



minos
agri

VERTICAL MULCHER

T-DSP 1200/1350/1500/1600/1850/2100/2400

T-DSPH 1350/1600/1850/2100/2400



Introducing and Operating Instructions



MINOS AGRICULTURAL MACHINERY

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THANK YOU FOR CHOOSING MINOS.

Dear Customer,

You are the proud owner of a **Vertical Mulcher**, which has been designed as an environment friendly machine which facilitates increase of humus in soil by mixing the plant residues and organic fertilizers into the soil with both inter-row and on-row hoeing particularly in fruit gardens and orchards and eliminates the need for chemical weeding by mechanically removing weeds with the quality, privilege, guarantee, and assurance of Minos, who manufacture sound, powerful and reliable machines.

If you purchase the machine directly from us, we are your technical contact. If you purchase your machine through a dealer, they will have informed you of the fundamental operating rules, maintenance, and what you need to look out for when operating the machine; however, these details are never as comprehensive and detailed as those in the operating manual of the machine.

Carefully read the operation manual provided before in order to operate the machine in accordance with its purpose and rules so that you avoid any threat to your own life safety as well as the environment and other living organisms. Please pay attention to all explanations and warnings.

The information in this operating manual provides information about the machine, how to prepare it for operation, and the settings and maintenance of the machine. Make sure you read this information carefully and understand it before you operate your machine. This information is provided to make sure that you know your machine inside out and can get the highest performance out of it. The manufacturing company shall not be held responsible for any accidents that arise to changes made to the machine without the support of technical staff or ill use of the machine.

In the event that you experience an issue that has not been addressed in this manual, contact our company for help; you must state the model and serial number of your machine in order for us to help you with your inquiry. This is necessary in order to resolve issues quicker and provide better services.

Best Regards;



MINOS AGRICULTURAL MACHINERY

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2- SPARE PART ORDERS

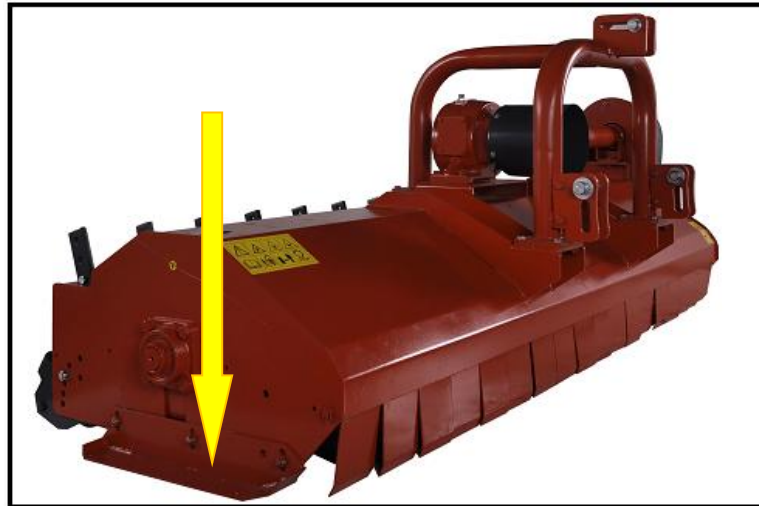
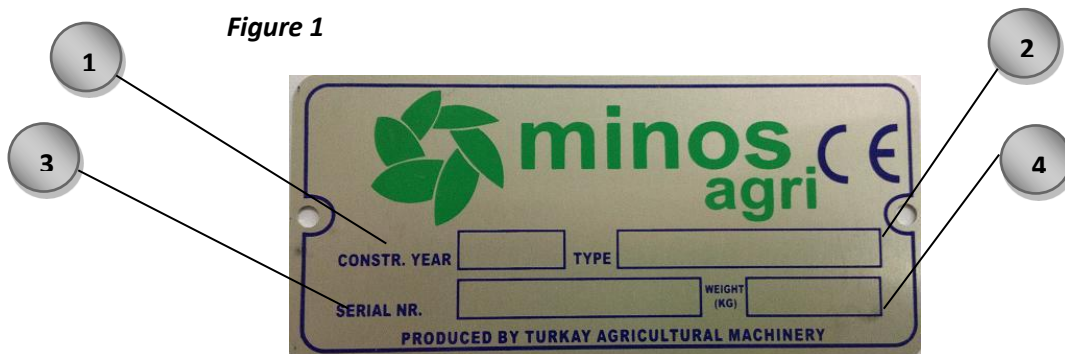


Figure 1



1	Year of Production
2	Designation of type
3	Serial number of machine
4	Machine weight

In the event that you require spare parts, you must state the type, serial number, and production date of the machine when placing an order. This is necessary in order to resolve issues quicker and provide better services. All the required information can be found on the metal label (**Figure 1**) on the machine and are the defining information of your machine, which should be at arm's length at all times.

Spare parts orders shall be logged with authorised services or dealers or directly with our firm in the event that both are not available. Please do not forget that spare parts that are not original, but imitations and fakes that are cheap are not durable and safe. **Only original MINOS spare parts must be used for the maintenance and repair of the machine; otherwise, the manufacturing company shall not be held responsible for breakdowns and accidents that arise.**

3- GENERAL SAFETY INSTRUCTIONS



This symbol is to draw attention to safety instructions in the operating manual.



This symbol, located in various sections of the operating manual, indicates information related to special settings and operations while operating the machine.

3.1- Using machinery in compliance with its agricultural purpose

The machine has been designed for agricultural use only. In the event that it is abused for whatever reason, the manufacturing company shall not be held responsible for any accidents that arise; under such circumstances the user shall be the sole obligant.

All recommendations made by the manufacturing company in relation to the maintenance and fundamental operating rules of the machine and all instructions that must be taken into consideration are for the benefit and safety of the user, and shall be accepted unconditionally.

All settings, operations, use, and maintenance-repair works for the machine prior to operation shall be conducted by competent individuals.

While the machine is in operation, all related safety rules shall be adhered to, all available technical safety precautions shall be on the machine in full, and the user shall apply all recommended occupational health and safety precautions.

The user shall be the sole obligant of any accidents that arise as a result of making changes to the machine without the technical support of the manufacturing company. The manufacturing company shall not be held responsible under such circumstances.



Always check traffic carrying, lighting, and warning policies before you use public roads open to traffic and before you operate the tractor, as well as the safety fittings on the machine, and replace any lost or missing fixtures.

3.2- Safety Precautions and Accident Prevention Instructions

- Carefully read the operation manual provided before you operate the machine in order to operate the machine in accordance with its purpose and rules so that you avoid any threat to your own life safety as well as the environment and other living organisms. Please pay attention to all explanations and warnings.

- The safety and warning labels (pictograms) positioned on the machine provide important information to prevent accidents and safe operation. Paying attention to these warning shall increase your safety and benefit. Immediately replace any damaged safety and warning labels.
- Never operate the machine when tired, sleepy, sick or under the influence of alcohol and any drugs. The operator (the individual using the device or machine) not only put themselves in danger, but also put those around them in danger.
- Ensure that an individual is fully trained to operate the machine before you give permission to use the machine.
- Abide by all traffic rules and related laws when travelling on public roads open to traffic.
- Become familiar with all the moving elements on the machine and all safety policies prior to operating the machine, ensure that you are informed with regards to their function and positions; otherwise it might be too late in the event of an accident.
- Operators must make sure that their clothing is tight and fitted when operating the machine. Do not wear big and baggy clothes.
- Keep the machine clean against fire. Clean the machine as recommended after every operation.
- Prior to operating the machine make sure that there is plenty of space around the machine, and there are no adults, children, or living organisms within the operation range of the machine, as well as making sure you have a clear view.
- It is prohibited and dangerous to carry animals or humans on the machine.
- Execute all connections of the machine in accordance with instructions, and ensure that all safety policies are fixed in stipulated positions.
- Make sure that the machine is on a level surface before disconnecting from the tractor. Use a braking system or log to eliminate the risk of skidding.
- Connecting or disconnecting the machine and tractor requires great care and should be conducted by competent individuals.
- Adhere to pay load, axle load, and carrier road regulations.
- Always check the carrier, traffic lighting, and warning applications of the machine prior to operation, and connect them accordingly.
- Always make sure that any hanging chains, wires, rods, etc. are safely protected during operation or carrying.
- Take all safety precautions in accordance with instructions of the manufacturing company with regards to the machine prior to travelling.
- Never leave the driver's seat while travelling.
- Adjust the pace of the machine based on the working conditions and work area. Refrain from sharp turns while travelling downhill, uphill, or on unlevel ground.

- The performance and turn capability of the machine differs when connected to the tractor. Ensure that there is adequate turn and braking capability.
- Take into consideration the centre of gravity and/or the dead load of the machine when turning.
- Only connect the machine to the tractor when all safety applications are attached and all safety precautions are taken.
- Stay away from the oscillation and turning zone of the machine.
- All hydraulic components can only be activated when nobody is in the oscillation zone.
- Before leaving the tractor, leave the machine on soil, turn off the engine, pull the ignition key, and put the P. T. O shaft in neutral.
- Ensure that nobody stands in between the machine and tractor unless a braking system or log to eliminate the risk of skidding.
- Crushes and breaks occur on the organs that operate with spring force or the cutter. Be careful of these points.
- Get on the tractor and move away from the tractor when the hydraulic system is turned off.
- Ensure that any foreign matter that could possibly damage the machine is kept away from the operation range.
- Do not climb on top of the machine when it is connected to the tractor.
- Only the tractor driver can start and stop the machine.
- In the event that the tractor used for your machine does not have a closed cabin for the driver, the driver must use earphones to block out the noise and goggles to block out the dust during operation; in the event that dust and smoke is part of the operation then the driver shall also wear a mask.

3.3- When the machinery is connected to the tractor

- Use a braking system or log to eliminate the risk of skidding.
- The maximum permitted load limits shall be taken into consideration for the draw arrow, draw hook, or draw pin in the mechanism that enables connection, and care shall be taken to ensure that this connection point has adequate flexibility.

3.4- Power Transmission with a Power Take Off Shaft (For PTO shaft driven machinery only)



A shaft that completes 540 rotations per minute completes 9 rotations per second, during which it can wound anything it captures to 1.5 meters. Therefore, take extra care to house them. It is not enough to house the shaft; the housing must also be chained to a suitable place!

- Only use the original shaft recommended by the manufacturing company. The manufacturing company shall not be held responsible for any accidents that arise from using another shaft.
- Ensure that the shaft is installed correctly, and all safety measures have been applied.
- Install the protective tube, protective funnel of the transmission output shaft and the P. T. O. shaft of the tractor as well as the shaft and adjust them to comply with regulations.
- The protective plate of the P. T. O. shaft and the protective tube of the transmission output shaft of the machine must close as surface until the middle (at least) from each side of the shaft joint.
- Ensure that the shaft is suspended as stipulated when carrying and operating.
- Ensure that the protective tube of the shaft shall be attached in a way that incorporates the joints of the housing and it is safe against rotation (preferable using a chain). **(See Figure 2)**

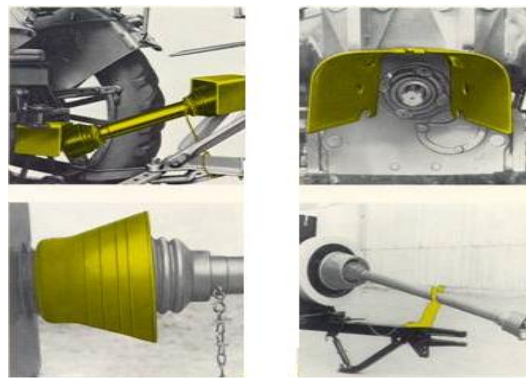


Figure 2- The Housing and chain of the jointed shaft protector

- Always leave the machine on soil ground before removing and attaching the shaft, turn off the engine, pull the ignition key, and put the P. T. O. in neutral.
- When using shafts with safety coupling, place the coupling on the machine side.
- Check the P.T.O. rotation and rotation direction of the tractor before operating the P. T. O. in accordance with the machine and ensure the rotation number suitable for the machine is reached.
- Ensure that there are no adults, children, or living organisms within unsafe limits around the machine before operating the P. T. O. shaft.
- Ensure that nobody is left inside the operating area while the P. T. O. shaft is in operation.
- Ensure that the deflection angle between the transmission P. T. O axis of the machine to which power is given and the tractor P. T. O. to which the shaft is connected does not increase extensively or the P. T. O. is not operated unnecessarily. (The deflection angle should not exceed 30°).
- Take into account that the machine continues to operate for a while after the P. T. O. is switched off. Do not stand close during this period. Approach the machine when the rotation movement has stopped completely.
- Repair all damages to the shaft prior to using the machine.
- Adjusting the shaft, cleaning, maintenance, oiling, etc. can only be conducted in P. T. O. driven machines when the engine is turned off, the ignition key is pulled, and the P. T. O. is put in neutral.

- Only leave the shaft on the shaft retainer or any other place indicated when the shaft is disconnected or not used. This shall prevent the shaft from getting dirty and damaged by coming into contact with the floor.
- Always use the P. T. O. protector and shaft protective cover when the P. T.O. shaft connection is disconnected.
- When attaching the shaft, the side with the tractor picture should be attached to the P. T. O.
- In general, the cover ratio of the shaft interval should be at least 10-15 cm for each centimetre of shaft length.
- Do not forget the periodic maintenance and oiling of the jointed shaft and conduct these on a regular basis.

3.5- Oil Gears

- Oil gears are elements that operate under high pressure.
- Ensure that hydraulic hoses are connected as stipulated when connecting hydraulic cylinders and pumps.
- Ensure that both the hydraulic system of the machine and tractor are not under pressure when connecting the hydraulic hoses to the hydraulic outlet of the tractor. **(Figure 3)**
- Colour coding or marking the connectors and jacks is essential in order to avoid mistakes when connecting the tractor and machine hydraulically.
- Check oil gears constantly; replace those that are old, damaged, or no longer work. All parts used during replacement processes shall be original parts recommended by the manufacturing company. The manufacturing company shall not be held responsible for any accidents that arise from using other parts.
- Use the correct devices to identify leakage points in order to prevent accidents and injuries.
- Hydraulic oil that leaks under high pressure may come into contact with skin and cause serious injuries. Consult a doctor immediately if injured. There is risk of infection.
- Always leave the machine on soil ground before starting to operate on oil gears, turn off the engine, pull the ignition key, and put the P. T. O. in neutral.



Figure 3

3.6- Maintenance

- Always leave the machine on soil ground before commencing repair, maintenance, and cleaning works, turn off the engine, pull the ignition key, and put the P. T. O. in neutral.
- Contact the authorised service or technical service of the manufacturing company for any questions in relation to the repair and maintenance of the machine.
- After cleaning the service area for maintenance and repair, ensure that the ground is dry. Do not delay the controls of electrical plugs and electrical devices.
- Always keep a First Aid Kit and Fire Extinguisher in the service area where repair and maintenance are conducted.
- In the event that the machine needs to be elevated for repair and maintenance, only use recommended crowbars and suitable rope and chains, etc.
- The spare parts used to repair the machine in question should only be the original spare parts recommended by the manufacturing company; a safe repair can only be achieved using suitable instruments. The manufacturing company shall not be held responsible for any accidents or injuries that arise from using other spare parts and instruments.
- Wear gloves when changing and/or conducting maintenance works on sharp parts, and utilise the suitable set of tools.
- The machine should be stored indoors (dry environment) on hard and level ground. Logs should be used to prevent the machine from falling over and toppling over.
- Take great care to not leave any instruments and tools on the machine after works are completed.
- Check all the screws and nuts after the first three hours, and periodically thereafter; screw those that are loose.
- Store the transmission and grease under suitable storage conditions. Oil the machine on a regular basis.
- Disconnect the tractor and connected machinery from the battery and generator when conducting welding works on the tractor and machinery connected to the tractor.
- Check the safety mechanisms of the machine on a regular basis and replace components that no longer function.
- Only use original spare parts, this shall extend the life of the machine.

4- THE POSITIONING OF WARNING SIGNS AND SAFETY ALERT LABELS

The MINOS Vertical Mulcher is equipped with the fundamental safety precautions in compliance with the **2006/42/AT** security regulation currently in force.

It must not be forgotten that it is not possible to protect all hard points and functional components that enable the machine to satisfy its agricultural purpose. Under such circumstances, the safety and warning labels (pictograms) positioned on the machine set forth important information in relation to protection against accidents and working safely. Taking notice of these warnings shall in favour of your safety and benefit. Immediately replace safety and warning labels that are damaged.

The importance of these signs, printed in black on a yellow background, prevents incorrect operation of the machine, and prevents serious injuries, death, and long-term life-threatening accidents from arising due to such usage.



Please read the explanatory texts under the safety warning labels carefully, and make sure you understand them. Check the position of these labels on the machine as these points are danger spots!

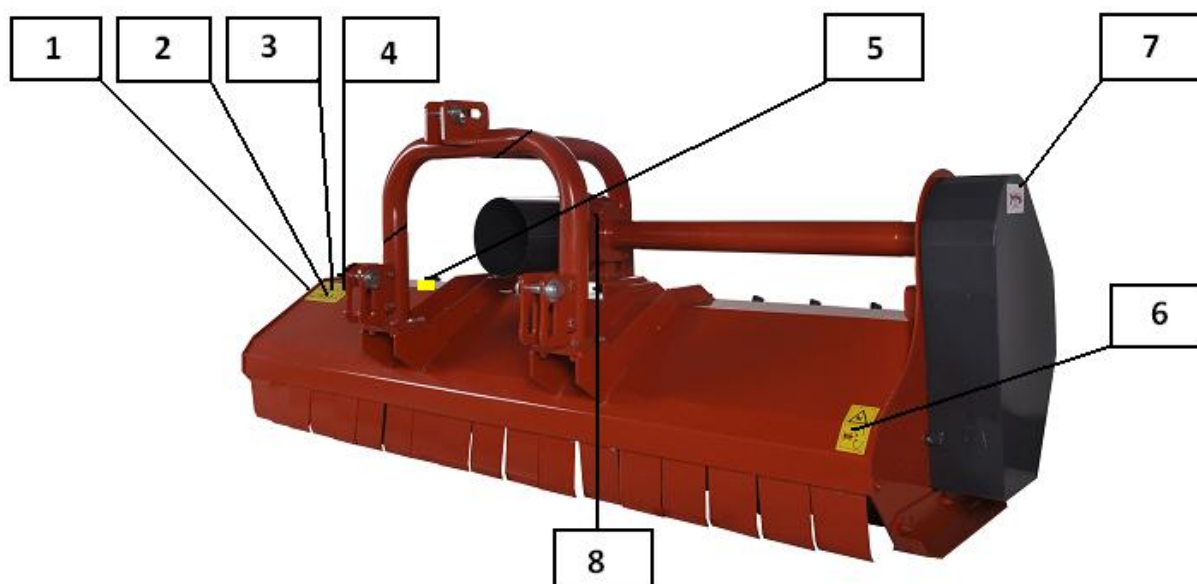
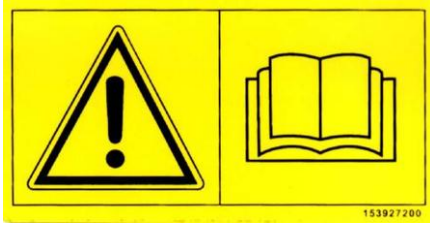


Figure 4- The position of the safety warning labels on the machine.



1

- Carefully read, and always carry, the operating manual provided before operating the machine.



2

- Ensure that there is nobody between the machine and tractor when the machine is connected to the tractor. Use a braking system or log to eliminate the risk of skidding.



3

- Keep the distance between yourself and the machinery since it may throw pieces such as stones, etc. Take measures.



4

- It is forbidden to touch moving parts when the machinery is operating. The machinery shall continue to operate even if the engine is stopped.



5

- Before starting repair, maintenance, cleaning proceedings of the machinery, place it on the surface of the ground, stop the engine, pull off the switch key and disengage the pto shaft.



6

- Keep away from the danger zone between the protective safety frame and the machinery.



7



8

- İzin verilen maksimum kuyruk mili devri 540 min^{-1} (rpm) dir.



5- TECHNICAL SPECIFICATIONS

MODEL	T-DSP 1200	T-DSP 1350	T-DSP 1500	T-DSP 1600	T-DSP 1850	T-DSP 2100	T-DSP 2400
Machine Code (Order Number)	20301601	20301501	20301001	20301102	20301202	20301302	20301402
Working Width (mm)	929	1100	1289	1417	1777	2010	2137
Overall Width (mm)	1295	1483	1640	1858	2203	2386	2663
Overall Length (mm)	1100						
Overall Height (mm)	1050						
Number of Blades	10	12	14	16	20	22	26
Machine Weight (kg)	400	450	480	520	580	630	670
P.T.O. Shaft Rotations (max) (min-1)	540						
Required Tractor Power (HP)	30-35	35-40	45	50	55	60	65

Table 1

We reserve our rights to make changes in designs, specifications and features without prior notice.

MODEL	T-DSPH 1350	T-DSPH 1600	T-DSPH 1850	T-DSPH 2100	T-DSPH 2400
Machine Code (Order Number)	20301501	20301102	20301202	20301302	20301402
Working Width (mm)	1110	1417	1777	2010	2137
Overall Width (mm)	1483	1858	2203	2386	2663
Overall Length (mm)	1100				
Overall Height (mm)	1050				
Number of Blades	12	16	20	22	26
Machine Weight (kg)	500	570	625	660	770
P.T.O. Shaft Rotations (max) (min-1)	540				
Required Tractor Power (HP)	30-35	50	55	60	65

Cont. Table 1 We reserve our rights to make changes in designs, specifications and features without prior notice.

- Optionally, wheel is applicable instead of roller.
- Optionally, lifter lama is applicable.

6- PREPARING THE MACHINE FOR OPERATION



6.1- Special Safety Instructions



- Always place the machine on soil ground, turn off the engine, pull the ignition key, and place the P. T. O. in neutral before starting repair, maintenance, and cleaning works on the machine, connecting or disconnecting the machine from the tractor! Make sure that nobody stands between the tractor and the machine until a braking system or log is used to eliminate the risk of skidding.
- Ensure that hydraulic hoses are connected as stipulated when connecting hydraulic cylinders and engines! Ensure that both the hydraulic system of the machine and tractor are not under pressure when connecting the hydraulic hoses to the hydraulic outlets of the tractor.
- Always check traffic carrying, lighting, and warning policies before you use public roads open to traffic and before you operate the tractor, as well as the safety fittings on the machine, and replace any lost or missing fixtures.
- The maximum rotation permitted for the Twin-Rotor Grass Collecting Machine that is safely connected is 540 min^{-1} (rpm)
- Ensure that there are no adults, children, or living organisms within unsafe limits around the machine before operating the P. T. O. shaft.
- All hydraulic components (flaps, arms, etc.) can only be activated when nobody is in the oscillation zone.
- Only the tractor driver can start and stop the machine.

6.2- Connecting the machine to the tractor



- Connecting or disconnecting the machine and tractor requires great care and should be conducted by competent individuals.
- Ensure that there are no adults, children, or living organisms within unsafe limits around the machine and between the tractor and machine when connecting the machine to the tractor.
- Execute all connections of the machine in accordance with instructions, and ensure that all safety policies are fixed in stipulated positions.



Figure 5

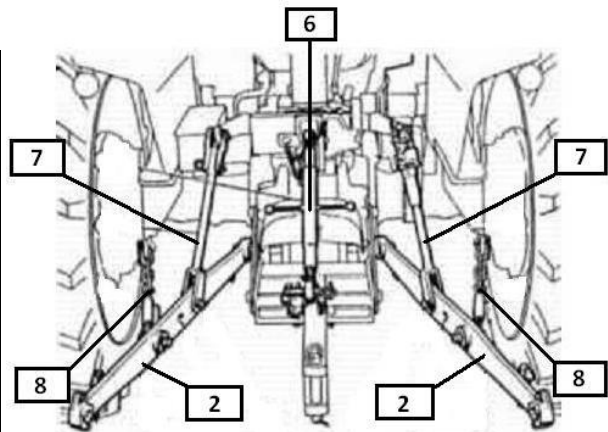


Figure 6- The Three-Point Hitch of the Tractor

- Place the machine on level ground (not slanted) before connecting the machine to the tractor. During this process, turn off the tractor engine, pull the ignition key, and place the P. T. O. shaft in neutral. Support the tractor and machine with a braking system or logs in order to eliminate the risk of skidding.



- Insert the connection point of the hydraulic lower sole bar arms (2) of the tractor into the connection point of the lower sole bar arms of the machine draw (1) when connecting the Vertical Mulcher to the three-point hitch of the tractor, and fix both using a hairpin after placing safety pins with the correct diameter.
- Make right-left parallelism adjustments on the mechanism, whose lower sole bar arm connections have been completed using right and left suspension arms (7) (In some of the older models only the right suspension arm of the tractor can be adjusted; in the new models, both suspension arms of the tractor can be shortened or extended using the adjustment bars).

- Right and left stabilizer chains **(8)** keep the device and machine steady and prevent damage to the rear wheels when being moved. Loosen the stabilizer chains under plantation working conditions; however, ensure that they should be loosened until they are at a four-finger distance from the wheels.
- After completing the lower sole bar arm of the machine, insert the connection point of the hydraulic top sole bar arms **(6)** of the tractor into the connection point of the top sole bar arms of the machine draw **(5)** to complete the top sole bar, and fix both using a hairpin after placing safety pins with the correct diameter. The top sole bar arm enables front-back parallelism adjustment (by shortening and extending) of the connected machine. There should be no gaps between the round swivels inside the holes both at the connection point on the tractor and the machine, and the shafts attached to these swivels.
- Ensure that there are no adults, children, or living organisms within unsafe limits around the machine and between the tractor and machine when connecting the machine to the tractor.



• Execute the upper and lower connections of the machine as stipulated, and make sure that the horizontal-vertical parallelism settings are correct. Do not allow the machine to move right-left, up-down!

• Insert the upper and lower safety pins, used in connecting the tractor to the twin-rotor grass collecting machine via a three-point hitch, in accordance with the suitable category. **Important Note:** Tractors with a maximum draw power of 40 hp are classified as Category I, while tractors with a maximum draw power between 40 hp and 100 hp are classified as Category II. Therefore, choose the diameter of your upper and lower connection pins in accordance with the category of your tractor!

► Arranged in accordance with Category II, the category of the Twin-Rotor Grass Collecting Machine (See Table 2)

<i>Category</i>	<i>Maximum Draw Power (hp)</i>	<i>Diameter of the Hydraulic Lower Sole Bar Pin Ø (mm)</i>	<i>Diameter of the Hydraulic Top Sole Bar Pin Ø (mm)</i>
I	<40	21,84-22,10	19,30-19,56
II	40-100	28,19-28,45	25,70-25,91
III	80-225	36,32-36,85	32-32,26
IV	180-400	49,70-50,80	45,20-45,50

Table 2

6.3- The Power Take Off Shaft

6.3.1- General



- **Always leave the machine on soil ground, turn off the engine, pull the ignition key, and put the P. T. O. in neutral before removing and attaching the shaft, adjusting, cleaning, and repairing the shaft, or conducting maintenance works! Use a braking system or log to eliminate the risk of skidding!**

- **Never operate the P.T.O. shaft during the carrying process when the P. T. O. shaft is connected! There is a risk that financial damage and damage to certain parts may occur as well as the risk of losing parts that may fall off!**

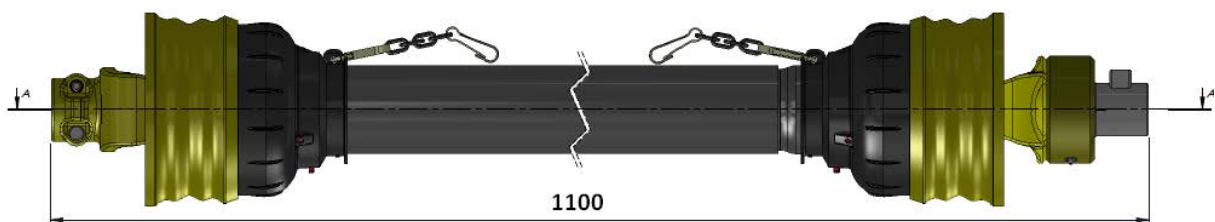


Figure 7- P.T.O. Shaft

The P. T. O. shaft that transfers the movement from the P. T. O. shaft of the tractor to the transmission of the machine is equipped with a joint that has a free rotation safety coupling (The shaft provided with the machine and recommended in the future when necessary: StarPto, Series 6, friction clutch type safety coupling, with a length of 1100 mm when the joint is closed. (See Figure 7).

Friction shafts ensure restriction of the continuously transmitted torque within the adjusted value.



- A sound may be heard when the friction clutch type safety mechanism is activated in the event of excess load; immediately turn of the P. T. O. shaft in order to prevent corrosion and damage (to the extent that it does not function) of the coupling.

6.3.2- Adjusting the Shaft to a Suitable Height and Installation

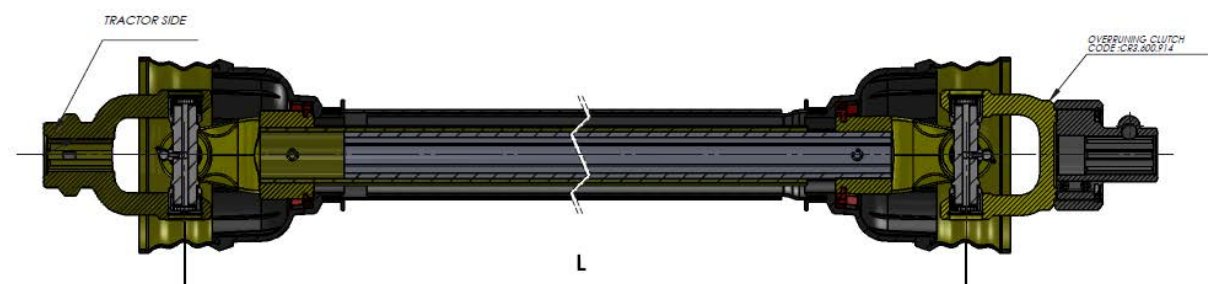


• *In the event that the length of the shaft is too long when connecting the machine to the tractor, the shaft shall bend when the machine is lifted and operated. Adjust the length of the shaft as stipulated!*

- Shafts for agricultural machinery have been manufactured as jointed and height-adjustable.
- The machine must be connected to the tractor using the three-point hitch as recommended before the length of the shaft can be adjusted. Follow the steps below once your machine is connected to the tractor.



- Firstly; measure the distance between the extreme of the tractor P. T. O. shaft and the extreme of the machine transmission output shaft. Make a note of this value.
- Secondly; measure the distance between the pins that fix the shaft on either side (See Figure 7). Make a note of this L value.



Resim 8- P.T.O. Şaft

- The first value noted (the distance between the extreme of the tractor P. T. O. shaft and the extreme of the machine transmission output shaft) should be equal to the second value (L). In the event that L is higher, the shaft must be cut until both values are equal.
- Hold both side of the shaft joint and pull before starting the cutting process. This way the shaft becomes two separate parts.
- Attach the side with the tractor picture to the P. T. O. shaft **(2)**, and the side with the friction clutch safety mechanism **(1)** to the machine, and mark both sides by bringing both halves side by side.

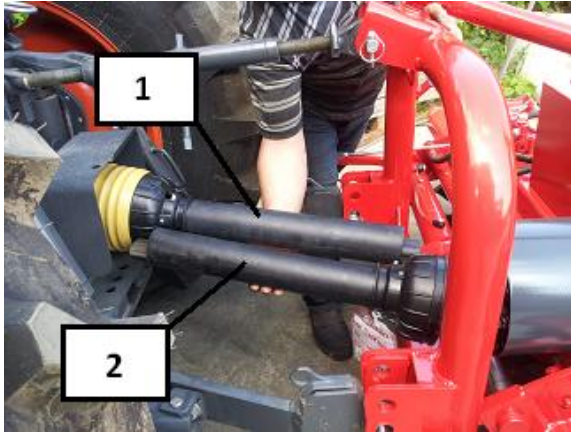


Figure 9

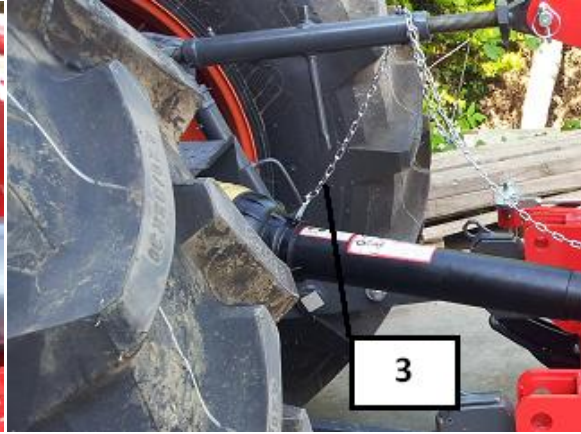


Figure 10

- The difference between the two values is the amount to be cut from both halves of the shaft.

(See Figure 10.A/B/C)

For example; if the distance between the extreme of the tractor P. T. O. shaft and the extreme of the machine transmission output shaft is 100 cm, and the distance (L) between the right and left pin of the shaft is 110 cm; the amount to be cut from both halves of the shaft is 10 cm. **(Do not forget that this may seem like the shaft has been shortened by 20 cm, but when the two halves are put back together this becomes 10 cm.)**



Figure 11.A



Figure 11.B



Figure 11.C- Adjusting the shaft to a suitable height

- The P. T. O. shaft and the transmission of the machine must be cleaned and greased before the shaft is connected. Slide on the P. T. O. shaft until the shaft pin fits perfectly. The sliding gap of the shaft must be between 5 cm (minimum) and 15 cm (maximum).
- Place the protective pipe and protective funnel of the shaft, the P.T.O. shaft of the tractor, and the machine transmission output shaft, and position pursuant to regulations. Ensure that the housing of the protective pipe incorporated the joints and is secured with chains against rotation. **(3) (See Figure 10)**
- Operating the shaft when there is a sharp increase in the deflection angle between the transmission P. T. O axis of the machine to which power is given and the tractor P. T. O. to which the shaft is connected is dangerous. Under such circumstances turn of the shaft immediately. (The deflection angle should not exceed 30°).
- Switch off the tractor and stop operating when the angle of the shaft joints exceeds 35° during sharp turns. Operation may continue between 70°-80° depending on the types of joints in obtuse shafts **(See Figure 12)**

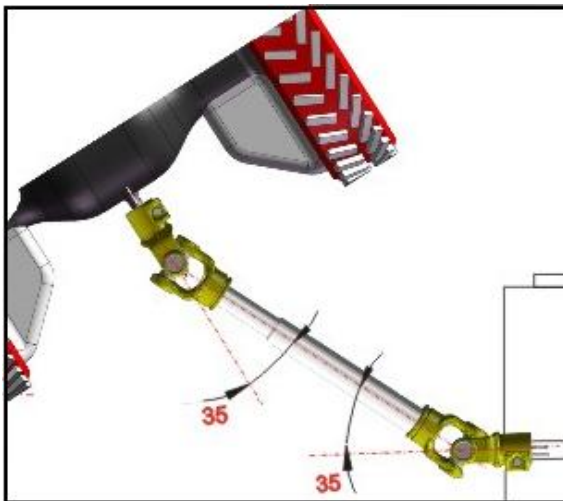


Figure 12



• You must read the instruction manual of the shaft that given by the manufacturer will contain more extensive information.

6.4- Disconnecting The Machine From The Tractor



- **Always place the machine on soil ground, turn off the engine, pull the ignition key, and place the P. T. O. in neutral before disconnecting machinery from tractor! Ensure that there is nobody between the machine and tractor when the machine is connected to the tractor! Use a braking system or log to eliminate the risk of skidding!**

- **Ensure that there are no adults, children, or living organisms within unsafe limits around the machine and between the tractor and machine when lifting or putting down machinery using the three-point hitch system or when disconnecting machinery from the tractor!**



When disconnecting the machine from the tractor, please be careful about below safety regulations!

- The machine shall be stored on hard and level ground, and in a dry indoor environment.
- Ensure that the machine is on the ground and is stable. Support the machine with logs to eliminate the risk of the machine rolling over or toppling.
- Turn off the P.T.O shaft and stabilise it at a suitable position on the machine.
- First remove the top sole connection and then the lower sole bar connections when disconnecting machinery from the three-point hitch system of the tractor.

7- GENERAL SETTINGS OF THE MACHINE



- *Turn off the engine of the tractor, pull the ignition key, and put the P.T.O. shaft in neutral before conducting any procedure on the machine (i.e. adjusting settings, maintenance, oiling, cleaning, etc).*

7.1- Basic Position Settings

7.1.1- Connection Settings of the Machine



Figure 13

- Be Careful about the machine and the tractor is located on a flat surface when make the connection settings.



- Adjust the height by putting the hydraulic control arm in position control mode. In the event that you slightly move the hydraulic arm when in position control mode, the machine rises and stops at a certain level; the machine rises further and stops once again if the arm is moved again. In other words, the machine never reaches its peak, just as with draw control.

Note: The hydraulic up-down arm is lifted upwards and held at a certain level. If the device and machine are totally lifted the pre-selection arm is at “DRAW CONTROL.” If the device and machine are not totally lifted, but only to a certain level the pre-selection arm is at “POSITION CONTROL.” Position control mode keeps the machine connected to the hydraulic coupling arms at a certain height, and enables it to work above the ground. When used with machines such as a Twin-Rotor Grass Collecting Machine, the pre-selection arm must be in position control mode.

- The machine should be parallel to the ground surface. Left-right and front-rear parallelism adjustments should be achieved very well before starting the machine for a balanced operation and uniform work depth.



- In order to achieve the parallelism of the main body of the machine **(1)** adjust the right-left parallelism of your machine by using the right and left elevation arm of the hydraulic three-point hitch system of the tractor.

- Upper connection rod of the tractor ensures front-rear parallelism adjustment of the connected machine by being lengthened and shortened. There should be a space between the round pins present in the holes at the end of upper connection rod connected both to the machine and to the tractor and the shafts connected on such pins.

7.2- Machine Settings for Carry/Transport and Operation Mode



- Ensure that there are no adults, children, or living organisms within unsafe limits between the tractor and machine, or within travel mechanisms where the machine oscillates when the machine is being to transport/carry or operation mode.
- It is inconvenient and prohibited to carry animals or people on the machine.
- Never operate the P.T.O. shaft during the carrying process when the P. T. O. shaft is connected. There is a risk that financial damage and damage to certain parts may occur as well as the risk of losing parts that may fall off.
- Always check the carrier, traffic lighting, warning set ups, and the protective set ups before you travel and ensure that all safety measures have been conducted in accordance with recommendations of the manufacturer.
- The performance and turning ability of the machine differs during operation or driving while in transport mode. Ensure that the machine has sufficient turning and braking ability at sharp turns and on bumpy roads. Rollover hazard.

7.2.1- Setting the Machine to Carry/Transport Mode



● Firstly, run the tractor for about one minute before moving to the land to be worked on. Lift the machine with main hydraulic arm. Place the safety lock in order to prevent damage on the system due to shakes on the road. Tighten the stabilizer chains and prevent moving and looseness that may occur on the road.

● Before starting movement on the road, the machine should be lifted up and the control arm should be locked in order to prevent falling down.



Figure 14



- Always abide by traffic rules and regulations when travelling on roads open to the public.
- Comply with the rules related to handling measurements while on the road.
- Pay attention on centrifugal moment of the machine on sharp turns and sloppy roads.

7.2.2- Setting the Machine to Operation Mode



- When you arrive at the land, remove the safety lock, and place the machine on the soil surface by using the hydraulic arm.
- Loosen the stabilization chains according to the conditions of work on the land. However, pay attention to the fact that it should be loosen as to remain 4 fingers to the tyres.
- Start the P.T.O. after placing the machine on the soil surface.



Figure 15



- The machine has been designed for agricultural use only. In the event that it is abused for whatever reason, the manufacturing company shall not be held responsible for any accidents that arise; under such circumstances the user shall be the sole obligator.
- All settings, operations, use, and maintenance-repair works for the machine prior to operation shall be conducted by competent individuals.
 - Operations with Vertical Mulcher should be performed under sufficient day light and traffic rules should be complied with on the roads open for traffic. Particularly at nights, the machine should be enlightened in compliance with the traffic rules. Our suggestion is use of cat's eye reflectors.
- It is dangerous to work on sloppy lands with tractor. If you have to work on such land, work carefully and do not make sharp turns. In order to ensure safe movement stability and to cultivate the sloppy land, pay attention to the fact that the tractor is equipped with a sufficient supplementary weight.

8- WORKING WITH THE MACHINE



Vertical Mulcher works vertically on the surface of the soil and it cuts the stalks of the plants such as wheat, sunflower, cotton, unshelled rice, tobacco and thicket and the branches of the pruned fruit trees and vine shots performs the recycling of them as organic fertilizer. It preserves the cutting height, strenght of the blades and balance sensitivity even though the surface of the soil is uneven thanks to its skids and its roller at the back. *(See Figure 16.)*



Figure 16

8.1- Adjustment of Roller

Before operate the machine, height setting of shredder shall be adjusted according to field. (See Figure 17)



Figure 17 (6 stage shredder height adjustment holes)

8.2- Adjustment of Belt Tensioning Arm

Belt tensioning arm shall be put into the second stage after 30 minutes running. (See Figure 18)



Figure 18

8.3- General



- Ensure that there are no adults, children, or living organisms within unsafe limits around the rotating or loosened components of the machine (at least 5m) or between the tractor and the machine when the machine is operating.
- It is dangerous and prohibited to climb on to the machine when it is connected to the tractor.
- Become familiar with all the moving elements on the machine and all safety policies prior to operating the machine, ensure that you are informed with regards to their function and positions; otherwise it might be too late in the event of an accident.
- Execute all connections of the machine in accordance with instructions, and ensure that all safety policies are fixed in stipulated positions.
- Adjust the feed rate of the operating machine based on working conditions and the state of the area on which the machine operated. Avoid sharp turns when proceeding downhill, uphill, or on unlevel soil.
- The performance and turning ability of the machine differs during operation or driving while in transport mode. Ensure that the machine has sufficient turning and braking ability at sharp turns and on bumpy roads. Rollover hazard.



• The maximum number of rotations allowed for the P. T. O. shaft is 540 min^{-1} (rpm).

- In the event that the tractor used for your machine does not have a closed cabin for the driver, the the driver must use earphones to block out the noise and goggles to block out the dust during operation; in the event that dust and smoke is part of the operation then the driver shall also wear a mask.



Ensure that all settings are conducted in accordance with detailed explanations provided

in the operation manual and applying the steps pointed out by the



sign in order to use the machine correctly and get the most productivity from the machine.

9- TRANSPORTING THE MACHINE FROM ONE PLACE TO ANOTHER



Figure 19



Transportation by means of Forklift: Choose the correct forklift for the weight of the machine. Lift the machine as close as possible to the centre of gravity so that it can be parallel to the ground. Carry the machine safely by threading the Steel Cable through the fulcrum shown in **Figure 19** and mounting its ends to forklift hook.



Transportation by means of Crane: Transportation using a crane is exactly the same as transportation using a forklift. Thread the steel cable through the centre of gravity, hook it to the hook of the crane, and safely transport the machine. Ensure that the crane hook lock is activated.



Transportation by means of a pallet: Choose a pallet suitable for the dimensions of the machine. Ensure that the pallet is sturdy. Thread the carrier ends of the forklift elevator through the suitable gaps under the pallet and safely transport the machine.



- Do not stand under the machine while it is being transported!
- Do not let anyone near or under the machine in the area where it is being transported by a forklift, crane, and pallet!
- Ensure that the hooks and cables of the forklift and crane are safe during transportation!

10- THE PERIODIC MAINTENANCE AND REPAIR OF THE MACHINE

10.1- Special Safety Instructions



- *Always leave the machine on a soil surface, turn off the engine, pull the ignition key, and put the P.T.O. shaft in neutral before conducting any periodic maintenance, repair, or cleaning on the machine.*
- *After cleaning the service area for maintenance and repair, ensure that the ground is dry. Do not delay the controls of electrical plugs and electrical devices.*
- *Only use the recommended crow bar and suitable equipment (such as ropes, chains, etc.) when elevating machinery where necessary for maintenance and repair works.*
- *The machine should be stored indoors (dry environment) on hard and level ground. Logs should be used to prevent the machine from falling over and toppling over.*
- *Always use suitable devices when determining the leakage points during the periodic maintenance and repair of the machine in order to prevent accidents and injuries. Hydraulic oil that leaks under high pressure may come into contact with skin and cause serious injuries. Consult a doctor immediately if injured.*
There is risk of infection.

10.2- General

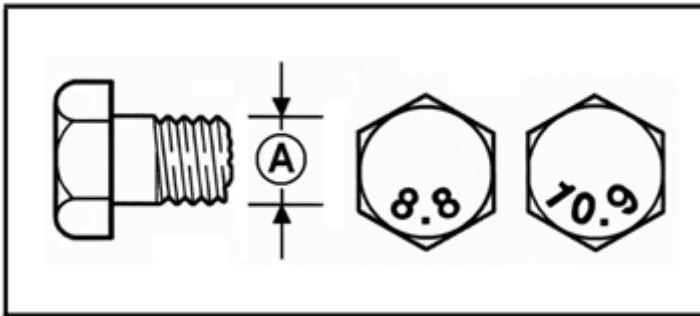


- Always contact the authorised service or technical service of the manufacturing company for any questions in relation to the repair and maintenance of the machine.
- Always keep a First Aid Kit and Fire Extinguisher in the service area where repair and maintenance are conducted.
- The spare parts used to repair the machine in question should only be the original spare parts recommended by the manufacturing company; a safe repair can only be achieved using suitable instruments. The manufacturing company shall not be held responsible for any accidents or injuries that arise from using other spare parts and instruments.
- The machine should be stored indoors (dry environment) on hard and level ground. Logs should be used to prevent the machine from falling over and toppling over.
- Take great care to not leave any instruments and tools on the machine after works are completed.
- Check the safety mechanisms of the machine on a regular basis and replace components that no longer function.
- Only use original spare parts, this shall extend the life of the machine.
- Always adhere to periodic maintenance and repair instructions in order for the machine to work perfectly and minimise wear and tear.

10.3- Checking the tightness of nuts and bolts

Check all the nuts and bolts after the first three hours and periodically thereafter (approximately every 50 hours); screw those that are loose.

The Tightening Moment of Nuts and Bolts M_A



A= Nominal Diameter

A Ø	8.8	10.9	12.9
	M_A (N _m)		
M 5	5,9	8,7	10
M 6	10	15	18
M 8	25	36	43
M 10	49	72	84
M 12	85	125	145
M 14	135	200	235
M 16	210	310	365
M 20	425	610	710
M 24	730	1050	1220
M 27	1100	1550	1800
M 30	1420	2100	2450

Table 3




• Checking the tightness of nuts and bolts and tightening them where necessary is an extremely important periodic maintenance procedure. There are numerous risks that can arise if neglected; the risk of losing parts of the machine as they can fall off, a part can fly off during operation and give rise to an accident, and serious financial damage can be caused to the machine. **BEWARE.**

10.4- Oiling/Lubrication Maintenance

The points that require oiling with grease every 50 hours and have a grease nipple on the machine are illustrated in detail in **Figure 20** and every 12 hours and have a grease nipple on the machine **Figure 21** and **Figure 22**

Never delay and always conduct periodic oiling/lubrication maintenance on a regular basis in order to minimise wear and tear, ensure the machine works properly, and has a long life.



- Turn off the tractor engine, pull out the ignition key, and put the P.T.O. shaft in neutral before conducting oiling/ lubrication maintenance on the machine.



Figure 20

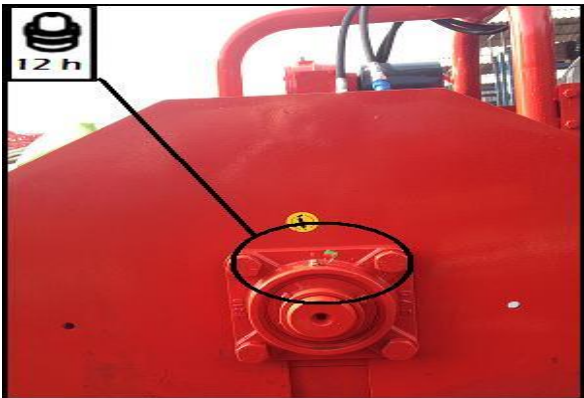


Figure 21



Figure 22

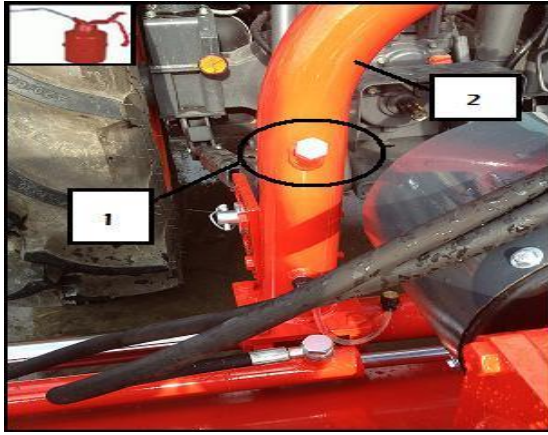


Figure 23

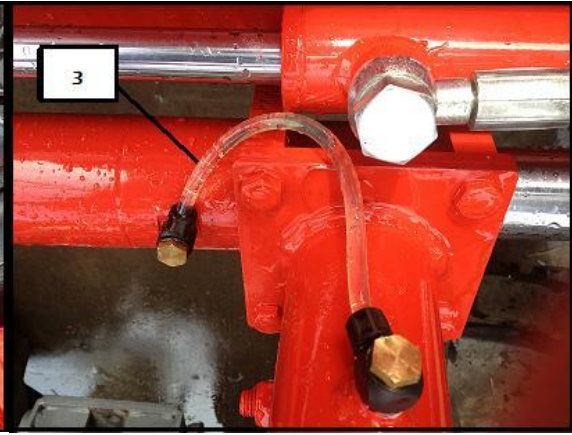


Figure 24



Definitely check the hydraulic lubricant within the three point linkage drawbar (2) of the machine shown in **Figure 23** before operating the machine. Oil level is checked from the oil amount within the transparent hoses (3) shown in **Figure 24**. In cases where no or very little amount of oil remains within the transparent hose, complete the oil with standard **37 number Hydraulic System Oil** (For example: **HYDRO OIL HD 37, MOBIL DTE OIL H 37, SHELL TELLUS 37...**) from the part where the oil filling tap is located (1) as shown in **Figure 23**.

(Note: In cases where 37 Number oil is not available you may use hydraulic oil varying from Nr. 37 to Nr.32)

- Perform such checks more frequently or periodically with approximately 100 hours intervals depending on the intensity of operation with the machine.

Position	OIL TYPE	Nominal Quantity (L)	Periodic Control
Three Point Connection Drawbar	Number 37 Hydraulic Oil	1,50 Litres	100 hours

Table 4

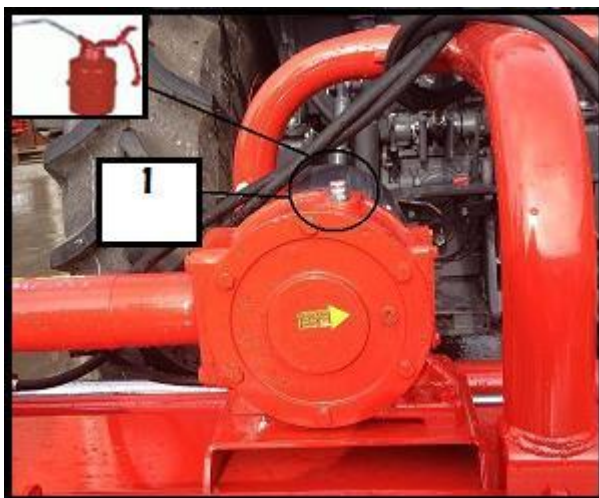


Figure 25

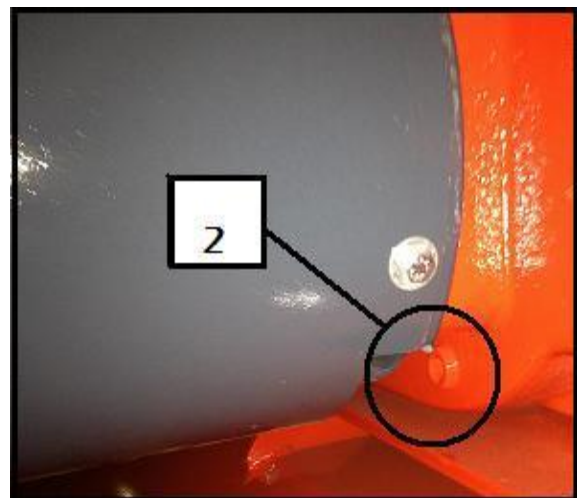


Figure 26

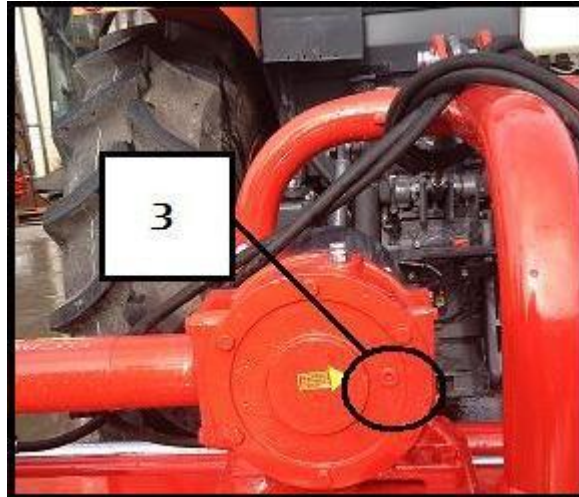


Figure 27



Definitely check the oil in the transmission shown in **Figures 25/ 26/ 27** before operating the machine. The oil level should be at the level of level tap **(3)** shown in **Figure 27**.

In the event that there is a reduction in the level of oil, use the oil filling tap **(1)** to add **SAE140EP/3.5 (Oil Number: 140)** standard oil. **(See Figure 25.)**

Ensure that the transmission oil is emptied and changed via the discharge tap **(2)** at least once every season to avoid the possibility of polluted oil. **(See Figure 26.)**

Position	OIL TYPE	Nominal Quantity (L)	Periodic Control	Change Period
Transmission	SAE140EP/3.5	2,50 Liters	100 hours	At least once a year

Table 5



- Never delay and always conduct periodic oiling/lubrication maintenance on a regular basis in order to minimise wear and tear, ensure the machine works properly, and has a long life. In the event that the oil inside the elements containing gearbox such as transmission and side gearbox is inadequate, non-existent, or polluted the machine may not work properly and may breakdown. **ATTENTION.**



- *Store the transmission and grease under suitable conditions. Always read the instructions for use and storage conditions printed on the label.*

- *Take care to use organic-based grease.*

10.5- The Periodic Maintenance of the P.T.O. Shaft

Oil the shaft periodically with grease at intervals (h) shown from various points illustrated in **Figure 28**

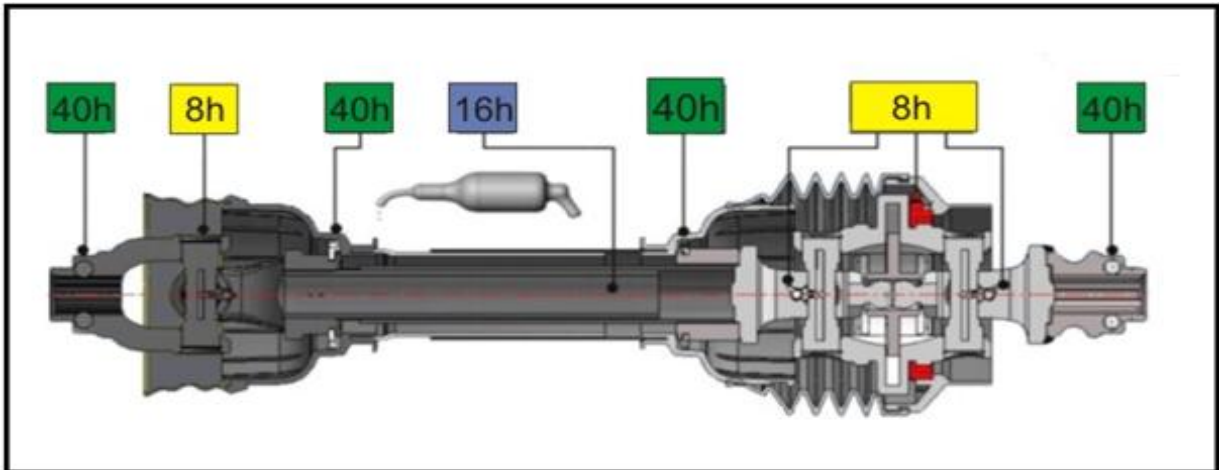
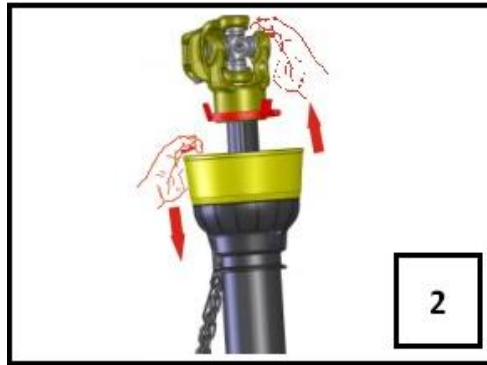
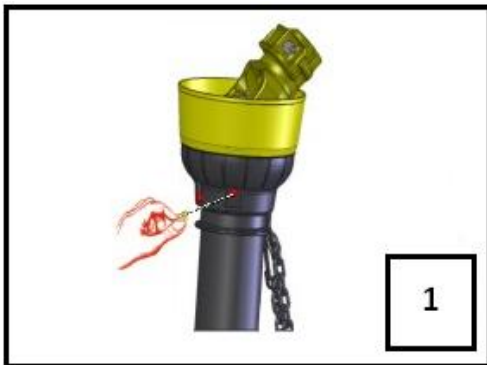
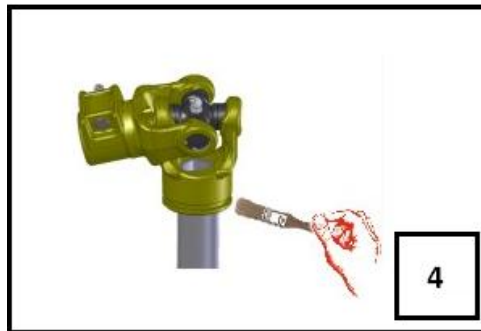
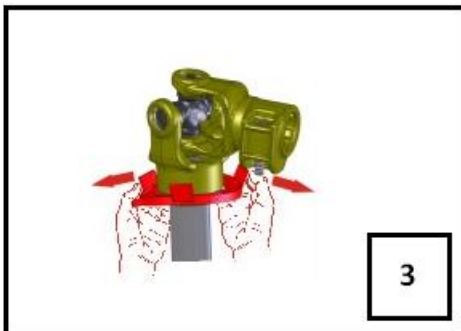


Figure 28

Figure 29-1/ 2/ 3/ 4



- Push down the groove with the help of a screwdriver at the points illustrated in **Figure 29-1**.
- Pull the cover left free as illustrated in **Figure 29-2** in the direction illustrated by the arrows.



- Pull the groove in the direction illustrated by the arrows to separate it from the channel as illustrated in **Figure 29-3**.
- Commence oiling once the groove is separated from the channel as illustrated in **Figure 29-4**.



- Do not forget the periodic maintenance and oiling of the P.T.O. shaft, and ensure that maintenance and oiling is conducted on a regular basis.

- Only use the original shaft recommended by the manufacturing company. The manufacturing company shall not be held responsible for any accidents or injuries that arise from using other shafts.

11- CLEANING AFTER OPERATION AND STORAGE

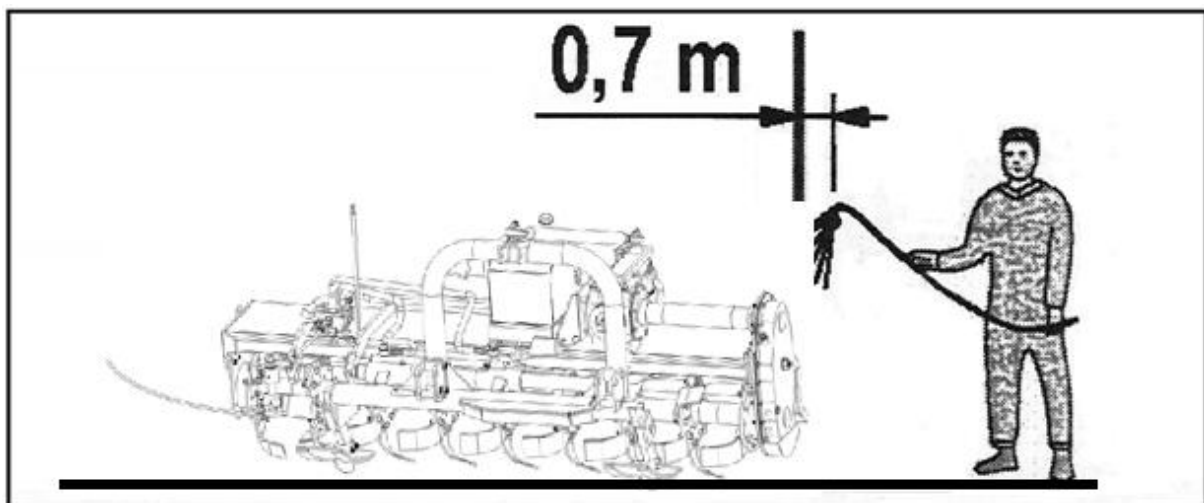


Figure 30



- After operating place the machine on the ground, and ensure that it is sturdy. Use logs to prevent the machine from falling over and toppling over.
- It is recommended that the machine is cleaned with plenty of water (not high pressure) after each operation. Dirt causes moisture and rust.
- High pressure water is not recommended when cleaning the machine; however, if it is necessary to clean the machine using high pressure water ensure that there is a 0.7 m distance between you and the sprinkler nozzle of the water outlet.

- Check elements that may have plant remains, blades, cylinder flanges and cylinder connection points etc. on the machine, and clean them if necessary. Enzymes that appear during rotting may damage the machine surface.
- Once the machine is clean, oil all oiling points, and points that are described in detail and illustrated in the oiling/lubrication maintenance section.
- Clean the P. T. O. shaft as recommended, and oil all necessary points as described.
- Identify the machine parts that are damaged, and replace them with original spare parts where necessary.
- Retouch any points where there is damage to the paintwork. Use rust resistant coating for shiny surfaces in order to prevent rust.
- Store the machine in an indoor dry environment, on hard and level ground.
- Make a list of all the spare parts required, and order them via a MINOS authorised service, dealer, or from the manufacturing company directly before the season opens. Therefore, your needs will be met on time and your machine will be ready for the following season.

12- PREPARATION FOR THE NEW SEASON



- Wipe and clean the grease and oil used to protect certain surfaces and elements of the machine in accordance with their storage conditions.
- Grease all points of the machine as recommended.
- Check the gearbox, side gearbox, oil tank, etc. and the oil level, and complete if necessary.
- Check the tightness of all the nuts and bolts; tighten where necessary.
- Conduct all machine settings as described in detail.
- Execute all connections of the machine in accordance with instructions, and ensure that all safety policies are fixed in stipulated positions.
- Check the metal parts of the P.T.O. shaft having a friction clutch safety mechanism within each other metal, tighten if loose.
- Carefully re-read the sections in relation to general safety instructions and preparing the machine for operation.

13-INFORMATION ABOUT USING MACHINERY EFFICIENTLY IN TERMS OF ENERGY CONSUMPTION



The MINOS Vertical Mulcher falls under the “Harvesting Machines” group on the list attached to Regulations related to the After Sales Services of Industrial Goods prepared based on the Consumer Protection Law No. 4077, and its bench life has been designated as ten (10) years by the Ministry.

PRODUCTS	NUMBER OF SERVICE STATIONS	BENCH LIFE
13- AGRICULTURE AND HUSBANDRY DEVICES AND MACHINES:		
A-Sowing, Planting, and manure laying machinery	At least one service station	10 years
B- Combine Harvesters	A total of five service stations in five regions	10 years
C-Harvesting Machines	At least one service station	10 years
D-Husbandry Machines	At least one service station	10 years
E-Agricultural Pest Control Equipment and Trailers	At least one service station	10 years
F-Soil Tillage Machines	At least one service station	10 years
G-Lawnmowers	At least one service station	10 years
H- Hedge trimmers, chainsaws, tree sawing machine, and other similar machines	At least one service station	10 years

Table-6 The List of Products that require After Sales Services pursuant to the Consumer Protection Law No. 4077.



Follow the instructions listed below in order to use machinery more effectively in terms of energy consumption;

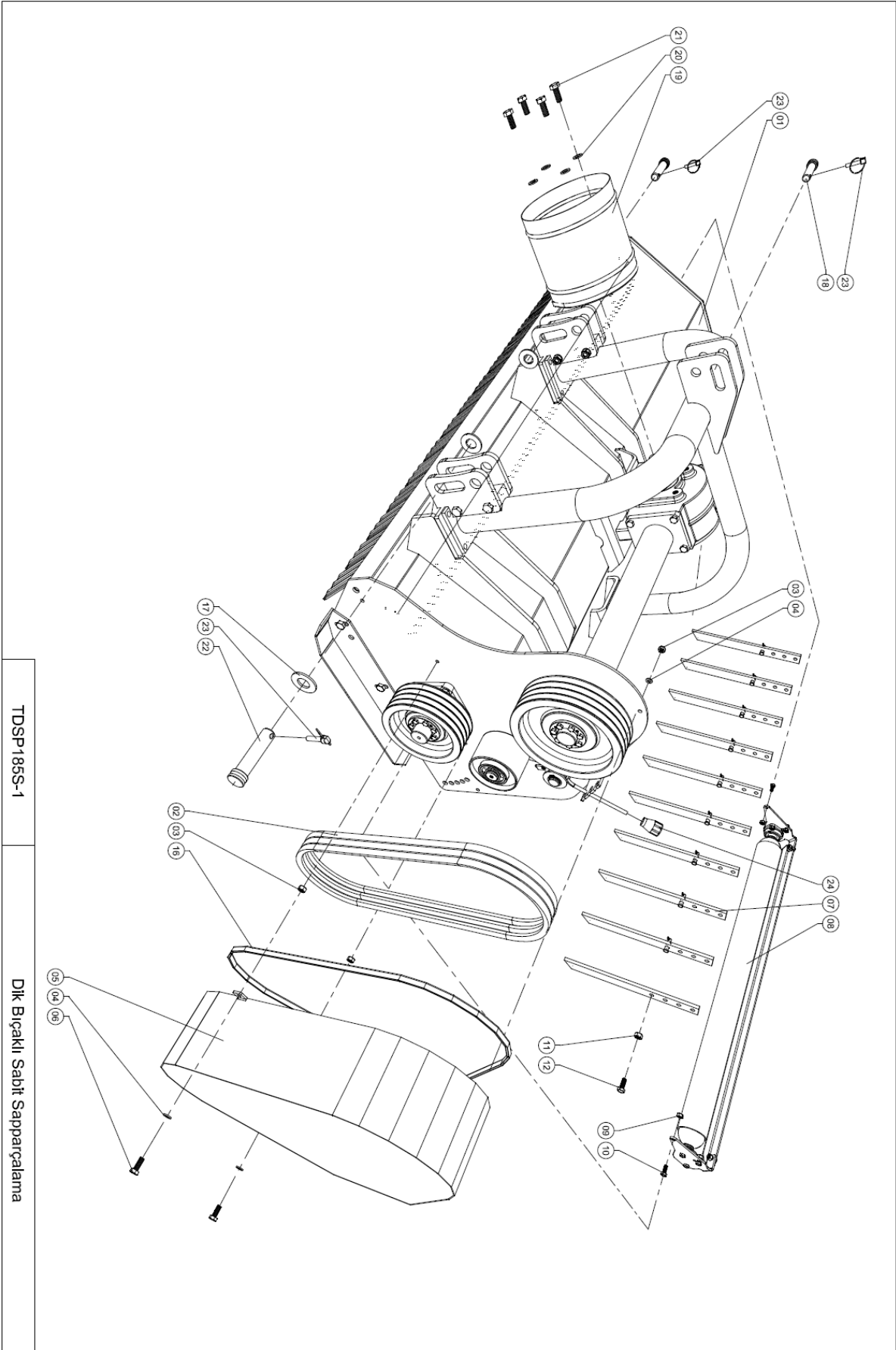
- First ensure that the minimum power required by the machine is in conformity with the tractor.
- Check the tightness of the nuts and bolts. Conduct this check periodically.
- Replace all worn or broken parts using original spare parts.
- Conduct all periodic oiling maintenance of the machine without delay on a regular basis as recommended.
- Always clean the machine after each operation in order to avoid unnecessary energy consumption and overloading due to any form of congestion in the rotating elements.
- Adjust operation depth and progress speed of your machine based on soil conditions and status of the field to be worked on.



- In the event that you require spare parts, you must state the type, serial number, and production date of the machine when placing an order. This is necessary in order to resolve issues quicker and provide better services. All the required information can be found on the metal label on the machine and are the defining information of your machine, which should be at arm's length at all times.

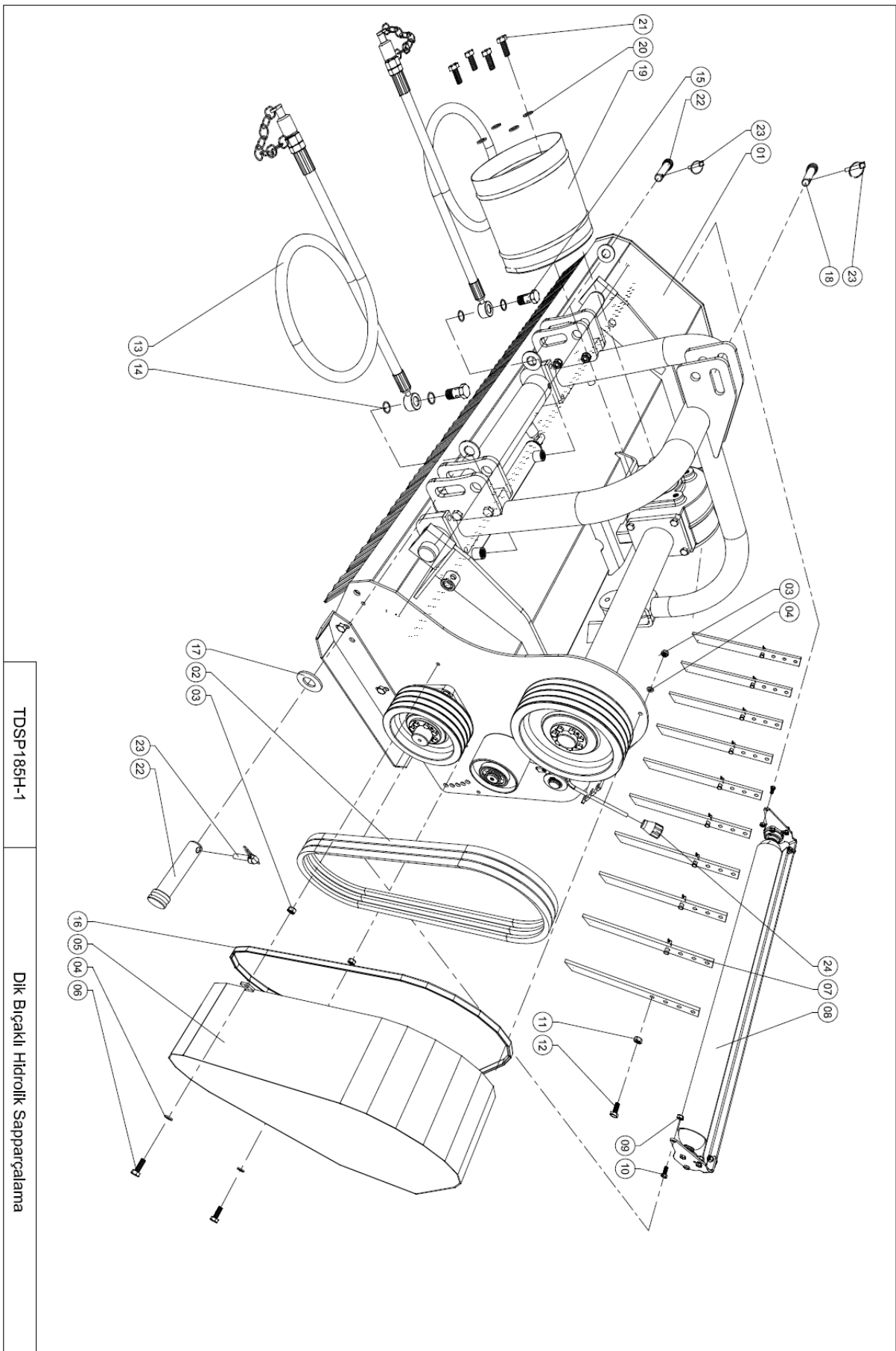
- Spare parts orders shall be logged with authorised services or dealers or directly with our firm in the event that both are not available.

14.1-General Assembly



TDSP185S-1

Dik Bıçaklı Sabit Sappargalama



TDSP185H-1

Dik Biçaklı Hidrolik Sappargalama

14.1.2- Spare Part List of General Assembly

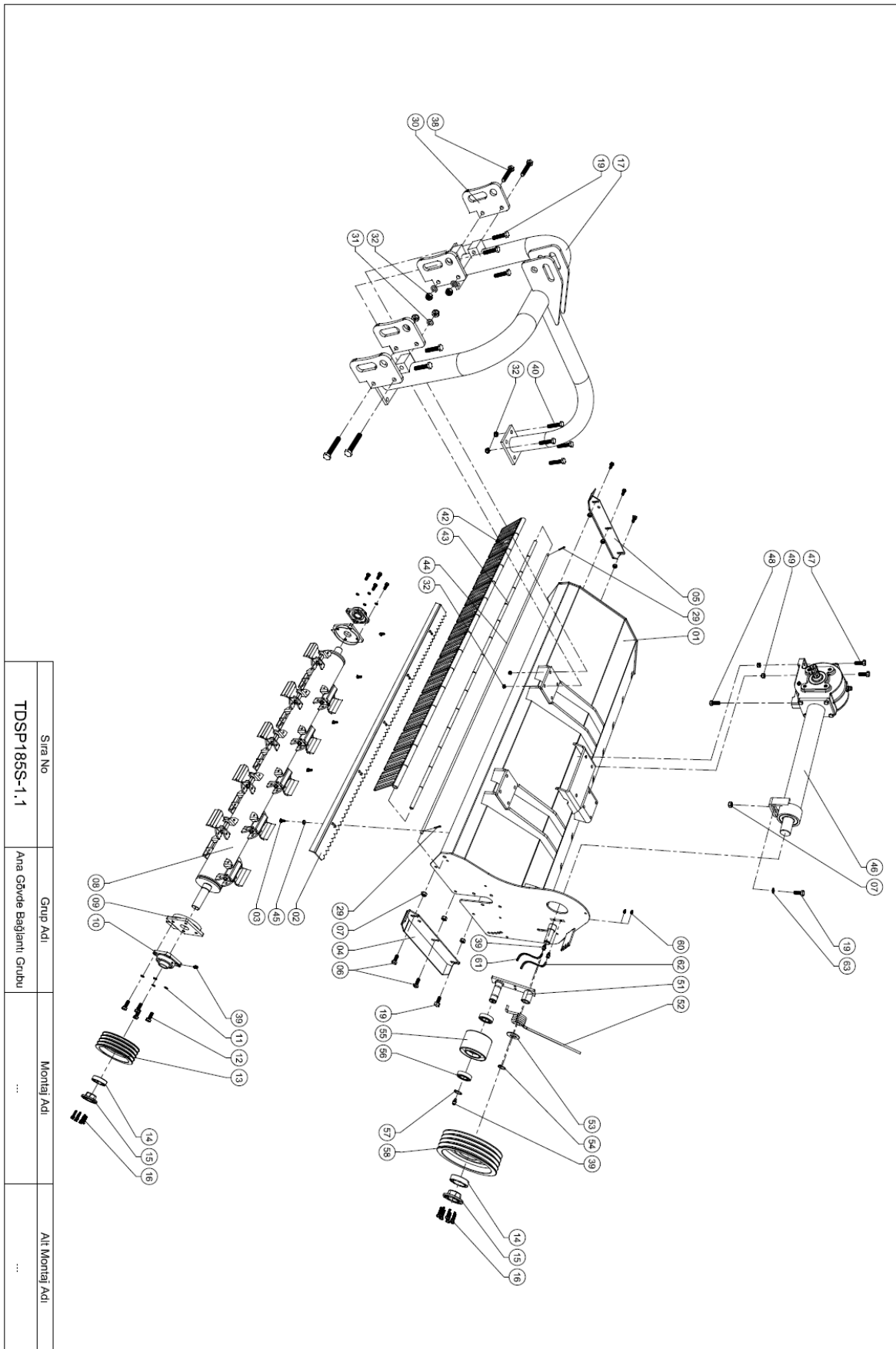
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TDSP240HS-1/TDSP300HS-1

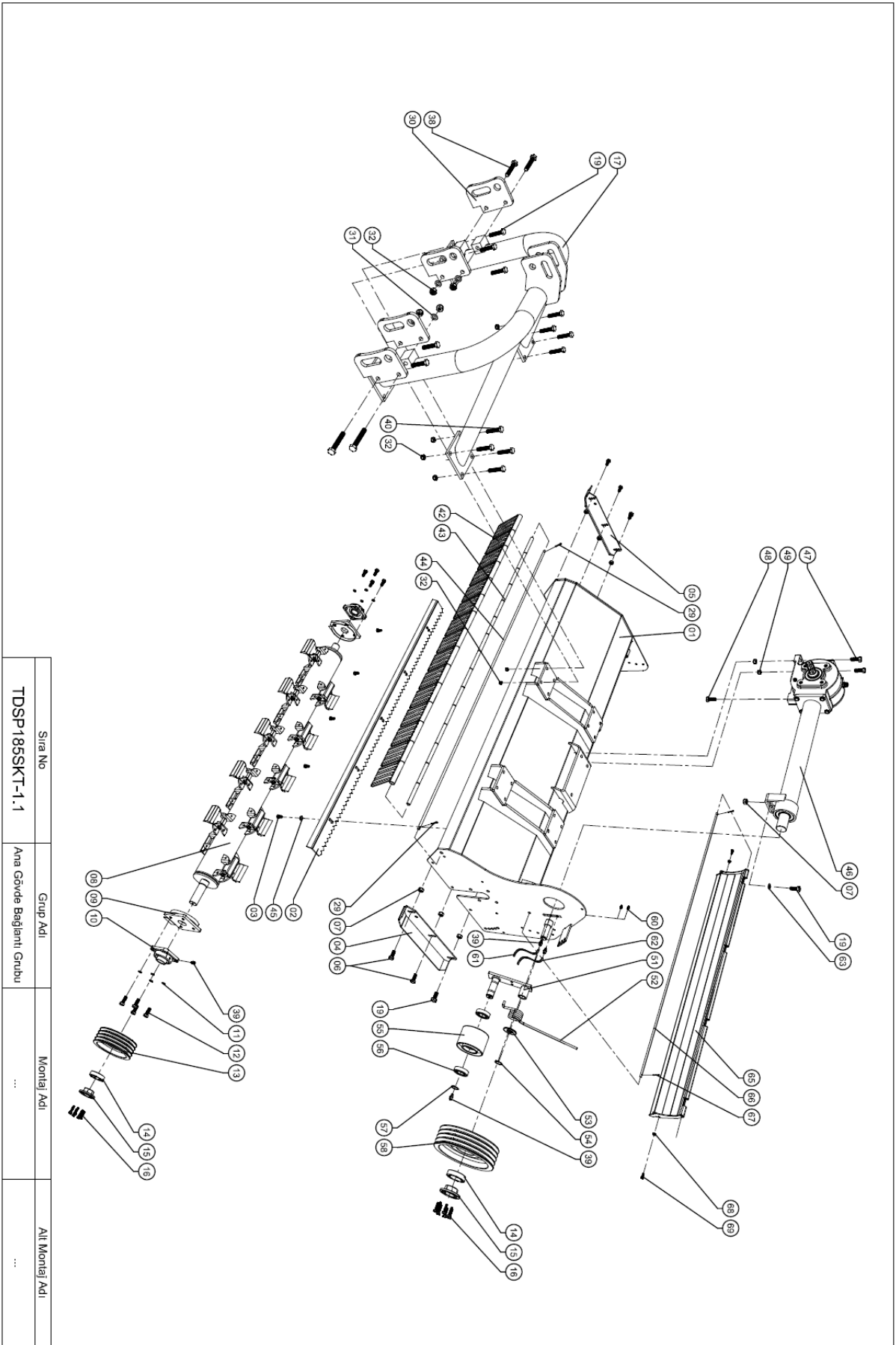
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		10301501.011.000000000	MAIN BODY CONNECTION GROUP (135S)
		10301502.011.000000000	MAIN BODY CONNECTION GROUP (135H)
		10301001.011.000000000	MAIN BODY CONNECTION GROUP (150S)
		...	MAIN BODY CONNECTION GROUP (150H)
		10301102.011.000000000	MAIN BODY CONNECTION GROUP (160S)
		10301101.011.000000000	MAIN BODY CONNECTION GROUP (160H)
		10301202.011.000000000	MAIN BODY CONNECTION GROUP (185S)
		10301205.011.000000000	MAIN BODY CONNECTION GROUP PROFILE(185H)
		10301201.011.000000000	MAIN BODY CONNECTION GROUP (185H)
		10301302.011.000000000	MAIN BODY CONNECTION GROUP (210S)
		10301321.011.000000000	MAIN BODY CONNECTION GROUP PROFILE(210H)
		10301301.011.000000000	MAIN BODY CONNECTION GROUP (210H)
		10301402.011.000000000	MAIN BODY CONNECTION GROUP (240S)
		10301403.011.000000000	MAIN BODY CONNECTION GROUP PROFILE(240H)
		10301401.011.000000000	MAIN BODY CONNECTION GROUP (240H)
		...	MAIN BODY CONNECTION GROUP (300S)
		...	MAIN BODY CONNECTION GROUP PROFILE(300H)
...	MAIN BODY CONNECTION GROUP (300H)		
02	3	93030.0000000.009	V-BELT 17X1625
03	3	93082.0000000.015	NUT (SOM FIB M8X1,25)
04	3	93062.0000000.013	WASHER (DUZ M8)
05	1	10301201.021.000000000	PULLEY PROTECTION COVER
06	2	93021.0000000.159	BOLT (CIV AKB M8X1,25X30 8.8)
07	6	10301201.031.000000000	SCRAPING LAMA (120/135)
	8		SCRAPING LAMA (150/160)
	10		SCRAPING LAMA (185)
	11		SCRAPING LAMA (210)
	12		SCRAPING LAMA (240)
08	1	10301601.021.000000000	BACK ROLLER GROUP(120)
		10301501.021.000000000	BACK ROLLER GROUP(135)
		10301001.021.000000000	BACK ROLLER GROUP(150)
		10301101.021.000000000	BACK ROLLER GROUP(160)
		10301201.041.000000000	BACK ROLLER GROUP(185)
		10301301.021.000000000	BACK ROLLER GROUP(210)
		10301401.021.000000000	BACK ROLLER GROUP(240)
		...	BACK ROLLER GROUP(300)
09	2	93082.0000000.003	NUT (SOM FIB M12X1,75)
10	2	93021.0000000.043	BOLT-(CIV AKB M12X1,75X35 8.8)

11	6	93100.0000000.001	HAIR PIN (MASALI Ø3) (120/135)
	8		HAIR PIN (MASALI Ø3) (150/160)
	10		HAIR PIN (MASALI Ø3) (185)
	11		HAIR PIN (MASALI Ø3) (210)
	12		HAIR PIN (MASALI Ø3) (240)
12	6	10301201.052.000000000	HARROW CONNECTION PIN (120/135)
	8		HARROW CONNECTION PIN (150/160)
	10		HARROW CONNECTION PIN (185)
	11		HARROW CONNECTION PIN (210)
	12		HARROW CONNECTION PIN (240)
13	2	92100.0204302.001	HYDRAULIC HOSE(2SN DN12 DIN20022 BD 275-1/2'x240)
14	4	93061.0000000.011	COPPER WASHER (RON BAK-M22)
15	2	92160.0203401.010	HYDRAULIC HOSE CONNECTION FITTING-THDR2109HOK-1.1.23
16	1	92070.2000002.003	GLASS CHANNEL-1975MM
17	4	10204302.072.000000000	SPECIAL PIN WASHER-THKR18508YT-1.1.30
18	1	10301201.062.000000000	UPPER HITCH PIN
19	1	10202101.150.000000000	DRIVE PTO PROTECTION ASSEMBLY
20	4	93062.0000000.004	WASHER (RON DUZ M10)
21	4	93021.0000000.008	BOLT (CIV AKB M10X1,5X20 8.8)
22	2	92160.0204302.001	BOTTOM ARM CONNECTION PIN
23	3	93240.0000000.002	LINCH PIN (ARMUT BASLI MASALI-Ø8)
24	1	92070.0801102.007	KNOB

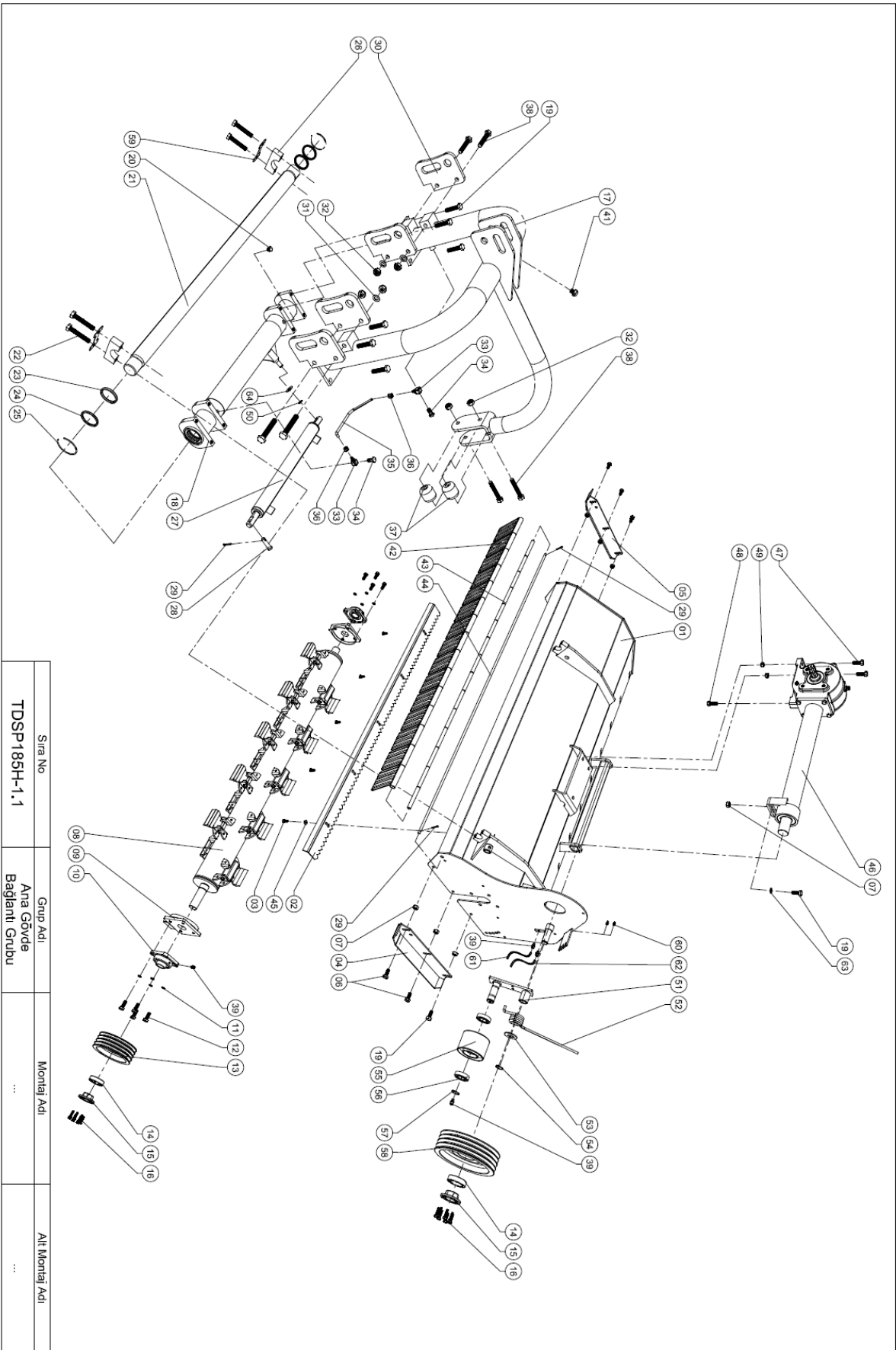
14.2 MAIN BODY CONNECTION GROUP



TDSP185S-1.1



TDSP185SKT-1.1



Sıra No	Grup Adı	Montaj Adı	Alt Montaj Adı
TDSP185H-1.1	Ana Gövde Bağlantı Grubu

TDSP185H-1.1

14.2.1 Spare Part List of Main Body Connection Group

*TDSP120S-1.1/TDSP135HS-1.1/TDSP150HS-1.1/TDSP160HS-1.1/ TDSP160SK-1.1 /
TDSP185HS-1.1/TDSP210HS-1.1/ TDSP210SK-1.1 TDSP240HS-1.1/ TDSP240SK-1.1/
TDSP260SK-1.1//TDSP300HS-1.1*

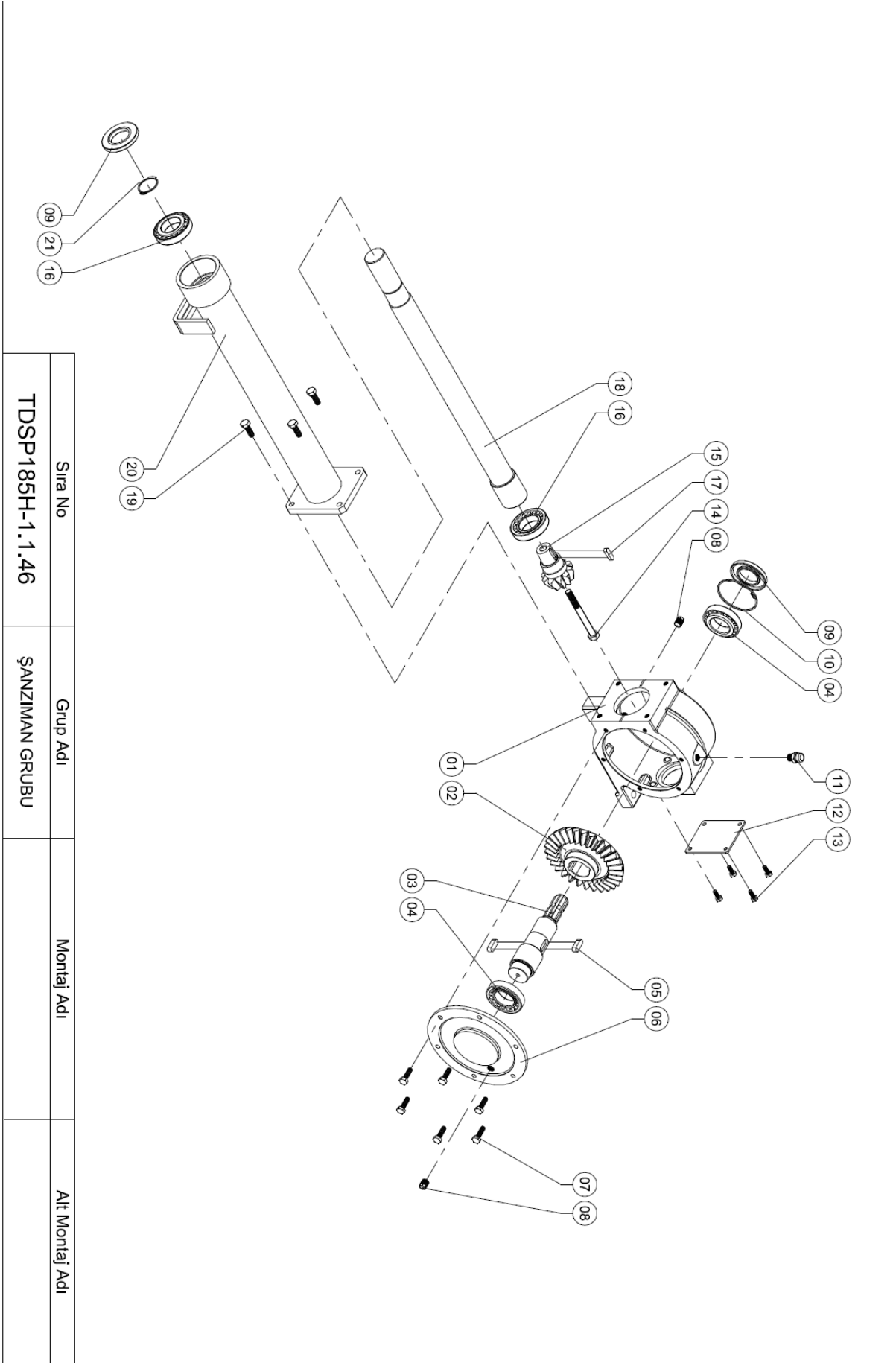
Pos Number	Amount	Order Number	Explanation	Standard
01	1	10301601.010.010000000	MAIN BODY FRAME (120S)	
		10301502.010.010000000	MAIN BODY FRAME (135H)	
		10301501.010.010000000	MAIN BODY FRAME (135S)	
		10301001.010.010000000	MAIN BODY FRAME (150S)	
		10301101.010.010000000	MAIN BODY FRAME (160H)	
		10301102.010.010000000	MAIN BODY FRAME (160S)	
		10301201.010.010000000	MAIN BODY FRAME (185H)	
		10301202.010.010000000	MAIN BODY FRAME (185S)	
		10301204.010.010000000	MAIN BODY FRAME (185S , PROF. BAG.)	
		10301205.010.010000000	MAIN BODY FRAME (185H PROF. BAG.)	
		10301301.010.010000000	MAIN BODY FRAME (210H)	
		10301302.010.010000000	MAIN BODY FRAME (210S)	
		10301321.010.010000000	MAIN BODY FRAME (210H PROF. BAĞ.)	
		10301401.010.010000000	MAIN BODY FRAME (240H)	
		10301402.010.010000000	MAIN BODY FRAME (240S)	
		10301403.010.010000000	MAIN BODY FRAME (240H PROF. BAG.)	
		10301701.010.010000000	MAIN BODY FRAME (260SK)	
		10301421.010.010000000	MAIN BODY FRAME (240SK)	
10301113.010.010000000	MAIN BODY FRAME (160SKT)			
10301423.010.010000000	MAIN BODY FRAME (240SKT)			
02	1	92150.0301601.006	ROLLER HARROW SHEET (120)	
		92150.0301501.006	ROLLER HARROW SHEET (135)	
		92150.0301001.006	ROLLER HARROW SHEET (150)	
		92150.0301101.006	ROLLER HARROW SHEET (160)	
		92150.0301201.012	ROLLER HARROW SHEET (185)	
		92150.0301301.006	ROLLER HARROW SHEET (210)	
		92150.0301401.006	ROLLER HARROW SHEET (240)	
		92150.0301701.006	ROLLER HARROW SHEET (260)	
03	3	93021.0000000.009	BOLT (CIV AKB-M10X1,5X25 8.8 (120)	
	4		BOLT (CIV AKB-M10X1,5X25 8.8 (135/150)	
	5		BOLT (CIV-AKB-M10X1,5X25 8.8 (160/185/210)	
	7		BOLT (CIV-AKB-M10X1,5X25 8.8 (240)	
	8		BOLT (CIV AKB-M10X1,5X25 8.8 (300)	
04	1	10301201.010.020000000	LEFT SKID	
05	1	10301201.010.030000000	RIGHT SKID	
06	4	93021.0000000.040	BOLT (CIV AKB-M12X1,75X25 8.8)	
07	7	93082.0000000.003	NUT (SOM FIB-M12X1,75)	
08	1	10301601.010.040000000	ROLLER COMPLETE (120)	
		10301501.010.040000000	ROLLER COMPLETE (135)	
		10301001.010.020000000	ROLLER COMPLETE (150)	

		10301101.010.020000000	ROLLER COMPLETE (160)	
		10301201.010.040000000	ROLLER COMPLETE (185)	
		10301301.010.020000000	ROLLER COMPLETE (210)	
		10301401.010.020000000	ROLLER COMPLETE (240)	
		10301701.010.030000000	ROLLER COMPLETE (260)	
09	2	10301201.010.050000000	ROLLER BEARING SHEET	
10	2	93077.0000000.004	BEARING (RUL-UCF210)	
11	8	93064.0000000.004	SPRING WASHER(M16)	
12	8	93021.0000000.097	BOLT (CIV AKB-M16X2X40 8.8)	
13	1	92020.0301201.001	SMALL PULLEY	
14	2	92160.0301201.011	CONICAL COUPLING HOUSING	
15	2	92160.0301201.012	CONICAL COUPLING	
16	14	93023.0000000.020	BOLT (CIV İMB M8x1,25x30 8.8)	
17	1	10301202.010.020000000	THREE POINT HITCH-FIXED	
		10301201.010.060000000	THREE POINT HITCH-HYDRAULIC	
		10301421.010.030000000	-THREE POINT HITCH-FIXED COVER	
18	1	10301201.010.070000000	CHROME SPINDLE BEDDING PIPE	
19	11	93021.0000000.043	BOLT(CIV AKB -M12X1,75X35 8.8)	
20	1	92160.0204302.012	SHORT PLUG BLINDE 1/4"	
21	1	92160.0301502.007	CHROME SPINDLE 1270MM (135)	
		92160.0301201.007	CHOROME SPINDLE 1377MM (150/160/185/210/240/300)	
22	4	93021.0000000.080	BOLT(CIV AKB M14X2X60X35 8.8)	
23	2	93041.0000000.036	OIL FELT (55x65x7 PU)	
24	2	93042.0000000.003	DUST FELT (55x65x5/7 PU)	
25	2	10204302.010.122000000	SPECIAL WIRE CIRCLIP	
26	2	92160.0204302.015	PISTON MOVEMENT CONNECTION PART	
27	1	92110.0301502.001	PISTON (135)	
		92110.0204302.001	PISTON (150/160/185/210/240/300)	
28	1	92160.0204302.014	PIN	
29	3	93120.0000000.009	COTTER (5X50)	DIN94
30	4	92150.0301201.022	HITCH BOTTOM ARM CONNECTION SHEET	
31	4	93062.0000000.006	WASHER-(RON DUZ M14)	
32	16	93082.0000000.005	NUT (SOM FIB M14X2) (FIXED TYPE)	
	6		NUT(SOM FIB M14X2) (HYDRAULIC TYPE)	
33	2	92070.0204302.003	1.CONNECTION PLASTIC- 1/4"	
34	2	93310.0000000.002	COUPLING REDHEAD-1/4"	
35	1	93140.0000000.001	TRANSPARENT HOSE- 5x8x200mm	
36	2	92070.0204302.003	2.CONNECTION PLASTIC- 1/4"	
37	2	10301201.010.140000000	HOUSING DERLIN	
38	4	93021.0000000.065	BOLT-(CIV AKB M14X2X100X35 8.8)	
39	4	93310.0000000.005	ELBOW-1/8"-4	
40	4	93021.0000000.076	BOLT (CIV AKB M14X2X40 8.8)	
41	1	10102103.422.000000000	LEG OIL FILLING PLUG- 5/8"	
42	7	10301201.010.080000000	SWINGING (120)	
	9		SWINGING (135)	
	12		SWINGING (150/160)	
	15		SWINGING (185)	
	16		SWINGING (210)	

	18		SWINGING (240)	
	20		SWINGING (260)	
43	7	10301201.010.150000000	PLASTIC PIPE (120)	
	9		PLASTIC PIPE(135)	
	12		PLASTIC PIPE (150/160)	
	15		PLASTIC PIPE (185)	
	16		PLASTIC PIPE (210)	
	18		PLASTIC PIPE (240)	
	20		PLASTIC PIPE (260)	
44	1	10301601.010.030000000	SWINGING SPINDLE (120)	
		10301501.010.030000000	SWINGING SPINDLE (135)	
		10301001.010.030000000	SWINGING SPINDLE (150)	
		10301101.010.030000000	SWINGING SPINDLE (160)	
		10301201.010.130000000	SWINGING SPINDLE (185)	
		10301301.010.030000000	SWINGING SPINDLE (210)	
		10301401.010.030000000	SWINGING SPINDLE (240)	
		10301701.010.040000000	SWINGING SPINDLE (260)	
45	3	93062.0000000.014	WASHER (DUZ 3/8" KALIN) (120)	
	4		WASHER (DUZ 3/8" KALIN) (135/150)	
	5		WASHER (DUZ 3/8" KALIN) (160/185/210)	
	7		WASHER (DUZ 3/8" KALIN) (240)	
	8		WASHER (DUZ 3/8" KALIN) (300)	
46	1	10301601.010.120000000	GEARBOX (120S)	
		10301501.010.120000000	GEARBOX(135HS/150S/185S KACIK)	
		10301201.010.120000000	GEARBOX (160HS/185HS/210H)	
		10301401.010.120000000	GEARBOX (210S/240HS)	
		10301402.010.120000000	GEARBOX (260SK)	
47	2	93021.0000000.102	BOLT- (CIV AKB M16x2x60x40 8.8)	
48	1	93021.0000000.094	BOLT- (CIV AKB M16x2x25 8.8)	
49	2	93082.0000000.007	NUT (SOM FIB M16x2)	
50	1	93261.0000000.002	SPINDLE CIRCLIPS-(SEG MIL Ø15x1 CK75)	DIN471
51	1	10301201.010.090000000	TENSION	
52	1	92060.0301201.001	TENSION SPRING	
53	1	10501003.020.032000000	SPECIAL WASHER	
54	1	93261.0000000.008	SPINDLE CIRCLIPS(SEG MIL Ø30x2,5 CK75)	DIN471
55	1	10301201.010.162000000	TENSION WELDED BODY	
56	2	93071.0000000.019	BEARING-RUL 6207 C3 2RS	
57	1	93261.0000000.009	SPINDLE CIRCLIPS (SEGMİL Ø35x1,5 CK75)	DIN471
58	1	92020.0301201.004	BIG PULLEY	
59	2	92150.0204302.021	SQUARE TIGHTENING SHEET	
60	2	93110.0000000.003	GREASE NIPPLE (DUZ 3/8")	
61	1	93140.0000000.005	TRANSPARENT HOSE-600MM	
62	1	93140.0000000.005	TRANSPARENT HOSE-300MM	
63	1	93062.0000000.005	WASHER-M12	
64	1	93062.0000000.007	WASHER-M16	
65	1	10301113.010.020000000	REAR COVER WELDED 160	
		10301323.010.020000000	REAR COVER WELDED 210	
		10301421.010.020000000	REAR COVER WELDED 240	

		10301701.010.020000000	REAR COVER WELDED 260	
66	1	10301101.010.030000000	SWINGING SPINDLE (160)	
		10301301.010.030000000	SWINGING SPINDLE (210)	
		10301401.010.030000000	SWINGING SPINDLE (240)	
		10301701.010.040000000	SWINGING SPINDLE (260)	
		93120.0000000.009	COTTER (5X50)	DIN94
67	2	93120.0000000.009	COTTER (5X50)	
68	2	93021.0000000.009	BOLT (CIV AKB M10x1,5x25 8.8)	
69	2	93082.0000000.001	BOLT (CIV AKB FIBERLI M10x1,5)	

14.3 GearBox Group



14.3.1 Spare Part List of Gearbox Group-TDSP120H-1.3

Pos Number	Amount	Order Number	Explanation	Standard
01	1	122.0301201.130.001.0100	GEARBOX HOUSING	
02	1	122.0301201.130.001.0305	BEVEL GEAR Z = 30	
03	1	122.0301201.130.001.0500	SHAFT	
04	2	93053.0000000.043	BEARING-RUL 30210	
05	2	93110.0000000.011	COTTER- 12x8x35 A DIN6885	DIN6885
06	1	122.0301201.130.001.0600	GEARBOX COVER	
07	6	93011.0000000.003	BOLT- CIV AKB M10x1,5x25 8.8	
08	2	93152.0000000.008	PLUG-M20x1,5	
09	2	93021.0000000.019	FELT OIL- 50x90x10	
10	1	93172.0000000.014	CIRCLIP- DELIK DIN472 Ø90x3 CK75	DIN472
11	1	93152.0000000.012	PLUG- M20X1,5	
12	1	122.0301201.130.001.0700	GEARBOX CONNECTION SHEET	
13	4	93011.0000000.047	BOLT- CIV AKB M8x1,25x20 8.8	
14	1	93011.0000000.023	BOLT- CIV AKB M14x2x150x40 8.8	
15	1	122.0301201.130.001.0406	BEVEL PINION- Z = 10	
16	2	93053.0000000.043	BEARING-RUL 30210	
17	1	93110.0000000.007	COTTER-10x8x35 A DIN6885	DIN6885
18	1	122.0301801.130.001.0200	SPINDLE	
19	4	93011.0000000.013	BOLT-CIV AKB M12x1,5x30 8.8	
20	1	122.0301801.130.001.0100	GEARBOX BODY PIPE	
21	1	93171.0000000.018	CIRCLIP- MIL DIN471 Ø50x3 CK75	DIN471

14.3.2 Spare Part List of Gearbox Group- TDSP135H-1.3

Pos Number	Amount	Order Number	Explanation	Standard
01	1	122.0301201.130.001.0100	GEARBOX HOUSING	
02	1	122.0301201.130.001.0305	BEVEL GEAR-Z = 30	
03	1	122.0301201.130.001.0500	SHAFT	
04	2	93053.0000000.043	BEARING-RUL 30210	
05	2	93110.0000000.011	COTTER-12x8x35 A DIN6885	DIN6885
06	1	122.0301201.130.001.0600	GEARBOX COVER	
07	6	93011.0000000.003	BOLT- AKB M10x1,5x25 8.8	
08	2	93152.0000000.008	PLUG- M20x1,5	
09	2	93021.0000000.019	FELT OIL-50x90x10	
10	1	93172.0000000.014	CIRCLIP-DELIK DIN472 Ø90x3 CK75	DIN472
11	1	93152.0000000.012	PLUG- M20X1,5	
12	1	122.0301201.130.001.0700	GEARBOX CONNECTION SHEET	
13	4	93011.0000000.047	BOLT-CIV AKB M8x1,25x20 8.8	
14	1	93011.0000000.023	BOLT-CIV AKB M14x2x150x40 8.8	
15	1	122.0301201.130.001.0406	BEVEL PINION- Z = 10	
16	2	93053.0000000.043	BEARING-RUL 30210	

17	1	93110.0000000.007	COTTER-10x8x35 A DIN6885	DIN6885
18	1	122.0301501.130.001.0100	SPINDLE	
19	4	93011.0000000.013	BOLT-CIV AKB M12x1,5x30 8.8	
20	1	122.0301501.130.001.0200	GEARBOX BODY PIPE	
21	1	93171.0000000.018	CIRCLIP-MIL DIN471 Ø50x3 CK75	DIN471

14.3.3 Spare Part List of Gearbox Group- TDSP185H-1.3

Pos Number	Amount	Order Number	Explanation	Standard
01	1	122.0301201.130.001.0100	GEARBOX HOUSING	
02	1	122.0301201.130.001.0305	BEVEL GEAR Z = 30	
03	1	122.0301201.130.001.0500	SHAFT	
04	2	93053.0000000.043	BEARING-RUL 30210	
05	2	93110.0000000.011	COTTER -12x8x35 A DIN6885	DIN6885
06	1	122.0301201.130.001.0600	GEARBOX COVER	
07	6	93011.0000000.003	BOLT-CIV AKB M10x1,5x25 8.8	
08	2	93152.0000000.008	PLUG-M20x1,5	
09	2	93021.0000000.019	FELT OIL- 50x90x10	
10	1	93172.0000000.014	CIRCLIP-DELIK DIN472 Ø90x3 CK75	DIN472
11	1	93152.0000000.012	PLUG-M20X1,5	
12	1	122.0301201.130.001.0700	GEARBOX BODY SHEET	
13	4	93011.0000000.047	BOLT-CIV AKB M8x1,25x20 8.8	
14	1	93011.0000000.023	BOLT-CIV AKB M14x2x150x40 8.8	
15	1	122.0301201.130.001.0406	BEVEL PINION Z = 10	
16	2	93053.0000000.043	BEARING-RUL 30210	
17	1	93110.0000000.007	COTTER-10x8x35 A DIN6885	DIN6885
18	1	122.0301301.130.001.0200	SPINDLE	
19	4	93011.0000000.013	BOLT-CIV AKB M12x1,5x30 8.8	
20	1	122.0301301.130.001.0100	GEARBOX BODY PIPE	
21	1	93171.0000000.018	CIRCLIP-MIL DIN471 Ø50x3 CK75	DIN471

14.3.4 Spare Part List of Gearbox Group- TDSP240H-1.3

Pos Number	Amount	Order Number	Explanation	Standard
01	1	122.0301201.130.001.0100	GEARBOX HOUSING	
02	1	122.0301201.130.001.0305	BEVEL GEAR- Z = 30	
03	1	122.0301201.130.001.0500	SHAFT	
04	2	93053.0000000.043	BEARING-RUL 30210	
05	2	93110.0000000.011	COTTER-12x8x35 A DIN6885	DIN6885
06	1	122.0301201.130.001.0600	GEARBOX COVER	
07	6	93011.0000000.003	BOLT-CIV AKB M10x1,5x25 8.8	
08	2	93152.0000000.008	PLUG-M20x1,5	
09	2	93021.0000000.019	FELT OIL- 50x90x10	

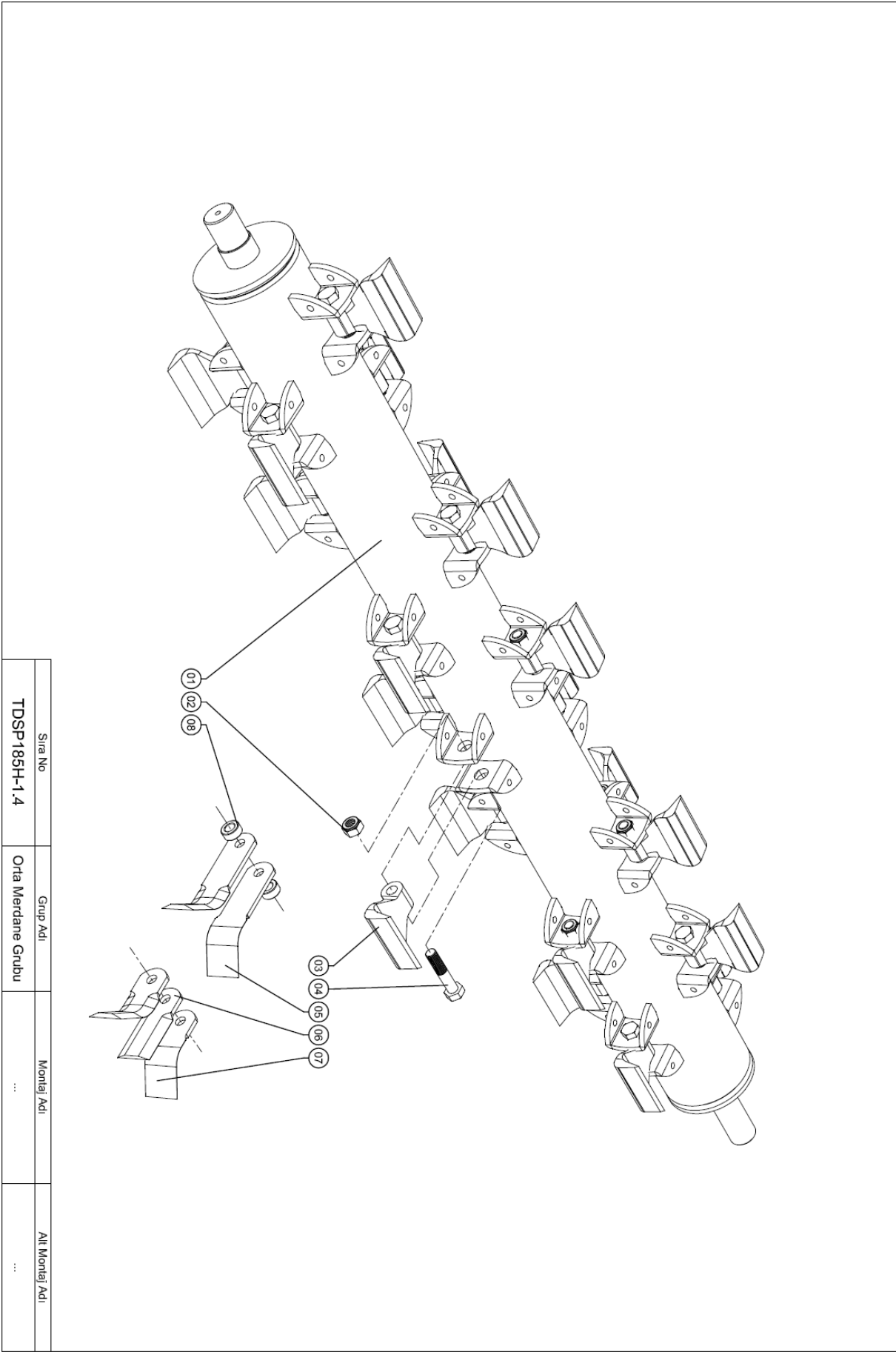
10	1	93172.0000000.014	CIRCLIP-DELIK DIN472 Ø90x3 CK75	DIN472
11	1	93152.0000000.012	PLUG- M20X1,5	
12	1	122.0301201.130.001.0700	GEARBOX BODY PIPE	
13	4	93011.0000000.047	BOLT-CIV AKB M8x1,25x20 8.8	
14	1	93011.0000000.023	BOLT-CIV AKB M14x2x150x40 8.8	
15	1	122.0301201.130.001.0406	BEVEL PINION Z = 10	
16	2	93053.0000000.043	BEARING-RUL 30210	
17	1	93110.0000000.007	COTTER-10x8x35 A DIN6885	DIN6885
18	1	122.0301401.130.001.0100	SPINDLE	
19	4	93011.0000000.013	BOLT-CIV AKB M12x1,5x30 8.8	
20	1	122.0301401.130.001.0200	GEARBOX BODY PIPE	
21	1	93171.0000000.018	CIRCLIP-MIL DIN471 Ø50x3 CK75	DIN471

14.3.5 Spare Part List of Gearbox Group- TDSP240S-1.3

Pos Number	Amount	Order Number	Explanation	Standard
01	1	122.0301201.130.001.0100	GEARBOX HOUSING	
02	1	122.0301201.130.001.0305	BEVEL GEAR Z = 30	
03	1	122.0301201.130.001.0500	SHAFT	
04	2	93053.0000000.043	BEARING-RUL 30210	
05	2	93110.0000000.011	COTTER-12x8x35 A DIN6885	DIN6885
06	1	122.0301201.130.001.0600	GEARBOX COVER	
07	6	93011.0000000.003	BOLT-CIV AKB M10x1,5x25 8.8	
08	2	93152.0000000.008	PLUG- M20x1,5	
09	2	93021.0000000.019	FELT OIL-50x90x10	
10	1	93172.0000000.014	CIRCLIP-DELIK DIN472 Ø90x3 CK75	DIN472
11	1	93152.0000000.012	TAPA HAVALANDIRMA M20X1,5	
12	1	122.0301201.130.001.0700	GEARBOX BODY PIPE	
13	4	93011.0000000.047	BOLT-CIV AKB M8x1,25x20 8.8	
14	1	93011.0000000.023	BOLT-CIV AKB M14x2x150x40 8.8	
15	1	122.0301201.130.001.0406	BEVEL PINION- Z = 10	
16	2	93053.0000000.043	BEARING-RUL 30210	
17	1	93110.0000000.007	COTTER-10x8x35 A DIN6885	DIN6885
18	1	122.0301402.130.001.0200	SPINDLE	
19	4	93011.0000000.013	BOLT-CIV AKB M12x1,5x30 8.8	
20	1	122.0301402.130.001.0100	GEARBOX BODY PIPE	
21	1	93171.0000000.018	CIRCLIP-MIL DIN471 Ø50x3 CK75	DIN471

14.4 ROLLER GROUP

14.4.1 MIDDLE ROLLER GROUP

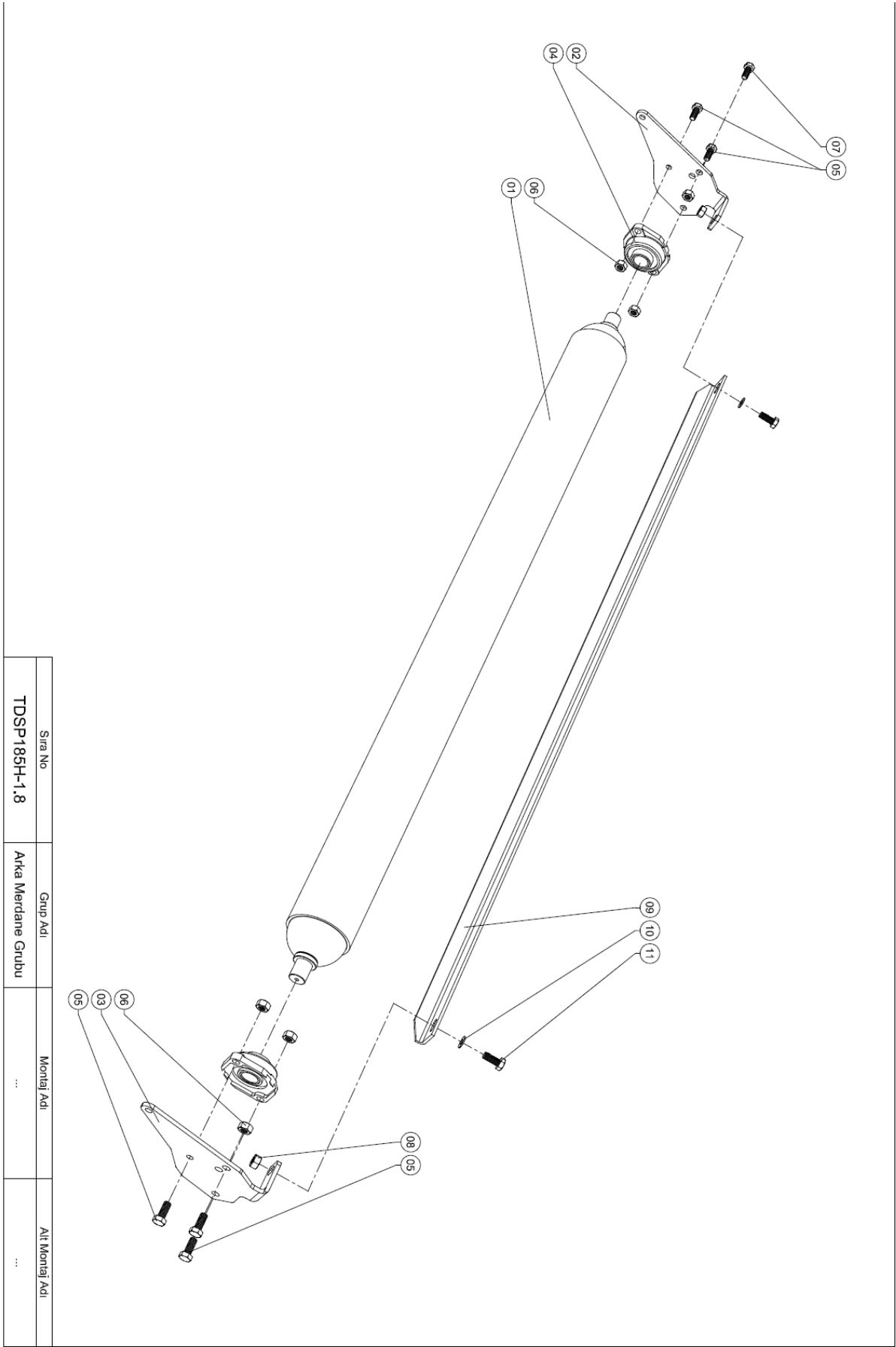


14.4.1.1-SPARE PART LIST OF MIDDLE ROLLER GROUP

TDSP120S-1.4/TDSP135HS-1.4/TDSP150HS-1.4/TDSP160HS-1.4/TDSP185HS-1.4/TDSP210HS-1.4/TDSP240HS-1.4/TDSP300HS-1.4

Pos Number	Amount	Order Number	Explanation
01	1	10301601.010.040010000	BLADE ROLLER (120)
		10301501.010.040010000	BLADE ROLLER (135)
		10301001.010.020010000	BLADE ROLLER (150)
		10301101.010.020010000	BLADE ROLLER (160)
		10301201.010.040010000	BLADE ROLLER (185)
		10301301.010.020010000	BLADE ROLLER (210)
		10301401.010.020010000	BLADE ROLLER (240)
02	10	93082.0000000.009	NUT (SOM FIB M18x2,5) (120)
	12		NUT (SOM FIB M18x2,5) (135)
	14		NUT (SOM FIB M18x2,5) (150)
	16		NUT (SOM FIB M18x2,5) (160)
	20		NUT(SOM FIB M18x2,5) (185)
	24		NUT(SOM FIB M18x2,5) (210)
	26		NUT (SOM FIB M18x2,5)(240)
03	10	92080.0301201.001	HAMMER BLADE (120)
	12		HAMMER BLADE (135)
	14		HAMMER BLADE (150)
	16		HAMMER BLADE (160)
	20		HAMMER BLADE (185)
	24		HAMMER BLADE (210)
	26		HAMMER BLADE (240)
04	10	93021.0000000.325	BOLT (CIV AKB M18x2,5x110x45 8.8) (120)
	12		BOLT (CIV AKB M18x2,5x110x45 8.8) (135)
	14		BOLT (CIV AKB M18x2,5x110x45 8.8) (150)
	16		BOLT (CIV AKB M18x2,5x110x45 8.8) (160)
	20		BOLT (CIV AKB M18x2,5x110x45 8.8) (185)
	24		BOLT (CIV AKB M18x2,5x110x45 8.8) (210)
	26		BOLT (CIV AKB M18x2,5x110x45 8.8) (240)
05		92080.0301204.002	L BLADE (Y TYPE) LONG)
06	16	92080.0301204.003	I BLADE (Y TYPE) (160)
	26		I BLADE (Y TYPE) (240)
07	32	92080.0301204.001	L BLADE (Y TYPE) SHORT (160)
	40		L BLADE (Y TYPE) SHORT (185)
	52		L BLADE (Y TYPE) SHORT (240)
08	32	92160.0301201.002	ROLLER BLADE PIN BUSHING (160)
	40		ROLLER BLADE PIN BUSHING (185)
	52		ROLLER BLADE PIN BUSHING (240)

14.4.2- BACK ROLLER GROUP

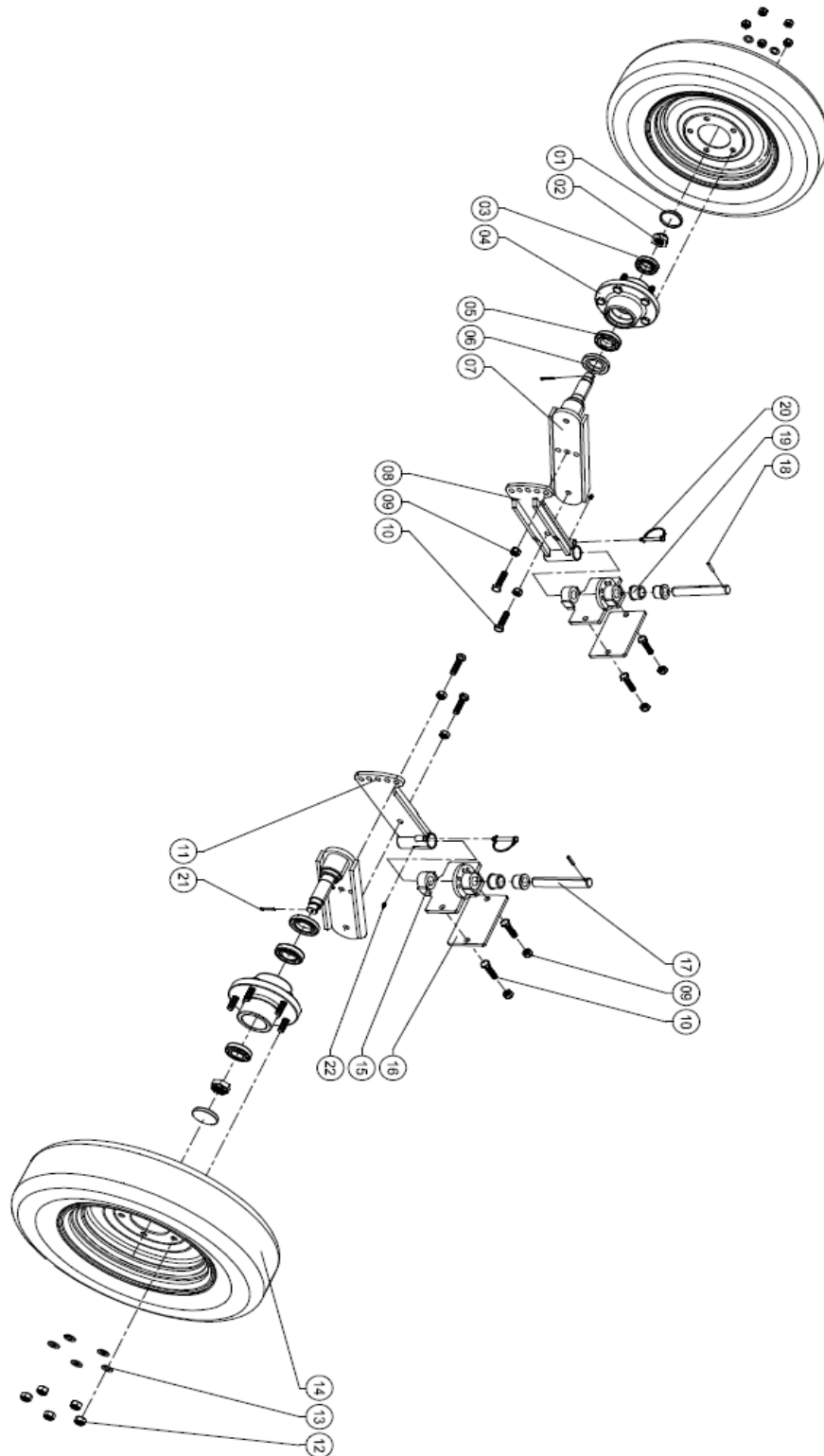


14.4.2.1- SPARE PART LIST OF BACK ROLLER GROUP

*TDSP120S-1.8/TDSP135HS-1.8/TDSP150HS-1.8/TDSP160HS-1.8/TDSP185HS-1.8/
TDSP210HS-1.8/TDSP240HS-1.8/TDSP300HS-1.8*

Pos Number	Amount	Order Number	Explanation
01	1	10301601.040.010000000	BACK ROLLER BODY (120)
		10301501.040.010000000	BACK ROLLER BODY (135)
		10301001.020.010000000	BACK ROLLER BODY (150)
		10301101.020.010000000	BACK ROLLER BODY (160)
		10301201.040.010000000	BACK ROLLER BODY (185)
		10301301.020.010000000	BACK ROLLER BODY (210)
		10301401.020.010000000	BACK ROLLER BODY (240)
02	1	92150.0301201.031	RIGHT BACK ROLLER CONNECTION SHEET
03	1	92150.0301201.030	LEFT BACK ROLLER CONNECTION SHEET
04	2	93077.0000000.007	BEARING (RUL UCFL207
05	4	93021.0000000.076	BOLT (CIV AKB M14X2X40 8.8)
06	6	93082.0000000.005	NUT (SOM FIB M141X2)
07	2	93021.0000000.075	BOLT (SOM FIB M14X2X35 8.8)
08	2	93082.0000000.003	NUT (SOM FIB M12X1,75)
09	1	92150.0301601.005	BACK ROLLER SCRAPPER (120)
		92150.0301501.005	BACK ROLLER SCRAPPER (135)
		92150.0301001.005	BACK ROLLER SCRAPPER (150)
		92150.0301101.005	BACK ROLLER SCRAPPER (160)
		92150.0301201.032	BACK ROLLER SCRAPPER (185)
		92150.0301301.005	BACK ROLLER SCRAPPER (210)
		92150.0301401.001	BACK ROLLER SCRAPPER (240)
10	2	93062.0000000.005	WASHER (RON DUZ M12)
11	2	93021.0000000.043	BOLT (CIV AKB M12X1,75X35 8.8)

14.5- WHEEL GROUP



Sıra No	Grup Adı	Montaj Adı	Alt Montaj Adı
TDSP185SKT-1.31	Tekerlek Grubu

14.5.1- SPARE PART LIST OF WHEEL GROUP**TDSP185SKT-1.31**

Pos Number	Amount	Order Number	Explanation
01	2	93223.0000000.009	PLUG PLASTIC (Ø85x8)
02	2	93085.0000000.010	NUT (SOM TAC- M30x1,5 8.8)
03	2	93073.0000000.001	BEARING (RUL 30207 ORS)
04	2	92160.0301113.002	WHEEL FLANGE DSP
05	2	93073.0000000.002	BEARING (RUL 30208 ORS)
06	2	93041.0000000.042	FELT OIL (KECE YAG 55x85x13)
07	2	10301113.020.011000000	WHEEL SPINDLE CONNECTION WELDED AND PAINTED
08	1	10301113.020.021000000	WHEEL LEFT SPINDLE CONNECTION WELDED AND PAINTED
09	8	93082.0000000.007	NUT (SOM FIB M16x2)
10	8	93021.0000000.098	BOLT (CIV AKB M16x2x45 8.8)
11	1	10301113.020.031000000	WHEEL RIGHT SPINDLE CONNECTION WELDED AND PAINTED
12	5	93084.0000000.008	NUT (SOM SIKMALI M16x1,25)
13	5	93062.0000000.007	WASHER (RON DUZ M16)
14	2	92170.0301113.001	CARRIER WHEEL RIM WITH TYRE DSP 6.00x16-TP8
15	2	10301113.020.041000000	WHEEL BODY CONNECTION WELDED PAINTED
16	2	92150.0301401.014	WHEEL TWO HOLES INSIDE SHEET
17	2	92160.0301113.004	WHEEL BEDDING SPINDLE
18	2	93200.0000000.005	SPLITTED PIN (Ø5x50)
19	4	92070.0102103.001	PLASTIC BUSHING TSCM
20	2	92060.1501002.005	SPRING PIN
21	2	93120.0000000.008	COTTER (5X40)
22	2	93110.0000000.005	GREASE NIPPLE FLAT (M6)