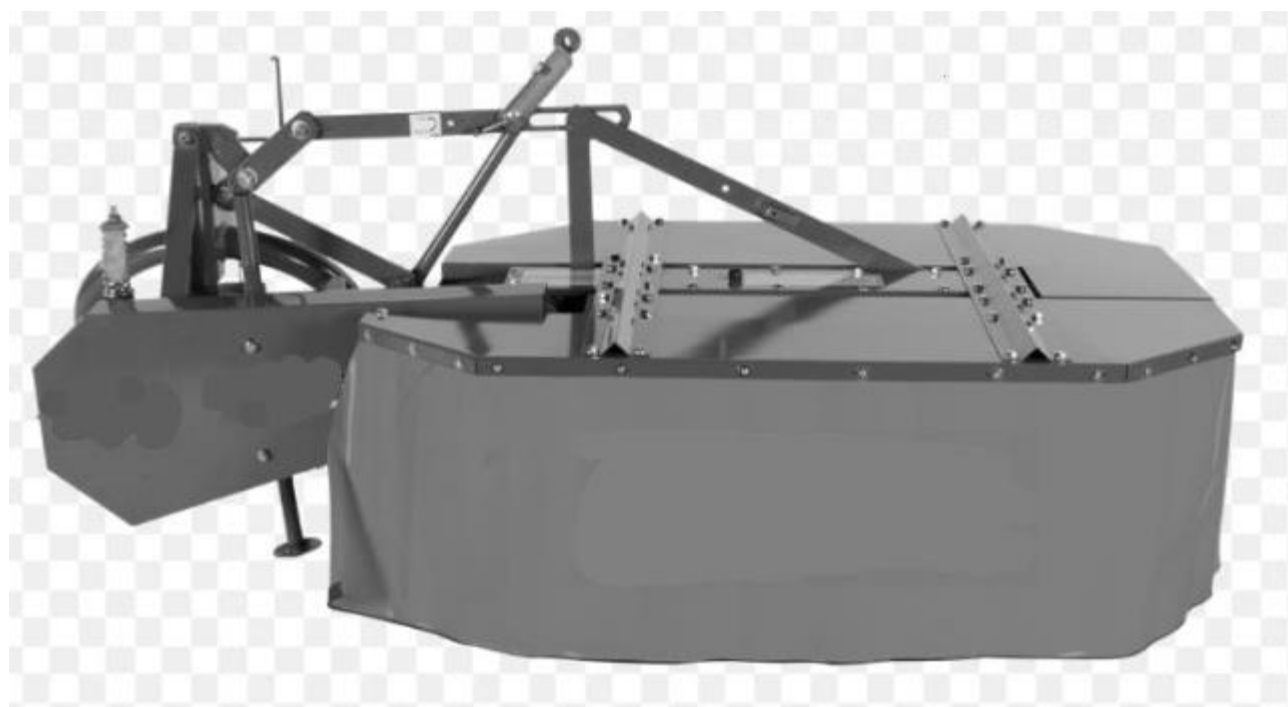


# ***FARM-MAXX***

## **Drum Mower Models**

FDM-135 Mini, FDM-165, FDM-185, and FDM-210

**USER MANUAL**



**UNIFARM MACHINERY CORPORATION  
WILSON, NC**

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## I. GENERAL INFORMATION FOR THE BUYER.

### 1. Warranty terms and conditions.

Your machines has a limited warranty for a period of 12 months covering parts and labor. .

#### **WARNING !**

Prior to starting operation of the mower the User must read this manual and working safety principles.

#### **WARNING !**

Warranty will be taken into consideration only in case of usage of the machine with PTO shaft attached !

Failure to adhere to principles of proper operation and work safety leads to lesser performance of the mower, its failure or accident and loss of warranty rights.

In the event of damage to the mower notify the dealer or the point of sale of the need to conduct repairs.

#### **WARNING !**

Require the seller to properly complete the warranty card.

### 2. Purpose.

The Farm-Maxx FDM Drum Mower has been designed exclusively to be used in agriculture or for similar works, i.e. to mow short-stemmed green fodder (grass, lucerne, etc.) on permanent green land and stone-free cultivable fields of flat or corrugated terrain and max. 12° sloping.

The rotary mower is the basic machine for production of hay and silage.

Using the mower for other purposes or against this manual shall be construed as inconsistent with intended use. The manufacturer shall not be held responsible for any damage or loss resulting from an unintended use of the machine. The results of improper use of the machine burden only the machine owner and/or operator.

### 3. The mower auxiliary gear.

The FDM Mower is sold with the following auxiliary gear:

- hexagonal spanner

#### **WARNING !**

If you find this manual unclear or in case of other problems, detailed explanations can be obtained from the your dealer.

#### **WARNING !**

Handle the manual carefully and make sure it is always at hand. In case of re-sale of the mower, hand the manual to the new owner

## II. SAFETY CONDITIONS.

### 1. Safety.

In order to avoid accidents while operating the mower follow the following rules:

- When mounting the mower to a tractor follow the instructions in chapter V.
- When changing the mower position from transport to operational (and vice versa), lower the mower just above the ground. This should be performed on an even horizontal surface.
- After changing the mower position from operational to transport it is necessary to detach the shaft or at least its end tip from the side of the tractor PTO.
- Must use PTO Shaft with a plastic cover of good technical quality..
- It is forbidden to operate the mower without shields and apron or if they have been damaged.
- Activating the hydraulic lift lever of the tractor may only be performed from the operator's seat position. It is forbidden to manipulate the lever from the outside of the tractor.
- The mower may only be started in its working position.
- Mowing with the mower may only be started after PTO reaches the nominal rotational speed of 540 rpm (*never, even temporarily, exceed the speed of 600 rpm!*).
- The mower may be operated only by an adult qualified to drive agricultural tractors (it is inadmissible to operate the mower by a person who is under the influence of alcohol or other intoxicants).
- It is forbidden for outsiders to be around the working mower at a distance shorter than 150 feet.
- Fields and meadows are to be cleaned of stones and other hard objects.
- It is forbidden to mow edges of streets, public roads, squares and stadiums (due to the risk of thrown hard objects).
- While driving a vehicle with attached mower on public roads be extremely careful and strictly adhere to local traffic code rules.
- Performance of any service and repair works (including tuning) is admissible only after the engine has been stopped, the ignition key removed from the ignition and the drums have been stopped completely.
- Each repair of the mower lifted on the mechanical rear linkage of the tractor requires the use of a safety support or chain.
- It is necessary to periodically inspect the condition of bolt joints, as well as other connected elements.

In case of a damage to those elements it is forbidden to operate the mower.

- It is necessary to periodically inspect the condition of attachment and tear & wear of the cutting blades. In case of damage or wear, replace the cutting blades requires checking their attachment according to the producer's instructions.
- It is strictly forbidden to operate the mower while reversing (the safety feature does not work then and the machine may be damaged).

- It is forbidden to climb and drive onto the mower.
- It is necessary to periodically check technical state of hydraulic hoses. (every 5 years appears necessity of exchange of hydraulic hoses)

## 2. Technical specification and evaluation of residual risk.

Unifarm Machinery Corporation has made all possible effort in order to assure safe operation of the mower, however there are elements of risk which are impossible to avoid.

Danger appears during performing forbidden actions listed below:

- Using machine not according to its purpose,
- Using machine by a person who had not have read this manual or by children,
- Staying between the mower and tractor when engine works, approaching spinning elements of driving mechanism,
- Work of machine without driving cover or with damaged cover,
- Operating machine by people under influence of alcohol or other intoxicants,
- Using the PTO Shaft without cover or with damaged cover,
- Transport of machine without disconnecting the PTO shaft,
- Riding on the machine while it is working,
- Cleaning the mower while it is working,
- Working near open covers,
- Inspecting the technical state of the machine while it is working.

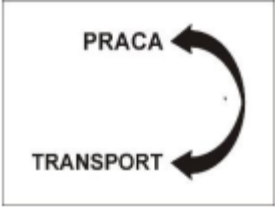
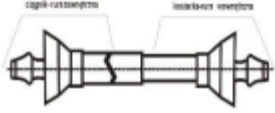

Residual risk can be reduced to minimum under the condition of following terms listed below:








- Careful reading and following this manual,
- Ban on staying in range of the mower's work and under lifted and unsecured machine,
- Ban on putting hands and other parts of body in forbidden places,
- Ban on doing repairs, adjustments, conservations and lubrication while machine is working or when drive is turned on,
- Making repairs of the machine only by qualified person,
- Securing machine from kids and outsiders (also animals)
- Ban on operating, or maintenance by people who are not qualified and who are not respecting the operator's manual and general safe practices.




## 3. Warning labels.

### **W A R N I N G !**

- all warning labels should be clean and legible
- if the labels get lost or damaged, replace them with new ones (available for purchase from the producer)

WARNING SYMBOLS	LOCATION ON THE MACHINE
	<p>Front pull rod (operation - transport)</p>
<p>Połączenie wałem przegubowo - teleskopowym kosiarki z ciągnikiem</p> 	<p>Suspension frame (connection of mower and tractor by means of a PTO Shaft: tractor – external pipe – mower – internal pipe)</p>
<p><b>KOSIARKA ROTACYJNA</b> <b>Z 001</b></p>	<p>V-belt guard (rotary mower)</p>
<p><b>UWAGA !</b> -Praca bez osłon lub z osłonami uszkodzonymi albo podniesionymi jest niedopuszczalna -Istnieje niebezpieczeństwo wyrzucania podczas koszenia obcych przedmiotów leżących na polu. -Koszenie można rozpocząć dopiero po osiągnięciu nominalnych obrotów WOM -Maksymalna ilość obrotów WOM -600 obr./min.</p>	<p>Central frame (Warning: - operation without guards/shields or damaged or lifted guards/shield is forbidden, - risk of ejection of foreign objects lying on the field while mowing, - mowing may be started only after reaching nominal PTO speed, max. No. Of rev. PTO – 600 rev./min.)</p>
<p><b>ZABRANIA SIĘ</b> Pracy kosiarki w obecności osób postronnych w odległości mniejszej niż 50m.</p>	<p>V-belt guard (IT IS FORBIDDEN to operate the mower with outsiders closer than 50 m)</p>
<p><b>ZABRANIA SIĘ</b> -Unoszenia uruchomionej maszyny do góry. -Transportu maszyny z zamontowanymi nożykami. -Zbliżania się do wirujących części maszyny.</p>	<p>Central frame (IT IS FORBIDDEN: 1. to lift a working machine 2. to transport the machine with blades installed, 3. to approach the spinning parts of the machine)</p>
<p><b>540</b> min<sup>-1</sup></p> 	<p>Suspension frame</p>

WARNING SYMBOLS	THE MEANING OF THE SYMBOL/LOCATION ON THE MACHINE
	<p>read user manual – central frame</p>
	<p>turn off the engine and remove the key prior to repairs or service / central frame</p>
	<p>keep a safe distance from the mower blades / central frame</p>
	<p>ejected or flying objects – keep a safe distance / central frame</p>
	<p>do not stand between the mower and tractor while operating the lift / central frame</p>
	<p>do not stand between the mower and tractor while operating the lift / central frame</p>
	<p>no working without shields or with damaged shields / central frame</p>

WARNING SYMBOLS	THE MEANING OF THE SYMBOL/LOCATION ON THE MACHINE
	do not touch the mower elements before all its components stop / central frame
	point of attachment of lifting devices / rear pull rod
	permitted velocity of transport movement / mower rear (shield)

### III. SCOPE OF DELIVERY.

The mowers are delivered complete by the producer, alas it is not fully assembled, i.e. the cutting unit shield is not installed and it is available in one version:

- ✓ a shield of sheet metal with canvas apron

The mower user is responsible for attachment of the cutting unit shield.

#### **WARNING !**

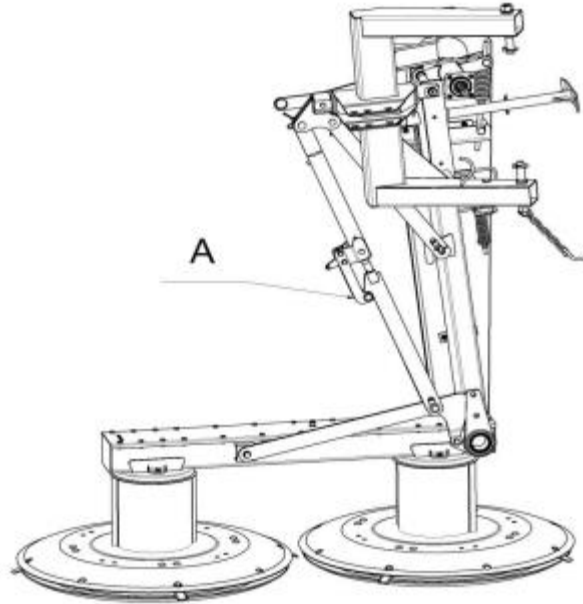
Operations of the mower without the cutting unit shield (or with a damaged shield) is strictly forbidden.

When the mower is delivered it must be unloaded from a means of transport (e.g. trailer or load-carrying body) by a lifting device capable of handling min. 600kg. The point of attachment of lifting elements of a lifting device (e.g. a rope with a hook) is located on the rear pull rod of the mower (marked on the mower with a hook symbol – also see item p.3 on the previous page). When attaching the slings remember about center of gravity of the machine. The same procedure applies to loading the mower onto a means of transport. While unloading or loading the mower be extremely careful, adhere to current industrial safety rules.

Depending on the conditions and needs, the drum mower can be transported in a vertical and horizontal position. In case of transport in the vertical position it is necessary to secure the device in point A, that connects two rods, see fig. 2a.



Fig. 2a Vertical positioning of the mower for transport by other means of transportation.



Positioning and fastening of the mower on a means of transport must be thorough and safe. The shield of the cutting unit together with the apron dismantled for the transport purposes must be properly and firmly fastened and secured to prevent damage. For transport purposes the mower must be secured to a Platform to prevent shifting, tilting, or falling.

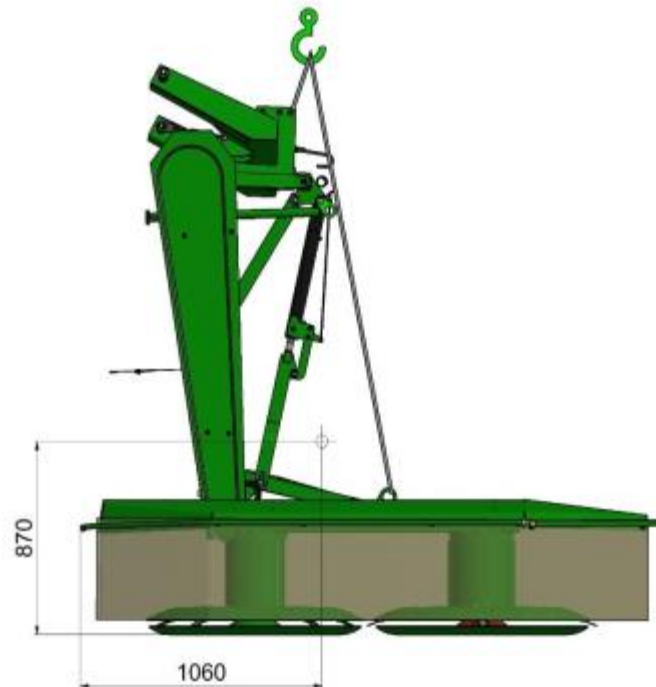


Fig. 2b Method of lifting the mower. Positioning of center of gravity.

#### IV. DESCRIPTION OF THE DRUM MOWER.

##### 1. Technical specification.

Details pertaining to the mower identification are located on the rating plate located on the mower central beam.

<b>MODEL</b>	<b>FDM 135 Mini</b>	<b>FDM 165</b>	<b>FDM 165H</b>	<b>FDM 185</b>	<b>FDM 185H</b>	<b>FDM 210H</b>
Working Width	53"	66"	66"	73"	73"	83"
Machine Width (Working Pos)	96"	128"	128"	143"	143"	163"
Machine Width Transport Pos)	48"	56"	56"	60"	60"	85"
Machine Length (Transport Pos)	89	127"	83	137"	89"	98"
Machine Height (Transport Pos)	48"	43"	75"	43"	81"	101"
MIN. PTO HP	22	28	28	40	40	70
PTO RPM	540	540	540	540	540	540
DRUM	2	2	2	2		2
CUTTING HEIGHT	1 1/4" - 5"	1 1/4" - 5"	1 1/4" - 5"	1 1/4" - 5"	1 1/4" - 5"	1 1/4" - 5"
BLADES	6	6		6		6
MACHINE WEIGHT (LBS)	595	882	882	1,003	1,003	1,234
BLADE TIP SPEED (FPS)	234	295	295	338	338	295
WORKING SPEED (MPH)	9	9	9	9	9	9
TRANSPORT SPEED (MPH)	12	12	12	12	12	12
HYD. SYSTEM PRESSURE (PSI)	N/A	2,755	2,755	2,755	2,755	2,755

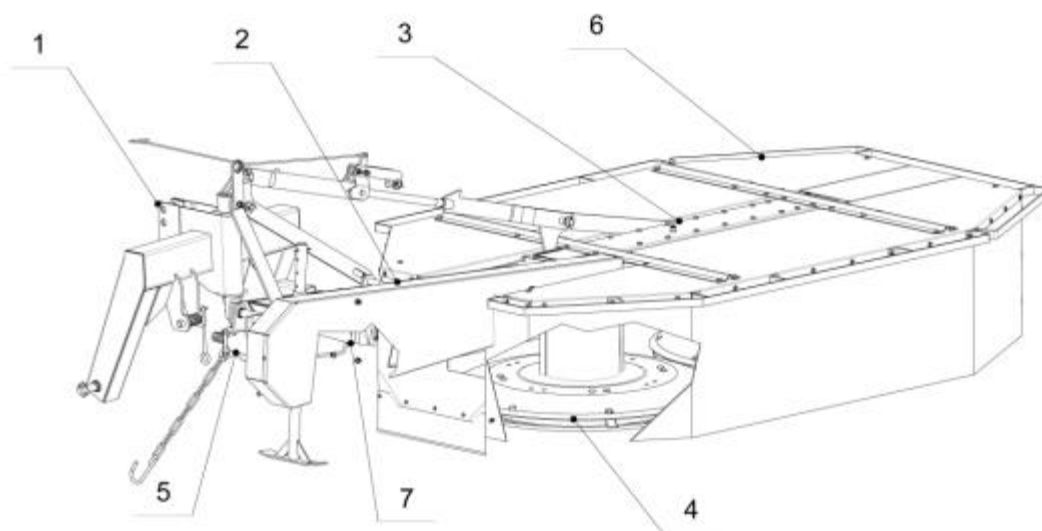
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WILSON, NC

## 2. Mower components

The drum mower is built with the following parts (fig. 3):

- mower suspension frame (1)
- jointed beam (2)
- main frame (3)
- drums (4)
- power transmission assembly (5)
- set of shields (6)
- safety catch (7)

Fig. 3 Drum mower.



Suspension frame (1) – forms an assembly used to suspend the mower on a tractor mechanical rear linkage. In the bearing frame is a double-arm axle which makes it possible for the mower to be switched from transport position to working position and vice versa.

Jointed beam (2) – is an assembly that connects by an articulated joint with the suspension frame and the main frame. It also attaches the power transmission assembly composed of a shaft and belt transmission and attaches one arm of safety catch.

Main frame (3) – is a transmission box where bevel gears are located. Apart from the transmission box the frame also serves as bearing and attachment of cutting drums.

Cutting assembly drums (4) – a pair of sheet metal cylinders rotating in reciprocally reverse directions with working disks.

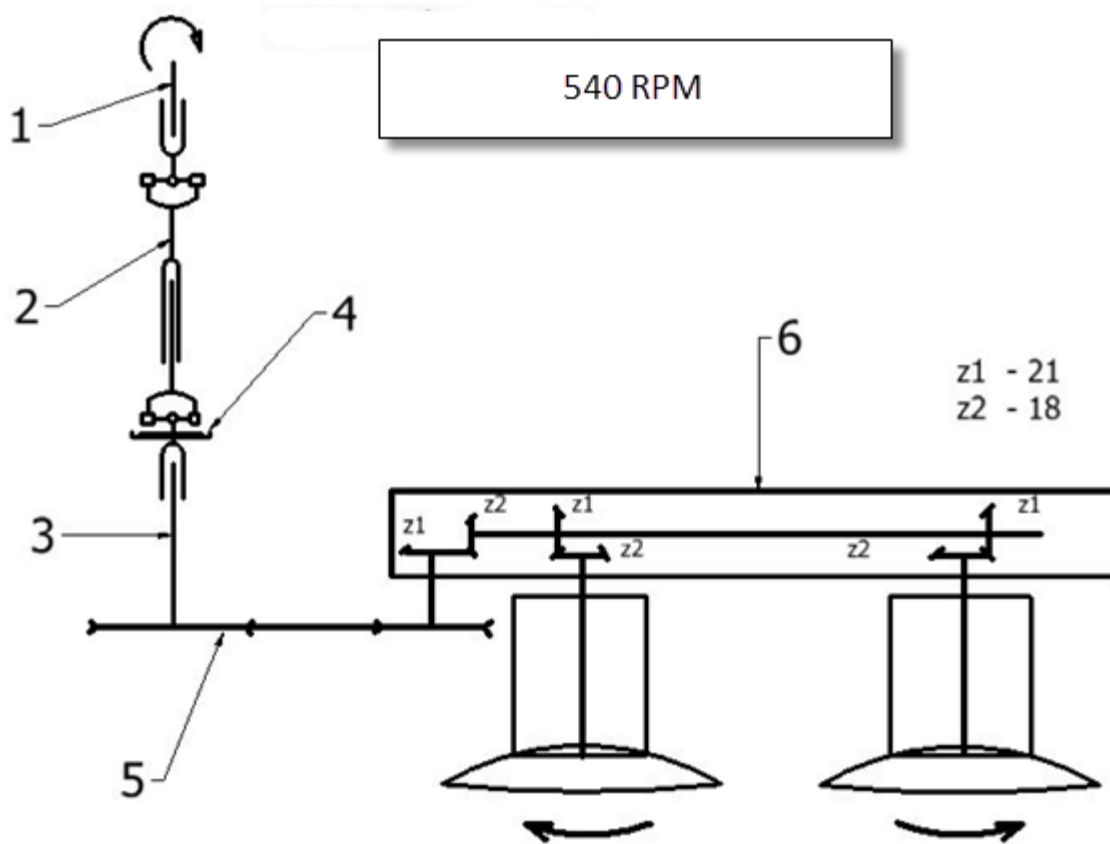
Shield assembly (6) – composed of a sheet metal shield of the belt transmission and blade drum shield. The drum shield is composed of the upper sheet metal cover screwed through steel supports to the main frame and lateral part formed as a canvas apron. The apron is attached to the upper sheet metal cover.

Safety Breakaway (7) – an arm that connects the jointed beam with the suspension frame. The arm is composed of two flat bars that move along each other. The lock of one of the bars and catch of a pivoting plate attached to the other flat bar are pressed against each other by a spring. This enables a change to the moment of the safety catch operation so that (when an obstacle occurs) one arm is protruded and the working assemblies of the mower are pushed back. That allows the operator to stop the tractor and avoid damaging the mower.

### 3. Mower drive.

The mower is propelled (fig. 4) by the tractor PTO (1). From the PTO the drive is transmitted through a PTO shaft (2) onto the drive head shaft end (3). The unidirectional clutch (4) enables free rotation of cutting drums when the tractor is stopped which prevents the tractor drive elements from getting damaged. The belt transmission (5) increase the number of rotations transmitted onto the transmission box shaft (6), which also makes the drums carrying frame. Through three bevel gears the drive is transmitted to the cutting drums.

Fig. 4 Drum mower drive transmission assembly.



## V. MOWER OPERATION.

### 1. Choosing the tractor.

The FDM Drum mower is designed to work with agricultural tractors 30 to 70 horsepower. However, in order to ensure and maintain stability and safe steering control, agricultural tractors ought to be prepared as necessary including:

- a. Suitcase Weight on Front of Tractor – as needed for stability
- b. Wheel Weights on Front Wheels or ballast – as needed for stability
- c. Rear Wheel Weights or ballast – as needed for stability

### 2. Mounting of the mower onto a tractor.

Before mounting the mower on a tractor place it on an even surface on the slide disks. Then connect the lower lift arms of the tractor lift to the suspension frame pins and secure with clevis pins. Then connect the top link by means of a top link pin to the top hole of the hitch. Secure the top link pin with a clevis pin (fig. 5). The top link needs to be adjusted so that the slide disks of the mower are parallel to the ground.

Fig. 5 Attaching the mower to the tractor:

(1 – Frame bottom journal, 2 – Yoke plate, 3 – Holes in the yoke plates to the top link)

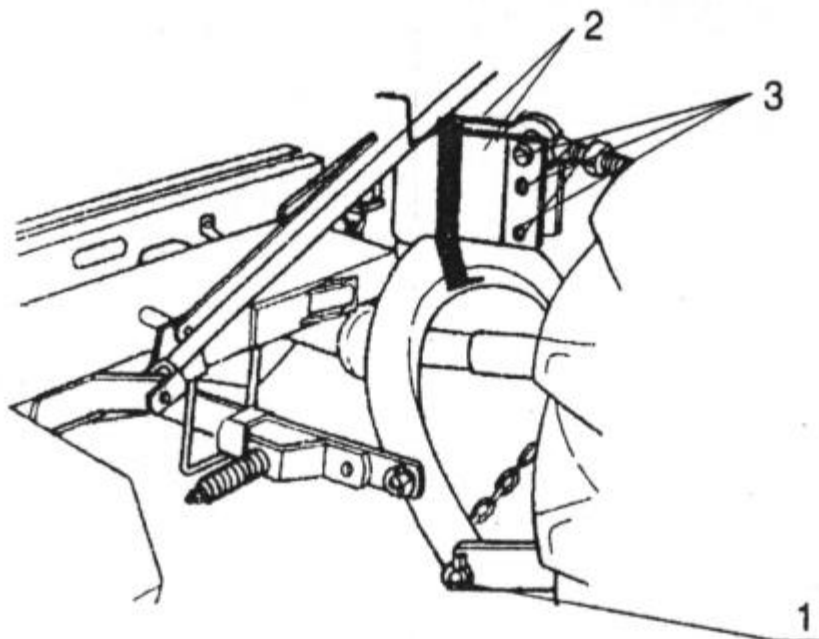
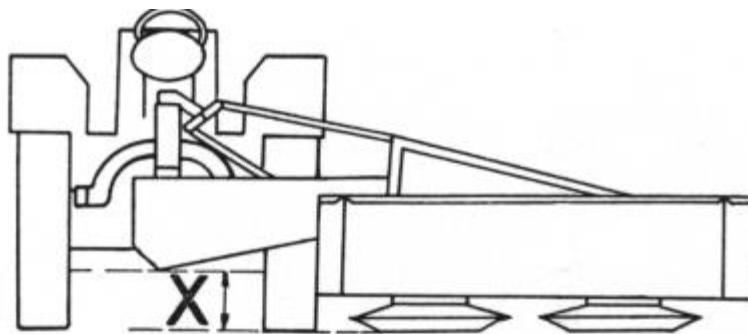


Fig. 6 Setting the mower in the working position.



### 3. Assembly of PTO Shaft.

Attachment of the mower to the tractor with the PTO shaft is possible only in the mower working position.

#### **WARNING !**

Before moving the mower to transport position you must detach the PTO shaft.

The tractor PTO shaft and the mower PTO connection are equipped with yokes of the PTO shaft shielded by the PTO Shield Tubes. The PTO shaft is to be slid onto splined ends of the mower and tractor until fully engaged to protect against slipping. Strictly follow the rule – when attaching the PTO shaft the external pipe of the shaft shield must be on the tractor side. The shaft shield chains are to be attached to a fixed element of the tractor and the mower suspension frame.

#### **WARNING !**

PTO shafts manufactured after May 1, 2004 are to be accompanied by the European conformity symbol CE (older shafts – the safety symbol “B”). Never use the shaft without shields or with damaged shields.

Pay attention to the shaft greasing points, which are given in the diagram placed in the shaft instruction. Read the shaft operating manual and follow the instructions given in it. If it's necessary, adjust the length of the PTO shaft by shortening length in accordance with the shaft manufacturer's instruction.

### 4. Setting the mower in transport position and transportation.

To transport the mower suspended on a tractor, set it to transport position (fig. 7). To do that perform the following:

- set the mower suspended on the tractor on an even horizontal surface, then lower it so that the slide disks rest on the ground,
- detach the PTO Shaft,
- remove blades from the drums,
- remove the pin and safety catch,
- lift the mower so that slide disks are just above the ground,
- manually shift the mower to the maximum left, making sure that the locking device bolt enters the hole at the loose line,
- lift the mower by means of the tractor hydraulic lift.

**WARNING!**

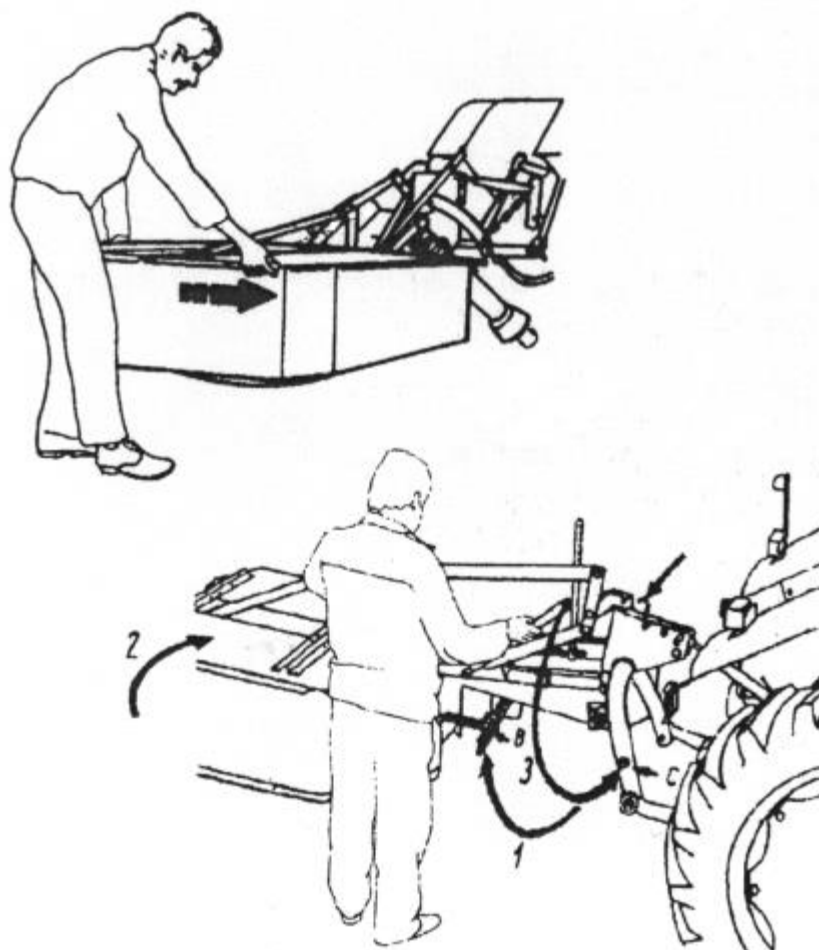
During transportation of the mower suspended on a tractor (on public roads) it is necessary for it to be equipped with the following:

- a portable light-emitting warning device attached in the holder on left and right sides of the top shield of the mower (warning plates with skew white and red stripes, equipped with rear red position lights); before starting a trip connect electrical supply to the external electrical socket of the tractor, and check the functioning of the portable lights,
- a plate that distinguishes a slow-moving vehicle (a triangle).

The above elements are not a standard equipment of the mower.  
They can be purchased from the manufacturer at an additional charge.

Road Speed of a tractor with the suspended mower is to be adjusted to road conditions, however do not exceed 12MPH. While driving on public roads follow all local the traffic laws.

Fig. 7 Setting the mower in the transport position.



### 5. Setting the mower in the working position.

Before starting work set the mower to working position. To do that perform the following:

- part the tractor on a flat horizontal surface, and lower the mower just above the ground,
- pull the lanyard causing the locking device bolt to slide from the hole,
- hold the mower from the back by the shield frame, and tilt it to the right to the working position,
- then put the safety catch onto the journal and secure with a pin,
- attach the blades (a full set of three blades per drum),
- attach the PTO shaft.

### 6. Park position.

In the rest position the mower is completely detached from the tractor suspension system. This position can be achieved both from transport and working position. To set the mower in the rest position perform the following:

- detach the PTO Shaft,
- with the mower lifted on the 3 point lift, lower the parking stand and secure it with a pin,
- lower mower resting it on its slide disks and the parking stand,
- detach the jointed end of the tractor top link from the mower frame,
- remove the ball joints of the tractor lower lift arms from the suspension frame journals.

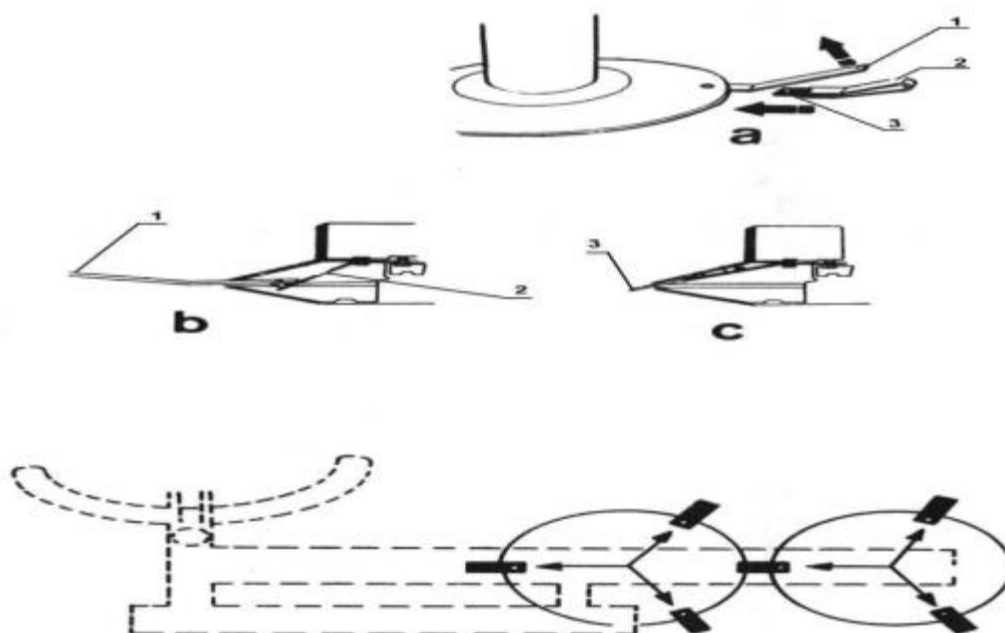
### 7. Replacement of blades.

Wear or damage to even one blades requires the replacement of the entire set (incorrect balancing of the mower spinning parts causes the risk of damage to the machine or human injury during operation). The criteria of blade replacement:

- excessive operational wear, e.g. significantly lower quality of green fodder cut (torn stems), and visually confirmed rounding (blunting) of cutting blade edges,
- a damage, e.g. chipping of the cutting edge, significant deformation of the blade or clamp, broken blade or clamp, chipping of a part of a blade.

Blades are replaced with a special spanner (2) supplied with the mower. Insert the spanner end in the gap between the working disk and slide disk so that the spanner rounded bolt is located above the clamp (1). Then, pulling the spanner upwards causes a springy deflection of the clamp and the bolt head is released from the hole of the working disk. Place a blade (3) onto the bolt by means of pliers –the cutting edges should point downwards. After releasing the spanner pressure and when the head return to the working disk hole, the blade is installed.

Fig.9 below shows the manner of blade installation.





The manner of blade installation. When replacing the blades it is necessary to make sure that they are alternately located on both disks. Schematic of proper installation of blades – see fig. 9.

### WARNING !

Make sure the top surface of the clamp bolt head is level with the top edge of the disk hole, and the position of the head is central in respect of the hole. Failure to meet this condition may result in a dangerous ejection of a blade during operation of the mower.

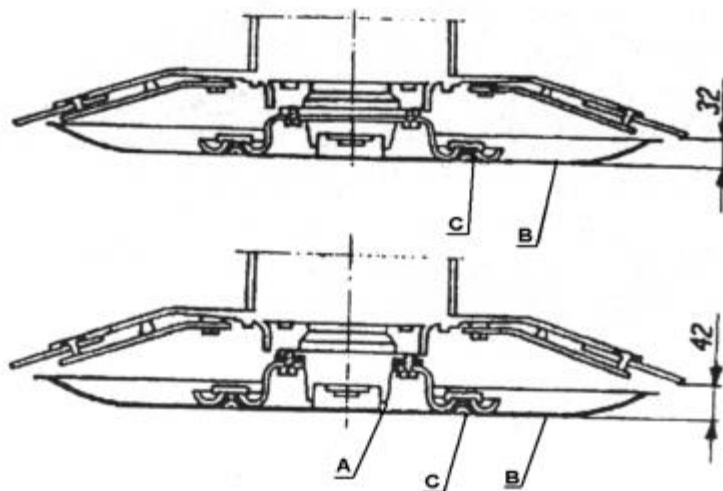
### 8. Setting the cutting height.

The Farm-Maxx FDM Series mowers may cut at the following heights:

- 1-1/4"
- 1-5/8"

The factory-set height is 1-5/8" and after removal of a spacer ring the cutting height is 1-1/4". Other cutting heights may be achieved after installation of proper spacer rings or a high-cutting disk. Changing the cutting height (fig. 10) is done by removal or insertion of a spacer ring (A) above the slide disk (B) which is attached with a screw (C).

Fig. 10 Setting the cutting height.



### 9. Securing the mower against overloading.

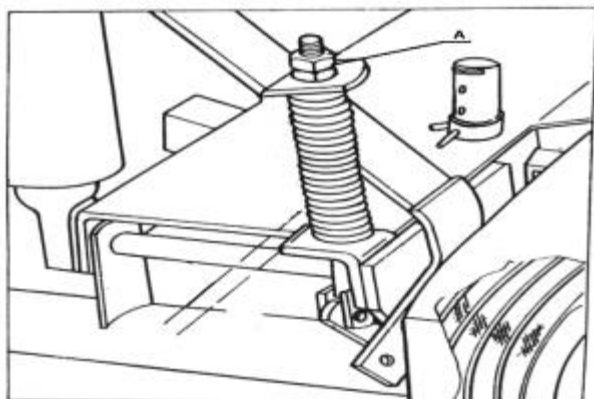
The mower is secured against overloading with a snap safety catch. If the device meets an obstacle the safety catch allows the mower frame to tilt backwards. In that situation always stop the engine and switch off the drive. The safety catch returns to its normal position when the tractor is reversed. The length of a strained safety catch spring is 150 mm. Other strains of the spring may cause the safety catch getting locked which may lead to the device getting damaged.

### 10. Tightening of v-belts.

Adjustment of v-belt tightening is done by means of the nut (A) (fig. 11). If one of four belts is damaged (e.g. broken, ripped, delaminated) or excessively worn (when adjustment of tightening does not work sufficiently, and the belt keeps slipping or falls off the wheel), replace the entire set of belts.

**WARNING !** After replacement of belts always remember to reinstall the previously removed belt transmission shield.

Fig. 11 Tightening of v-belts.



## 11. Mower operation.

- lower the cutting assembly until the slide disks touch the ground with no grass,
- adjust the working disks by means of the tractor top connector (fig. 3) so they are parallel to the ground,
- set the mower suspension frame to retain the dimension (X) fig. 6 which should be approx. 11.8", Set the mower position in relation to the tractor so as to avoid crashing of swath with wheels.
- Turn the mower drive achieving full rotary speed of the blades (PTO shaft speed 540 rev./min - 56,5 rad/s),
- start mowing.

Operational guidelines:

- ✓ avoid working on uneven and stone-covered fields (risk of damaging the blades),
- ✓ use the entire working width of the mower,
- ✓ for idle passes turn off the PTO shaft.

## Drum mower hydraulic version.

### 1. Health and safety recommendations during operation of hydraulic system:

- Carefully connect and disconnect hydraulic line from or to the tractor.
- Flexible hydraulic hoses require periodic inspection and in case of any damage or wear they must be replaced with new ones. Replacement hydraulic hoses should meet or exceed original manufacturer's technical requirements.
- Hydraulic hoses should be replaced every five (5) years (including a possible two (2) year period of storing the machine). Hydraulic hoses undergo a natural process of aging. That is why the time of using and storing them is limited.
- Used hydraulic fluid contains hazardous substances which are harmful for the environment. They need to be disposed of responsibly in compliance with all local laws and regulations.
- It is forbidden to flush hydraulic fluid on the ground, into storm drains, sewers, rivers or lakes. For temporary storing of used oils use only suitable secure containers. Do not reuse drink/food containers to prevent accidental ingestion of hydraulic fluid.

**2. Connection of the mower with the hydraulic system to the tractor in order to transport it.**

- raise the mower on the three-point linkage of the tractor,
- slide the parking stand after lifting the mower to at least 20" cm above the ground,
- connect the hydraulic hoses to the remotes on the tractor you wish to use,
- set the mower in transport position so transport lock will work, (there is also a possibility of transporting the mower in the working position – side transport position),



- lift the mower with the hydraulic cylinder to engage the transport lockout on the hydraulic actuator.
- close the lockout valve on the hydraulic hose provided,

Side transport position of the mower.

**3. Changing the position of the mower from transport to work position:**

- open the transport lock out valve on the **hydraulic system**.
- Extend the hydraulic cylinder slowly lowering the cutter bar so the rotating plates touch the ground,
- Turn off the tractor engine before dismounting the tractor.
- fasten safety catch of the mower and secure it with a clevis pin.
- Re-attach the PTO shaft of the tractor with the machine,
- Restart the tractor and slowly accelerate the machine to the working speed,
- Lower the mower to the ground and start mowing,

Work position.



**NOTICE**

Before connecting the hydraulic hoses to the tractor, it is necessary to check cleanliness of remote seats and quick connector plugs.

When connecting the hydraulic system of the mower with the hydraulic system of the tractor always make sure fluids in the tractor hydraulic system and machine's can be mixed. If they cannot be mixed, oil in the hydraulics of the machine should be exchanged for the same one as in the tractor, after flushing of the system.

During connecting (also disconnecting) hydraulic hoses of the mower make sure the system pressure is fully relieved. .



**NOTICE**

The ball valve on the hydraulic system is also to regulate raising/lowering speed of the machine. It may be necessary to adjust the flow rate to prevent serious damage to the mower. .



**NOTICE**

During connecting (also disconnecting) of hydraulic hoses of the mower with the tractor system, it is necessary to make sure that both hydraulic systems of the tractor and machine are without pressure.



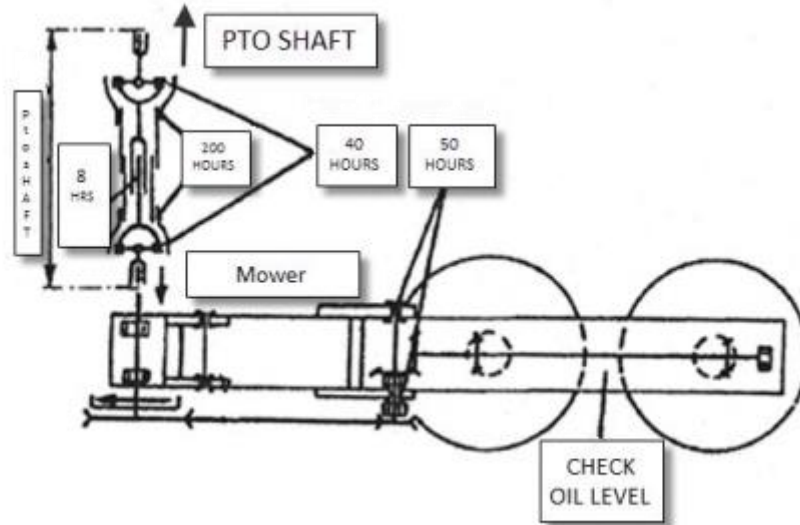
**NOTICE**

During transport of the mower ball valve should remain in closed position.

## 2. Greasing/Lubrication

To provide proper operation and durability of the mower it is necessary to perform proper greasing as per fig. 12. The numbers on the schematic denote the greasing interval (in hours) of the spot.

Fig. 12 The mower greasing schematic.



## 13. Checking and replacing the oil in the gear box.

Prior to each operation check the oil level in the gear box. Perform the checking through the breather hole, after unscrewing the breather located in the gear housing cover (item No. 17 on the catalogue figure No. 1). The minimum oil level is  $.5/8$ " (from the box bottom). Use a rod to touch the box bottom.

Once a year (end of season) or every 250 acres (depending which occurs first), replace the oil in the gear box. **Please note that the first oil replacement in a new mower should be done after the first 10 hours of work.** Oil replacement is best carried out by a mechanic equipped with proper tools and devices. However, if a user can safely perform that activity himself, and has the proper tools and devices, to that end, using universal tools, remove the box cover together with the silicone gasket (item No. 4 and 5 on the catalogue drawing No. 1), and pump out the oil with the contamination (e.g. using a pump or a similar device), and then pour in new oil. After oil replacement remember to reinstall the box cover together with the silicone gasket to maintain proper tightness. The box holds 3.5 liters of oil. It is recommended to use high viscosity oils meant for toothed gears, e.g.: Transol SPVG 320, 460 and E400.

### WARNING !

It is unacceptable to allow turning over or tilting of the mower in order to empty the oil from the gear box. There is a risk of serious injury, e.g. the operator may get crushed by the mower. Used oil should be poured into a container and delivered to a recycling facility. Do not contaminate the natural environment with it, and do not dispose it in the storm drain or sewage system).

### MAINTENANCE AND STORAGE.

Each day after working with the mower, clean it and check its technical condition.

Pay special attention to the condition of blades, and replace the entire set of blades if one is damaged. Check the condition of the aprons stiffeners, the aprons and shields. Strictly repair any noticed damages. Prior to commencement of work, grease the telescopic parts of PTO Shafts, and check the oil level in the gear box, as well as the condition of screw joints (tighten them).

**When the season is over:**

- carefully clean the machine of any contamination,
- do technical inspection, and replace damaged parts with new ones,
- grease the machine according to the greasing schematic,
- working surfaces, suspension journals, and the lock bolt to be covered with a layer of thick solid grease,
- store the machine in a place protected against precipitation, in a manner that is safe to humans and animals, the machine must rest on the ground with two disks and the front support.

When replacing the gear box oil it is recommended to pay special attention to proper silicone sealing/gasket and proper bolting/tightening of the cover.

Failure to meet these conditions may lead to oil leaking from the gear box. If in doubt as to the quality of sealing, perform it again.

**WA R N I N G !**

Use only original spare parts as per parts catalogue. All repairs and replacements of a part of the mower drive assembly must be performed by a specialist mechanic equipped with proper tools and devices. All operational and servicing tasks may be performed only when the mower has been detached from the tractor, on a stable, flat, solid and horizontal surface, and using the front support of the mower. During operation use protective gloves to protect your hands against injury by sharp parts.

**VII. DISASSEMBLY AND DECOMMISSIONING OF THE MOWER N O T I C E.**

**WA R N I N G !** Prior to disassembly of the mower detach it from the tractor, and place on a stable, flat, solid and horizontal surface; use the front support of the mower.

- **Disassembly.**

Prior to repairs or verification that the mower is fit for further operation, clean the machine properly of any fodder, dirt or mud. After checking the screw joints, correctness of bolt play, toothed gears, check if the machine is fit for further operation. Damaged or worn elements to be replaced with new original ones. To disassemble use universal tools, and those supplied with the mower.

- **Decommissioning.**

In case the mower gets worn to the point it is no longer fit for further operation, if a repair is not economically justified or technically possible, decommission it.

To do that bleed the oil from the main frame box and beveled gear box, and deliver it to a recycling facility. Then thoroughly clean remnants with an abrasive material, remove plastic elements, and deliver to a recycling facility. What is left after the above actions is to be delivered to a ferrous merchant.

**WA R N I N G !** Do not pollute the environment with waste material.

**How to order spare parts.**

*For spare parts ordering, please contact your dealer.*

**VIII PARTS CATALOG**

Each time you order spare parts provide:

- your address
- mailing address
- your mower serial number
- machine model number
- relevant part number and description

Notes: