and replacing the safety decals and instructions

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**WARNING:**

**Never remove or obscure the safety decals and instructions.**

Replace any safety decals and instructions that are illegible or missing. Replacement decals are available from the dealer in the event of loss or damage. If a second-hand tractor has been purchased, check that all safety and instruction decals are correct, legible and in the correct location: To do this, refer to the section on the presentation and location of decals.



### 1.3.2 Presentation and location of the safety decals and instructions

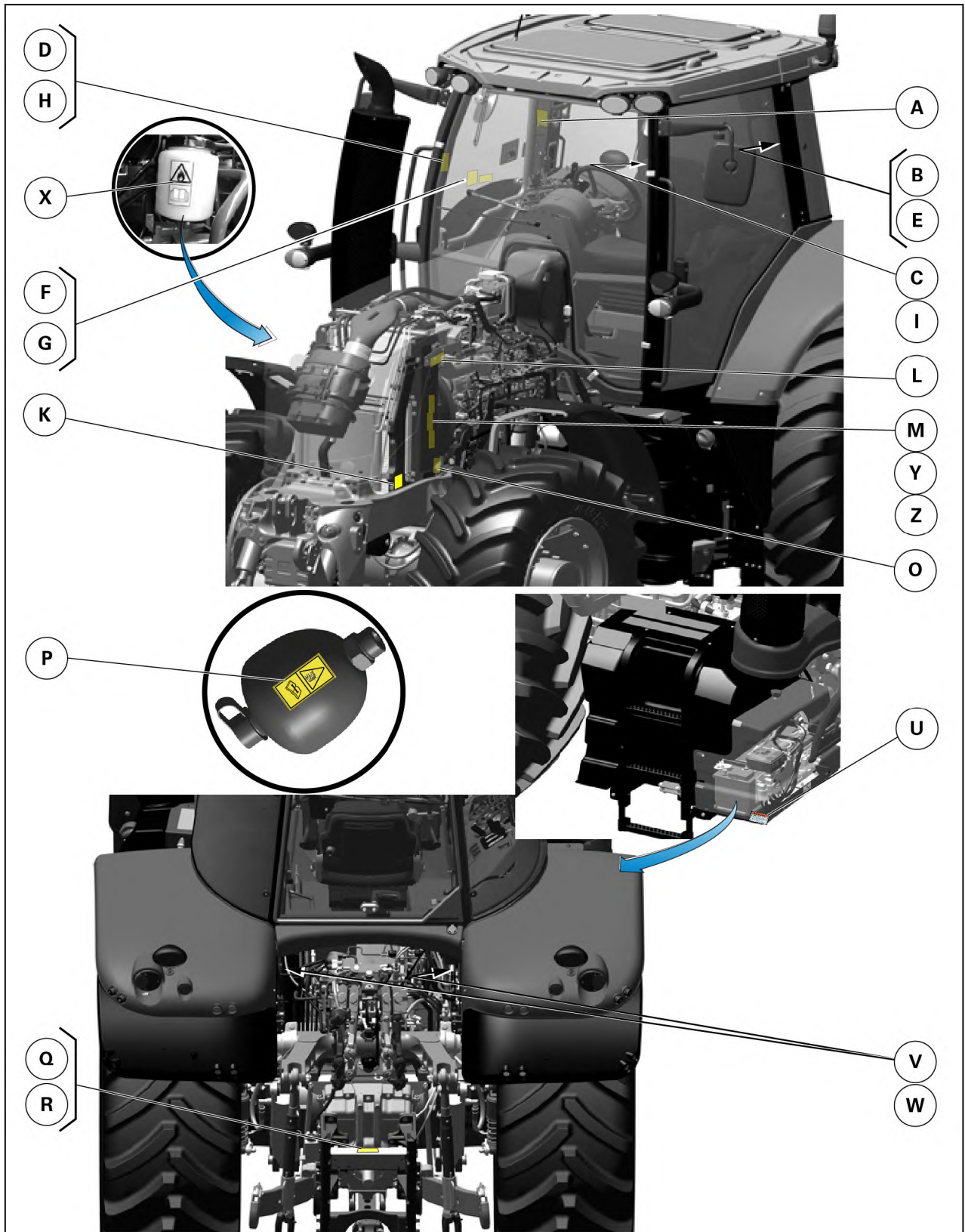


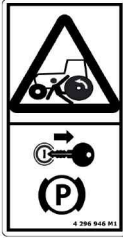

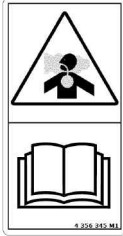
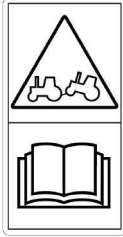

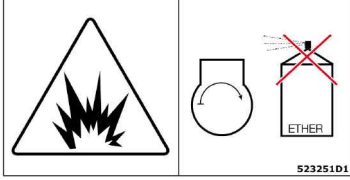
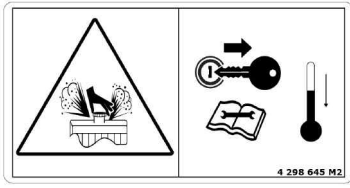



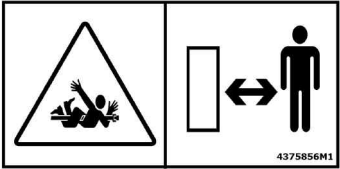



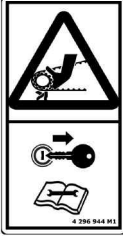
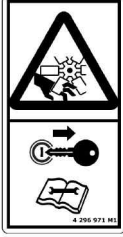


Fig. 1

	<ul style="list-style-type: none"> <li>• <b>4296950M1</b> ((A) )</li> <li>• <b>DANGER:</b> General safety</li> </ul> <p>Read the servicing manual and the safety advice before start-up and observe their contents during operation.</p>
	<ul style="list-style-type: none"> <li>• <b>4296958M1</b> ((B) )</li> <li>• <b>WARNING:</b> Overturning of the tractor - Roll Over Protective Structure (ROPS)</li> </ul> <p>Fasten your seat belt once you are in the seat (operator and instructor) and before the tractor moves.</p>
	<ul style="list-style-type: none"> <li>• <b>4296946M1</b> ((C) )</li> <li>• <b>WARNING:</b> Risk of being crushed or run over by the tractor.</li> </ul> <p>Stop the engine and remove the key before you commence any maintenance or repair operation.</p>
	<ul style="list-style-type: none"> <li>• <b>4297924M1</b> ((D) )</li> <li>• <b>DANGER:</b> Risk of the front loader coming into contact with overhead power lines. Risk of extremely serious or fatal injuries.</li> </ul> <p>Tractors fitted with a front loader: Exercise extreme caution to avoid coming into contact with power lines.</p> <ul style="list-style-type: none"> <li>• Keep a safe distance from the overhead power lines whenever you use the front loader. Refer to any current national regulations concerning safe distances from power lines.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>4356345M1</b> ((E) )</li> <li>• <b>WARNING:</b> Possible inhalation of dangerous substances.</li> <li>• Read the instructions in the Operator's Manual and refer to the safety instructions provided by the product manufacturer. Wear personal protective equipment where necessary.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>4349217M1</b> ((F) )</li> <li>• <b>WARNING:</b> Towing</li> <li>• Carefully read the specific instructions from the Operator's Manual before towing the tractor.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>4352953M2</b> ((H) ) for Efficient/Exclusive versions only</li> <li>• <b>DANGER:</b> Road safety.</li> <li>• Road traffic: Deactivate the automatic guidance system and the SpeedSteer system.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>523251D1</b> or <b>ACW0232290</b> ((K) )</li> <li>• <b>DANGER:</b> Risk of engine explosion.</li> <li>• Never spray ether toward the engine air intake.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>4298645M2</b> ((L) )</li> <li>• <b>WARNING:</b> High-temperature liquid in the reserve. Risk of skin burns.</li> </ul> <p>Stop the engine, remove the key and wait for the assembly to cool before commencing any maintenance or repair operation.</p>
	<ul style="list-style-type: none"> <li>• <b>4296967M1</b> ((M) )</li> <li>• <b>WARNING:</b> Burn hazard – hot surfaces.</li> </ul> <p>Keep away from hot engine components when engine has been running.</p> <p>Shut off engine, remove key and wait for system to cool before performing maintenance or repair work.</p>
	<ul style="list-style-type: none"> <li>• <b>4296985M1</b> ((O) )</li> <li>• <b>DANGER:</b> Crushing of fingers or hands.</li> <li>• Never work in an area where there is a risk of crushing while parts could move.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>ACW0018280</b> ((P) )</li> <li>• <b>DANGER:</b> Explosion hazard. The hydraulic accumulator contains pressurised gas and oil.</li> <li>• The hydraulic accumulator contains pressurised gas and oil. Refer to the instructions in the technical manual when removing and reconditioning.</li> </ul>

 <p>4375856M1</p>	<ul style="list-style-type: none"> <li>• <b>4375856M1</b> ((Q) )</li> <li>• <b>DANGER:</b> Entanglement hazard in a PTO shaft connected to an instrument.</li> <li>• Do not mount the moving part of the PTO.</li> </ul>
 <p>4 297 148 M1</p>	<ul style="list-style-type: none"> <li>• <b>4297148M1</b> ((R) )</li> <li>• <b>WARNING:</b> Falling hazard</li> </ul> <p>Maintain a safe distance in relation to the tractor.</p>
	<ul style="list-style-type: none"> <li>• <b>4392020M1</b> ((V) )</li> <li>• <b>WARNING:</b> Danger of torso being crushed: force directed sideways.</li> <li>• Remain out of the vertical movement area while the swivel arm is moving.</li> </ul>
 <p>4354351M1</p>	<ul style="list-style-type: none"> <li>• <b>4354351M1</b> ((X) )</li> <li>• <b>WARNING:</b> Risk of fire</li> </ul> <p>Read the safety instructions in the Operator's Manual.</p>
 <p>4 296 944 M1</p>	<ul style="list-style-type: none"> <li>• <b>4296944M1</b> ((Y) )</li> <li>• <b>WARNING:</b> Entanglement hazard in belt drives</li> </ul> <p>Keep hands clear of rotating parts and belts while engine is running.</p> <p>Switch off the ignition and remove the key before working on the tractor.</p>
 <p>4 296 971 M1</p>	<ul style="list-style-type: none"> <li>• <b>4296971M1</b> ((Z) )</li> <li>• <b>WARNING:</b> Shearing hazard – engine fan.</li> </ul> <p>Keep your hands away from the fan and the belts when the engine is running.</p> <p>Shut off engine and remove key before performing maintenance or repair work.</p>

## 1.4 General safety instructions

### 1.4.1 Awareness of the safety instructions and symbols

Remember that you alone are responsible for safety. Good safety practices protect not only you, but also bystanders. Before using the tractor, study the instructions given in this book with care, as well as all of the safety decals and instructions fixed to the tractor: Make them an integral part of your safety procedure. Also note all the usual protective measures that should be taken when working and above all, don't forget:

**Safety depends on you. You can prevent accidents which could cause serious injury or death.**



**WARNING:**

**In some of the illustrations in this book, the safety panels and guards have been removed for reasons of clarity. Never use the tractor if these parts are not in place. If some of these parts have been removed for repair purposes, they must be refitted before use.**

### 1.4.2 Operator familiarity in the use of the tractor



**WARNING:**

**The operator must not drink alcohol or take any medication that may affect his concentration or co-ordination.**

**If taking medication, whether prescribed or not, the operator must seek medical advice with regard to his ability to operate machinery safely.**

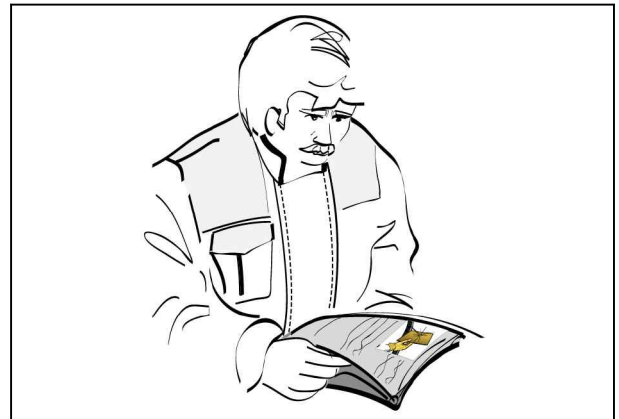


Fig. 2

- To be able to use your tractor, it is first necessary:
  - to be familiar with operating an agricultural tractor
  - to have been trained in the operation of the tractor that you have just purchased
  - to have read and understood this entire book — to always consult the dealer as soon as there is any doubt or lack of understanding
  - find out about the rules and safety regulations applicable to the work you are doing. Some regulations specify that no one under the age of 16 may operate power machinery, for example. This includes tractors. It is your responsibility to know what these regulations are and to observe them in the operating area or situation. These rules include, but are not limited, to the safety instructions relating to correct operation of the tractor as described in this book.
- Do not allow children or unqualified persons to operate the tractor.
- Do not allow children to use the instructor seat.
- The instructor seat is only intended for short periods of use.



**WARNING:**

**In poor conditions, slow down and be extra careful, and engage 4-wheel drive if fitted.**

It is important to have good knowledge of the operation of the tractor as well as all of its accessories and attached implements.

Remember that rain, snow, ice, loose gravel or soft ground can change the performance of the tractor.



### 1.4.3 Filling the fuel tank



**WARNING:**

- Always switch off the engine before filling up.
- Do not smoke while refueling the tractor. Keep away from naked flames .
- Proceed with care to prevent any splashes.



Fig. 3

#### Filling with DEF or AdBlue™



**WARNING:**

Avoid all contact with the eyes, skin and clothing.

- Proceed with care to prevent any splashes.
- If large quantities of the product are ingested, seek immediate medical attention. Do NOT induce vomiting unless indicated to do so by medical staff. Do not administer liquid to a person who is unconscious.
- In case of contact with skin, rinse with plenty of water and remove contaminated clothing.
- In case of contact with the eyes, rinse immediately under running water. In the event of irritation, seek medical advice.
- If fumes are inhaled, breathe in fresh air and seek medical advice, if necessary.
- Prevent DEF or AdBlue™ from coming into contact with other chemical products.
- Urea spillages must not be discharged into the drains.



Fig. 4

### 1.4.4 Mounting and dismounting the operator's seat

- Always use three-point contact with the tractor and face the tractor when mounting and dismounting the operator's seat. (Three-point contact means that both hands and one foot or one hand and both feet are in contact with the tractor at all times when getting on and off).
- Clean your shoes and wipe your hands before getting in the tractor.
- Use handrails, grab handles, ladders or steps (if fitted) when getting on and off.
- Do not use the control levers as a handhold.

- Do not step on pedals when getting in and out.
- Never attempt to mount or dismount a moving tractor.
- Never jump off a tractor when it is running except in an emergency.

---

### 1.4.5 Mandatory procedure before dismounting the tractor

---

Before getting out of the operator's seat, whether during the course of or at the end of the working day, always:

#### Procedure

1. Immobilize the tractor by applying the parking brake or engaging ParkLock in the locked position (closed padlock symbol) (depending on option).



**DANGER:**

**Position the shuttle lever or depending on option, the PowerShuttle lever, in neutral position.**

2. Disengage the front and rear PTO.
3. Lower the implements to the ground.
4. Switch off the engine (see the Operation chapter of the Operator's Manual). Make sure that the engine is not running at idling speed and that it has stopped.
5. Remove the ignition key.

## 1.5 Special instructions

### 1.5.1 Specific recommendations for agricultural and forestry tractors

#### Hot surfaces

Be careful of surfaces which may be hot, in particular engine and hydraulics components, during operation and services.

#### FOPS (Falling Object Protection Structure)

- Alternative 1 (no FOPS available): Protection against falling objects is not provided, unless clearly specified otherwise.
- Alternative 2 (optional FOPS fitted): Protection against falling objects is provided under OECD-code 10 (Energy level 1365 J). If a higher protection level is necessary, additional safety equipment should be installed on the tractor (no original equipment available).

#### OPS (Operator Protection Structure)

- Alternative 1 (no OPS available): Protection against penetrating objects is not provided, unless clearly specified otherwise.
- Alternative 2 (optional OPS fitted): Protection against penetrating objects is provided under ISO 8084 (Machinery for forestry). Before operating, check if protection is adapted to your work conditions.

#### Dangerous substances for tractors with ROPS

##### NOTE:

*A mark indicating the ROPS' level of protection against hazardous substances is located on the ROPS.*

##### IMPORTANT:

*Always wear personal protective equipment when handling the filters.*

- Tractor without cab: Protection against hazardous substances (agricultural chemicals etc.) in the form of dust, aerosols and fumes is not provided. These tractors are not intended for spraying pesticides without additional protection. Personal protective equipment must be used according to the chemical manufacturer's recommendations.

#### Dangerous substances for tractors with a cab

##### NOTE:

*A mark indicating the cab's level of protection against hazardous substances is located on the front left-hand pillar inside the cab. For platform tractors, this mark is displayed on the arch.*

##### IMPORTANT:

*Always wear personal protective equipment when handling the filters.*

- Alternative 1 (less cab or cab under category 1): Protection against hazardous substances (agricultural chemicals etc.) in the form of dust, aerosols and fumes is not provided. In particular, tractors fitted with these cabs are not to be used for spraying pesticides without any additional protection. Personal protective equipment must be used according to the chemical manufacturer's recommendations.



- Alternative 2 (cab under category 2): Protection against hazardous substances (agricultural chemicals etc.) in the form of aerosols and fumes is not provided. In particular, tractors fitted with these cabs are not to be used for spraying pesticides without any additional protection. Personal protective equipment must be used according to the chemical manufacturer's recommendations.

Protection against dust (category 2 of standard EN15695-1:2009) is provided under the following conditions:

- all roof hatch, cab doors and cab windows are closed
  - cab ventilation is running
  - air filter is clean and is serviced under maintenance interval (refer to service guide). When replacing the filter, only a filter certified for at least category 2 cabs is permitted. Activated carbon filters do not improve the cab's level of protection. Always refer to the user instructions provided with the filter.
- Alternative 3 (cab under category 4): The cab is equipped with protection against hazardous substances (agricultural chemicals etc.) in the form of dust, aerosols and fumes. For pesticide spraying, tractors fitted with these cabs must also have a specially designed filter for category 4 cabs.

This protection (category 4 of standard EN 15695-1:2009) is provided under the following conditions:

- all roof hatch, cab doors and cab windows are closed
- cab ventilation is running
- air filter is clean and is serviced under maintenance interval (refer to service guide).

Given the risk associated with contaminants entering the cab when opening the door to enter or exit the vehicle, this protection is designed to supplement, but not necessarily replace, the use of personal protective equipment when working in an environment with aerosols and/or fumes, such as pesticides. The chemical manufacturer's instructions concerning the use of personal protective equipment must be followed.

When replacing the filter, only a filter certified for at least category 4 cabs is permitted.

Always refer to the user instructions provided with the filter. Once spraying operations are complete, it is important to return the special filter to its case and replace it with a standard anti-dust filter.

### **Instructor (passenger) seat**

- If an instructor (passenger) seat is provided, protection for the occupant of the seat is provided by the same roll-over protective structure (ROPS) that protects the operator.
- This seat may only be used to transport a passenger when driving on public roads.
- Always use the seat belt correctly adjusted.

## 1.6 Special safety instructions for preparing the tractor for use

### 1.6.1 Protective clothing

Wear all the protective clothing and equipment with which you are provided or which is appropriate for certain working conditions.

For example, you may need:

- A safety helmet
- Safety glasses
- A protective mask
- Ear protection
- A respirator or filter mask
- Inclement weather clothing
- Reflective clothing
- Gloves suitable for the work to be carried out
- Safety footwear



Fig. 5



**DANGER:**

**Do not wear loose clothing, jewelry or other items and tie up long hair which could catch on controls or other parts of the tractor.**

### 1.6.2 Activated carbon filter information



**WARNING:**

**Due to the risk of contaminants entering the cab when the door is opened to enter or exit, use of a carbon filter is intended to supplement but not necessarily replace the use of personal protective equipment when operating in an environment containing aerosols and/or vapors, such as pesticides.**

**The specific chemical manufacturer's instructions regarding personal protective equipment (PPE) must be followed. If the cab being fitted with this filter does not already have a safety sign like the one included with this filter, install the safety sign in a prominent place inside the cab in view of the operator.**

This filter is designed to reduce the concentration of aerosols and vapors entering the cab. To be effective, it must have an effective seal to prevent leakage around the filter and must be used in a cab air system that does not have leaks, especially in the zone between the filter and the fan. In addition, the cab and its ventilation system must be capable of maintaining a positive pressure inside the cab and an air flow of at least 30 cubic meters per hour (18 cubic feet per minute).

The cab with carbon filter is intended to be used as only one part of a managed system of occupational health and safety, as noted below:

#### **Operator Enclosures as Part of an Occupational Health and Safety Management System (OHSMS)**

Many self-propelled agriculture vehicles have operator enclosures (cabs) for comfort and protection of the operator and riders. The cab can provide an effective physical barrier between the occupants and the environment, but that barrier must, by necessity of occupant respiration, allow air to enter and exhaust the cab. This requirement is met by the cab's heating, ventilation and air conditioning (HVAC) system.

The HVAC system should employ a filter through which air entering the cab is first passed for contaminant reduction. Filters should also be provided in the recirculation air-stream to reduce airborne contaminants already in the cab air space. In either application, these filters must be designed specifically for the HVAC system within which they are operating. The filters must also incorporate the correct media required to remove the specific air-borne contaminant for which it is being employed.

For such applications, the HVAC system must be of robust design, manufacture and maintenance. In such a system, fresh air and cab pressurization requirements are provided by an air supply drawn through a filter with negligible filter bypass.

Even with an appropriate cab and HVAC system, there are other opportunities for contaminants to enter the cab. While outside the cab, a person can become contaminated on his/her body or clothing. Contaminated objects can be brought into the cab. Another potential for cab contamination exists when doors or windows are open in a contaminated environment.

In any case, whenever the cab interior has been contaminated, the effectiveness of the cab to provide contamination protection will be diminished. Health and safety for agricultural machine operators as well as others working in, on or around these machines can only be addressed through a comprehensive program. Such a program is defined as an Occupational Health and Safety Management System (OHSMS). While cabs may be used as an effective engineering control within an OHSMS, this is not intended to imply that the cab alone is appropriate for any specific application.

That determination can only be made by those responsible for the OHSMS in a specific application. It is the responsibility of those charged with managing the use of the vehicle on which the cab is attached to define and manage an appropriate OHSMS, and ensure that all federal, state and local regulatory requirements are followed.

Cabs should not be used as a replacement for any other engineering control or PPE that has been specifically required by federal, state or local regulatory authorities.

### **Hierarchy of Controls**

The Hierarchy of Controls, in their preferred order of action:

1. Elimination
2. Substitution of less hazardous materials, processes, operations or equipment
3. Engineering controls
4. Warnings
5. Administrative controls
6. Personal protective equipment (PPE)

### **Continuous Improvement Cycle**

Cabs should only be used to control operator air contaminant exposures within an OHSMS. This management system must consider occupational safety and health as a continuous improvement cycle that includes these on-going processes:

1. Management, Leadership and Employee Participation: This step in the cycle involves the formulation of the management system, the establishment of policy, statements of responsibility and the integration of the employees into the management system.
2. Planning: This step is based upon initial and going reviews of the management system and numerous factors affecting occupational safety and health within an organization. Included in these reviews is a review of the hazard, risks and controls and data collected to evaluate the hazards and the efficacy of the control measures. In explanatory comments, exposure measurements are included as part of the assessment processes. The results of audits and measurements are also to be reviewed.
3. Implementation and Operation: This section describes the organization components of a occupational safety and health program. It describes the hierarchy of controls mentioned above and several broad classes of management function. Among these requirements are employee training and evaluation of employee training. Furthermore, this section requires a written, clearly documented occupational safety and health program.
4. Evaluation and Corrective Actions: The section specifically requires management processes to monitor and evaluate hazards, risks and their controls. Explanatory comments note that this includes quantitative measures of worker exposure. Practically, this involves physically testing the efficiency of the cab being used as an engineering control within an OHSMS.

5. Management System Review: Management is required to review the management system to ensure its suitability, adequacy and effectiveness. This cycle includes provisions for exposure monitoring and the monitoring of control measure performance. It is the responsibility of the manager of the safety and health program to determine how worker exposure to air contaminants and other hazards are to be controlled. It is also the responsibility of this manager to take whatever actions are needed to control work-place hazards. This includes but is not limited to exposure assessment, audits of various programs such as respiratory protection, ventilation system maintenance, etc.

### **Limitations of Cabs Used in Hazardous Environments:**

While it may seem that respiration (breathing) exposure would present the greatest risk for personal exposure to contaminants, this is not the case when working with pesticides. The most prevalent method of exposure for applicators and those working around agricultural pesticides is through dermal (skin) contact.

Dermal contact with contaminants may occur directly from air-borne contaminants. It may also happen when contaminants are transferred from one object to another or when air-borne contaminants settle on objects that are subsequently contacted. Any surfaces in or out of the cab that have been contaminated are potential hazards for dermal exposure.

Within the cab, seats, upholstery, controls and other surfaces that become contaminated will pose such a hazard. In addition to dermal exposure, a contaminated cab interior will also pose a respiration hazard as the contaminant may, after settling on a surface, become air-borne once again whereby it may be inhaled.

Recirculation filters can be used to help reduce these contaminants from the cab interior air space. When a vehicle is operated in an environment where air-borne contaminants exist, the cab can be an effective engineering control for reduction of exposure risk to persons within it.

In order for a cab to be used for this purpose, it must be of appropriate design. It must also be manufactured, maintained, tested and operated according to the specific requirements defined by evaluation of the hazards.

No cab should ever be considered an effective engineering control unless it has been qualified as such within a comprehensive OHSMS. While the cab manufacturer can design and manufacture a cab to physical specifications, the cab manufacturer can not qualify the cab as an appropriate engineering control for any specific application.

Site-specific information is needed to evaluate the appropriateness of control measures. To use the cab to control hazards, the managers of the OHSMS must carefully consider and evaluate the effectiveness of all engineering controls in their specific application.

### **The Cab as an Engineering Control**

The engineering control requirements of the respiratory protection regulation may be fulfilled by the application of a cab, but this can only be done properly within an OHSMS. Elements of such a program are:

1. Assessment of the hazard with identification of the risk involved.
2. A survey of the machine and the cab involved in the hazardous operation.
3. Reviewing the cab ventilation system and the filter to ensure the filter provides the reduction in contaminants required.
4. Defining how long the filter can be used in this application.
5. Testing the cab ventilation system to ensure it provides the protection required for the operation to be performed. This also includes a review of any monitoring equipment to ensure it is working properly.
6. Repair and/or replacement of any defects or defective equipment found.
7. Retesting of the cab air system as required.
8. Recording in the appropriate log book all information regarding the test results, and repairs and replacement of parts and/or components.
9. Assessment of the effectiveness of the program at a specified time in the cycle of the activity.

### 1.6.3 Safety devices and items

Ensure that all safety devices and items are fitted as required and are in good condition.



**WARNING:**

**The location of all these safety devices and items must be known and their use mastered. Never take off, remove or disconnect any of them.**

#### Standard safety devices and items according to country regulations

- ROPS (Roll Over Protective Structure)
- Seat belt
- Power take-off guard
- SMV warning triangle
- Signaling lights
- Safety signs
- Fire extinguisher
- First aid kit



Fig. 6



**WARNING:**

**Also make sure you know the emergency numbers.**

#### Additional devices and items

Depending on the work to be carried out, other safety devices and items may be required; for example, guards or additional lights and signs.

### 1.6.4 Checking the tractor

Check the tractor and ensure that all systems are in good operational condition before beginning the working day. Pay particular attention to the points mentioned below.

- Check for loose, broken, missing or damaged parts. Ensure that everything has been properly repaired.
- Check that the seat belt is in good condition. If it is not, replace it.
- Check that implements are correctly installed.
- Check that the PTO output speed is in keeping with the implement PTO input speed.
- Ensure that all PTO shaft locking devices are engaged.
- Ensure that the tractor PTO guard and the shaft guards are in place and operating correctly.
- Check to ensure that the tractor is correctly balanced.



**WARNING:**

**An unbalanced tractor could overturn and cause serious injury or death.**

**Ensure that front frame counterweights, wheel weights and wheel ballasts are used as recommended by the manufacturer. Do not add extra counterweights to compensate for an overloaded tractor; the load must be reduced instead.**

- Check the condition and pressure of tires (absence of cuts and bulges). Replace worn or damaged tires.
- Check the correct operation of the brake pedals and the parking brake. Adjust if necessary.
- Check the hydraulic system for the tractor and the implement as well as the tractor fuel system: Correct tightening of all the unions; no damage to the lines, pipes and hoses; hydraulic systems do not cross one another.



**WARNING:**

Leaks of pressurized fluid may not be visible. Diesel fuel or hydraulic fluid under pressure can penetrate the skin or eyes and cause serious physical injury, blindness or death. Use a piece of cardboard or wood to detect leaks. **DO NOT USE YOUR BARE HANDS.** Wear safety goggles for eye protection. If any fluid penetrates the skin, seek medical advice within a few hours from a doctor familiar with this type of injury.

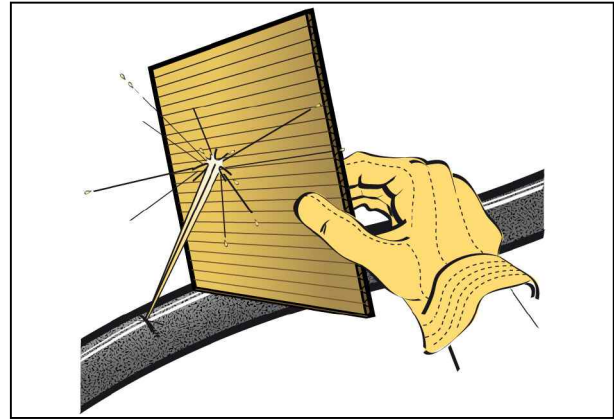


Fig. 7



**WARNING:**

Release the pressure of the hydraulic or fuel systems before disconnecting them.

- Have any leakages or damaged parts repaired or replaced. Do this before each working day
- Check the engine cooling system and add coolant if required.



**WARNING:**

**The liquid cooling system builds up pressure as the temperature increases. Stop the engine and let the system cool before removing the radiator filler plug.**

- All maintenance procedures must have been complied with.
- Check that the weight of the tractor/implement assembly is less than the tractor total permissible load.

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