



Operator's Manual **MOWERS**

ATTENTION

Carefully read this manual
before using the machine

M48-S M48-A M60-S M60-A M72-S M72-A M84-S M84-A



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Dealer's
Stamp

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Unifarm Machinery Corporation reserves the right to make any necessary changes without giving prior notice, in order to optimize the quality and safety features and does not commit itself to updating this manual every time a change is made.

This booklet provides a thorough and accurate description of the instruction and maintenance activities to be carried out on the tiller you purchased. We congratulate you on your choice and urge you to thoroughly familiarize yourself with and follow the instructions contained in this manual. This will assure you a long, safe and trouble free working life for your Phoenix Tiller.

The Manufacturer shall not assume any responsibility should problems arise as a result of lack of compliance with the instructions and/or operator's negligence.

The manual is divided in chapters and paragraphs and the pages are numbered, thus offering accurate and precise information.

The requested information can be easily found by searching the key words or referring to the index.

INDEX

GENERAL INFORMATION

Symbols	Page 5
Safety labels	Page 6
Technical data	Page 7
Main parts	Page 7
Identification plates	Page 8
Recommended use	Page 8
Inappropriate use	Page 8
Torque specification	Page 8

SAFETY

Safety in the workplace	Page 9
User's requirements	Page 9
Work clothing	Page 9
General safety norms	Page 9

SET UP

Assembling	Page 11
Front roller kit	Page 12
Attachment to the tractor	Page 13
Connection to PTO shaft	Page 14
Cutting height adjustment	Page 14
Belts adjustment	Page 15
Start up	Page 15
Road transport	Page 16
Shut down	Page 16

MAINTENANCE

Program	Page 16
Blade replacement	Page 18
Spare parts	Page 18

GENERAL INFORMATION

SYMBOLS

This booklet contains three “safety pictograms” which highlight the relevant danger levels or important information:



It draws the operator’s attention to special situations which may jeopardize people’s safety.



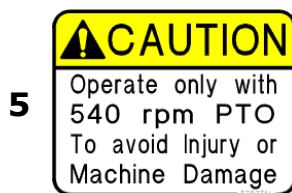
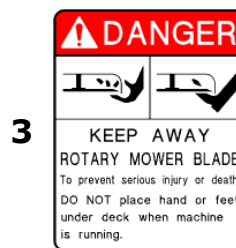
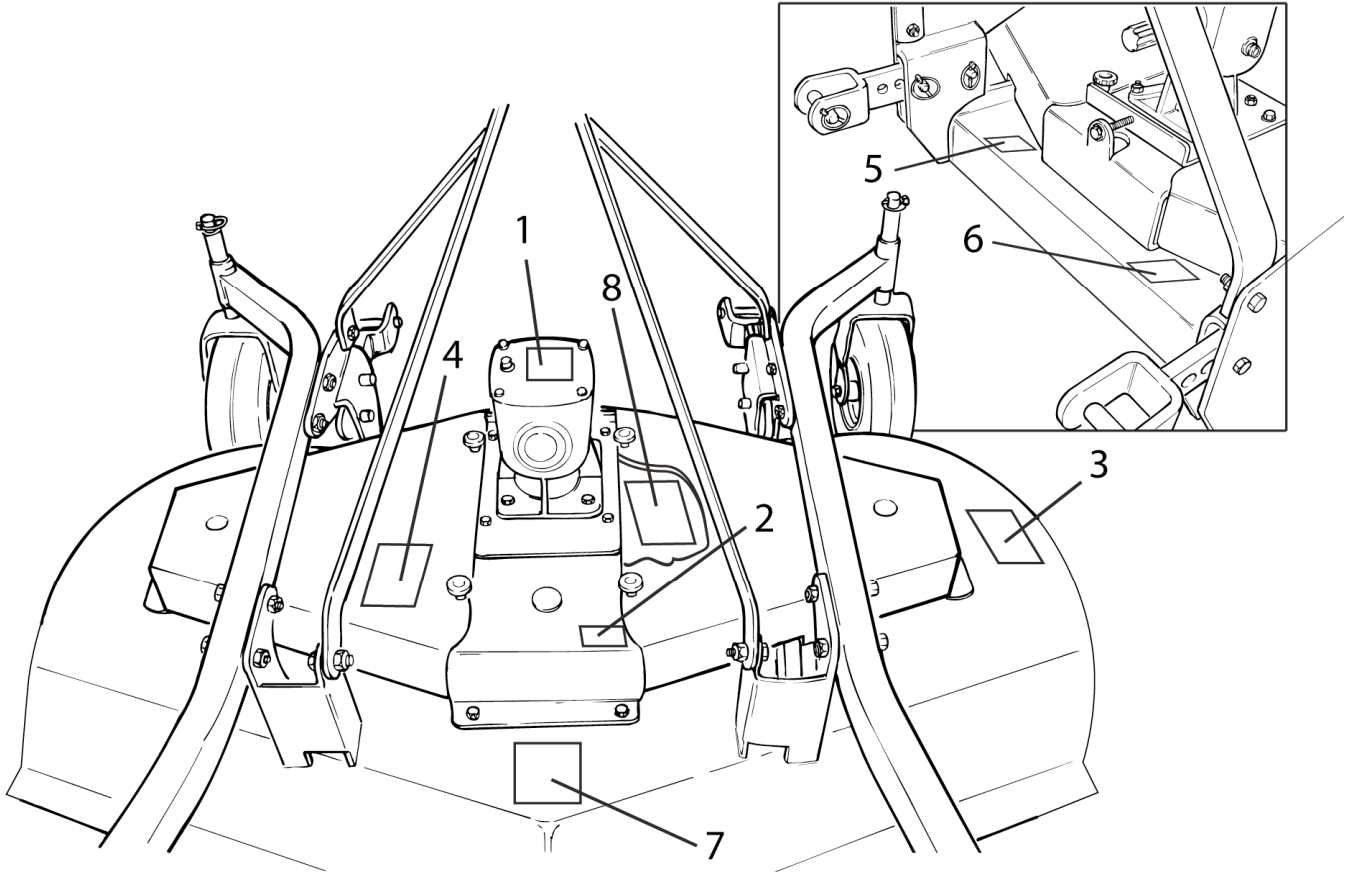
It draws the attention to situations which unfavourably affect the machine efficiency, but not people’s safety.



It is used for general information, when people’s safety or the efficiency of the parts are not at risk.

SAFETY LABELS

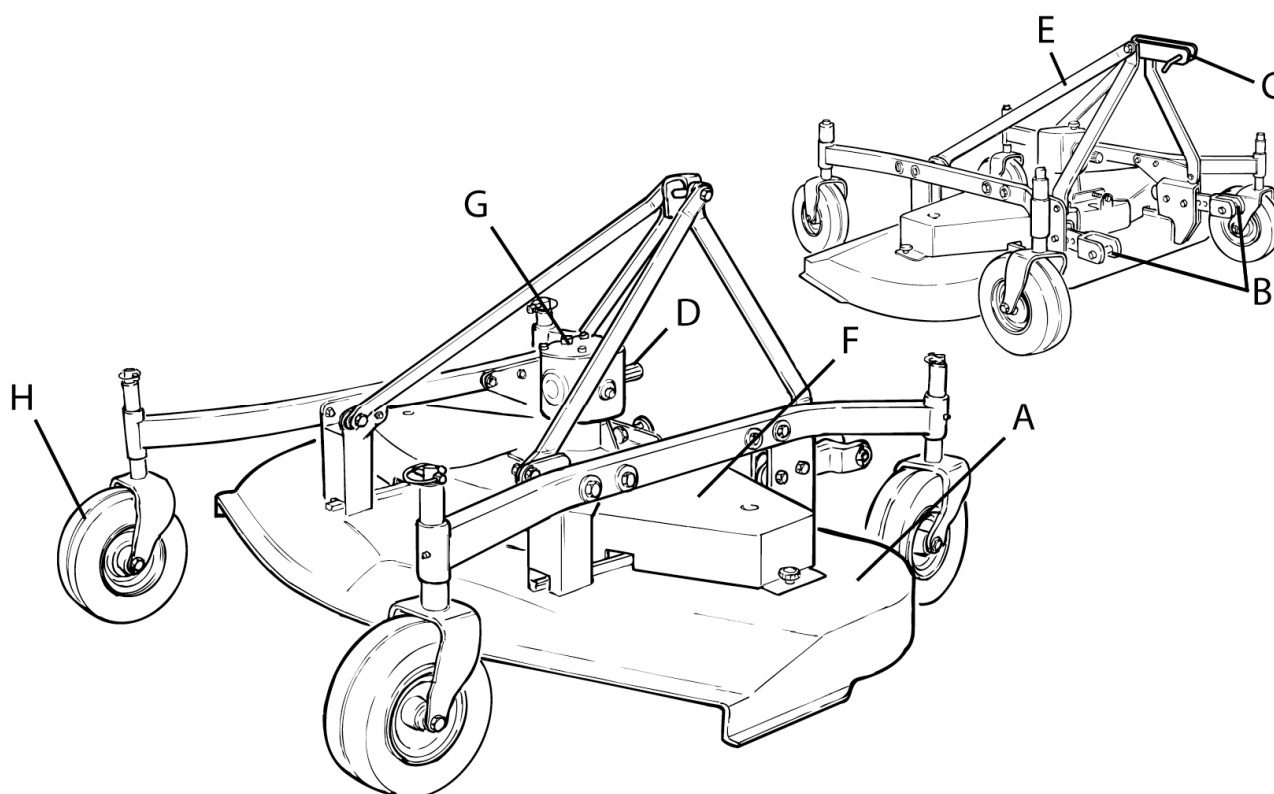
The safety labels and information on the machine, described in, must be complied with. Failure to comply with these warnings may result in severe injuries or even death. Make sure that the labels are always present and legible; should this not be the case, contact your nearest PHOENIX dealer to request replacements.



TECHNICAL DATA

Specifications	M48-S	M48-A	M60-S	M60-A	M72-S	M72-A	M84-S	M84-A
Tires	Solid	Air	Solid	Air	Solid	Air	Solid	Air
Cutting width	48"		60"		72"		84"	
Cutting height range	¾" - 4 ¼"						1 ½" - 4 ½"	
Blade Speed (rpm)	3130		2650		2240		2030	
Blades number	3		3		3		3	
HP max requirement	30		40		50		60	
PTO Input (rpm)	540		540		540		540	
Weight (lbs)	392		432		472		816	
Gearbox Oil Type	EP SAE 80W/90							
Oil quantity (gal)	0,20							

MAIN PARTS TERMINOLOGY



- A) Main Frame
- B) Lower Hitch Blocks
- C) Top Link Coupling
- D) PTO Attach

- E) Third Point Mast
- F) Cover
- G) Transmission Case
- H) Wheel

IDENTIFICATION PLATES

The identification plates are placed on all the mowers and are structured as follows:

Model of mower (example):



Serial number (example):



Important

When asking for information or service, always specify the machine type and the width.

RECOMMENDED USE

The mowers of **Unifarm Machinery Corporation**, described in this instruction and maintenance manual, have been designed explicitly to till the land. Any other use jeopardizes the operator's safety and the machine integrity.

INAPPROPRIATE USE

Phoenix mowers shall not be used as follows:

- Connected to vehicles which do not have a suitable power or weight.
- Without being properly installed by securing the hitch blocks to all three points of the tractor lift unit.
- Mowing of extremely stony or unsuitable ground.
- Raising or lifting of the equipment when the power take off is engaged.
- In close proximity to person/s when power is engaged.
- Do not stand or step on the equipment when it is being operated or transported.
- Do not operate the machinery while wearing unsuitable (loose fitting) clothing.

TORQUE SPECIFICATION

For correct hardware tightening on the tiller, we suggest the use of suitable torque wrench and the applicable torque as listed in the table below:

M-THREADED SCREW/BOLTS				
Bolt grade				
Thread	8.8		10.9	
	Nm	Lb-ft	Nm	Lb-ft
M6	11	8.5	17	12
M8	28	20	40	30
M10	55	40	80	60
M12	95	70	140	105
M14	150	110	225	165
M16	240	175	305	225
M18	330	250	475	350

SAFETY

SAFETY IN THE WORKPLACE

Most of the accidents, which occur while the operator is using the machine or the equipment or carrying out maintenance and repair activities, are caused by the non-compliance with the main safety requirements.

Therefore the potential risks must be fully understood and special attention must be paid to the activity which is being executed.

**If potentially dangerous situations are known,
accidents can be prevented!**

USER'S REQUIREMENTS

The equipment user must have the following:

Physical: good sight, co-ordination and capability to execute all instructions in a safe manner.

Mental: the users must understand and follow the prescribed norms, rules and safety measures. They must be careful, pay attention to their own safety and the safety of other people and act properly and in a responsible way.

Training: the users must read and understand this manual, its pictures and charts, and the identification and hazard plates. They must be trained and qualified to perform any use and maintenance activities.

WORK CLOTHING

The following clothing and personal protective equipment must be used when working and executing maintenance and repair activities:

- Overalls or any other comfortable outfit; make sure that they are not too loose since they might be caught by moving parts.
- Protective gloves.
- Goggles or mask to protect the eyes and face.
- Safety helmet.
- Safety shoes.



Make sure that the personal protective equipment is properly stored and complies with the laws in force.

GENERAL SAFETY NORMS

The features of the area where work is taking place must always be taken into consideration:

- Do not stand in the working radius of the operating machinery or any other machine accessories when the equipment is running.

Prepare the work:

- Do not drink alcohol, take drugs, or any other substances which may affect the your ability to use the equipment before or when working.
- Make sure that there is sufficient fuel in the tractor to prevent the machine from stopping during work.
- Do not use the equipment under unsafe conditions, e.g. do not make temporary repairs just to start or keep working; do not work at night if the area is not well illuminated.

When working or executing maintenance activities, remember:

- The labels and stickers providing instructions on the use of the equipment or information on dangers must not be removed or hidden, and must be legible.
- Do not remove the safety devices, covers and safety guards, unless maintenance activities are being carried out. If the safety devices must be removed, turn the engine off, remove them correctly and re-install them before turning the tractor on.
- Do not lubricate, clean or adjust moving parts.
- Use the appropriate tools to execute maintenance or adjustment activities on the equipment.
- Do not use damaged or unsuitable tools, e.g. pliers rather than wrenches etc.
- Prior to carrying out activities on hydraulic lines under pressure, or disconnecting their components, make sure that the line is no longer under pressure and that it does not contain any hot fluids.
- Check all the fittings and make sure that they are well connected before supplying pressure to the hydraulic lines.
- Make sure that no tools, clothes or any other materials are left in areas where moving parts are present when the maintenance and repair activities are completed.
- Do not give directions and make signals at the same time during a manoeuvre. Manoeuvre directions and signals must be given from one person only.
- Do not unexpectedly call an operator, if not necessary. Do not startle the operator, e.g. by throwing objects.
- Pay attention to people in the vicinity of the work area, especially children!
- Make sure that nobody is standing in the working range of the equipment.
- Do not use the equipment to lift people.
- When the equipment is not needed, turn the engine off, leave the vehicle on a flat surface, with the first gear and the parking brake engaged. Disengage the power take off.
- Do not execute any cleaning, lubrication, repair or adjustments when the engine is running and the equipment is in the raised position.
- Do not work on steep slopes, if the stability of the vehicle can be jeopardized.

UNIFARM MACHINERY CORPORATION shall not assume any responsibilities if these instructions are not strictly followed.

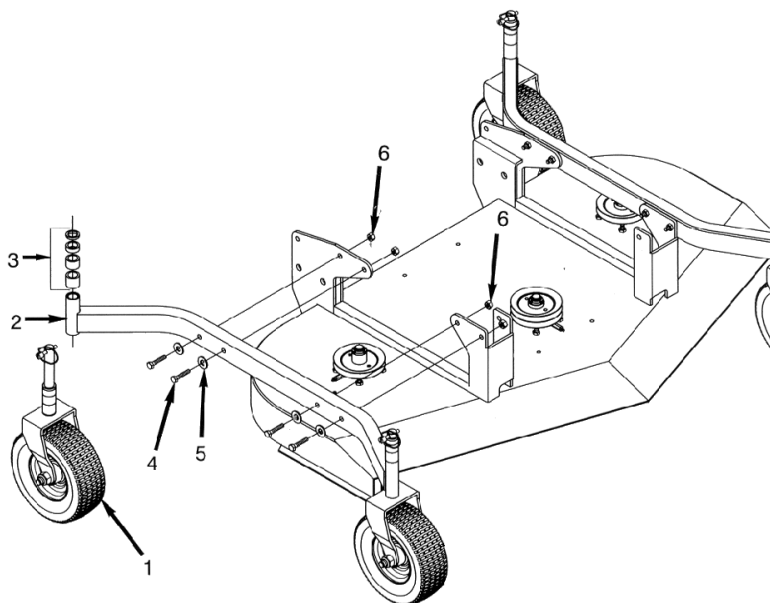
SET UP

ASSEMBLING

The mower is delivered in parts to be assembled; for correct assembly, respect the following instructions:

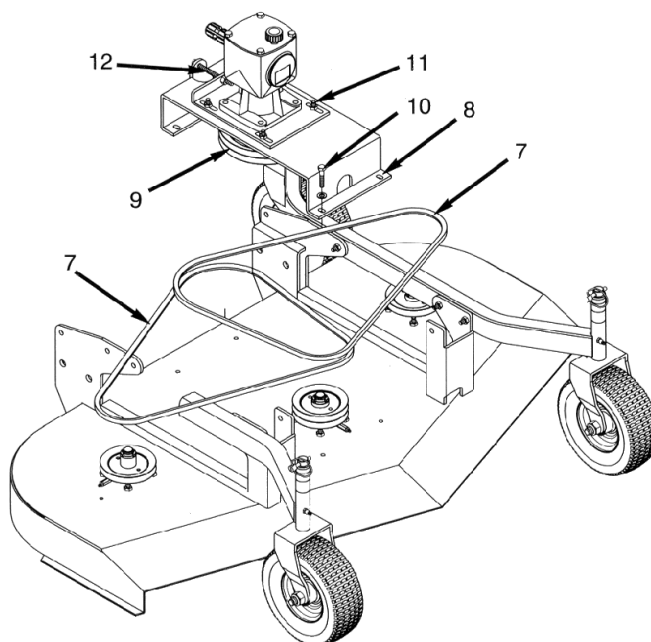
Stage 1

Place the wheel supports (2) on the machine frame, and tighten the four bolts (4) with washers (5) and nuts (6). Insert the four wheels (1) in the support bushings, and adjust the cut height by means of the spacers (3).



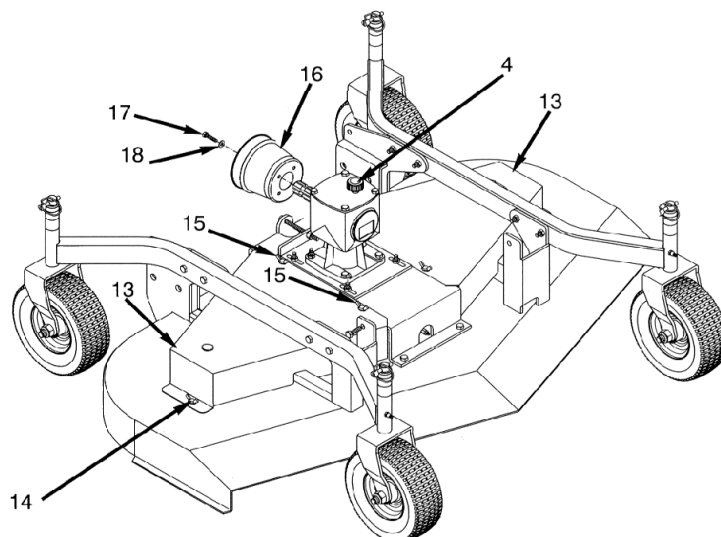
Stage 2

Place the belts (7) onto the pulleys. Place the gearbox support (8) on the machine, insert both belts in the gearbox pulley guides (9), and tighten the four mounting bolts (10). Loosen the screws (11) and adjust the belt tensioning by means of the adjustment screw (12); finally tighten the four screws (11).



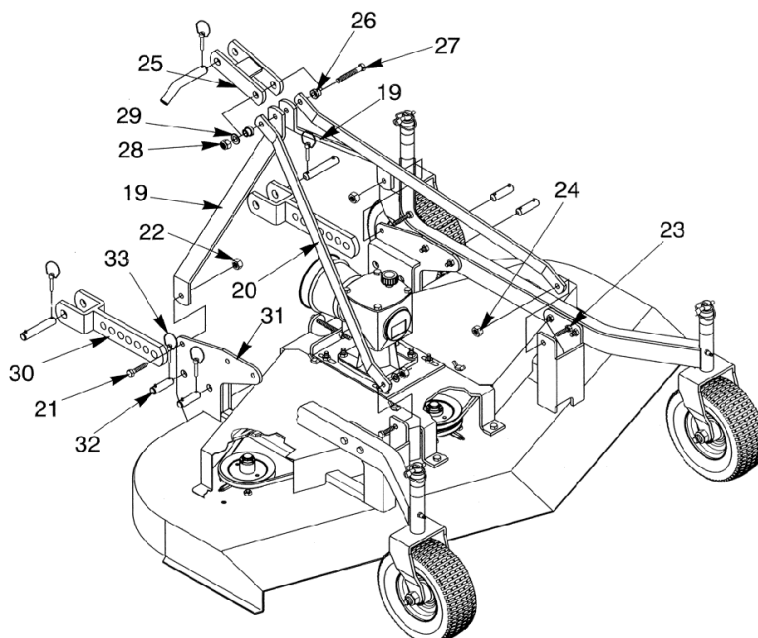
Stage 3

Place the covers (13) on the belts, tighten the handles on the frame (14) and on the gearbox support (15). Anchor the PTO shield (16) by means of four screws (17) and the washers (18).



Stage 4

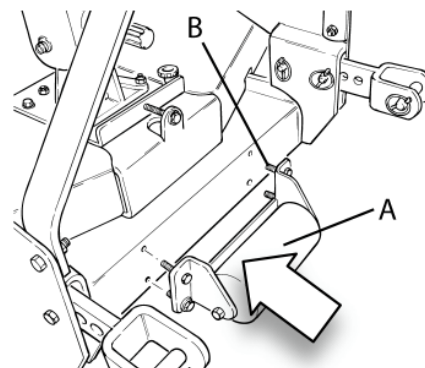
Install the uprights (19) on the machine and insert the bolts (21), and relative nuts (22). Install the tie-rods (20) on the machine and insert the bolts (23), with relative nuts (24). Place the top link (25) on both tie-rods and uprights, by inserting the spacer (26) between the top link and the tie-rods; finally tighten the screw (27) with the nut (28) and the washer (29). Make sure that the top link turns freely on the bolt. Finally tighten the bolts (21) with the nuts (22) and the bolts (23) with the nuts (24). Install the lower hitches (30) on the supports (31); adjust the length and install the pins (32) anchoring them by means of the split pins (33).



FRONT ROLLER KIT

On demand it is possible to install on the front part of the machine a levelling roller, which improves the work of the machine, smoothing small obstacles and roughnesses of the land. To install the roller on the mower:

- attach the roller **A** to the mower inserting the bolts **B** into the right holes;
- tighten the screws **B** with the nuts supplied within the kit.



Danger

These activities must be carried out with the engine off, the power take off disengaged and the hand brake applied. If needed, lift the equipment and place it on supports, thus preventing any injuries that might be caused by a sudden fall of the equipment.

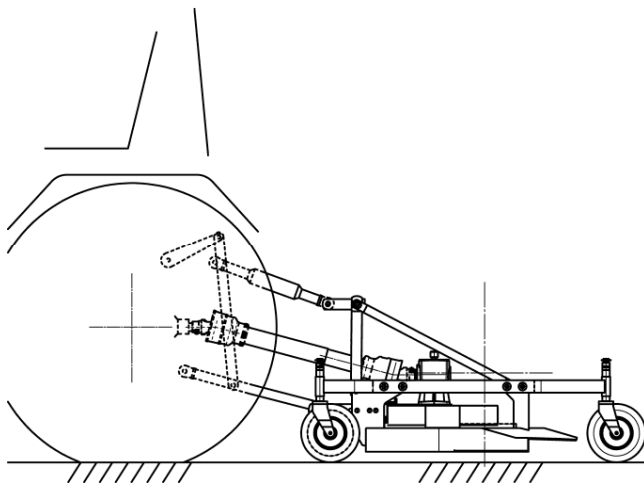
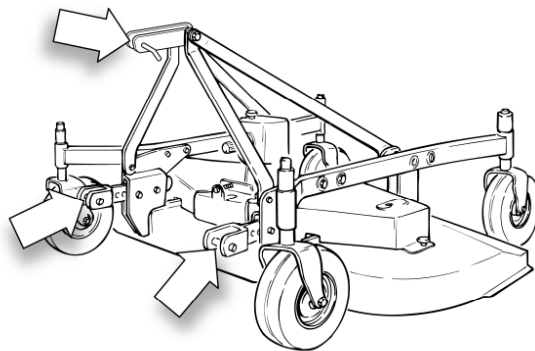
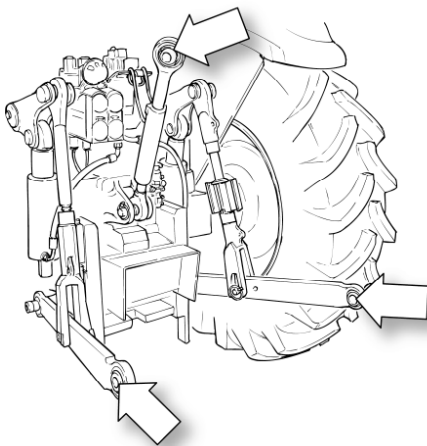
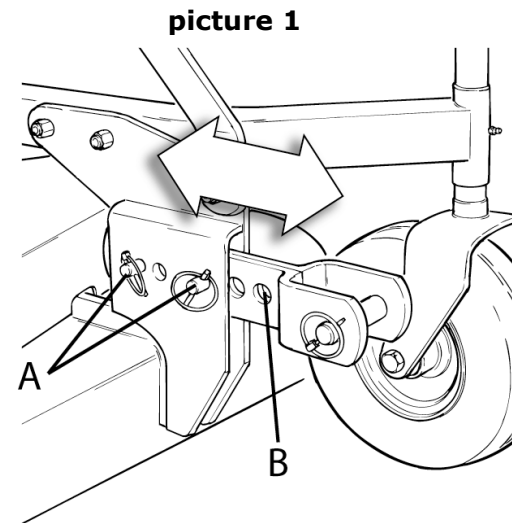
ATTACHMENT TO THE TRACTOR

Carefully read this instruction manual and the manuals of the tractor and PTO shaft manufacturer. All Phoenix mowers are built to be attached to any tractor equipped with a three point lift of the correct category and with suitable ball ends.

Before attaching the equipment to the tractor, make sure that the ground is smooth and flat and that nobody is standing between the tractor and the mower; slowly move the tractor towards the mower by aligning the tractor lifter arms with the two mower coupling side pins; turn the engine off and pull the brake.

It is possible to adjust the attachment position by releasing the pins **A** (picture 1) and modifying the position of the plates **B**.

After adjusting the couplers, connect the lower arms by removing the catch pins from the pins located on the hitch blocks, inserting the lift arm pins through the hitch block and ball ends and secure them by means of the pins which were previously removed.



Connect the tractor top link to the third upper point by removing the pin located between the two plates, inserting the top link and securing it by means of the pin.

Adjust the top link so that the upper part of the frame is parallel to the ground. Block all the linking parts by means of the sway chains or arms.

Make sure that the central unit axis (case/bevel gear pair) is parallel to the ground, thus minimizing the stresses on the power take off and increasing the working life of the equipment.



After executing all the above-mentioned activities, make sure that all the nuts and bolts are tightened.

CONNECTION TO THE PTO SHAFT

Before installing the PTO shaft make sure that the RPM rating and the direction of rotation match those of the tractor. Carefully read the PTO shaft and tractor instructions.

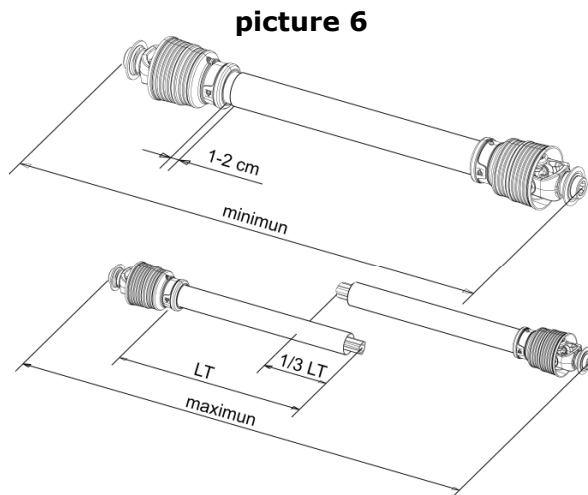
Furthermore, accurately read the instructions of the manufacturer of the PTO shaft and of the tractor.

Before starting any activity, make sure that the guards are installed on the power take off of the tractor and PTO shaft. Make sure that they cover the PTO shaft throughout its length.



Caution

When fully extended, the plastic pipes must overlap by at least 1/3 of the length of the pipes (LT). When retracted, the min. acceptable clearance is 1-2 cm (picture 6).



picture 6

Check that the PTO shaft min. and max. length are within the parameters of the machine-tractor coupling.

Should problems arise, contact your dealer. After the installation, anchor the PTO shield to the tractor and machine using the special chains; make sure that it turns smoothly. If the PTO shaft is equipped with safety devices, e.g. torque limiters or free-wheel devices, install them on the operative machine side. For the use and maintenance of the PTO shaft, please refer to the relevant manual.

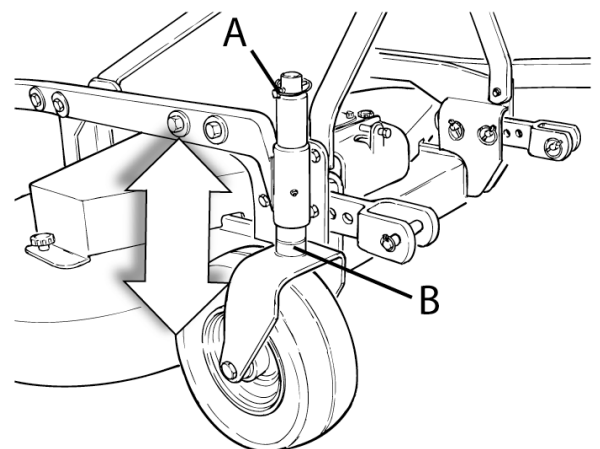
CUTTING HEIGHT ADJUSTMENT

The cutting height of the equipment depends on the position of the wheels.

If the wheels are raised, the cutting height increases; if the wheels are lowered, the cutting height decreases.

Make sure that the wheels are set at the same height on both sides.

To adjust the cutting height on the mowers loosen and remove pin **A** (picture 3) and adjust the wheels height according to the bushing **B**. When the adjustment is completed, reinsert the pin **A**.



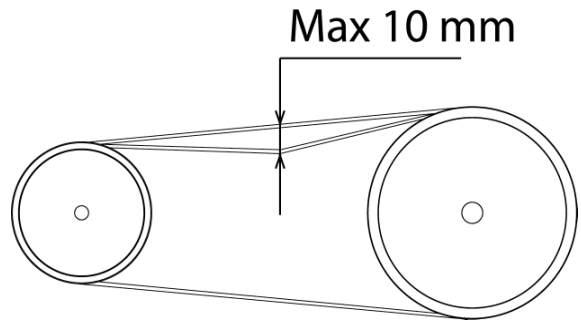
picture 3

BELTS ADJUSTING

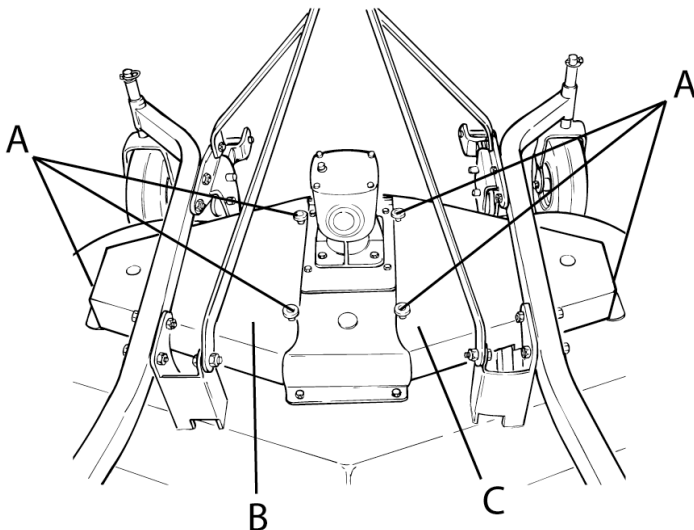
In the Phoenix mowers it is possible to adjust the tension of the belts; the right belts tensioning insures that the machine works in the right way and decreases the wear of rotating parts. To adjust the belts tensioning:

- unscrew the handles **A** (picture 5) and take off the shields **B** and **C**;
- screw or unscrew the bolt **A** (picture 6) to adjust the tension of the belts; if you turn the screw in clockwise direction the belts are tensioned, while turning it counterclockwise they are loosened; when the belt is correctly tensioned it can be lowered in the middle part not more than 10mm (picture 4)
- reassemble the carters B and C

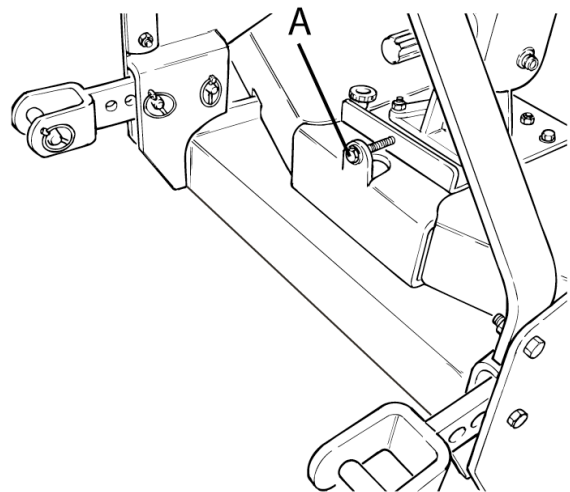
picture 4



picture 5



picture 6



Danger

These activities must be carried out with the engine off, the power take off disengaged and the hand brake applied. If needed, lift the equipment and place it on supports, thus preventing any injuries that might be caused by a sudden fall of the equipment.

START UP

After carrying out these adjustments, the equipment is ready for use. When at the working area, do not start the power take off with the tiller in working position in the ground. Be sure to lift it by a few centimetres using the tractor lift. Start the engine, engage the power take off, lower the equipment to its working position and start.

ROAD TRANSPORT

With reference to road transport, follow local traffic regulations.

SHUT DOWN

The following activities are recommended if the tiller will not be used for a long period of time:

- Clean and dry the equipment.
- Inspect the equipment and replace the damaged or worn parts if necessary.
- Tighten all the screws and nuts.

Lubricate and cover the machine with a tarpaulin and store it in a dry place.

MAINTENANCE

Maintenance is crucial for the working life and efficiency of any agricultural equipment. If the equipment is properly maintained and operated, a long working life and operator safety are assured.

The maintenance intervals indicated in this booklet are provided as a mere reference and are related to normal working conditions; changes may occur depending on the type of activities, environmental dust, seasonal factors, etc.



- **Before injecting lubricating grease into the grease fittings, clean the fittings to prevent mud, dust, or any other foreign matter from contaminating the grease and reducing the lubrication effect.**
- **When adding or changing the oil, use the same type of oil to prevent mixing oils with different features.**
- **All maintenance activities must be carried out with the tiller resting horizontally on the ground, with the engine off and not overheated.**
- **After using the equipment for a few hours, make sure that all the bolts (especially tine bolts) are tightened; regularly check all the machine guards.**

PROGRAM

First check

- after 50 working hours, check the oil in the gearbox (**A** – picture 7) and make sure that all the screws and bolts are tightened.

picture 7

Every 20 working hours

- lubricate the pulley support bearing (**C** – picture 9).

Every 30 working hours

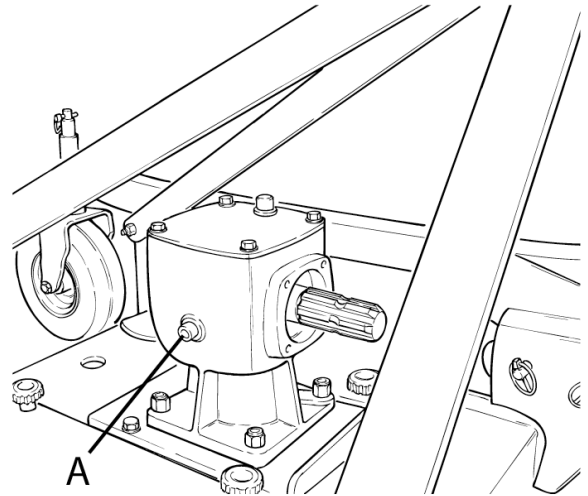
- check belt tensioning.

Every 40 working hours

- lubricate the wheel supports (**A** – picture 8).

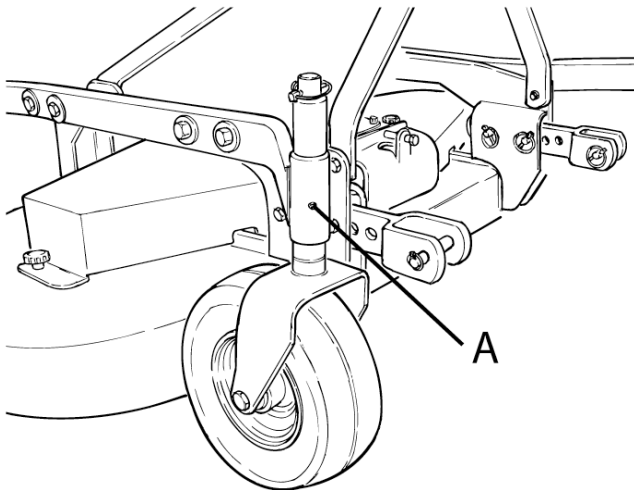
After the first 50 working hours and, later, every 800 working hours

- replace the oil in the gearbox. Use oil SAE EP 80W90.

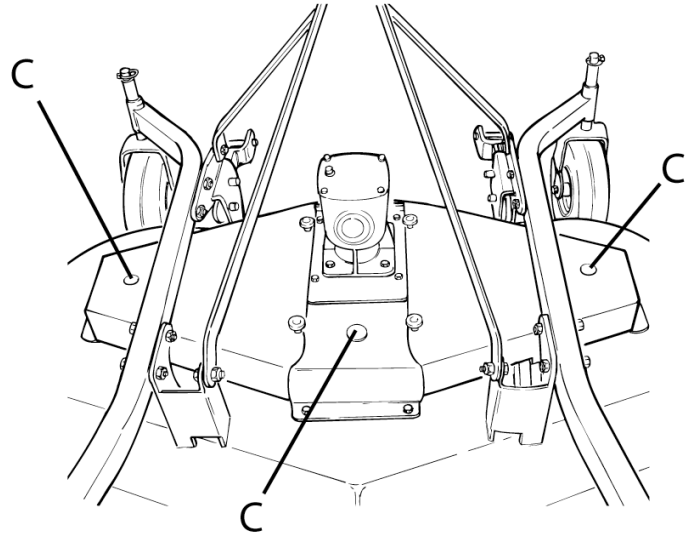


Contact the closest **Unifarm** dealer for this maintenance activity.

picture 8



picture 9



Caution

The old oil must be disposed of in compliance with local laws where these activities are carried out; do not spill or dispose of waste oil on the ground.

Danger

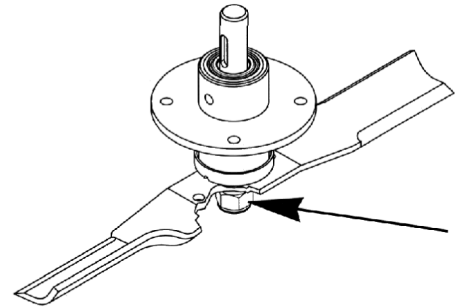
The maintenance activities must be carried out with the engine off, the power take off disengaged, the parking brake engaged, and the equipment placed on the ground.

BLADE REPLACEMENT

For perfect machine operation, frequently check the lawn mower blades: make sure that they are sharp and perfectly anchored by means of the bolts. Follow the procedure below to replace the blades:

- Adopt any measures to prevent accidental machine start-up.
- Place the equipment on sturdy supports.
- Remove the screws anchoring the blades as shown in picture; remove the old blades and install the new ones.

picture 10



Before replacing the blades, turn the tractor engine off, pull the parking brake, disengage the power take off, raise the mower using the tractor lift, and install supports to prevent accidental dropping of the machine.

SPARE PARTS

Always use original **Unifarm** spare parts for the best lawn mower performance.

For spare parts requests please refer to the spare parts catalog.

The spare parts can be ordered from the dealer or service center. The following data must always be specified:

- Equipment type and width.
- Part number of the requested component. If the code number is missing, indicate the table number in which it is shown and the relevant reference.
- Description of the part and requested quantity.
- Requested type of transport. Should this information not be provided, the dealer or service center shall not be responsible for delays caused by circumstances beyond their control. The addressee shall be responsible for any transport charges.

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