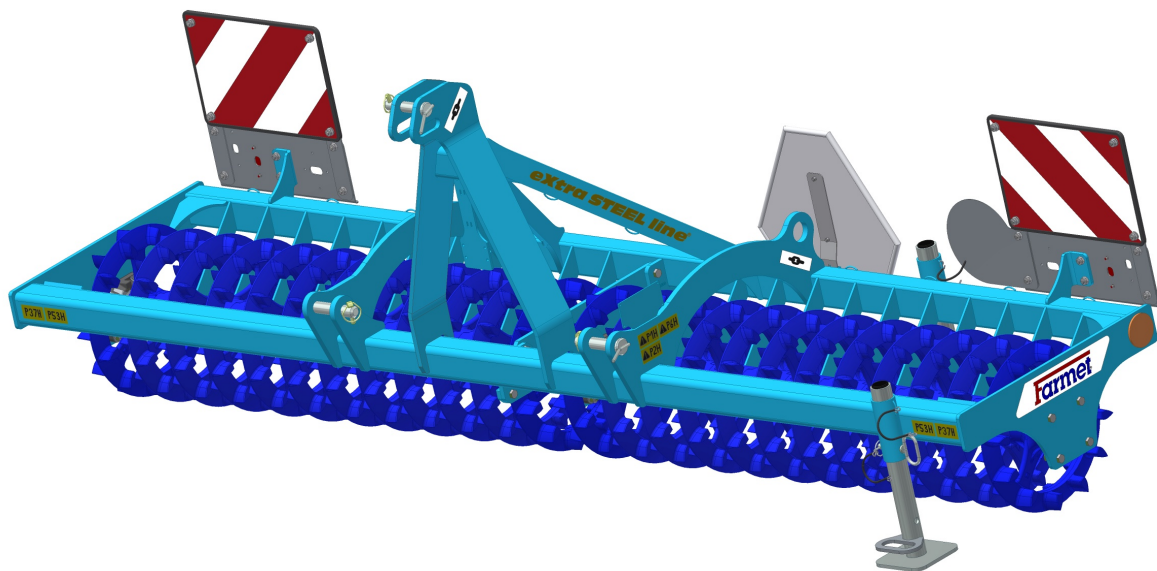


## OPERATING MANUAL

# **CRUMBLING ROLLER**

## **DV-400C/3000N**



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## PREFACE

Dear customer,

The agricultural machine you have purchased is a high-quality product of Farmet a.s. Česká Skalice.

You can fully utilise the advantages of your machine after thoroughly studying the operating manual.

The serial number of the machine is punched on the production label and written in the operating manual (Your Machine Characteristics). This machine serial number must be stated whenever ordering spare parts for possible repairs. The production label is located on the frame.

Use only spare parts for these machines according to the **Spare parts catalogue** officially issued by the manufacturer, Farmet a.s. Česká Skalice.

### Possibilities of use of your machine

The DV Crumbling Roller **DV400C/3000N**:

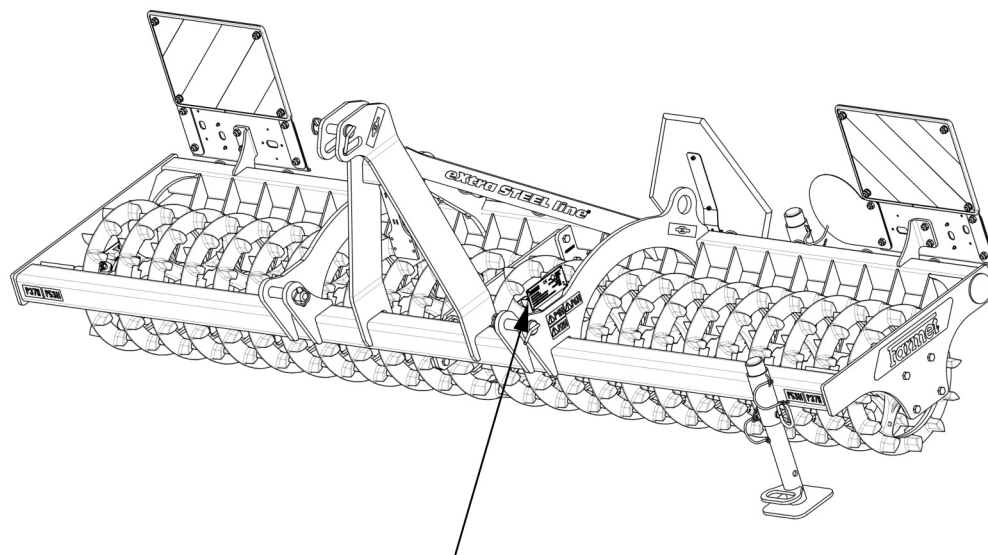
- is intended for compacting and levelling the surface of the field and, possibly, for crumbling bigger lumps in the field.
- It can be used either individually or in combination with a model of Kompaktomat.
- The machine has been designed for tractors with the output of 15 kW (see Chapter 8.1.).

### Your machine characteristics:

Machine model:

Machine serial number:

Special design or accessories:

**IMPORTANT**

**READ CAREFULLY BEFORE USE**

**KEEP FOR FUTURE REFERENCE**

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## 1 MACHINE LIMIT PARAMETERS

- Operator (s) may use the machine for agricultural purposes only as an exchangeable implement aggregated with a tractor.
- Operator(s) may use the machine only for follow-up lump crumbling, consolidating and levelling the field surface individually in aggregation with a tractor or in a set with another machine designed for this purpose (e.g. with the Cultivator).
- The machine is only operated by one person – the tractor driver.
- Machine operator must not use the machine in a different way, especially:
  - Transport of persons and animals on the machine structure,
  - Transport of burdens on the machine structure,
  - Aggregation of the machine with another towing equipment than stated in Chapter 8.1.

## 1.1 Technical parameters

PARAMETERS	DV400C/3000N
Operating width	3 m (9,84 ft)
Transport width	3 m (9,84 ft)
Transport height	1,045 m (3,43 ft)
Transport length	0,863 m (2,832 ft)
Number of the Crosskill Wheels	24
Operating performance	2,5 – 3 ha/h (6,18 – 7,4 ac/h)
Towing vehicle	15 kW (20,12 HP)*
Operating speed	12 – 14 kph (7,46 - 8,7 mph)
Max. transport speed	20 kph (12,4 mph)
Weight	560 kg (1 235 lb)

\* Recommended towing means, the real towing force may significantly vary according to the processing depth, soil conditions, land slope, working body wear and adjustment.

## 1.2 Safety statement



This warning sign warns about an immediate dangerous situation ending with death or severe injury.






This warning sign warns about a dangerous situation ending with death or severe injury.



This warning sign warns about a situation that may end with a smaller or slight injury. It also warns about dangerous actions related to the activity that could lead to an injury.



## 2 GENERAL INSTRUCTIONS FOR USE

- The machine is made in accordance with the latest equipment state and approved safety regulations. However, dangers of user or third person injury or machine damage or creation of other material damage may arise during use.
- Use the machine only in a technically sound condition, in accordance with its purpose, aware of possible dangers, and while adhering to the safety instructions of this operating manual!  
The Manufacturer is not liable for damages caused by the use of the machine that is in contradiction with the limit parameters of the machine and with the instructions for the use of the machine. The User bears the risk.  
Immediately remove especially the failures that may negatively affect safety!
- Machine operation may be performed by a person authorised by the operator under these conditions:
  - It must own a valid driver's licence of the corresponding category,
  - It must be demonstrably familiarised with the safety regulations for work with the machine and must practically master the machine operation,
  - The machine may not be operated by juveniles,
  - It must know the meaning of the safety signs located on the machine. Their respecting is important for safe and reliable machine operation.
- Maintenance and servicing repairs on the machine may only be performed by a person :
  - Authorised by the operator,
  - Educated in the machinery field with knowledge of repairs of similar machines,
  - Demonstrably familiarised with safety regulations for work with the machine,
  - During a repair of a machine connected to a tractor, it must own a driver's licence of the corresponding category.
- Machine operator must secure the safety of other persons when working with the machine or transporting the machine.
- During machine work in the field or during transport, the operator must control the machine from the tractor's cabin.
-  The operator may enter the machine structure only with the machine at rest and blocked against movement, namely only for these reasons:
  - Adjustment of the machine working parts,
  - Repair and maintenance of the machine,
-  When stepping on the machine, do not step on roller tyres or other rotary parts. Those may turn and you can cause very serious injuries by the subsequent fall.
-  Any changes or modifications of machine may be performed only with written consent of the manufacturer.  
For possible damage arisen due to ignoring this instruction, the producer bears no responsibility.  
The machine must be maintained equipped with prescribed accessories and equipment including safety marking.  
All warning and safety signs must be legible and in their places. In case of damage or loss, these signs must be immediately renewed.
- The operator must have the Operating Manual with the work safety requirements available at any time when working with the machine.

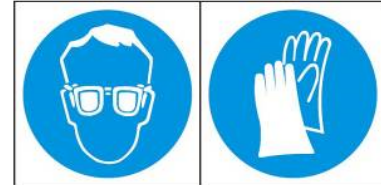


- The operator must not consume alcohol, medicines, narcotic and hallucinogenic substances that decrease his attention and coordination capabilities while using the machine.  
If the operator must use medicines prescribed by a physician or uses freely sold medicines, he must be informed by a physician, whether he is capable of responsible and safe operation of the machine under these circumstances.


**Protective tools :**

For operation and maintenance use:



- tight clothes
- protective gloves and goggles against dust and sharp parts of the machine



### 3 MACHINE TRANSPORT USING TRANSPORT MEANS

- The transport means designed for machine transport must have the load capacity minimally identical with the weight of the transported machine. The total weight of the machine is stated on the production label.
- The dimensions of the transported machine including the transport means must comply with the valid regulations for road traffic (decrees, laws).
-  • The transported machine must be always fastened to the transport means so that its spontaneous loosening could not happen.
- The carrier is responsible for damage caused by the loosening of incorrectly or insufficiently fastened machine to the transport means.

## 4 MACHINE HANDLING USING LIFTING EQUIPMENT

- The lifting equipment and tying means designed for handling of the machine must have their load capacity at least identical with the weight of the handled machine.
-  • Machine fastening for handling may only be performed in places designed for that and marked with self-adhesive labels showing the "chain" symbol. 
- After fastening (suspending) at designated points, it is forbidden to move in the space of possible reach of the handled machine.

## 5 WORK SAFETY LABELS

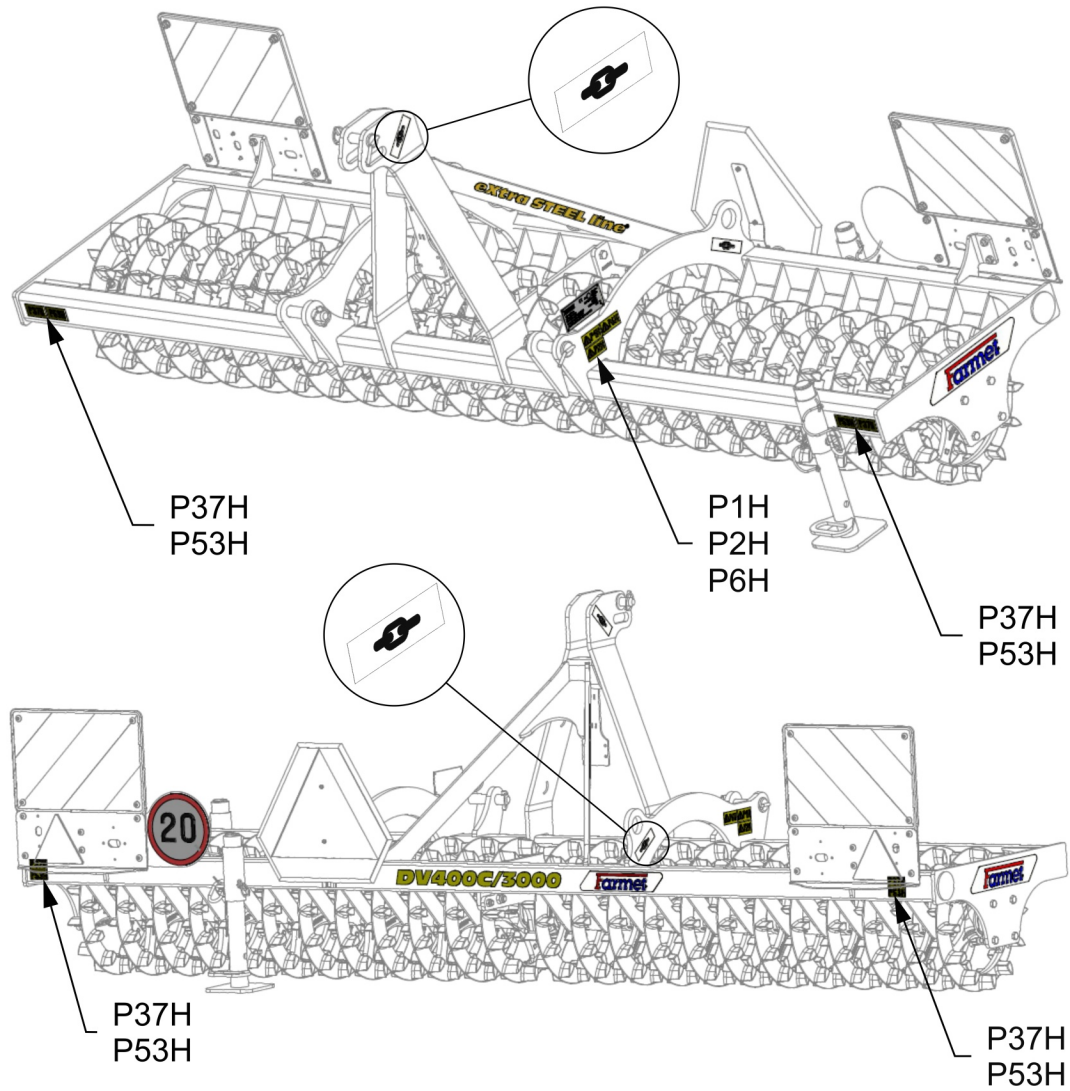
Warning safety labels serve for operator protection.

**General:**

- Strictly observe the warning safety labels.
- All safety instructions also apply to other users.
- Upon damage or destruction of the aforementioned "SAFETY LABEL" located on the machine, THE OPERATOR IS OBLIGED TO REPLACE IT WITH A NEW ONE!!!
- The position, appearance and the precise meaning of the work safety labels on the machine are determined in the following tables and the figure (Fig.1).

WARNING SAFETY LABEL	LABEL TEXT	MACHINE POSITION
	<p>Before handling the machine, carefully read the operating manual. Observe the instructions and safety regulations for machine operation during use.</p>	<b>P 1 H</b>
	<p>When connecting or disconnecting, do not step between the tractor and the machine, also do not enter this space, if the tractor and the machine are not at rest and the engine is not turned off.</p>	<b>P 2 H</b>
	<p>Stay outside the reach of the tractor - agricultural machine set, if the tractor engine is in operation.</p>	<b>P 6 H</b>
	<p>Travelling and transport on the machine structure is strictly forbidden.</p>	<b>P 37 H</b>
	<p>Do not approach the rotary parts of the machine, if these are not at rest, i. e. they do not turn.</p>	<b>P 53 H</b>
	<p>Places to attach the machine.</p>	Fig.1

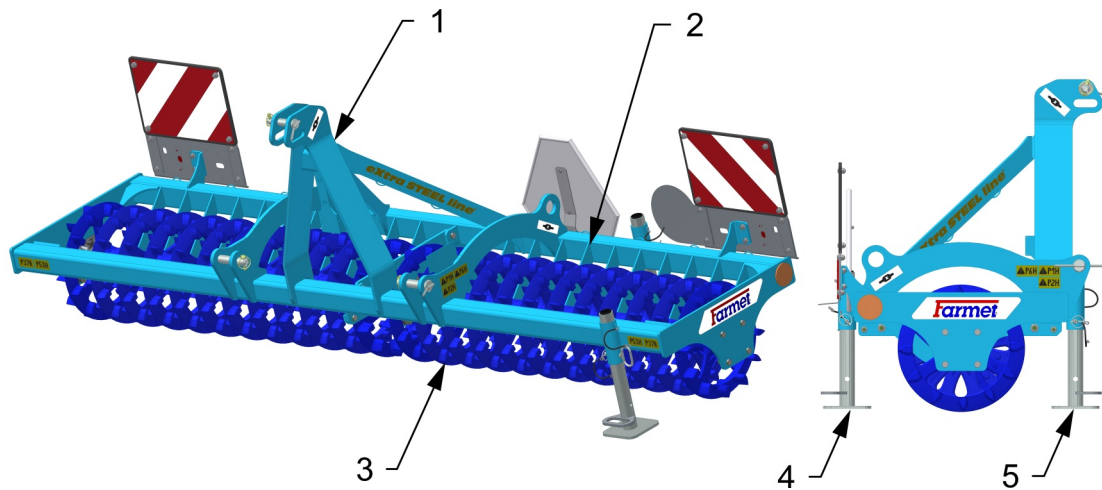
Fig. 1 - Location of safety labels on the machine



## 6 DESCRIPTION


The DV400C/3000N Crumbling Rollers is designed as mounted machine.

Each individual machine consists of a supporting frame provided with a three-point suspension (TBZ 2). The frame is fitted with Crosskill wheels Ø400 mm.



- |                             |                           |
|-----------------------------|---------------------------|
| 1 – Three-point suspension  | 4 – Rear supporting foot  |
| 2 – Supporting frame        | 5 – Front supporting foot |
| 3 – Crosskill wheel section |                           |

## 7 MACHINE ASSEMBLY AT THE CUSTOMER

- The operator must perform the assembly according to the instructions of the producer, best in cooperation with the expert servicing technician determined by the producer.
-  • The operator must secure a functional test of all assembled parts after the completion of the machine assembly.
- The operator must secure that the handling of the machine using lifting equipment during its assembly is in accordance with chapter „4“.



## 8 COMMISSIONING



- Before taking over the machine, test and check, whether damage occurred during transport and whether all parts contained in the bill of delivery were supplied.
- Before commissioning the machine, carefully read this operating manual, especially Chapters 1–5. Before the first use of the machine, familiarise yourselves with its controls and overall function.
- During work with the machine, observe not only the instructions of this operating manual, but also generally valid regulations of work safety, health protection, fire and transport safety, and environmental protection.
- The operator must check the machine before every use (commissioning) from the standpoint of completeness, work safety, work hygiene, fire safety, transport safety, and environmental protection. A machine showing signs of damage must not be commissioned.
- Aggregation of the machine with the tractor is to be performed on a flat and hardened surface.
- When working on slopes, observe the lowest slope grade of the set **TRACTOR - MACHINE**.
- Before starting the tractor motor, check whether no person or animal is in the working space of the set and push the warning sound signal.
- The operator is obliged to adhere to the technical and safety regulations of the machine determined by the producer when working.
- The operator is responsible for the safety and all damage caused by the operation of the tractor and the connected machine.
- The operator is obliged to observe the prescribed working speeds stated in the manual in Chap. 1.1.
- The operator is obliged to lower the machine to the ground and secure the set against movement before leaving the tractor cabin.

## 8.1 Agregation to a tractor

- The machine can be connected only to a tractor, whose curb weight is identical or higher than the overall weight of the connected machine.
- Stroj může být připojen pouze k traktoru výkonové řady doporučené výrobcem.
- The machine operator must observe all generally valid regulations of work safety, health protection, fire safety, and environmental protection.
- Obsluha smí stroj připojit výhradně k traktoru, který je vybaven zadním třibodovým závěsem a funkční nepoškozenou hydraulickou soustavou.
- K dotížení přední nápravy traktoru používejte pouze závaží stanovená výrobcem traktoru.
- The table of requirements for the towing means for work with the machine:

Requirement for the tractor engine power for <b>DV400C/3000N</b>		<b>15 kW (20,12 HP)</b>
Requirement for tractor aggregation	Spacing of the lower suspension joints (measured at the joint axes)	<b>870 +/- 1,5 mm</b>
	∅ of the hole of the lower suspension joints for the machine suspension pivots	<b>28,7 – 29,03 mm (1,13 – 1,14 in)</b>
	∅ of the hole of the upper suspension joint for the machine suspension pivot	<b>25,7 – 25,91 mm (1,01 – 1,02 in)</b>

- Obsluha musí před agregací stroje k traktoru, zvláště u traktorů nevybavených rychlozávěsem, zajistit stroj proti pohybu. Zvláště u traktorů nevybavených rychlozávěsem si musí obsluha, pro agregaci stroje a traktoru, zajistit spolupráci jiné prokazatelně proškolené osoby. Tato osoba se při pohybu traktoru ke stroji nesmí pohybovat v prostoru závěsu. Do prostoru zadního závěsu u traktoru smí tato pomocná osoba vstoupit až když je traktor zajištěn proti pohybu. Obsluha traktoru vybaveným rychlozávěsem může tuto agregaci provádět sama z místa řidiče traktoru.
- The machine aggregated with the tractor changes the distribution of the weight to the individual axles of the tractor. The weight of the front axle is reduced and therefore the controllability gets worse. It also affects braking properties
- Pro bezpečnou agregaci musí být dodržena únosnost náprav, pneumatik a závěsu traktoru. Musí být dodržena shodná kategorie závěsu nářadí a třibodového závěsu traktoru. K dotížení používejte pouze závaží stanovená výrobcem traktoru.
- Po připojení stroje k traktoru zasuňte opěrné nohy do **POLOHY 2** a zajistěte ji čepem a závlačkou (obr. 5).
- Před odpojením stroje v transportní poloze od traktoru zajistěte stroj proti pádu vysunutím opěrných nohou do **POLOHY 1** a zajistěte je čepem a závlačkou (obr. 5).
- After aggregating the machine and the tractor, adjust the length of the tractor's three-point tightener:
  - **SETTING THE RIGHT LENGTH OF THE TIGHTENER** (Fig. 2)
 

If the length of the tightener is set correctly, the machine (being lowered on the ground) stands parallel to the ground and, at the same time, the 3-point tightener is in the middle of the oval hole (see Detail „X“). This the force is distributed evenly along the whole machine.
  - **THE TIGHTENER TOO SHORT** (Fig. 3)
  - **THE TIGHTENER TOO LONG** (Fig. 4)



When connecting, no persons may stay in the space between the tractor and the machine.

Fig. 2 - Setting the right length of the tightener

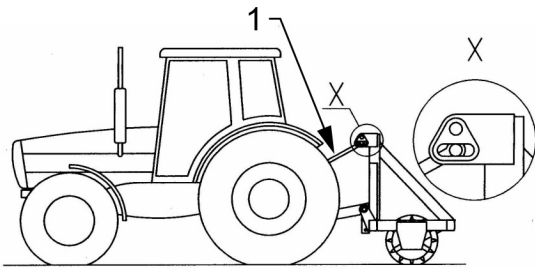


Fig. 3 - Tightener too short

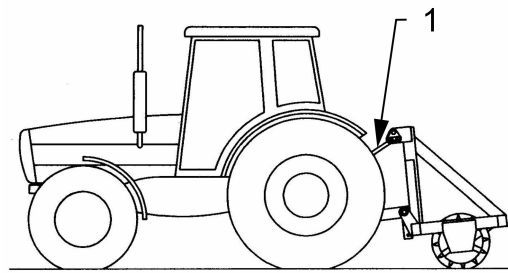


Fig. 4 - Tightener too long

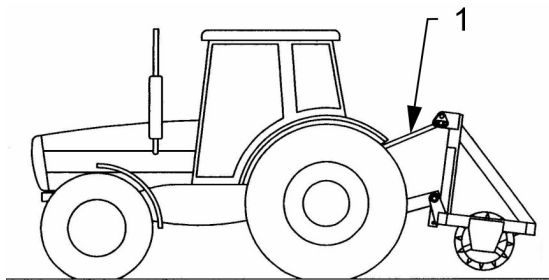
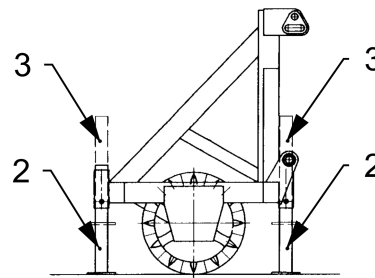


Fig. 5 - Positions of the supporting Foot



- 1 – Tightener
- 2 – Position 1
- 3 – Position 2



**!!! Use the circular hole in the bracket for transport purposes only !!!**

## 9 MACHINE TRANSPORT ON ROADS

- The machine must be equipped with removable shields with marking of contours, functional lighting, and the board of the rear marking for slow vehicles (according to ECE No. 69).
- The lighting must be activated during travelling on roads.
- The tractor must be equipped with a special light device of an orange colour, which must be activated during travelling on roads.
- The maximum transport speed during travelling on roads is **20 kph (12,4 mph)**.
- During machine transport on roads, the operator must observe the valid laws and decrees that deal with this topic and which specify the relationships of the tractor axle load depending on transport speed.
- The operator is obliged to pay increased attention during transport on roads, due to the transport dimensions of the machine.



### **Ban of transport with decreased visibility!**

- The operator must observe the valid regulations for transport on roads (laws, decrees) after connecting the machine to the tractor, for reason of a change of the axle load. The driving properties of the set also change depending on the terrain nature, adapt the manner of driving to these conditions.
- The operator is obliged to present the machine certificate of roadworthiness as needed, according to the valid regulations for road traffic (decree, law) (only in the Czech Republic) .
- The operator is obliged to follow the traffic signs and to comply with the valid road traffic regulations during transport on roads.
- The operator is obliged to secure sufficient outlook during reversing from his position of the tractor driver. In case of insufficient outlook, the operator is obliged to call a competent and informed person.

## 10 MACHINE MAINTENANCE AND REPAIRS



**Observe the safety instructions for treatment and maintenance.**

- If it is necessary to weld during the repair and have the machine connected to the tractor, it must have disconnected supply cables from the alternator and the accumulator.
- Check the tightening of all screw and other assembly connections at the machine before every use of the machine, furthermore continuously as needed.
- Continuously check the wear of the working bodies of the machine, possibly replace these worn working bodies with new ones.
- Adjustment, cleaning, and lubrication of the machine may only be performed with the machine at rest (i.e. the machine is standing and not working).
- The operator is only able to adjust the machine's workpieces on a flat and hard surface for even soil cultivation.
- When working on a lifted machine, use suitable support equipment supported at marked points or at points suitable for that.
- During adjustment, cleaning, maintenance, and repair of the machine, you must secure those parts of the machine that could endanger the operator by falling or another movement.
- For catching the machine during handling using lifting equipment, use only the places marked with self-adhesive labels with the chain sign . —○—○—
- When repairing hydraulic circuits, the machine must be secured against movement and placed on the front roller or disassembled.
- During repairs of the machine, use exclusively the genuine spare parts, suitable tools and protective equipment.
- When replacing worn-and-torn or damaged Crosskill wheels, remove the bearings from the supporting frames of the machine, force them off the roller shaft and replace the old wheels by new ones. Then put the bearings back on the shaft. Then install the roller you have assembled in this way back in the supporting frames.
- Keep the machine clean.



**Do not clean hydraulic cylinders and bearings with a high-pressure cleaner or direct water stream. The seals and bearings are not watertight at high pressure.**

## 11 MACHINE STORAGE

### Long-term machine shutdown:

- Store the machine under a roof if possible.
- Store the machine on a flat and solid surface with sufficient load capacity.
- Clean the machine before storing and conserve so that it is not damaged in any way during storage. Pay special attention to all marked lubrication points and properly lubricate them according to the lubrication plan.
- Operators should store the machine in the working position, i.e. the machine should rest on the roller in a roofed space. The machine must be secured against undesirable motion.



**Secure the machine against access of unauthorised persons.**

## 12 MACHINE LUBRICATION SCHEDULE

- The machine is completely maintenance free when it comes to lubrication. Therefore, it is not necessary to lubricate the machine.

## 13 ENVIROMENTAL PROTECTION

- Handle oils and greases according to valid waste laws and regulations.



## 14 MACHINE DISPOSAL AFTER SERVICE LIFE EXPIRY

- The operator must ensure during machine disposal that steel parts and parts, in which hydraulic oil or lubricating grease moves are differentiated.
- Steel parts must be cut by the operator while observing safety regulations and handed over to the secondary raw material collection point. He must proceed with other parts according to valid laws about waste.

## 15 SERVICING AND WARRANTY CONDITIONS

### 15.1 Servicing

Servicing is secured by the dealer after consulting with the manufacturer, possibly directly by the manufacturer. Spare parts then using the sales network by individual sellers in the entire country. Use only the spare parts according to the spare parts catalogue officially issued by the manufacturer.

### 15.2 Warranty

1. The manufacturer provides a warranty of 24 months for these machine parts: main frame, axle, and machine tow bar. For other parts of the machine, the manufacturer provides a warranty of 12 months. The warranty is provided from the date of sale of the new machine to the end user (consumer).
2. The warranty applies to hidden defects that will show in the warranty period with proper use of the machine and while fulfilling the conditions stated in the operating manual.
3. The warranty does not apply to wearable spare parts, i. e. regular mechanical wear and tear of replaceable parts of the working sections (shares, edges, etc.).
4. The warranty does not apply to indirect consequences of possible damage, such as service life decrease etc.
5. The warranty is bound to the machine and is not void upon an owner change.
6. The warranty is limited to the disassembly and assembly, possibly replacement or repair of the defective part. The decision, whether to replace or repair the defective part, is up to the contractual workshop of Farmet.
7. During the warranty period, only the authorised servicing technician of the manufacturer may perform repairs or other interventions into the machine. In the opposite case, the warranty will not be acknowledged. This provision does not apply to the replacement of wearable spare parts (see point 3).
8. The warranty is conditioned by using the genuine spare parts of the manufacturer.

98/029/06

(CZ) **ES PROHLÁŠENÍ O SHODĚ**  
 (GB) **CE CERTIFICATE OF CONFORMITY**  
 (D) **EG-KONFORMITÄTSERKLÄRUNG**  
 (F) **DÉCLARATION CE DE CONFORMITÉ**  
 (RU) **СЕРТИФИКАТ СООТВЕТСТВИЯ ЕС**  
 (PL) **DEKLARACJA ZGODNOŚCI WE**

1. (CZ) My (GB) We (D) Wir (F) Nous (RU) Мы (PL) My: **Farmet a.s.**  
 Jiřínková 276  
 552 03 Česká Skalice  
 Czech Republic  
 DIČ: CZ46504931  
 Tel/Fax: 00420 491 450136

(CZ) Vydáváme na vlastní zodpovědnost toto prohlášení. (GB) Hereby issue, on our responsibility, this Certificate. (D) Geben in alleiniger Verantwortung folgende Erklärung ab. (F) Publiions sous notre propre responsabilité la déclaration suivante. (RU) Под свою ответственность выдаем настоящий сертификат. (PL) Wydajemy na własną odpowiedzialność niniejszą Deklarację Zgodności.


2. (CZ) Strojní zařízení: - název : **Drobící válce**  
 (GB) Machine: - name : **Crumbling roller**  
 (D) Fabrikat: - Bezeichnung : **Zerabbröckelwalzen**  
 (F) Machinerie: - dénomination : **Rouleau cassant**  
 (RU) Сельскохозяйственная машина: - наименование : **Дробильные катки**  
 (PL) Urządzenie maszynowe: - nazwa : **Wały rozdrabniające**
- typ, type : **DV 400C**  
 - model, modèle : **DV 400C/3000 N**  
 - (CZ) výrobní číslo :   
 - (GB) serial number  
 - (D) Fabriknummer  
 - (F) n° de production  
 - (RU) заводской номер  
 - (PL) numer produkcyjny

3. (CZ) Příslušná nařízení vlády: č.176/2008 Sb. (směrnice 2006/42/ES). (GB) Applicable Governmental Decrees and Orders: No.176/2008 Sb. (Directive 2006/42/CE). (D) Einschlägige Regierungsverordnungen (NV): Nr.176/2008 Slg. (Richtlinie 2006/42/EG). (F) Décrets respectifs du gouvernement: n°.176/2008 du Code (directive 2006/42/CE). (RU) Соответствующие постановления правительства: № 176/2008 Сб. (инструкция 2006/42/ЕС). (PL) Odpowiednie rozporządzenia rządowe: nr 176/2008 Dz.U. (Dyrektywa 2006/42/WE).

4. (CZ) Normy s nimiž byla posouzena shoda: (GB) Standards used for consideration of conformity: (D) Das Produkt wurde gefertigt in Übereinstimmung mit folgenden Normen: (F) Normes avec lesquelles la conformité a été évaluée: (RU) Нормы, на основании которых производилась сертификация: (PL) Normy, według których została przeprowadzona ocena: ČSN EN ISO 12100, ČSN EN ISO 4254-1.

(CZ) Schválil (GB) Approve by dne: 01.06.2012  
 (D) Bewilligen (F) Approuvé  
 (RU) Утвердил (PL) Uchwalit

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 technický ředitel  
 Technical director



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V České Skalici dne: 01.06.2012

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 General Manager

