



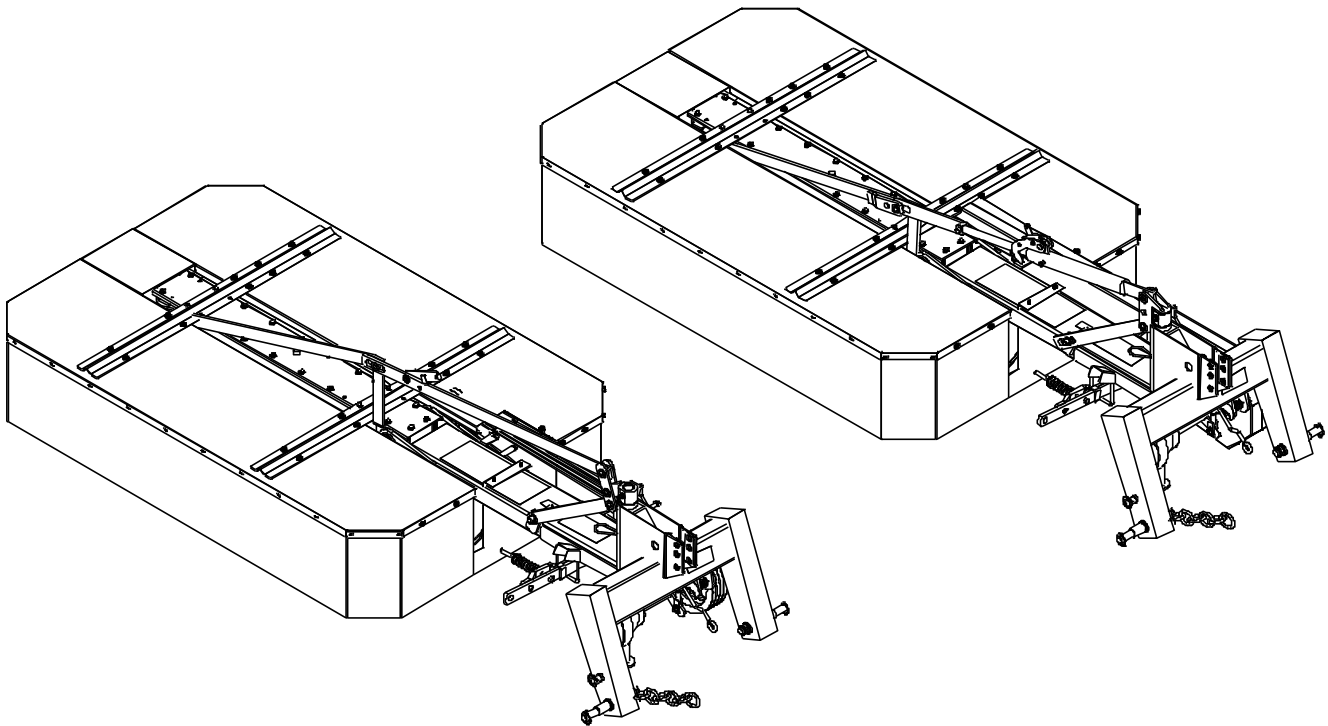
Drum Mower

Models:

BDR-135

BDR-165

BDR-185



Operator's Manual Parts Breakdown

TABLE OF CONTENTS

Introduction	3
Safety Rules	4
Partial Risks	5
General Information	6
Operational Service	8
Connecting the Mower with the Tractor	8
Assembly of the PTO Shaft	9
Adjusting the Mower to Transport Position	10
Adjusting the Mower to Operational Position	12
Adjusting the Mower	14
Operating the Mower	16
Resting Position	17
Technical Maintenance of the Mower	18
Changing the Blades	18
V-Belt Tension	19
Everyday Maintenance	20
Post-Season Maintenance	20
Lubrication Instructions	20
Transport Lights	22
Assembly of Mower	23
Troubleshooting	24
Parts Breakdown	25
Warranty	45

INTRODUCTION

Thank you for purchasing your Tar River Drum Mower. This Operator's Manual is available with every machine for the purpose of introducing the user to the design, maintenance, and adjustment of the mower. It will also warn against any possible threats. The Operator's Manual includes information regarding the adjustment and transport on the public roads.

Following the instructions carefully will ensure many years of damage-free and safe operation and will result in decreasing of the operational costs of the machine.

If you have any questions after reading this manual, please contact the Sales Representative or the Sales and Marketing Department.

To emphasize the importance of the information and the warnings of possible hazards, the following warning symbol with a description has been used:

If you see this symbol, be aware of a threat, carefully read the appropriate information and inform other operators about it.



The mower has a name plate placed on the middle frame with basic machine identification information.

The warrantee proceedings rules and the rules resulting from them are written in the warrantee card, which is an integral part of the Operator's Manual.

The Operator's Manual is part of the basic equipment of the machine and it should be kept for future use.

PRODUCT PURPOSE

The purpose of the Drum Mower is to be used in farming to mow the low stem green fodder (alfalfa grass, etc.) in the fields and meadows.

Operating the mower in alternate conditions will be considered a misuse. Strict compliance with the requirements for the use of the machine as well as its servicing and repairs by the manufacturer is a prerequisite for the intended use.

The machine should be used, operated and maintained only by persons who are familiarized with its specifics as well as with the work safety proceedings rules.

The provisions regarding preventing accidents and all basic work safety and hygiene rules as well as the traffic regulations must always be observed.

Any changes made to the machine without the consent of the manufacturer will exempt the manufacturer from the responsibility for any possible damages resulting from them.

SAFETY RULES

PLEASE BE CAREFUL – READ THE OPERATOR’S MANUAL CAREFULLY IN ORDER TO PROTECT YOURSELF AND OTHERS FROM DANGER.



The machine should be used with respect to the basic work safety rules and the following precautions:

- **NEVER** allow any unauthorized persons, unfamiliar with the Operator’s Manual or underage persons, especially children, to use the machine.
- **ALWAYS** check the physical condition of the machine, especially its wear and whether the operating elements of the cutting system are properly secured.
- **YOU MUST** replace the worn out or damaged parts with new ones.
- **THE MACHINE** may be operated only with the recommended tractors equipped with the required front axle load.
- **DURING** the time of aggregating the machine with the tractor, special care should be exercised, and it is prohibited for any persons to be present between the machine and the tractor while the engine is on.
- **IT IS UNACCEPTABLE** to operate the machine without the shields and a guard, it is also prohibited to operate the machine with damaged shields and lifted guard.
- **IT IS UNACCEPTABLE** to operate the hydraulic lift lever externally.
- **PRIOR TO ANY OPERATION** activities performed on the mower, it is necessary to disengage the power take-off drive and the engine of the tractor, pull out the key from the ignition, and allow the operating drums and the blades to come to a complete stop.
- **WHILE** performing necessary operation activities required for the purpose of lifting the mower on the three-point suspension system, it is very important to secure it additionally to prevent from detaching by a support or a chain.
- **IT IS PROHIBITED** to lift the mower with the power drive turned on and the cylinders rotating.
- **IT IS NECESSARY** to check whether there are any persons or animals within the danger zone prior to turning the driving power on or during operating the mower.
- **IT IS PROHIBITED to operate the machine with any bystanders present within less than 50m perimeter.**
- **THE FIELDS AND MEADOWS TO BE MOWED** should be free from any foreign and hard objects.
- **IT IS PROHIBITED** to mow on the sides of the streets, public roads, public places (parks, schools, etc.) or places with stones in order to eliminate the risk of the hard objects thrown out.
- **THE MOWER SHOULD BE** turned on only when in the operating position.
- **THE MOWING** may be started only when the power take-off engine speed of 540 rev/min. is reached; it is prohibited to surpass 600 rev/min.
- **IT IS PROHIBITED** to operate the mower while driving backwards.
- **FOR TRANSPORT** the mower should be in a transport position.
- **CHANGING** the mower’s position from the transport position to the operating position should be performed on a horizontal and even surface, with the blades lifted above the ground.
- **IT IS UNACCEPTABLE** to carry on board any persons or any load while the machine is being transported or while operating it.
- **WHILE** on the public road, applicable provisions of the Traffic Regulations should be obeyed, and the mower should be equipped with required lighting and warning devices in accordance to the local laws of a particular country, where the machine is used.

NOT APPLYING the rules mentioned above may cause hazard for the operator of the machine and bystanders, as well as it may cause damage to the machine. For the damages resulting from the failure to comply with these rules, the responsibility will be on the side of the mower’s user.



PARTIAL RISKS

The manufacturer has made every effort to ensure that the design and the intended method of operating the mower does not cause any danger to people and their environment.

Due to the nature of the mower and the lack of such opportunities to fully expose the cutter, certain elements of risk can occur.



THE DANGER caused by the presence of the sharp edges of the cutting system and the possibilities of any hard objects thrown out, e.g. stones, broken blades, etc. The danger zone resulting from the possibility of throwing out hard objects is within 150 ft. perimeter from the mower being operated.



DANGER the working cylinders and the blades are still rotating for a certain amount of time even after the power drive of the mower is turned off. Therefore, before proceeding with any work activities on the mower, it is crucial to wait until the operating drums with the blades stop rotating.



DANGER changing the mower's position from the transport position to the operating position and backwards may be performed only on an even and flat surface after prior leveling of the machine. Failure to comply with these conditions may cause the cutting system of the mower turn around on its own on the suspension and hit or deform the operating elements of the tractor.

SAFETY SIGNS AND INSCRIPTIONS

There are warning labels placed on the mower with safety signs in the form of pictograms, which give clear instructions and comments informing about what should be treated with special precaution in order for the operation of the mower to be safe.

Carefully read every warning label and get familiarized with their meaning.

The warning labels should be kept clean and readable throughout the whole life of operating the mower. In case the warning labels are not readable, the damaged labels should be replaced with new ones.

New systems and parts replaced during any repairs should have all required warning labels. The new labels may be obtained from stores or from the manufacturer, as it is done with any other spare parts.

GENERAL INFORMATION

Sales Information

The technical condition and the equipment of the mower should be checked at the time of purchase.

It should be required from the equipment dealer to carefully fill out the Warranty Registration Form. Failure to provide the date of purchase or the dealer's information might cause the buyer to suffer disapproval of any possible complaints.

Equipment and Spare Parts

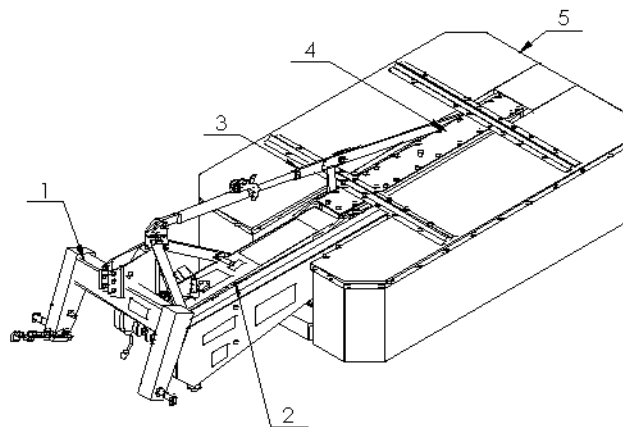
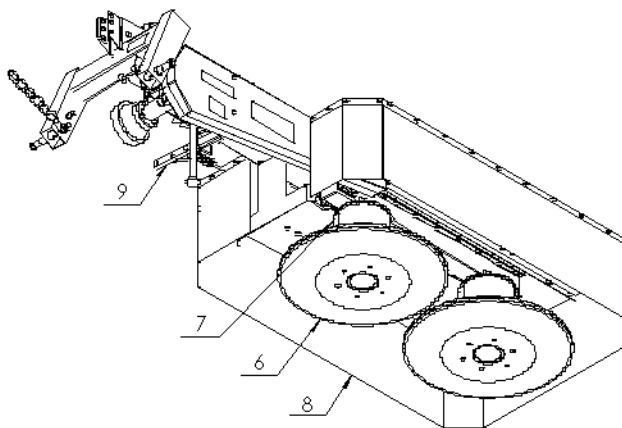
The mower includes the following basic equipment:

- The Operator's Manual, Parts Breakdown and Warranty Registration Form 1pc.
- Blade Changing Tool 1pc.
- Blades (packed) 18pcs

Design and Operation

The design of the mower:

1. Suspension
2. Central beam
3. Push rods, hydraulic cylinders (depending on the version)
4. Main frame
5. Shield system
6. Stump jumper
7. Operating drums
8. Protective shield
9. Lock

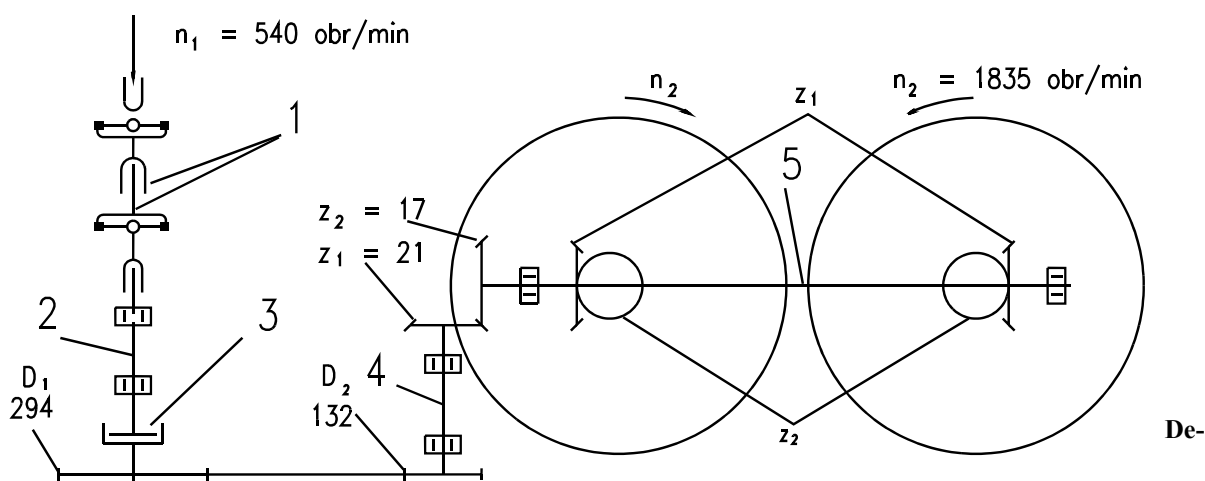


The suspension system frame (1) is used to connect the mower with the tractor. The main frame (4) is connected pivotally with the suspension system frame through the central beam (2). The cutting system is made of two operating drums (7) with blades attached rotationally in their lower part. The drums rest on the stump jumpers (8) when in the operating position, which adjust to the ground contours.

Changing the position of the mower from the transport position to the operating position and backwards is made possible through the pivotal connection of the of the suspension system frame with the central beam. The guards and shield (8) protect the machine operator and other people from any hard object, which might be thrown out from under by the operating drums (7).

The spring fuse prevents damages of the mower when the cutting system moves onto an obstacle; the operating drums are powered by the tractor's PTO. The drums along with the blades rotate in opposite directions cutting the forage and forming it into windrows.

The slip one way clutch allows for free movement of the drums after disengaging the engine and protects the drive elements from any damage.



scription of the mower's power drive

- 1 – PTO shaft
- 3 – slip one way clutch

- 2 – head drive shaft
- 4 – drive shaft of the main frame

OPERATIONAL SERVICE

You may start operating the machine only after having carefully read the Operator's Manual.

Prior to connecting the rotary mower to the recommended tractors, they should be properly prepared.

- Check the physical condition of the machine and perform daily maintenance work in accordance to the operator's manual of the tractor.
- Tilt or disassemble the elements of the connection and attachment system of the tractor, which may interfere or cause collisions with the PTO shaft.



ATTENTION disassembling these elements will protect against any damage to the PTO shaft while bringing down the suspension system to the lower end position

- Assemble the tractor's power take-off shaft shield
- The recommended tractors should be equipped with the front axle weights

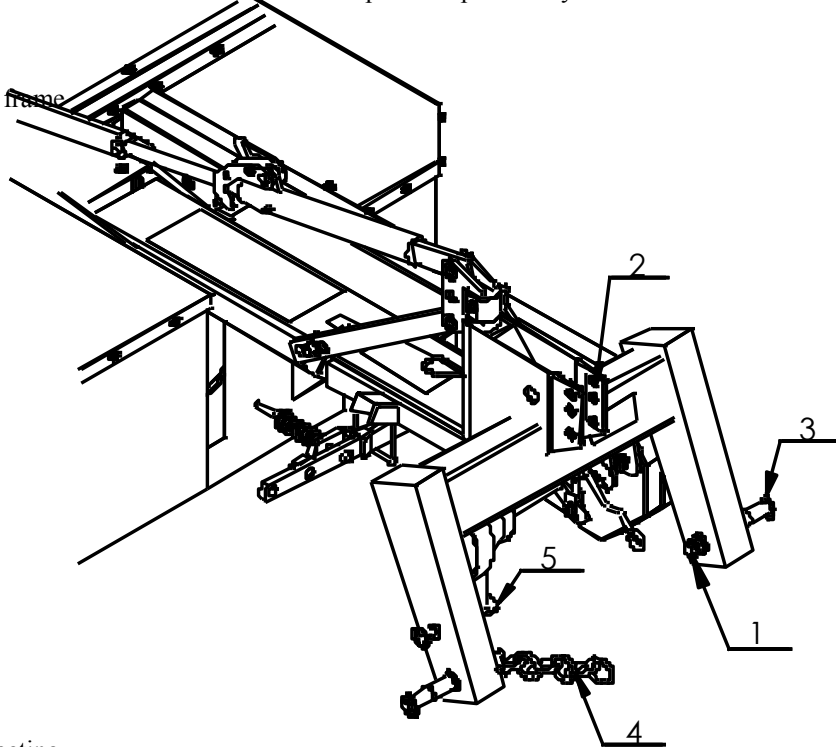


WARNING using a different than recommended tractor for the mower (e.g. of a lower pulling power) or ones that are not equipped with the required front axle weights may cause loss of the steering control of the tractor's front wheels

Connecting the Mower with the Tractor:

The mower should be connected with the tractor with the three point suspension system. The mower should be in the transport position.

1. Bottom pin of the suspension frame
2. Holes in the suspension yoke
3. Plug
4. Chain
5. Support



Please be careful while connecting the machine with the tractor.

IT IS UNACCEPTABLE



- for any persons to be present between the machine and the tractor while backing up to the machine
- to connect the machine while the tractor's engine is on and the key is in the ignition
- to use parts to secure connections other than recommended by the machine or tractor manufacturers.

In order to connect the mower to the tractor:

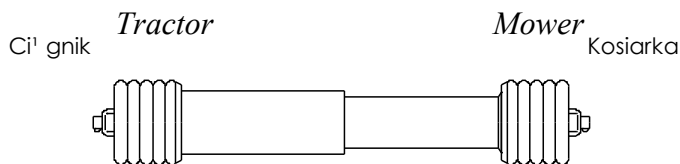
1. Insert the bottom push rods of the tractor (Drawing nr. 4, point 1) in the suspension frame pins (first the left one, than the right one) and secure them with cotter pins (Drawing nr. 4, point 3).
2. Slide the end of the upper connector between the yoke plates using the holes, then connect it with a bolt and secure it with a cotter pin.
3. Lift the mower to relieve the support (Drawing nr. 4, point 5)
4. Lift the support and support it with a cotter pin.
5. Tighten the chain (Drawing nr. 4, point 4) that's limiting the side tilting of the tractor's suspension system.

Assembly of the PTO Shaft

The drum mower should be equipped with an efficient PTO shaft with a guard, safety sign or the CE marking as well as the technical specifications in accordance with the technical guidelines.

Using a PTO shaft with parameters different than those recommended by the manufacturer of the machine may overload the shaft, damage it or result in pulling both parts apart while lifting the machine and so create hazard for the operators and the environment.

While assembling the PTO shaft, you should make sure, that the external pipe of the cover is on the side of the tractor.

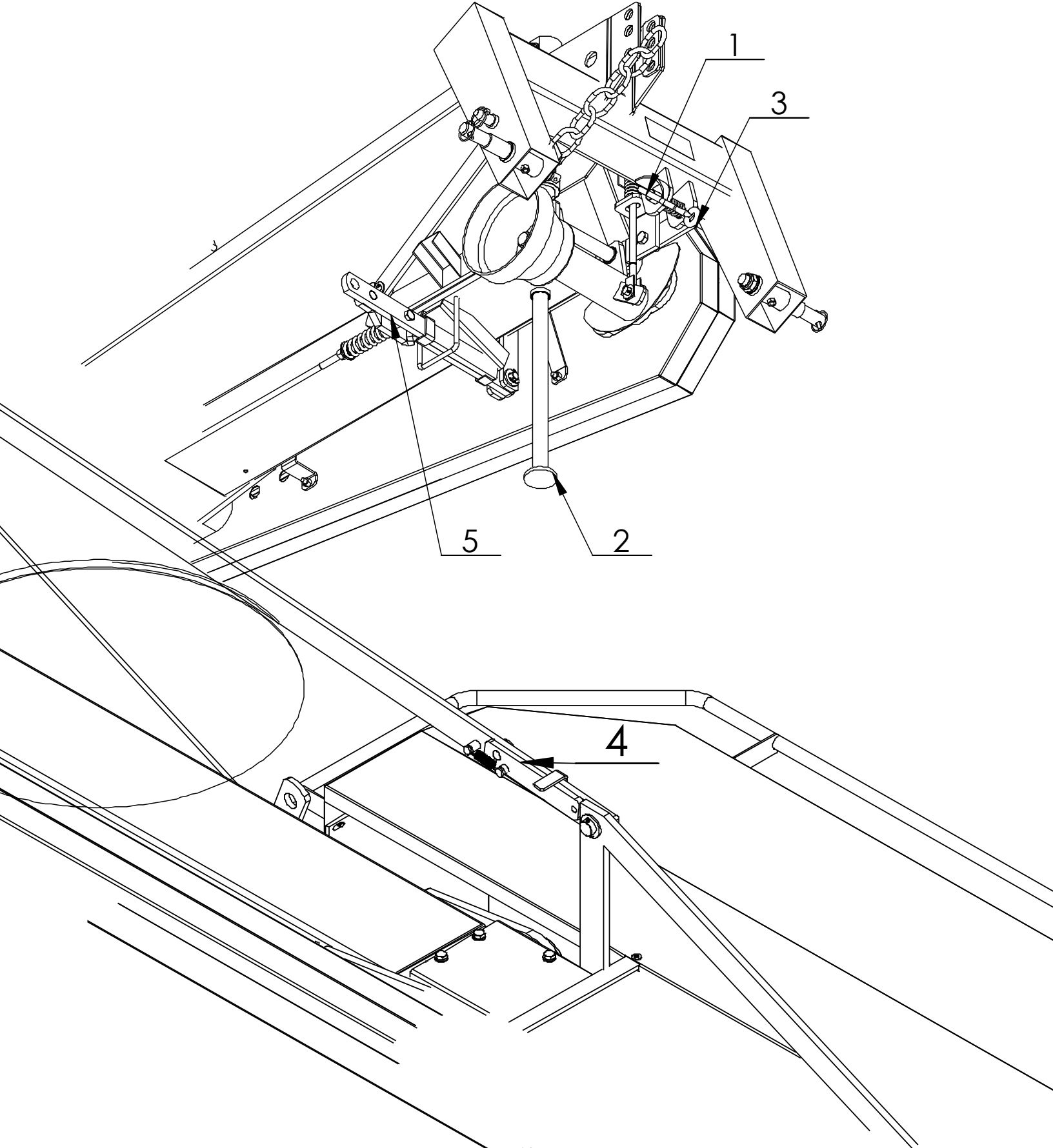


In order to install the shaft:

- Lower the mower down to the ground, turn off the engine and take out the key from the ignition.
- Insert the female tube end yoke to the power input of the machine and the power take-off of the tractor and secure it from sliding out with rivets.
- Check whether the rivets secure the ends of the shaft from sliding out during operation.
- Install the chains of the shaft cover; one to the cover of the tractor's power take-off, and the other to the cover of the machine's power input.

WARNING using a damaged PTO shaft, without the cover or a damaged cover, and without the additional cover on the side of the tractor's power take-off and the machine's power input creates immediate hazard of an accident.

Adjusting the Mower to the Transport Position and Transport:





Be careful while changing the mower's position from the transport position to the operating position and the other way around.

It is prohibited to reposition the mower:

- On an uneven surface and in a visible slope area.
- When it is lifted high (as in the transport position), and when the suspension frame of the mower is not appropriately level.
- In the presence of bystanders within the mower's turning range.
- Failure to comply with these recommendations may result in risks associated with rapid and automatic rotation of the mower on the suspension. Such rotation may occur after the securing elements pull free (point 1 rivets, point 4 gears)

In order to change the position of the mower to the transport position, the following must be done:

- Set the unit (the mower and the tractor) on an even and horizontal surface.
- Lower the mower so the stump jumpers rest on the ground.
- Disengage the PTO, the tractor's engine, and take out the key from the ignition and allow for the mower's elements to come to a complete stop.
- Disassemble the PTO shaft.
- Level the mower with the right lift arm brace so the suspension frame pins are on the same level above the ground.
- Remove the fuse (Position 5 in the drawing on the previous page) from the bottom suspension frame pin.
- In the mowers with the push rod system (Position 4 in the drawing on the previous page) move the gear to the lower position.
- Lift the mower with the tractor's hydraulic lifting unit so the stump jumpers are just above the ground.
- Lift the support (Position 2 in the drawing on the previous page) to the upper level and secure it with a cotter pin
- Move the mower by hand all the way back along the tractor making sure that the king pin of the lock (Position 1 on the previous page) goes into the king pin opening (Position 3 on the previous page) with a loose line.
- Lift the mower with the hydraulic system to the vertical position, and move the lever of the ball valve mounted on the actuator into the locked position.

During the transport:

Lift the mower with the hydraulic lifting unit to the upper position to ensure the space between the stump jumper of the cutting drum and the ground of at least 40cm, tighten the side chains of the tractor's bottom push rods so the machine doesn't swing to the sides.

Always make sure that the ball valve is locked during transport.

Furthermore:

- Check the securing elements
- Install the warning plate with lights and the plate for slow-moving vehicles.
- Pay attention to the mower overlap over the tractor during the turns or relapses.

Adjusting the Mower to the Operational Position

Reposition the mower from the transport position to the operating position prior to starting the operation. In order to do that, the following must be done:

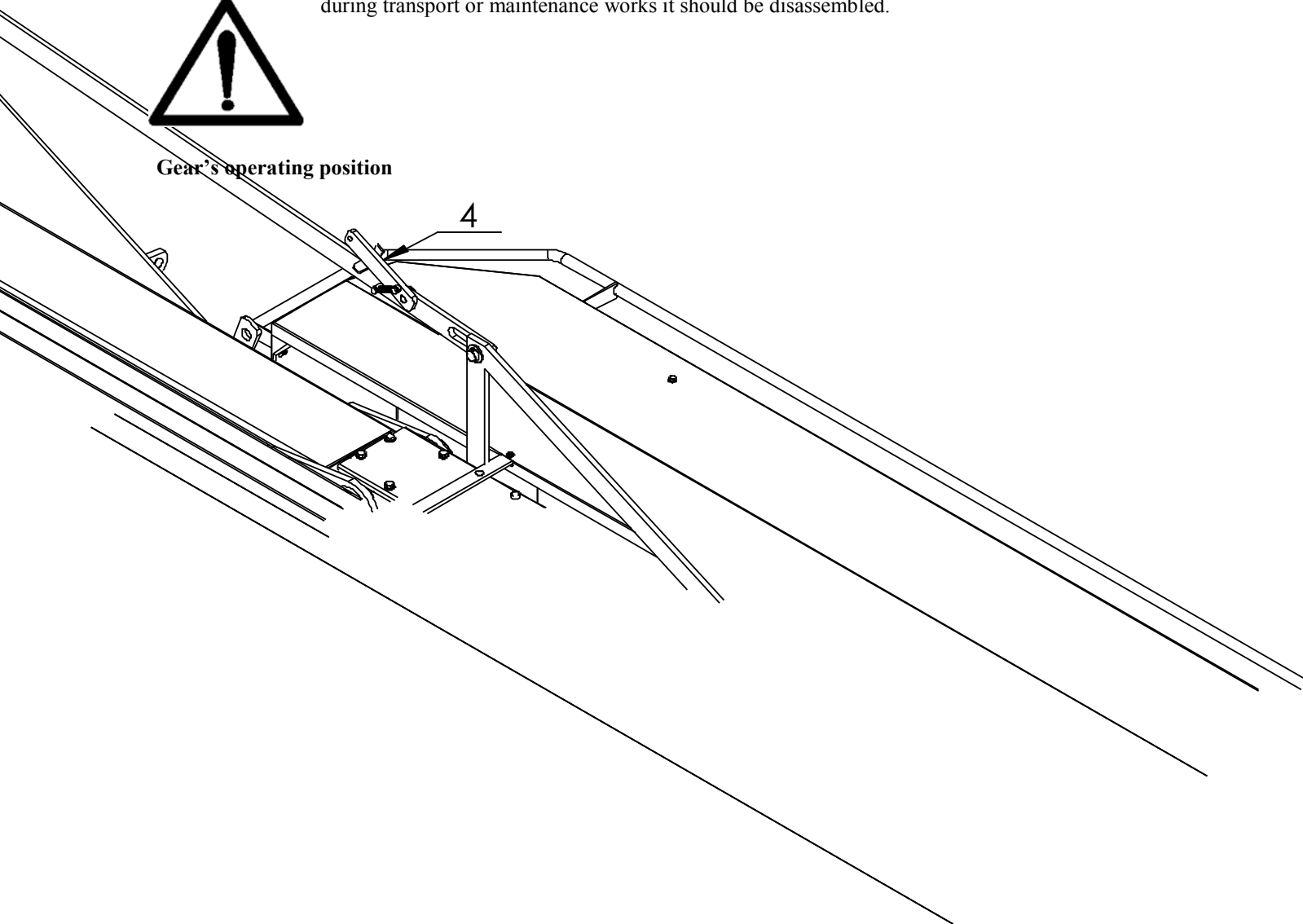
- Place the unit (the mower and the tractor) on an even, horizontal surface.
- Move the ball valve lever to the open position in the mowers with the hydraulic cylinder (it stays in that position throughout the entire time of the mowers operation), and then move the mower to the horizontal position. Be extra careful when lowering the mower from the vertical position to the horizontal position. Pay attention to the space available for the operation.
- In the mower with the push rods system, the gear should be moved to the upper position (Position 4 in the drawing below), and then lower the mower to just above the ground.
- Stand behind the machine (shown in the top drawing on the following page in the X spot) and pull the line causing the latch to slide out (Position 1 in the bottom drawing on the following page) from the opening (Position 3), take the mower by the cutting system's cover and turn it to the operating position.
- Put the fuse in (Position 1) the upper suspension frame pin (Position 2) and secure it with a cotter (Position 3).

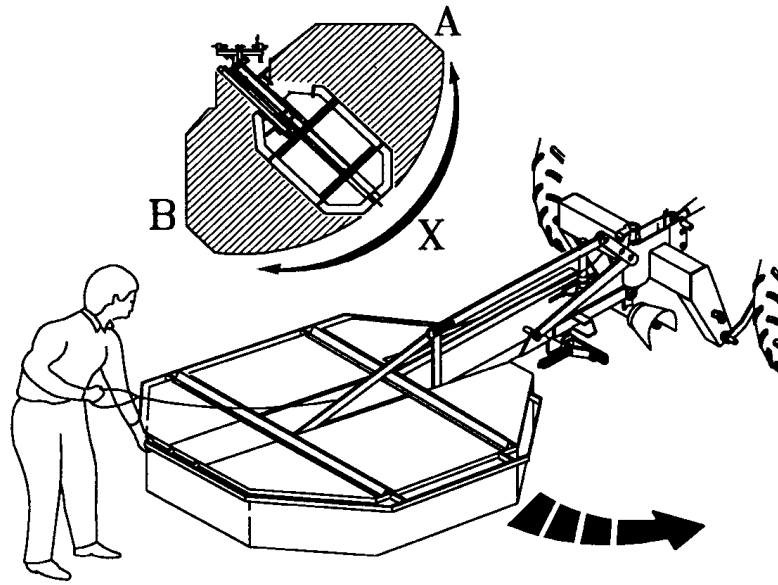
Proper positioning of the mower in the operating position ensures a safe and high quality and efficiency operation.

The PTO shaft may be connected to the tractor only during the time of the mower's operation, but during transport or maintenance works it should be disassembled.

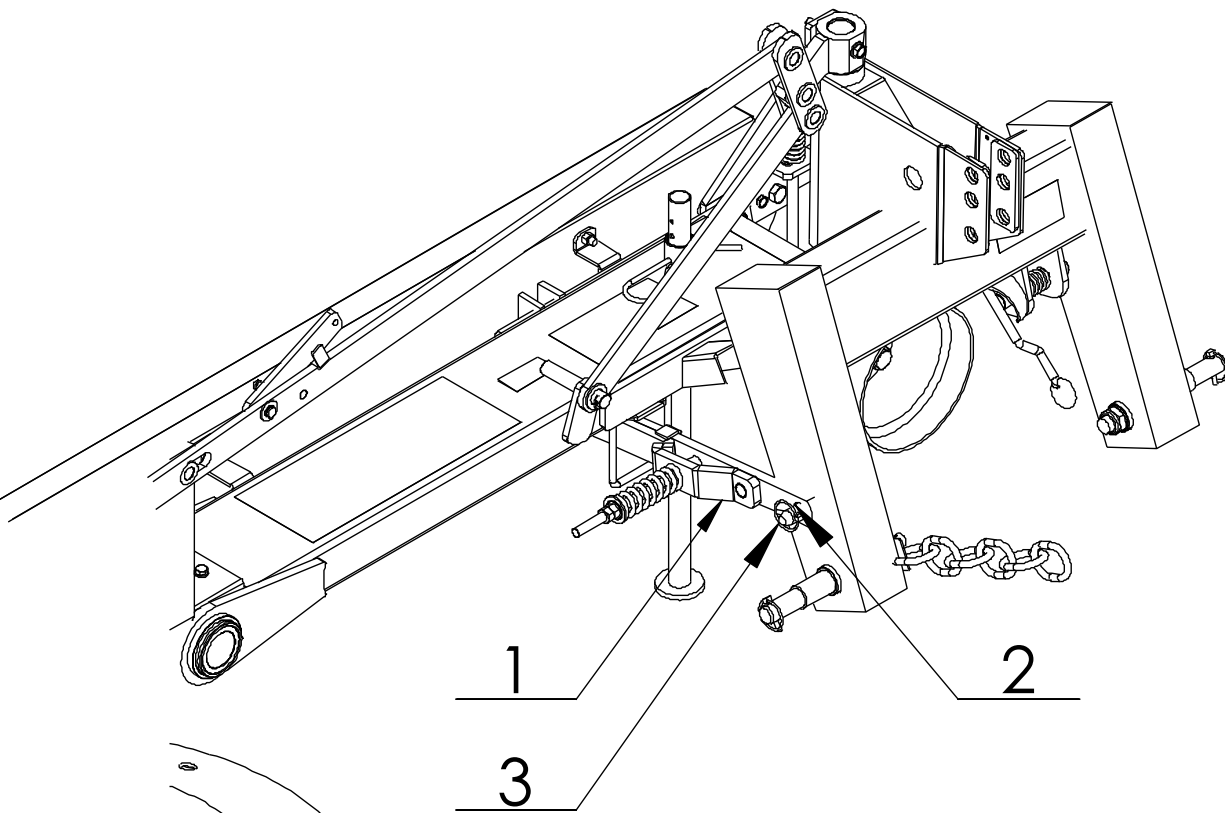


Gear's operating position





Changing the mower's position from the transport position to the operating position and the other way back.

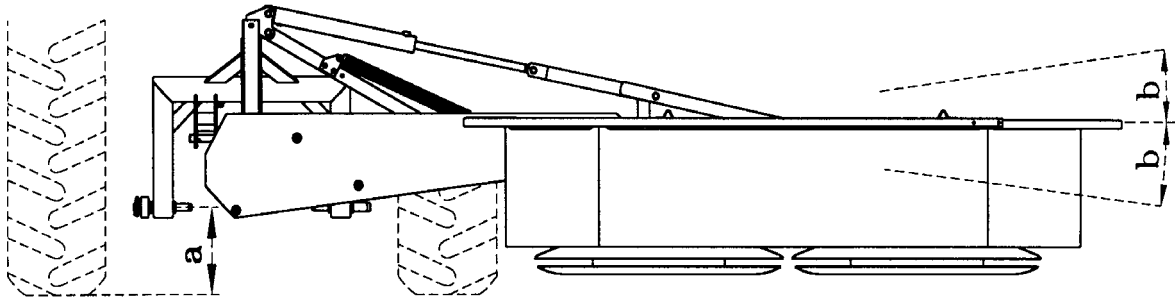


Changing the mower's position to the operating position

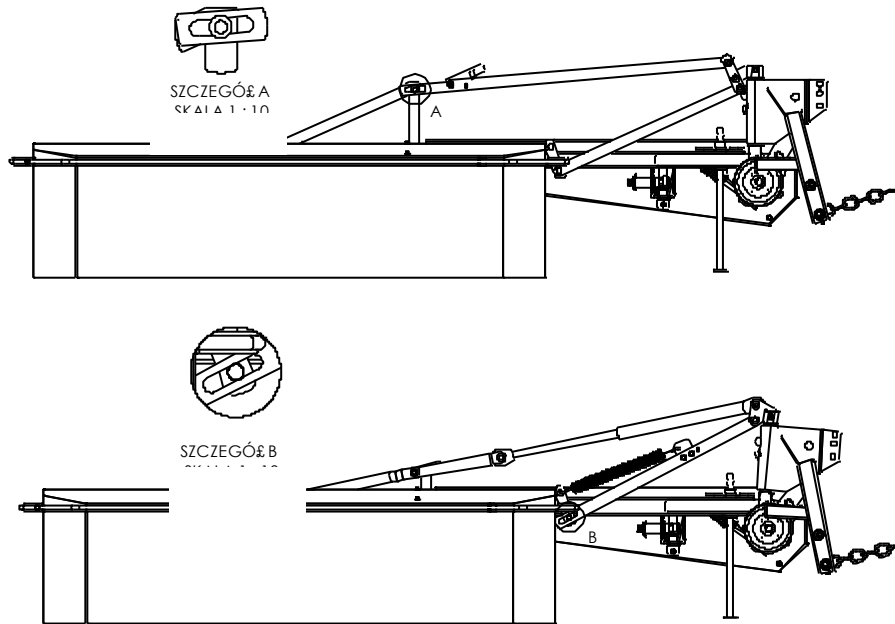
Adjusting the Mower

Determining the length of the upper connector.

After repositioning the mower to the operating position, the stump jumpers should be positioned parallel to the ground and the suspension frame should be positioned at such a height so the distance “a” is about 11 inches and the pin is in the middle of the longitudinal opening of the push rod (Drawing 2). Adjustments should be made with the help of the upper connector and the tractor’s right lift arm brace. In order to ensure the proper operation for the mower, the suspension frame should be supported by a chain connected with the clevis fastener or its bracket.

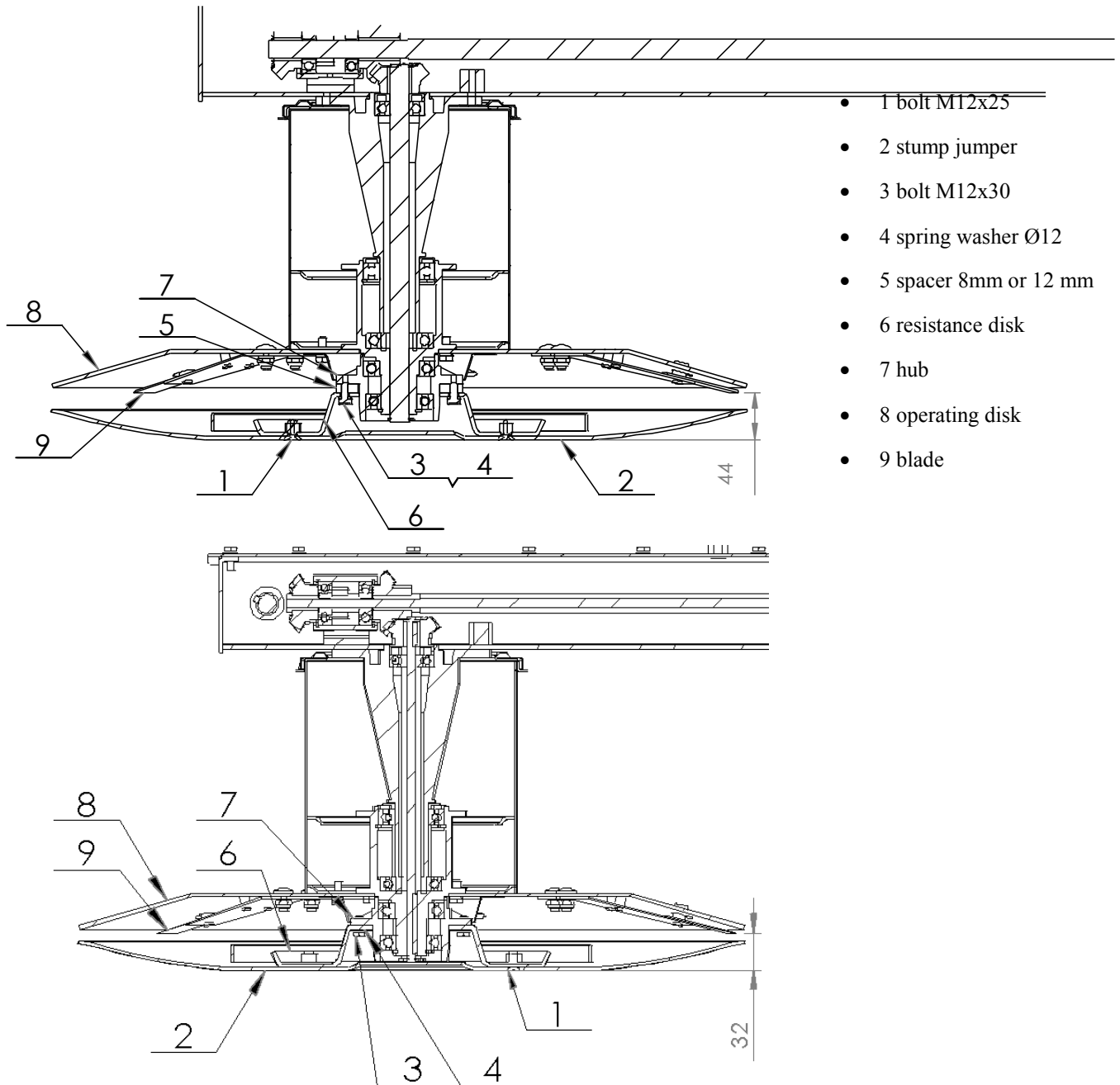


Drawing 1: The proper operating mode of the mower.



Drawing 2: The proper alignment of the cotter pin on the engagement rod.

The mower may be positioned at any cut height 32 mm (low), 40 mm, or 44 mm (high). The mower is set to the middle height of cut. A spacer ring (Position 3 in Drawing 3) may be used to adjust it, which is installed on the operating drums between the stump jumper’s hub (Position 7 in Drawing 3) and the resistance disk (Position 6 in Drawing 3).



Drawing 3: Adjusting the height of cut.

In order to change the height of cut from 40mm to 44mm, the 8mm spacer ring should be substituted with a 12mm spacer, and in order to achieve the 32 mm height of cut, the spacer ring should be disassembled.

Therefore the following must be done:

1. Position the mower to the transport position and lift it to the upper position.
2. Set the tractor's handbrake and disengage the tractor's engine.
3. Secure the mower from falling with a chain and an additional support placed under one of the stump jumper disks.
4. Unscrew the bolts M12x25 (Position 1 in Drawing 3) and disassemble the stump jumper (Position 2 in Drawing 3).
5. Unscrew the resistance disc bolts (Position 3 in Drawing 3) M12x30 and take it off.
6. Adjust the cut height and assemble it in the reversed order.
7. Perform the adjustment in the other stump jumper disc repositioning the support.

Operating the Mower

The fields and meadows to be mowed should be free from any foreign and/or hard object or stones, which may damage the mower.

The shields of the mower must be positioned downwards during operating of the machine. The mower's drive should be turned on slowly and after reaching 540 RPM of the power take-off, the operation may be started. The speed should be adjusted to the terrain conditions and the type of grass to be mowed. For the time of idle drive, the drive of the mower should be turned off and then the mower should be lifted upwards.



The mower shouldn't be used on uneven and full of stones fields because of the risk of damaging the blades, holders, and other mower's elements, as well as because of the risk of the hard objects thrown out (stones, broken blades, etc.).



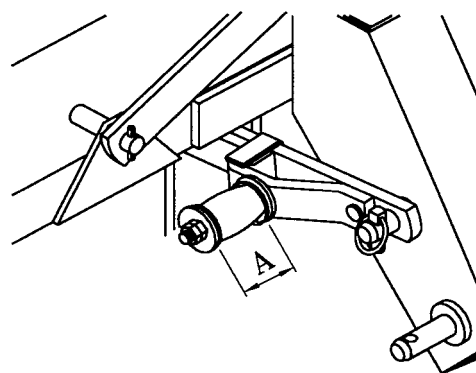
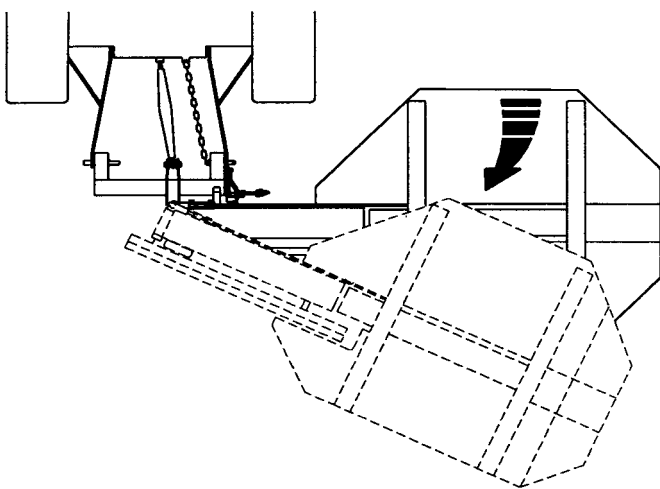
WARNING The operating drums and the blades still rotate for a certain amount of time even after the power take-off drive is turned off. Prior to making any adjustments on the mower, turn off the drive and the engine of the tractor, pull out the key from the ignition, and allow for the operating drums and the blades to come to a complete stop.



WARNING: It is prohibited to:

Operate the mower in the presence of bystanders within a less than 165 ft. perimeter.

In case the mower hits an obstacle, the fuse allows for the cutting system to tilt. The tractor then should be stopped and the drive should be turned off. The fuse gets back in when the tractor is moved back a bit. The length of the A fuse's tighten spring should be 65mm. If it is too tight, it may block the fuse and damage the mower when it hits an obstacle.



Securing the mower after driving into an obstacle.

ATTENTION: because of the possibility to damage the mower, never:

- exceed the tractor's PTO 600 RPM
- lift the mower while the drive is engaged and the drums are rotating
- mow while backing up (*this will cause machine failure!*)

Resting Position

The mower in the resting position is completely separated from the tractor's suspension system. The mower is repositioned from the transport position to the resting position.

The following should be done for that purpose:

- With the three point suspension system, the support of the mower should be lowered and secured with a cotter.
- Lower the mower and rest it on the stump jumper discs and the support.
- Disengage the engine and pull out the key from the ignition and set the brakes.
- Disconnect the pivotal end of the tractor's upper connector from the suspension frame yoke.
- Take down the tractor's push rod ball joint from the suspension frame pins.

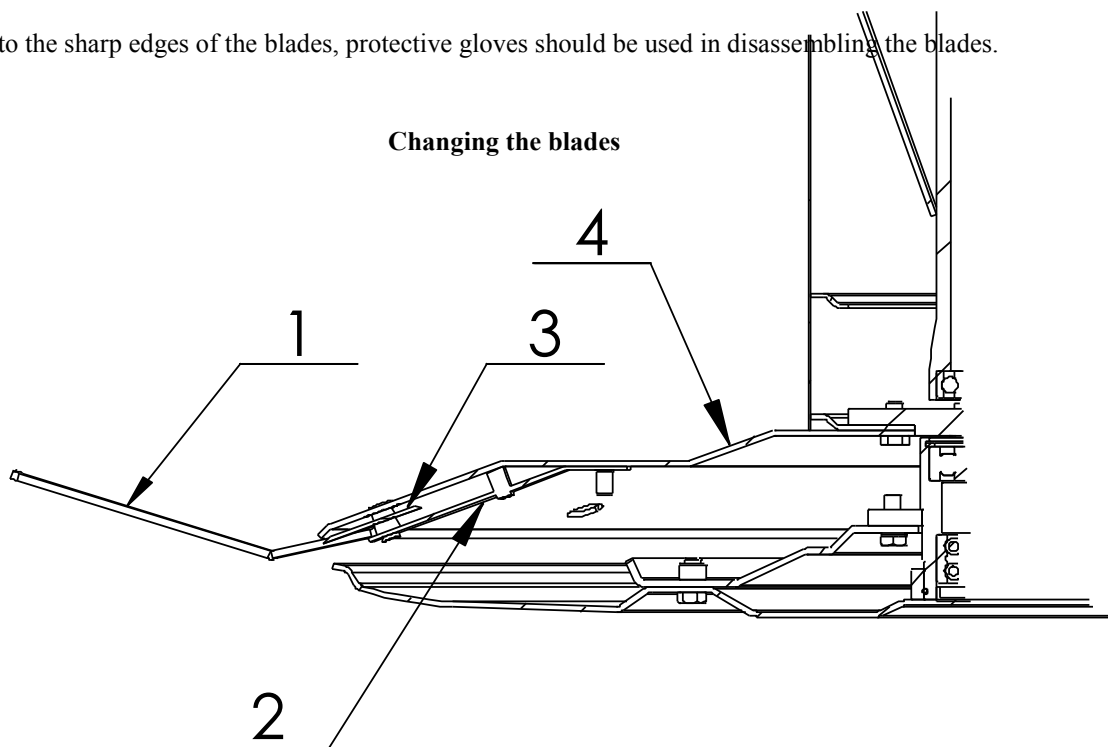
TECHNICAL MAINTENANCE OF THE MOWER

Changing the Blades

In order to install or disassemble the blades on the operating disc, a special wrench key should be used, which is included in the basic equipment of the mower.



Due to the sharp edges of the blades, protective gloves should be used in disassembling the blades.



Installing the blades:

- The blade should be lifted (Position 3 in the drawing above)
- The wrench key (Position 1 in the drawing above) should be inserted in the space between the operating disc the holder of the blade (Position 2 in the drawing above).
- Tilt the blade holder down so its pin slides out of the disc's socket lifting the wrench key up.
- Put the blade onto the pin of the holder, making sure that the pin of the holder is in the disc's opening.



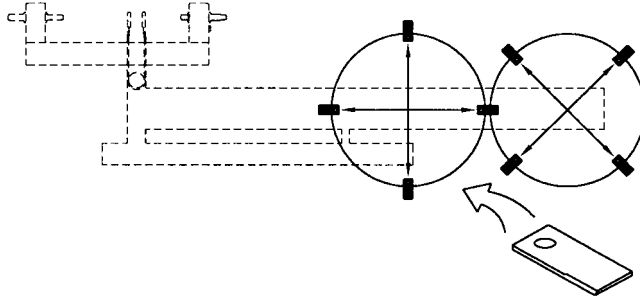
IMPORTANT The holder's pin should be in the middle of the disc's opening in order to properly install the blades. Failure to properly install the blades may result in serious hazard to the operator and the bystanders.



WARNING In case any blade becomes damaged or worn out, it is indispensable to change the whole set of blades to new ones. The blades worn on one side (only one side is dull) may be reinstalled on the neighboring disc (rotating in the opposite direction), provided they are not damaged.

When changing the blades holders, special attention should be paid to their positional relationship between the individual discs.

Arrangement of the Blades:

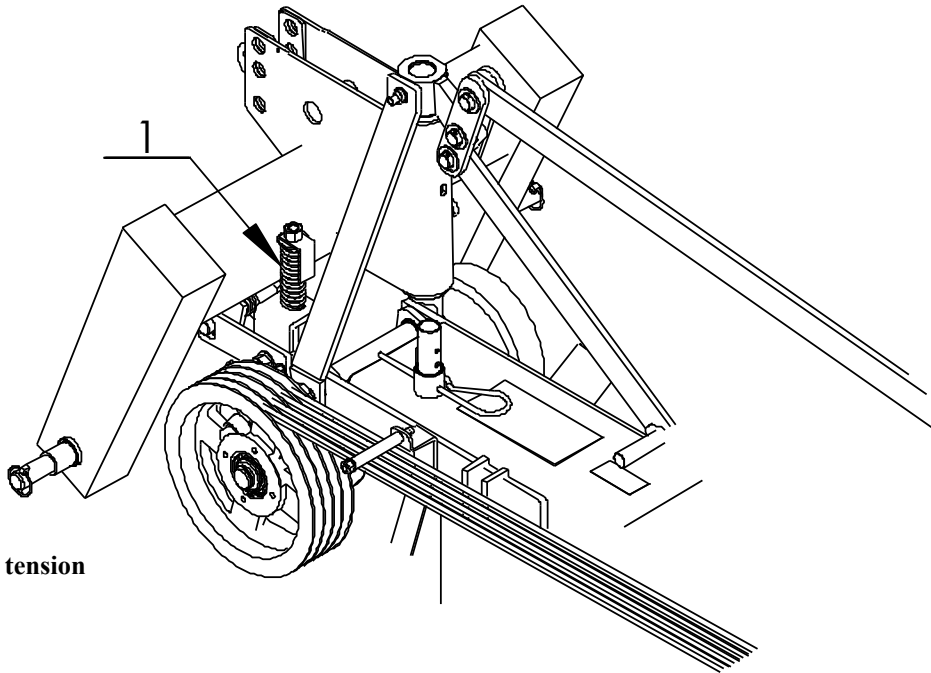


NOTE: *Only certified blades should be used.*



V-Belt Tension

Check the condition of the V-belt of the transmission; the flexibility under the finger pressure shouldn't exceed $1 \frac{1}{4}''$. The V-belts are stretched with a spring tensioner (Position 1 in the drawing below). The adjustment should be made by rotating the bolt of the tensioner. The rotating should be done with a flat wrench key, turning it on the counter-nuts M16 which are on the bottom of the bolt. In case of damaging one V-belt, a whole set of V-belts should be replaced.



V-belt tension

Everyday Maintenance

Following operation, clean the mower from any plant residues or dirt and check its technical condition every day.

- Inspect the components and their connections.
- All loosened bolt connections should be tightened, and the worn out or damaged parts should be replaced with new original spare parts.
- Pay attention to the cutting system; the worn or damaged blades, holders should be replaced as whole sets to new ones.
- Check the tension of the V-belts
- Lubricate the mower and the PTO shaft in accordance with the lubricating instructions.

Post-Season Maintenance

When the operating season is over, the following must be done:

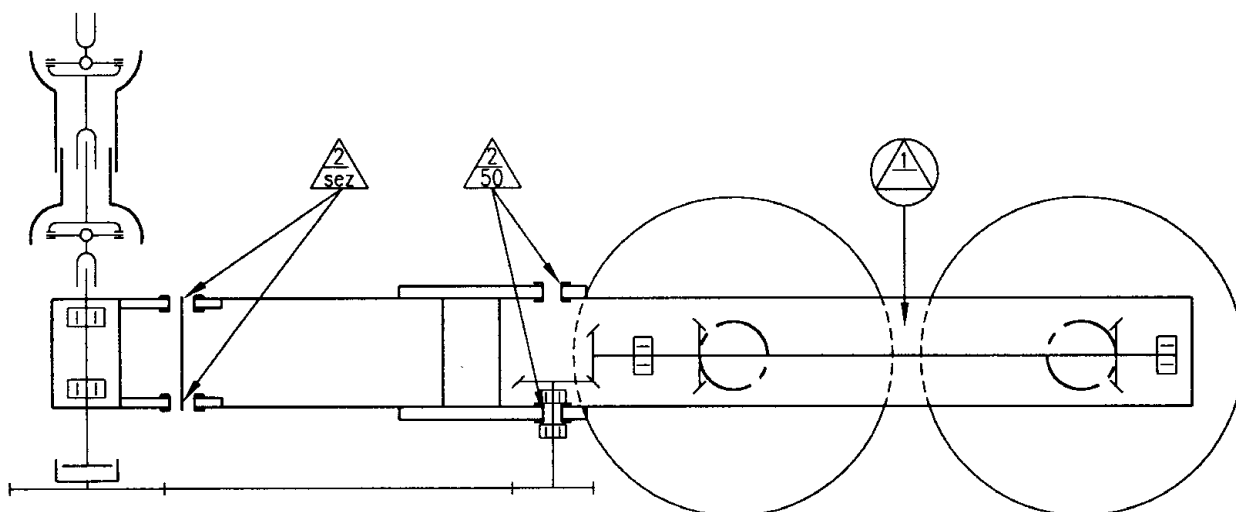
- Thoroughly wash the mower.
- Perform a detailed technical inspection of particular parts and components.
- The worn out or damaged parts should be replaced with new ones.
- Loosen up the V-belts.
- Perform post seasonal servicing on the mower
- Places with a damaged paint layer should be repainted.
- Secure the operational surfaces with worn paint layer with a corrosion protection product.
- Change the transmission oil (main frame), lubricate the machine in accordance with the lubricating instructions.

Lubrication Instructions

Perform the following maintenance activities:

Gear Box:

- Check the oil levels every 10 hours with the help of a clean rod inserted in the vent opening. The level of the oil should be 20-30mm from the bottom of the gear box. In case the oil level is low, the cause of the leakage should be removed first, and then the oil should be refilled to the required level. There should be 5 liters of oil in the gear box.



The instructions for lubricating the mower.

The greasing points indicated by triangles should be greased with a machine oil with the help of a lubricator.

The PTO shaft should be lubricated in accordance with the shaft manufacturer's requirements.



REMEMBER: The higher quality and viscosity 90 Wt. gear oil should be used or alternately 140 Wt. gear oil.

Storing

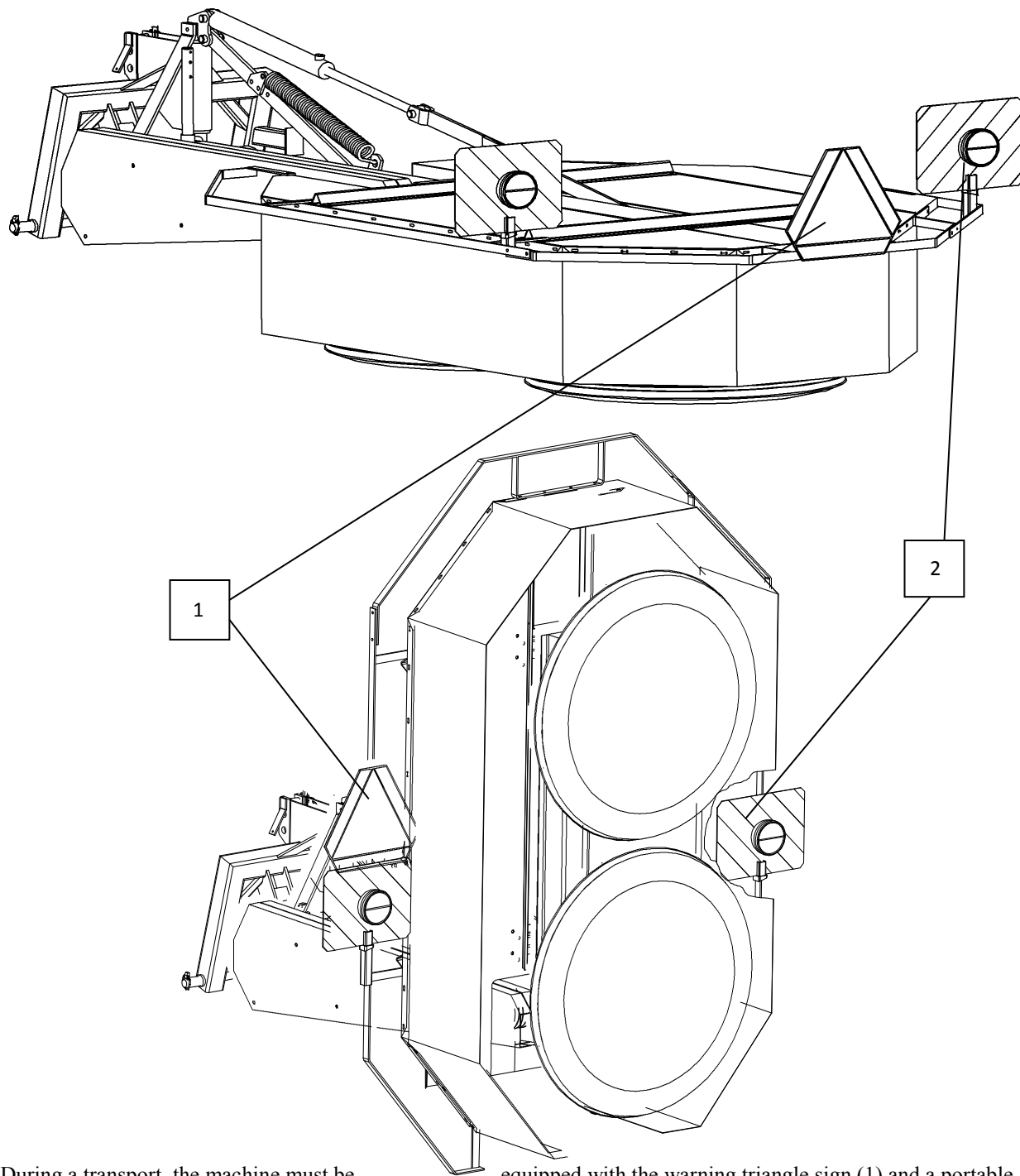
The mower should be stored in a dry, hardened surface and roofed place that is of limited accessibility to people and animals.

In case the mower is exposed to adverse weather conditions, it is necessary to perform maintenance and lubricating on the machine.

Check the stability of the mower after placing it in the storage place. Positioning the mower on a soft and uneven surface may be hazardous.

Transport Lights

The mower should always be positioned horizontally or vertically in the driving direction (behind the tractor).



During a transport, the machine must be equipped with the warning triangle sign (1) and a portable warning light device (2) consisting of two rectangular plates painted with white and red stripes, to which composite tubes are assembled with side position lights, stop lights and turn signals. During a transport of the mower in the vertical position, the shields cannot cover the warning lights. If so, the shields should be pressed closer to the upper metal covers and tied up with a twine in several places.

Assembly of the Mower

The manufacturer delivers a mower with the cutting system's cover that is not assembled.

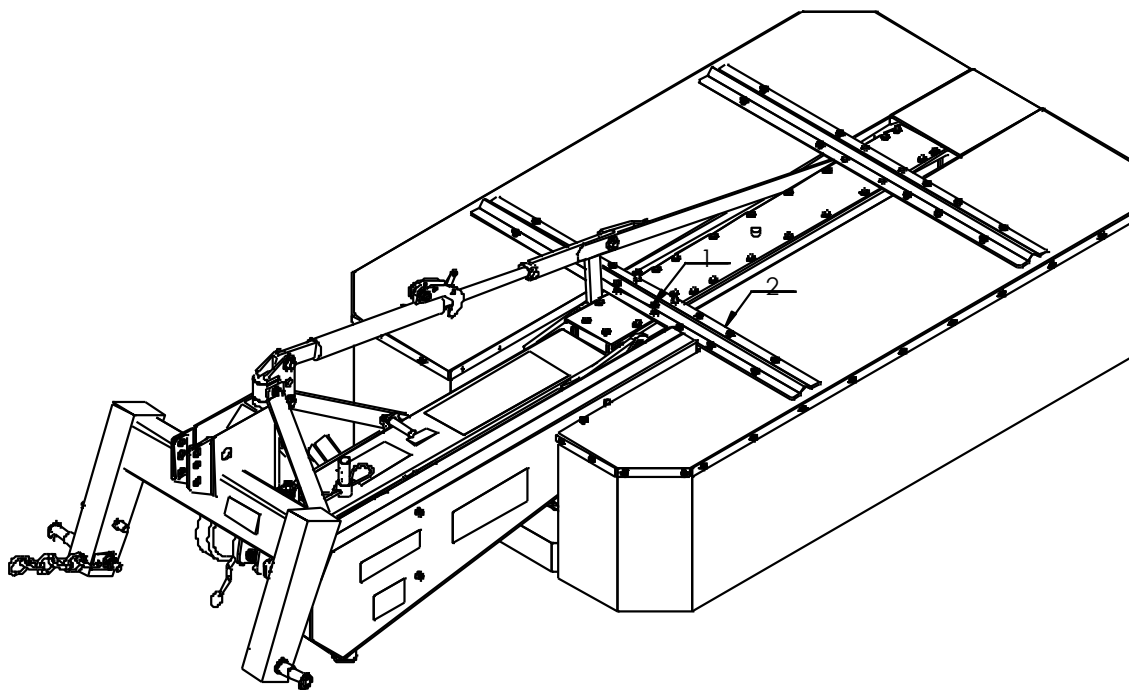
The responsibility to install the covers is on the side of the purchaser.



Operating the mower with the cutting system's cover not installed or damaged or with the shield lifted is hazardous to the operators and the environment.

The cover should be installed in the following way:

- Unscrew the bolts M10x25 (Position 1 of the drawing below).
- Screw in the brackets with the rest of the covers of the upper frame (Position 2 of the drawing below).



Dismantling, Utilization, and the Methods of Utilization.



Protect your hands (body) from injuries and harmful effects of lubricants and oils. Use protective gloves and tools in good technical condition. The elements of the machine which may reposition or turn during the disassembling should be appropriately secured.

The worn out or damaged parts obtained during repairs (dismantling) should be stored in a segregated place of limited accessibility to people and animals. The worn out elements should be delivered to the scrap collection center. The worn out elements made of plastic material should be delivered to the storage (disposal) of waste chemicals.

Do not spill oil during the time of refilling or changing it. The used oil should be stored in tight containers and periodically deliver it to the oil utilization centers.



The abandoned parts or elements of the machine or spilled oil may result in accidents and cause environmental pollution and violate the rules.

Possible Damages and Troubleshooting

PROBLEMS	REASONS	SOLUTIONS
Increased vibrations of the mower	Unevenly worn out or damaged elements of the cutting system	The worn out elements replace with whole new sets
Bad cut and clogging of the cutting system	Dull or damaged blades	Dull or damaged blades replace with New sets of blades Blades dull on one side should be installed on the disc with the opposite direction of rotations
Sliding belts	The belts not tightened good enough Wet belts Worn out belts Belts with different lengths	Check and adjust the tension of the belts Avoid mowing in rain Replace the belts with new sets of belts Use one brand belts in a set with the same dimensions
During a normal operation, the cutting system tilts to the back caused by the fuse.	The fuse spring lightly tightened or damaged	Check and adjust the tension of the spring, replace if damaged
	Uneven surface, e.g. hardened molehills	Decrease the speed of driving, tilt the cutting system to the back

PARTS BREAKDOWN

Models:

BDR-135

BDR-165

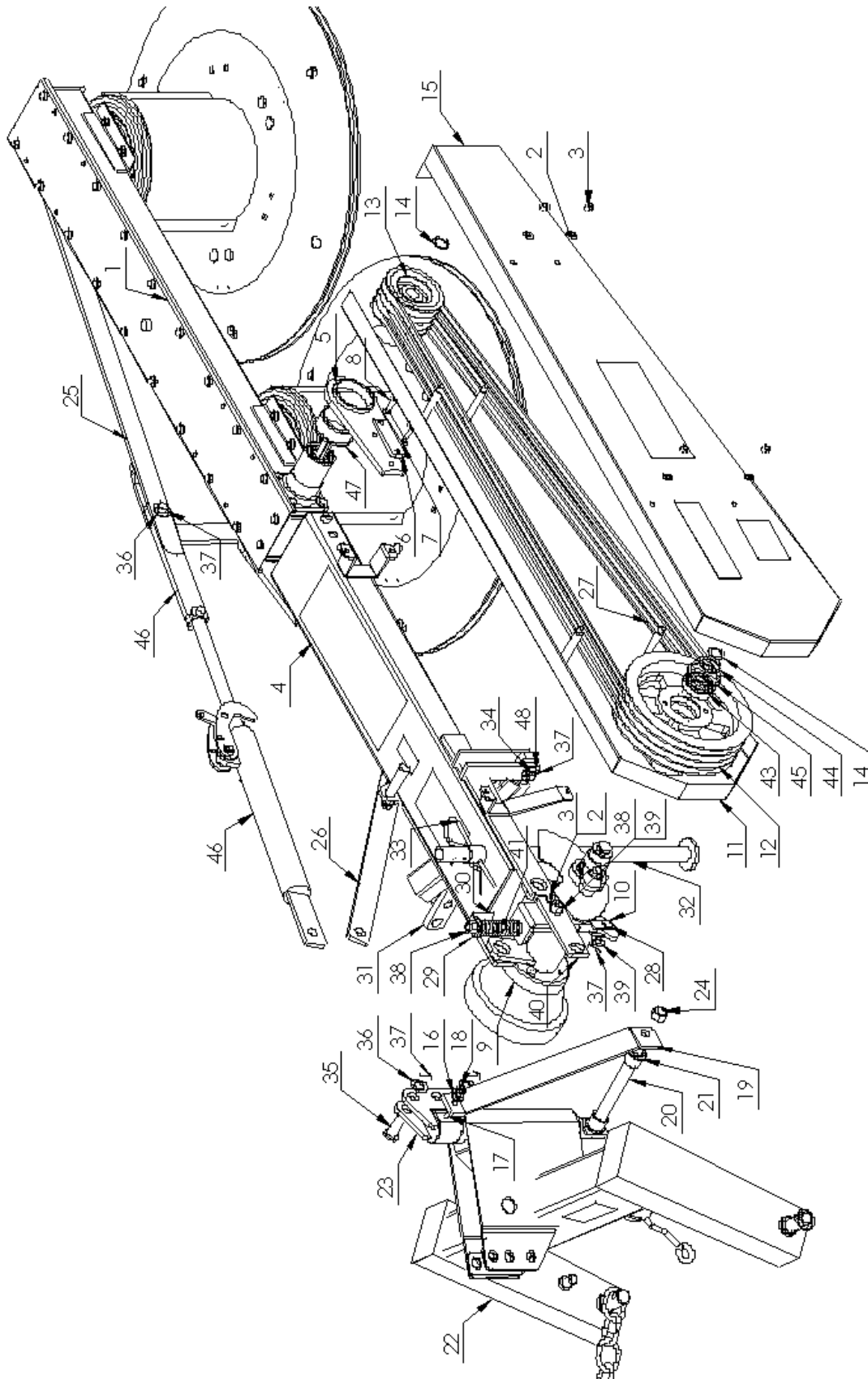
BDR-185



Tar River Equipment

BDR-135 ~ BDR-165 ~ BDR-185

Central Beam - Suspension



Tar River Equipment

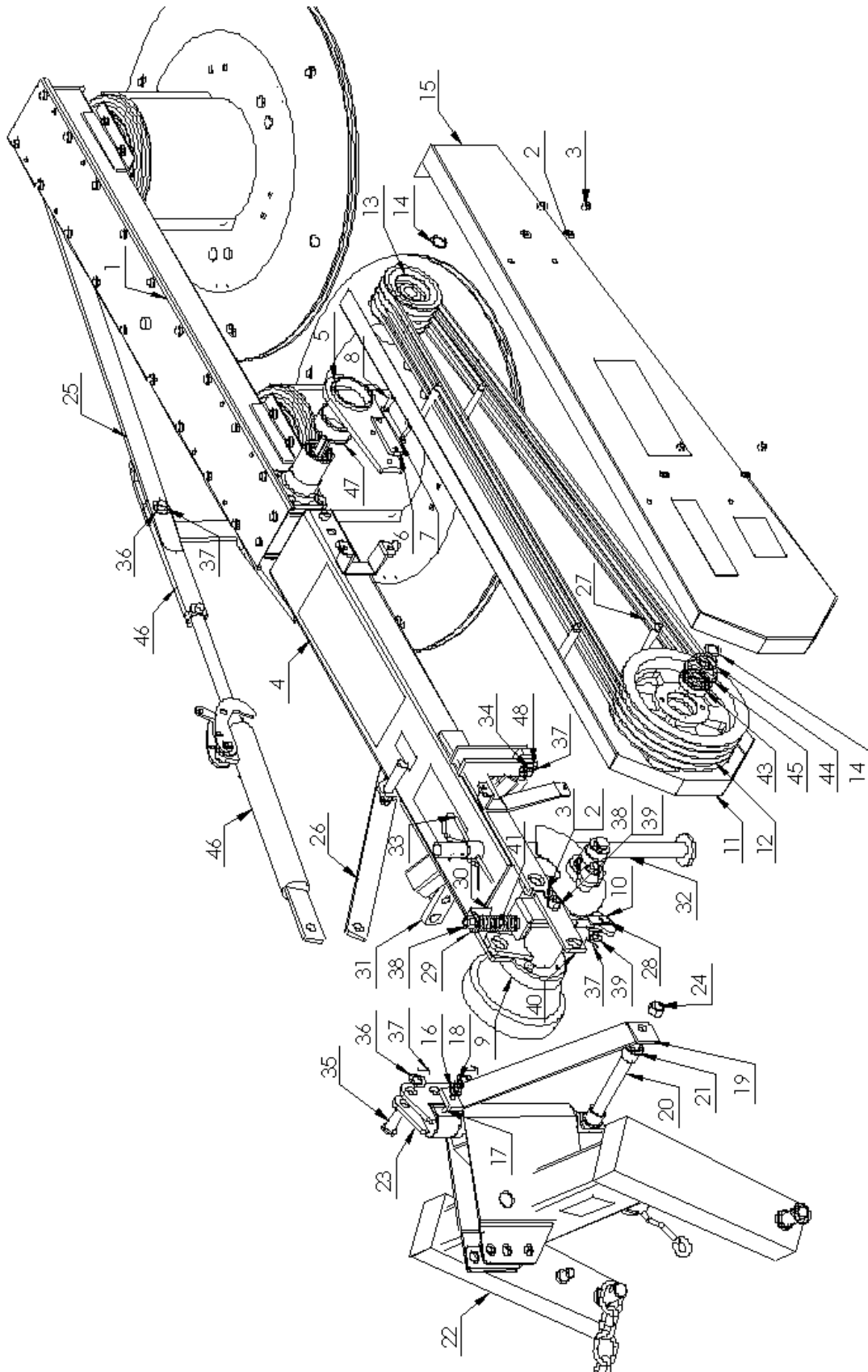
BDR-135 ~ BDR-165 ~ BDR-185

Position	Part #	Description	Qty
1	DM90135	Main Frame BDR-135	1
	DM90165	Main Frame BDR-165	1
	DM90185	Main Frame BDR-185	1
2	DM82005	Washer	5
3	NM10000	Nut M10	9
4	DM20175	Central Beam BDR-185	1
	DM20175-65	Central Beam BDR-165	
5	DM10180	Yoke BDR-185	1
	DM10180-65	Yoke BDR-165	
6	DMT2006	Push Rod	1
7	DM10088	Star Washer	1
8	DM82105	Bolt	2
9	DMT2009	Head (PTO Cover)	1
10	DM83002	Pin 16h9x40/34-5H	1
11	DM20162	Belt Cover BDR-185	1
	DM20144	Belt Cover BDR-165	
12	DM20452	Pulley	1
13	DM10250	Pulley	1
14		Retaining ring	2
15	DM20251	External belts cover BDR-185	1
	DM20157	External belts cover BDR-165	
16	FW12000	Washer Ø12	2
17	BM12100	Bolt M12x100	1
18	DM82144	Self locking counter nut M12	1
19	DM20391	Clevis BDR-185	1
	DM20391-65	Clevis BDR-165	
20	DM20131	Angular axis	1
21	DM20389	Pivot bushing	2
22	DM20892	Suspension BDR-185	1
	DM20892-65	Suspension BDR-165	
23	DM20083	Hitch head	1
24	NM20000	Nut M20	1
25	DM10110	Frame rod BDR-185	1
	DM10110-65	Frame rod BDR-165	
26	DM20096	Rear clevis BDR-185	1
	DM20096-65	Rear clevis BDR-165	
27	SPA2832	V-Belt BDR-135	4
	SPA2932	V-Belt BDR-165	
	SPA3185	V-Belt BDR-185	
28	DM020246	Bolt tensioner	1
29	DM020307	Spring cap	1
30	DM20409	Angle bracket	1

Tar River Equipment

BDR-135 ~ BDR-165 ~ BDR-185

Central Beam - Suspension



Tar River Equipment

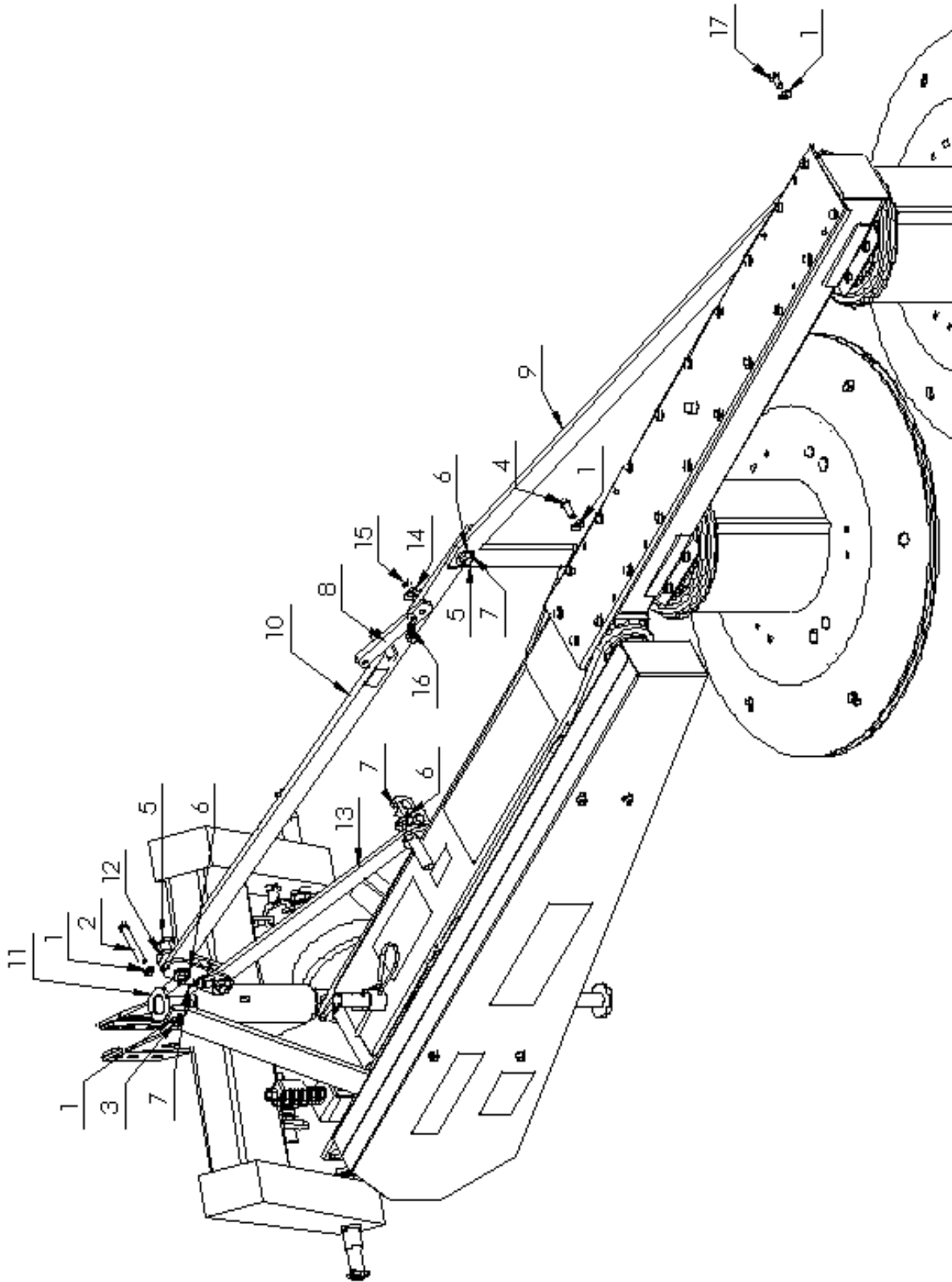
BDR-135 ~ BDR-165 ~ BDR-185

31	DM20290	Lock	1
32	DM20760	Support	1
33	DM11024	Spring pin	1
34	DMT2034	Lock pin	1
35	DM83002	King pin	3
36	DM82005	Washer Ø25	4
37	DM82001	Cotter pin	6
38	NM16000	Nut M16	2
39	FW16000	Washer Ø16	2
40	DM20100	Lock faceplate	1
41	DM20218	Spring	1
42	BM10300	Bolt M10x30	1
43	B600900	Bearing 6009	1
44		Securing ring Z45	1
45		Securing ring Z75	1
46	DMT2046	Cylinder	1
47	DM10177	Sleeve bearing BDR-185	2
	DM10291	Sleeve bearing BDR-165	
48	FW20000	Washer Ø20	1

Tar River Equipment

BDR-135 ~ BDR-165 ~ BDR-185

Lift Mechanism



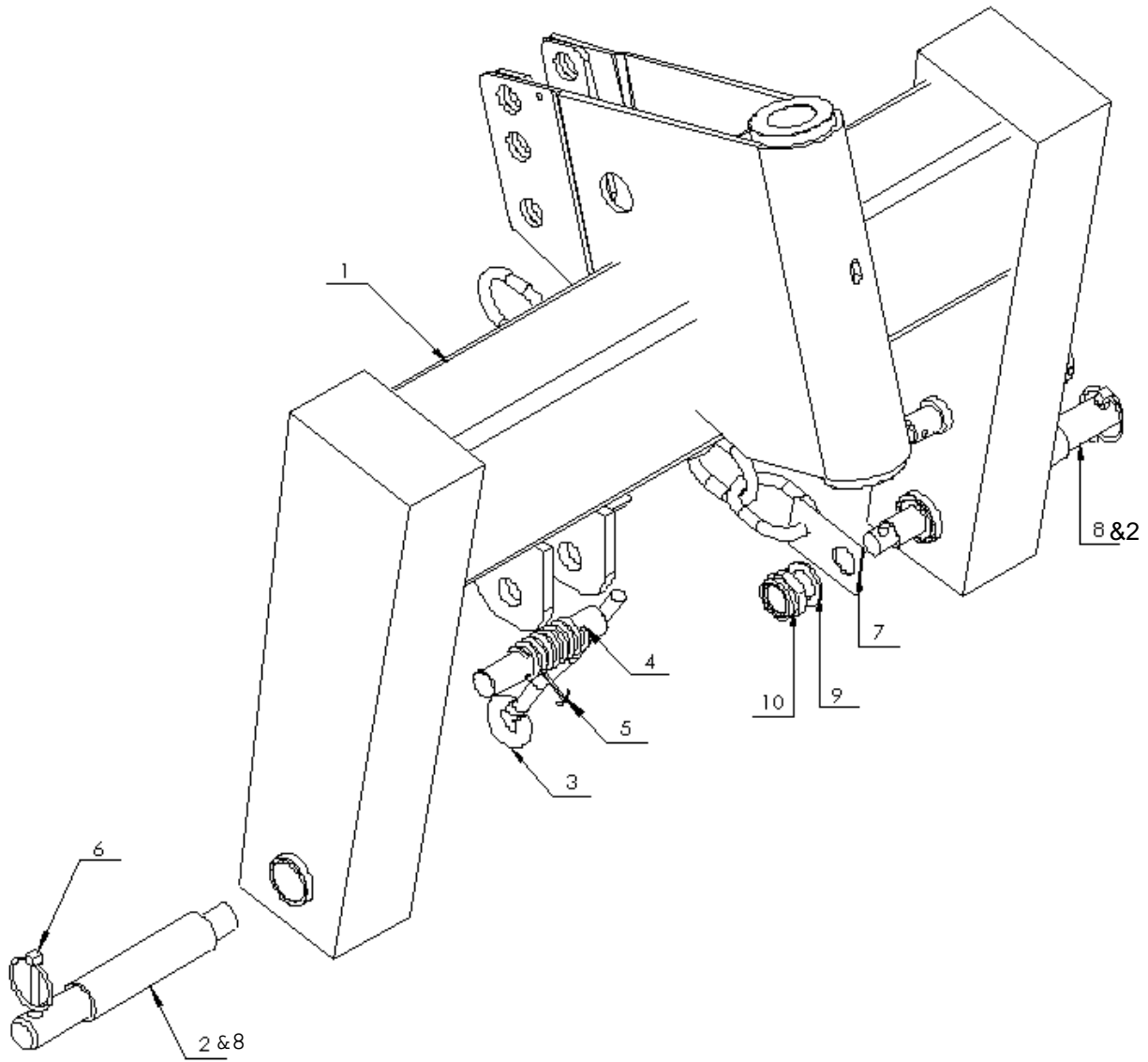
Tar River Equipment

BDR-135 ~ BDR-165 ~ BDR-185

Position	Part #	Description	Qty
1	LW12000	Washer Ø12	4
2	BM1217590	Bolt M12x90	1
3	NM12000	Nut M12	1
4	BM1217530	Bolt M12x30	3
5	DM83002	King pin 025	4
6	DM82005	Washer Ø25	5
7	DM82001	Cotter pin	7
8	DM20220	Locking bar	1
9	DM10110	Main frame push rod BDR-185	1
	DM10235	Main frame push rod BDR-165	1
10	DM20070	Front push rod BDR-185	1
	DM20070-65	Front push rod BDR-165	1
11	DM20083	Head	1
12	DM20103	Front push rod connector	2
13	DM20096	Short push rod BDR-185	1
	DM20096-65	Short push rod BDR-165	1
14	DM82005	Washer Ø16	3
15	SR	Securing ring Z13	1
16	DM20526	Push rod spring	1
17	BM1217530	Bolt M12x30	1

Tar River Equipment
BDR-135 ~ BDR-165 ~ BDR-185

A Frame



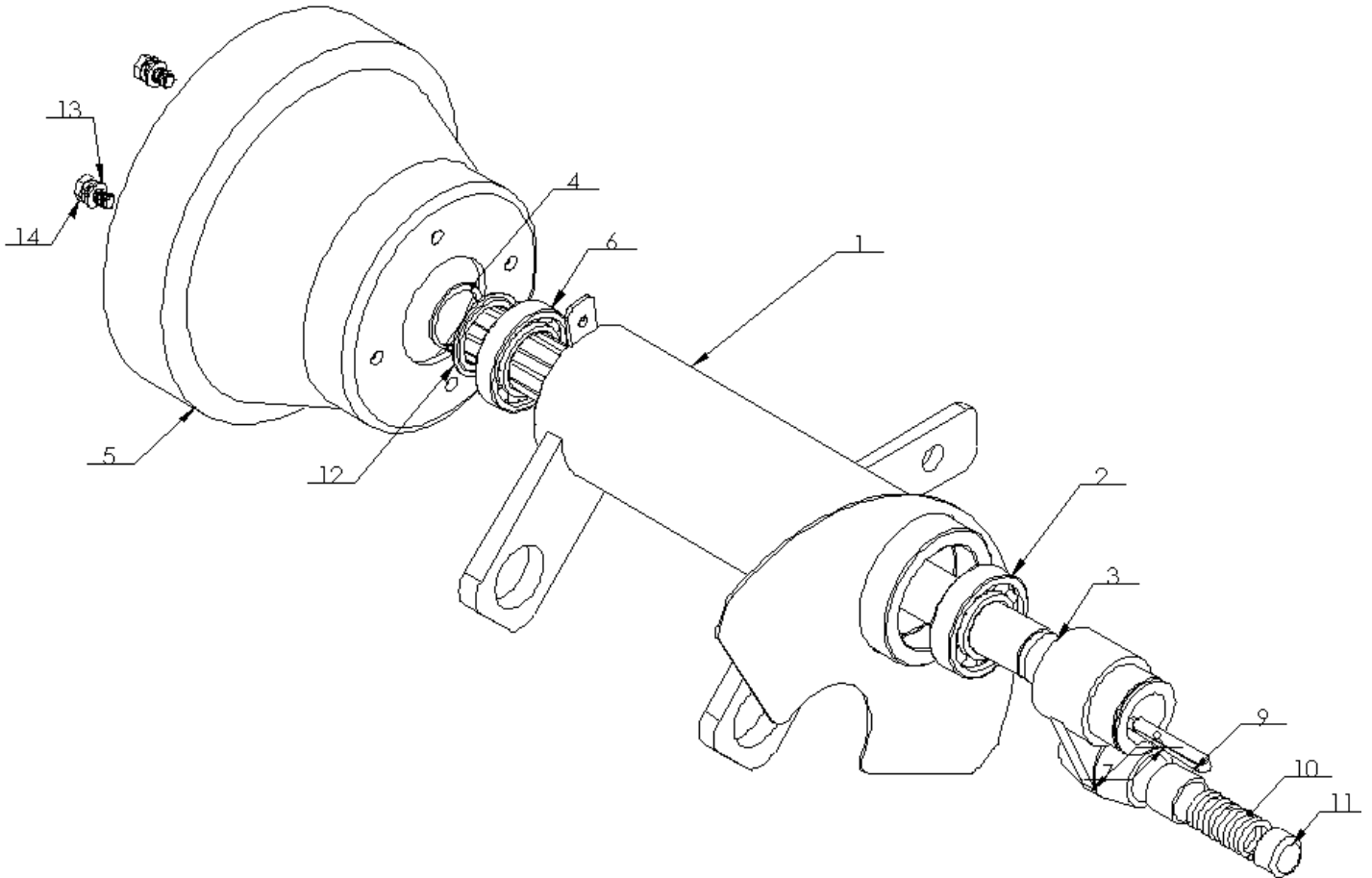
Tar River Equipment

BDR-135 ~ BDR-165 ~ BDR-185

Position	Part #	Description	Qty
1	DM20892	A Frame BDR-185	1
	DM20656	A Frame BDR-165	1
2	DMT4002	Hitch Pin - 135 & 165	2
3	DMT4003	Latch	1
4	DMT4004	Spring	1
5	DM82001	Cotter pin	1
6	DMT4006	Lynch Pin	3
7	DM20274	Chain	1
8	DMT4008	Hitch Pin - 185	2
9	FW24000	Washer Ø24	2
10	LN24000	Self locking counter nut M24	2

Tar River Equipment
BDR-135 ~ BDR-165 ~ BDR-185

Input Drive



Tar River Equipment

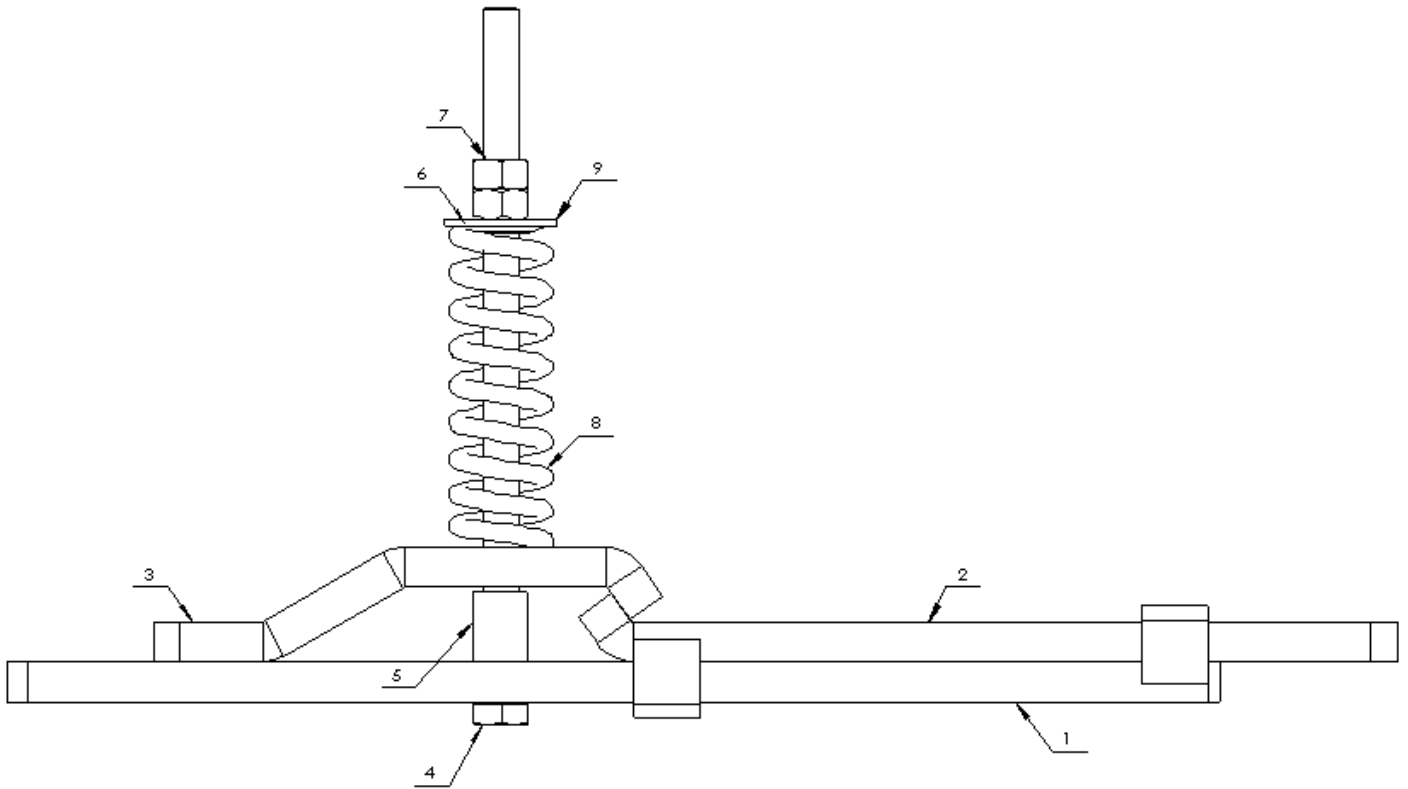
BDR-135 ~ BDR-165 ~ BDR-185

Position	Part #	Description	Qty
1	DM20513	Drive head	1
2	B6206	Bearing 6206	1
3	DM20602	Drive shaft	1
4	SRE35000	Retaining ring Z35	1
5	DM21903	PTO Shield	1
6	B6007	Bearing 6007	1
7	KM080756	Pin 8x7x56	1
8	DM20172	Carrier	1
9	DM20205	Bushing	1
10	DM20218	Spring	1
11	DM20198	Carrier king pin	1
12		Securing ring	1
13	FW8000	Washer Ø8	4
14	BM812520	Bolt M8x20	4

Tar River Equipment

BDR-135 ~ BDR-165 ~ BDR-185

Breakaway Bar



Tar River Equipment

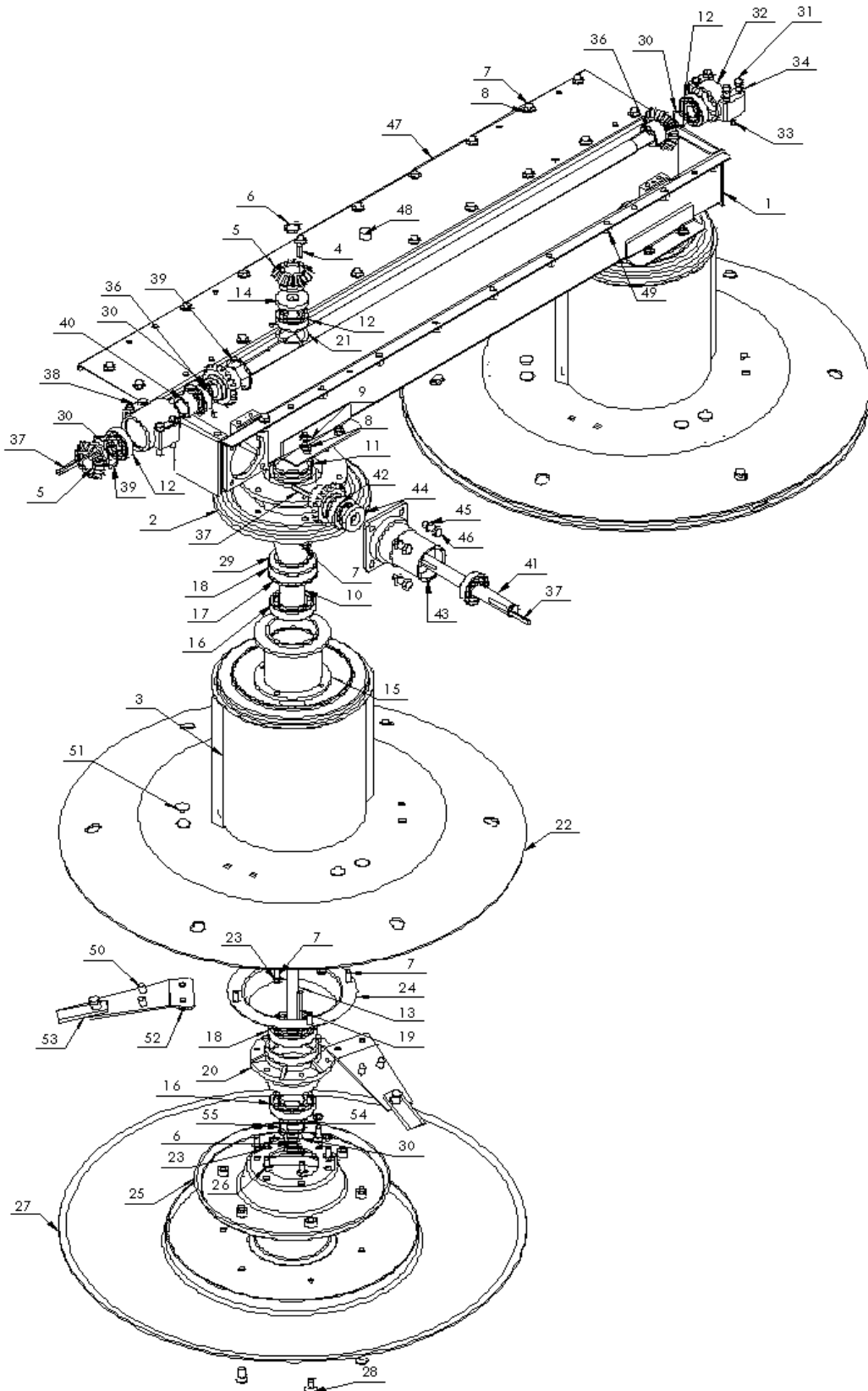
BDR-135 ~ BDR-165 ~ BDR-185

Position	Part #	Description	Qty
1	DM20290	Lower sliding bar	1
2	DM20291	Upper sliding bar	1
3	DM20322	Lock fuse	1
4	BM1420260	Bolt M14x260	1
5	DM20310	Lock spacer sleeve	1
6	FW14000	Washer Ø14	1
7	NM14000	Nut M14	2
8	DM20348	Spring	1
9	DM20307	Spring cap	1

Tar River Equipment

BDR-135 ~ BDR-165 ~ BDR-185

Main Frame



Tar River Equipment

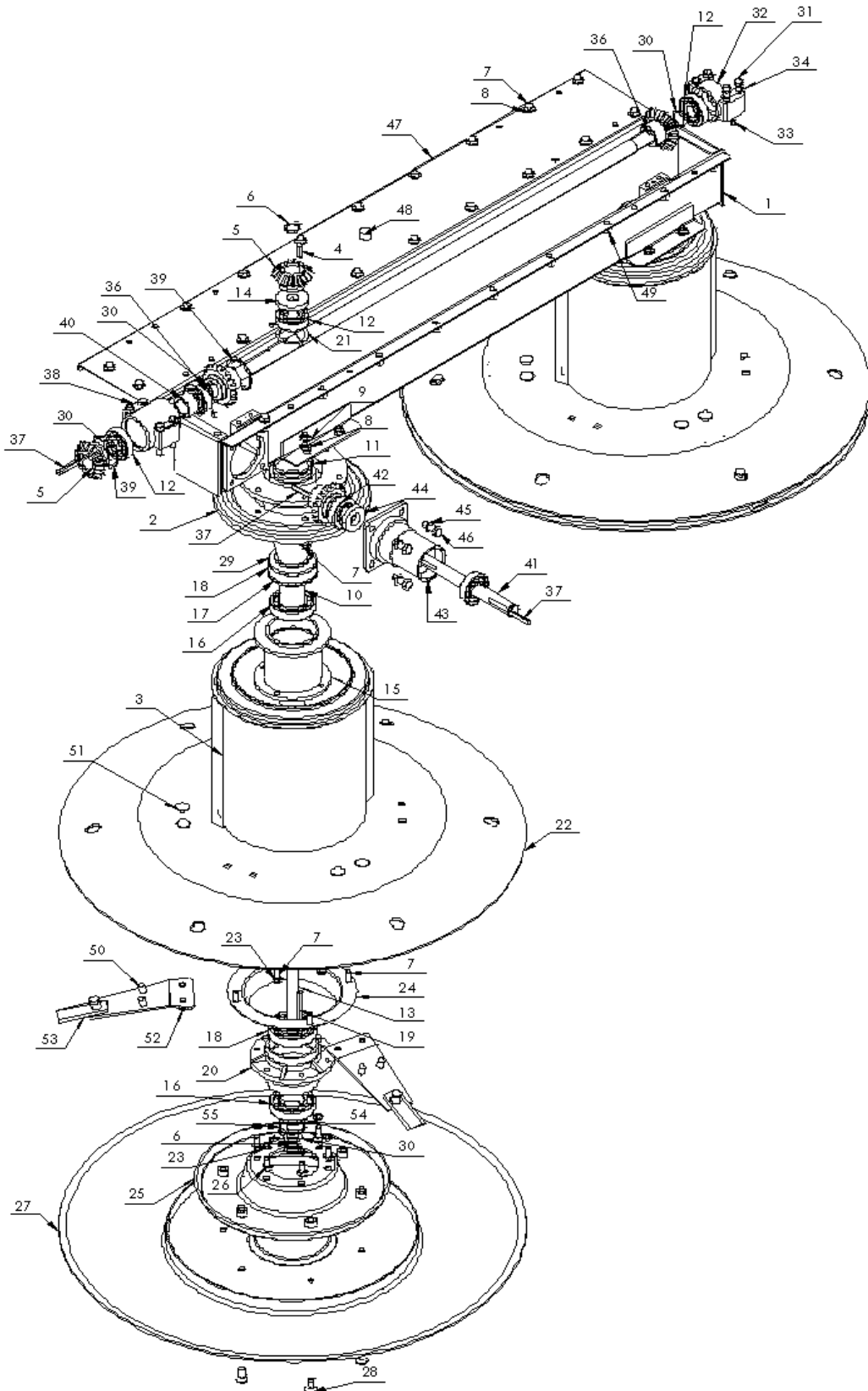
BDR-135 ~ BDR-165 ~ BDR-185

Position	Part #	Description	Qty
1	DM10192-135	Frame-135	1
	DM10192-165	Frame-165	1
	DM10192-185	Frame-185	1
2	DM10365	Drum plug	2
3	DM10721	Operating drum	2
4	DM10156	Inlet 8x7x32	2
5	DM10019	Bevel gear	3
6	DM85111	Retaining ring Z25	4
7	BM101525	Bolt M10x25	44
8	FW10000	Washer Ø10	28
9	NM10000	Nut M10	8
10	DM10747	Drum hub	2
11	DM10543	O-ring Ø75	2
12	B6305	Bearing 6305	6
13	DM10617	Reducing gear drive shaft	2
14	DM86965	Sealant	2
15	DM10790	Operating disc hub	2
16	B6209	Bearing 6209	4
17	DMT7017	Retaining ring	2
18	B6210	Bearing 6210	4
19	DM10584	Inlet 8x7x80	2
20	DM10775	Stump jumper disc hub	2
21	DM10057	Spacer washer	2
22	DM20021-135	Operating disc - 135	2
	DM20021-165	Operating disc - 165	
	DM20021-185	Operating disc - 185	
23	LW10000	Spring washer Ø10	46
24	DM10439	Cover	2
25	DM10340	Resistive disc	2
26	BM101525	Bolt M10x25	12
27	DM10528-135	Stump jumper disc - 135	2
	DM10528-165	Stump jumper disc - 165	2
	DM10528-185	Stump jumper disc - 185	2
28	BM1212525	Bolt M12x25	12
29	DM10031	Sealant	2

Tar River Equipment

BDR-135 ~ BDR-165 ~ BDR-185

Main Frame



Tar River Equipment

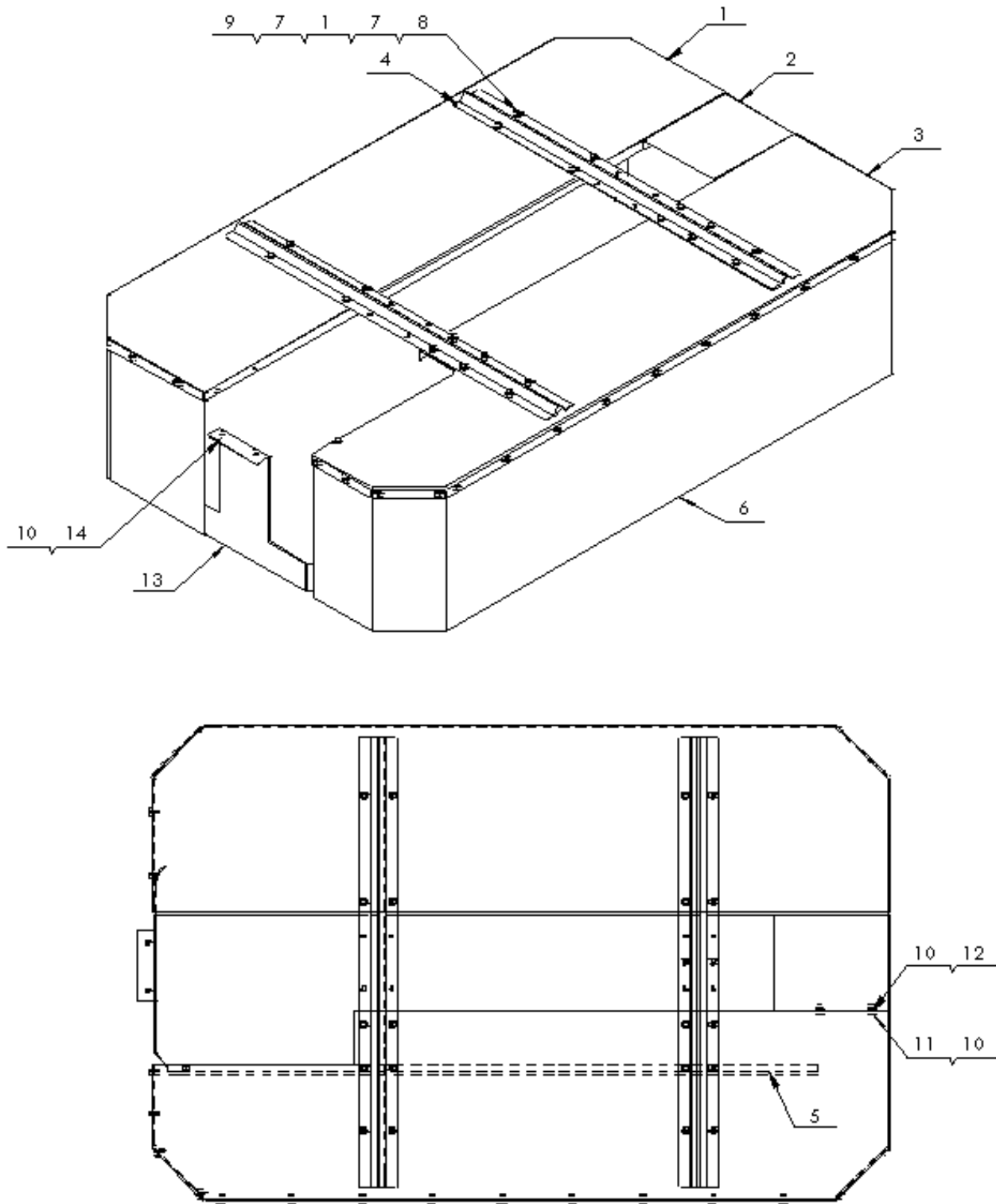
BDR-135 ~ BDR-165 ~ BDR-185

Position	Part #	Description	Qty
31	BM101560	Bolt M10x60	8
32	DM10075	Bearing casing II BDR-185	1
	DM10190	Bearing casing II BDR-165	1
33	DM85023	Spring pin Ø6x12	4
34	DM10088	Star washer	4
35	DM10047	Horizontal frame roller	1
36	DM10090	Bevel gear	3
37	DM10604	Inlet 8x7x50	5
38	DM10050	Bearing casing I BDR-185	1
	DM10187	Bearing casing I BDR-165	1
39	DM85111	Retaining ring W62	2
40	DMT7040	Spacer sleeve	1
41	DM10263	Reducing gear drive shaft	1
42	B30305	Bearing 30305	1
43	DM10276	Reducing gear	1
44	DM86964	Sealant	1
45	LW12000	Spring washer Ø12	16
46	BM1212530	Bolt M12x30	4
47	DM10136-135	Main frame shield-135	1
	DM10136-165	Main frame shield-165	1
	DM10136-185	Main frame shield-185	1
48	DM10441	Vent	1
49	NM10000	Nut M10	18
50	DM10309	Blade holder	6
51	DM1217525	Bolt M12x25	12
52	NM12000	Nut M12	12
53	DM10454	Cutting blade	6
54	DM10556	Spacer washer	1
55	SRI45000	Securing ring Z45	1

Tar River Equipment

BDR-135 ~ BDR-165 ~ BDR-185

Covers



Tar River Equipment

BDR-135 ~ BDR-165 ~ BDR-185

Position	Part #	Description	Qty
1	DM30015-135	Front shield-135	1
	DM30015-165	Front shield-165	1
	DM30015-185	Front shield-185	1
2	DM30069-135	Middle shield-135	1
	DM30069-165	Middle shield-165	1
	DM30069-185	Middle shield-185	1
3	DM30015-135	Rear shield-135	1
	DM30015-165	Rear shield-165	1
	DM30015-185	Rear shield-185	1
4	DM30043	Bar BDR-185	2
	DM30244	Bar BDR-165	
5	DM30071	Angle bar BDR-185	1
	DM30257	Angle bar BDR-165	
6	DM30145	Guard BDR-185	1
	DM30196	Guard BDR-165	
7	LW10000	Washer Ø10	44
8	BM101520	Bolt M10x20	21
9	NM10000	Nut M10	23
10	LW8000	Washer Ø8	29
11	BM812520	Bolt M8x20	19
12	NM8000	Nut M8	8
13	DM30039	Shield BDR-185	1
	DM30101	Shield BDR-165	
14	BM812516	Bolt M8x16	2

LIMITED WARRANTY

Tar River Equipment warrants to the original purchaser of any new piece of machinery from Tar River Equipment, purchased from an authorized Tar River Equipment dealer, that the equipment be free from defects in material and work-manship for a period of one (1) year for non-commercial, state, and municipalities' use, ninety (90) days for commercial use from date of retail sale. Warranty for rental purposes is thirty (30) days. The obligation of Tar River Equipment to the purchaser under this warranty is limited to the repair or replacement of defective parts.

A four (4) year extended **Gearbox Limited Warranty** is provided for YCT & RXT models at the end of the standard one (1) year warranty period. This warranty is not provided for commercial or rental uses. The extended warranty provides for the replacement of parts only. Not covered are oil seals or any damages to the gearbox due to lack of lubrications.

Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later. Warranted parts shall be provided at no cost to the user at an authorized Tar River Equipment dealer during regular working hours. Tar River Equipment reserves the right to in-spect any equipment or parts which are claimed to have been defective in material or work-manship.

This limited warranty does not apply to and excludes wear items such as shear pins, tires, tubes knives, blades or other wear items. Oil or grease is not covered by this warranty.

All obligations of Tar River Equipment under this limited warranty shall be terminat-ed if:

Proper service is not preformed on the machine

The machine is modified or altered in any way.

The machine is being used or has been used for purposes other than those for which the machine was intended.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Tar River Equipment obligation under this limited warranty, to the ex-tent allowed by law, is in lieu of all warranties, implied or expressed, including implied warranties of merchantability and fitness for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Tar River Re-sources Equipment; duty; taxes; charges for normal service or adjustment; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery.