



CGSA Serie

Fertilizer Sepreader Machine

User Manual

EcoMaster - Pro - ProPlus



CGSA 2017/1

01.01.2017



Keep and mind and read the
user manual at the first time
using! Keep it for next using.

Data of Specification

Fill the data of specification for your machine.

Type:

Model:

Serie No:

Weight:

Producing Company Information

DÖNDER TARIM MAKİNALARI SAN. TİC. LTD.ŞTİ.

Bodrum Yolu Üzeri, Yenidoğan Mahallesi 09205 Söke/Aydın/TÜRKİYE

Tel: +90 256 521 02 24

+90 256 521 01 49

Fax: +90 256 521 01 09

E-Posta: info@dondertarim.com.tr

Web: www.dondertarim.com.tr

Spare Part Order

DÖNDER TARIM MAKİNALARI SAN. TİC. LTD.ŞTİ.

Bodrum Yolu Üzeri, Yenidoğan Mahallesi 09205 Söke/Aydın/TÜRKİYE

Tel: +90 256 521 02 24

+90 256 521 01 49

Fax: +90 256 521 01 09

E-Posta: info@dondertarim.com.tr

ofis@dondertarim.com.tr

Information of User Manual

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1 User Information

The section of user information contains information about user guide. Read the user manual, keep it, and use it when it is needed.

1.1 The Aim of Document

This user manual;

- Explanation about the usage of machine and its maintenance.
- It gives some important information about safety instruction for proper and efficient Operations.
- During the usage of the machine, it must be placed on the machine or at least some place where the operator can access easily.
- It must be keep for another using.

1.2 The Place Information in the User Manual

This manual shows all the directions of data, and tractor driving direction.

1.3 Types of Used Indications

Processing instructions and reactions.

The processing operations which will be done by the user are shown as a numerical instructions.

Follow the specified sequence for operations. For relevant processing instructions when the reaction is necessary it will be marked by an arrow.

Example:

1. Processing instructions 1.
 - Processing instructions 1.for machine instruction.
2. Processing instructions 2

Numbers

.....

- Point 1
- Point 2

Position Numbers of Images

It specifies the number of positions in painting figures in parentheses.

Example: **Picture (4\1)**

- Picture 3
- Position 1

2 General Safety Warnings

This section contains some information to use the machine in a safe and correct way.

2.1 Liabilities

The information in this user manual should be considered and applied

Knowing the basic safety warnings and safety instructions is a base condition to run the machine in a proper and smooth functioning.

Liabilities of the Operator

The operator allows only the persons who have the specifications below, to work with the machine,

- To be trained with the machine usage.
- Having information about basic work safety and accident prevention instructions.
- To be read and understood the user manual.



If the general safety and warning labels are worn or in unreadable condition, please change them with the new ones. To safe and correct usage, please consider the labels.

Liabilities of the User

All the personnel who work with the machine, must be consider the following information before working with the machine:

- The instructions about the work safety and accident prevention must be considered.
- The " General Safety Warnings" section in this manual must be read and considered.
- He must have the information about how the machine works and its features.
- The " Pictured warning signs and other signs" section must be read and understood.



If the user/operator determines that the equipments are not safety, he must repair them. If he has not authorization, ability or information about the subject, he must inform the authorized person.

Hazards that can be Occur while Working With Machine

The machine is produced in accordance with technical safety rules. However, there can be hazardous conditions while working with the machine.

- Injury or death risk for the user or third persons.
- Being damaged the machine.
- Potential financial damages.

Please, use the machine only properly with its production purpose. Use the machine only if it is in a good condition for safety. In the conditions that negatively affect the safety, please fix the problems, if not, please contact with our company.

Guarantee and Liability

Mainly 'General Selling and Delivery Conditions' are valid. These are obtained by the operator after signing the contract. The requests of guarantee and liability for the personnel and financial damages are invalid according to the all or some of the following problems;

- Misusing of the machine
- Wrong installation, running, using or maintenance of the machine.
- Not considering the warnings about maintenance and usage, stated in the user manual.
- Doing some inappropriate changes by the user on the machine.
- The effects of foreign materials and natural disasters.

2.2 Showing the Safety Notations

Safety warnings are shown with the triangle safety symbol. The word comes before the symbol (DANGER, WARNING, ATTENTION) describes the hazard level that can be occur.

DANGER



It refers to high risk of the death or heavy injury situations unless it is not prevented.

There is a possibility to death or heavy injury situations unless not considering the warnings.

WARNING



It refers to medium level risk of death or (heavy) injuries unless it is not prevented.

In the situation that not considering the warnings, there is a possibility to death or heavy injury depends on the conditions.

ATTENTION



It refers to low level risks, small or medium level injuries or financial damages unless it is not prevented.

IMPORTANT



It refers to a special treatment or an obligation to run the process for using the machine in proper way.

On the contrary, there can be damages in the machine or around it.

INFORMATION



It refers hints and useful information for the use.

These information are useful using the machine with its all the features.

2.3 Precautions Before Working

The operator should provide required personal safety equipments.

- Work shoes
- Protective goggles
- Protective clothing
- Skin-protective and so on



When you use the machine, User manual must be on the machine or somewhere on the operating machinery which can be accessed easily

2.4 Security and Safety Arrangements

Before starting the machine all safety and protective equipment must be checking and should be working, All security devices on the machine must be checked regularly, if needed , it must be repaired.

Incorrect or removed safety device may cause a dangerous situations.

2.5 Other Safety Precautions

Besides the security warnings In this user manual , please consider the accident prevention and environmental protection system according to the national rules of general applicability. Follow the traffic rules.

2.6 Security Usage in Normal Usage

Use the machine after Applying all the safety and security advices.

Check the machine in a regular time for knowing if there is any wrong with it.

When you check the machine it must be stopped ,otherwise it could cause a damage in the materials or can cause injuries.

2.7 Maintenance, Repairing and Troubleshooting

Make the maintenance and controlling as the specified settings that stated, be careful to look to the safety in the Compressed air and hydraulic fluids.. etc

Fix the large parts on the machine during part exchange . Secure the machine.

Check the removed screw connections . Make sure the machine is working properly after finishing the maintenance activity.

2.8 Structural Changes

Without the authorization of DÖNDER TARIM there cannot be made any change of the machine parts and the machine. All the changing activities will be made by the authorized service stuff. Use only the original parts provided from DÖNDER TARIM.

2.9 Pictured Warning Signs



Keep all the pictured warning signs always clean and readable !

Change the unreadable signs with the new ones. Specify the order number (Ex: DTE-04) and request from our company.

Pictured Warning Signs - Structure

Pictured warning signs refer to dangerous places in the machine and their target is inform you. In these danger points, there are dangers which always available or may occur suddenly.

Pictured warning signs compose of two parts.



Section 1

A picture framed with a triangle refers to a danger definition.

Section 2

Refers the pictured instruction to prevent the danger.

Pictured Warning Signs - Explanation

The description of pictured warning signs is always same and notifies following row;

1. Danger description.

Example: the dangers of cutting fingers or hand because of the moving units.

2. The results of not fulfilling the danger preventing instruction/instructions.

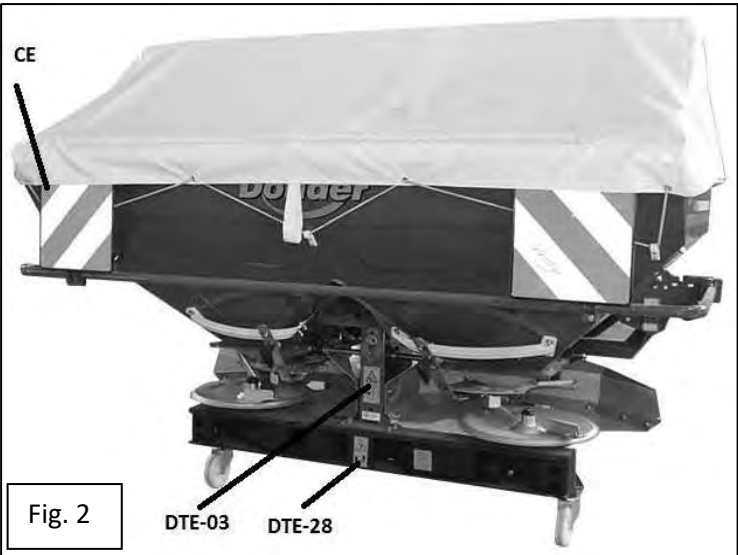
Example: These dangerous situations can be cause a heavy injuries like the loss of fingers or hand.

3. Instructions for preventing the danger/dangers.

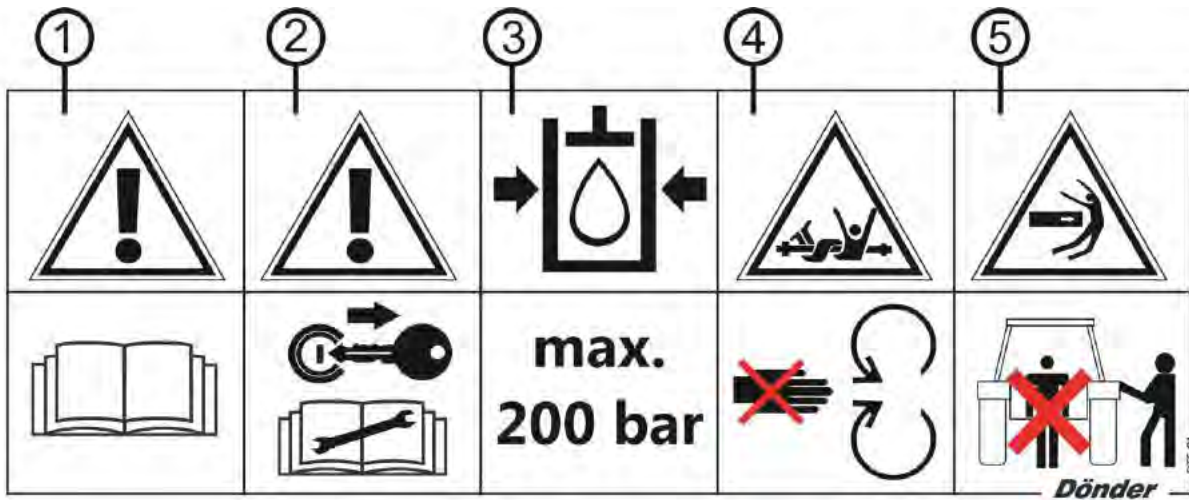
Example: Never put your hand in dangerous area of drive shaft/hydraulic system of the tractor motor while it is running.

Touch the moving units only when they are stopped completely.

2.9.1 Positioning of the Pictured Warning Signs



2.9.2 Explanations of the Pictured Warning Explanations

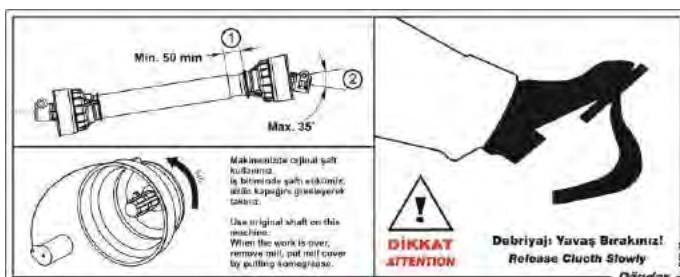


DTE-01

1. Please read the user manual and consider it before using the machine.
2. There can be some dangerous situations while installation, setting, damage fixing, cleaning, maintenance and fixing by unwilld running and slippage of the machine. These possible dangers can cause heavy injuries or death.
 - Secure the machine and tractor always against all kind of interfere , unwilld running and slippage.
 - Read the related information section of the user manual according to the type of the interfere.
3. Maximum hydraulic pressure of the work is 200bar.
4. In working condition, because of the unguarded machine units ,the danger of pulling the arm or upper body inside the machine.
5. This danger cause heavy injuries in arm or upper body. Never run the guard equipments of the actuated machine units in following conditions;
 - When the tractor motor, related drive shift/ clutched hydraulic actuated runs.
 - If it is in unwilld condition when the tractor motor , related drive shift/ clutched hydraulic is actuated.

DTE-02

The normnal cycle number (540c/min) and rotating direction of the actuating shaft on the side of the machine .



The maximum running angle of drive shift that makes the machine units movable.

DTE-03



In working condition, because of the unguarded machine units ,the danger of pulling the arm or upper body inside the machine.

This danger cause heavy injuries in arm or upper body.

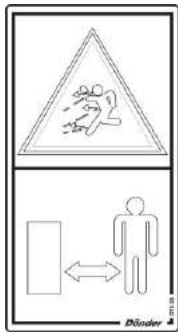
Never run or remove the guard equipments of the actuated machine units.

DTE-06



This label refers to fixing points while moving or lifting the machine for fasten the units.

DTE-28



There is a risk to throw an object/product and hit danger from the splash disks while the machine is running. Please watch your distance.

An object or a product may be thrown from the area of throw disks while the machine is connected to the tractor and the drive shift is attached.

You may be damaged by the effect of the impact.

2.10 The Dangers for the Situations of not Considering the Safety Warnings

In the situation of not considering the safety warnings,

- The people around and around the machine can be exposed to the danger.
- It can be cause the loss of all kind of financial damage compensations.

In some situations, not considering the safety warnings may cause following;

- Persons may be in danger because of not secured working area.
- The loss of important functions of the machine.
- The loss of important functions of the machine.
- Environmental pollution because of hydraulic oil leakage.

2.11 Security and Conscious Working

Besides the security warnings mentioned in this user manual, international and de facto work safety and accident preventing instructions are binder.

Please follow the instructions mentioned in official warning signs to prevent the accidents. Follow the traffic rules.

2.12 Safety Warnings for the User



Warning

There are the risk of smashing, cutting, pulled in case of not having traffic and operational security.

Check the tractor always for the traffic and usage safety before using the machine!

2.12.1 General Accident Preventing Warnings

- Please consider international safety and accident preventing instructions which have general validity.
- Pictured warning signs and other signs on the machine, contain important information about the machine working out of a dangerous way. Paying attention to these warnings provide security.
- Please check around the machine before running and using the machine (for children and other living creatures)! It is important to have an adequate sight distance.
- It is forbidden to walk and burden on the machine!
- Please make your drive style safe and dominated according to the attached or pulled machine.

While making your drive style safe, please consider your personal abilities, drive ways, traffic, sight distance, weather, driving features, attached machine or equipments.

Attaching and Configuring the machine propulsion system

- Please attach the machine or carry the machine only with a proper tractor.
- Connecting the hydraulic three points hanger unit to the tractor, the features of tractor and the machine must be correspond to each other.
- Attach the machine to the stated system in accordance with the instructions.
- Values that should not be exceeded in case of attaching the machine front-side or back-side of the tractor,
 - Allowed total weight of the tractor
 - Allowed axle weight of the tractor
 - Allowed carrying capacity of tractor tires
- Please secure the tractor and the machine before attach or remove the machine in spite of unwilled slippage.
- It is forbidden to stay someone on between the machine which will be attached and the tractor while the tractor is approaching the machine.
The supporters can stay on only near the vehicle just for the directives and only when the vehicles are stopped, they can walk into between them.
- Please fix the hydraulic command lever before attach the machine to the hydraulic three point hanger system of the tractor to the position that cannot be lifted or pulled down unintentionally.
- It is forbidden to stay someone on between the machine and the tractor while working the hydraulic three point system.
- Please fix the machines that removed from their propulsion.

Usage of the Machine

- Please understand well all the functions and features of gears and parts of the machine before working with it.
- Wear tight clothes. Baggy clothes increase the risk of getting caught or pulled inside the machine.
- Run the machine only when all the guard equipments are attached and ready to work.
- Please consider maximum loading allowed of the attached machine, axle and support loads of the tractor. if necessary, do not fill the fertilizer caldron fully.
- It is forbidden to stay someone on around the working field of the machine.
- It is forbidden to stay someone on cornering and turning area of the machine.
- Please secure the tractor for unwilled slippage before leave it,
For this;
 - Put the machine on the floor.
 - Set the parking brake.
 - Stop the tractor.
 - Pick the vehicle keys/starter keys with you.

Transporting the Machine

- Please obey the international traffic rules on the road.
- Controls that will be made for transporting,
 - Connection of Electric/hydraulic feeding line properly.
 - Being clean and functional of the lightning system.
 - No malfunction in the break and hydraulic system.
 - Good break system condition.
- Please check the functions of the tractor break and wheel if they work properly. The machine attached to the tractor , front and back weights effect the drive way, break and wheel control.
- Use front weights if needed.
To have an adequate wheel control, use always up to 20% load of empty weight of the tractor for the front axle of the tractor.
- Please stock properly front and back weights.
- Please check the break effect before the driving.
- Place the movable parts to transport position before transporting the machine.
- Adjust the driving speed for current circumstances.
- Please deactivate the single breaks before transporting drives (Lock the brake pedals).
- Consider the machine and tractor lightning, warning and safety equipments are working and visible before the transporting drive.
Avoid the situations that can endanger you and the traffic while driving. It is important for your and others life safety.

2.12.2 Hydraulic System

- Hydraulic system is under the effect of high pressure.
- Please pay attention to the hydraulic hose lines connected properly.
- Please Pay attention to hydraulic system unpressurized both machine side and tractor side during the connection of hydraulic hose lines.
- Before working with hydraulic systems
 - The machine must be landed down.
 - Hydraulic system pressure must be tapping.
 - Tractor motor must be stopped.
 - Parking brake must be set.
 - Starter keys must be removed.
- Hydraulic hose lines must be checked by the experts at least once a year for work safety.
- Change the damaged hydraulic hose lines with the new ones. Use only the original DÖNDER hydraulic hose lines.
- Hydraulic hose lines should not be used more than 6 years including 2 years of stocking period. The hose lines may be damaged in natural ways even if they are used in a proper way. That's why their usage and stock life are restricted. For this reason the usage and storage lifetime is restricted.
- Do not try to cover leakiest hydraulic hose lines with your hand or finger.
The liquid (hydraulic oil) with high pressure may harm the body and penetrate through your skin into your body. This situation may cause heavy injuries.
In case of the injuries by hydraulic oil , contact a health care provider immediately.
- Use the proper equipments for identifying the leakage.

2.12.3 Electrical System

- Adjust the accumulator's pole to negative poles in the electrical operations.
- Use only the stated fuses. In case of using high ampered fuses, the electrical system may be damaged. Fire danger!
- Pay attention to proper connection of the accumulator. First positive, then negative pole must be connected. Removing from the poles, first negative than positive poles must be removed.
- Close the positive pole of the accumulator with the proper cover. There is an explosion risk if contacted with the sachet
- The machine can be equipped with electronically components and parts. Their functions may be broke down with the electromagnetic waves which spread by other devices. These situations may endanger persons if not considered following warnings;
 - The user must check if the new equipment causes any problem or not after installing the electrical devices or components , it is under the user's responsibility.
 - Pay attention to the electrical equipments that installed later to match with 89/336/EEG's EMC instructions and carrying CE sign.

2.12.4 Sub-Propeller Shaft Usage

- It is allowed to use drive shafts only equipped with properly guard installations accepted by DÖNDER TARIM.
- Please consider the user manual of drive shaft manufacturer.
- Guard pipe and guard cone of drive shaft must not be damaged. Safeguards of tractor and machine's drive shafts must be installed properly.
- It is forbidden to work with damaged guard equipments.
- Installing or removing drive shaft can be done only with following situations;
 - In the situation of removing propulsion subsystem.
 - In the situation of stopping tractor motor.
 - In the situation of setting the parking break.
 - In the situation of removing the starter key.
- Please pay attention to proper installing and fixing the drive shaft.
- In the usage of wide drive shifts, wide angle juncture always must be attached to the turning point between tractor and the machine.
- Ensure the drive shaft guard against turning by hanging the chains on the drive shift.
- Move away the persons around the danger zone of the machine before running the propulsion subsystem.
- In the usage of propulsion subsystem, do not forget that the cycling number of propulsion subsystem depends on the driving speed and it will change direction when going back.

2.12.5 Operating of Fertilizer Spreader Machine

- It is forbidden to stay on the working field. It is dangerous because of the fertilizer/product pieces thrown by the machine. Before running the disks, please move away the persons around the fertilizer spreader machine. Do not stay near the turning disks.
- Please do the fertilizer spreader filling process only when the tractor motor is stopped, the starter key is removed and the disks are killed.
- Pay attention to the turning parts during checking the fertilizer spreading amount in the dangerous areas of the machine.
- Please be sure that the fixing parts are placed properly before every usage (specially disks and wings).
- While fertilizing for farm sides, puddles or road sides, please use farm side fertilizing system.

2.12.6 Cleaning, Maintenance and Repairing

- Please do the cleaning, maintenance and repairing of the machine just with following instructions;
 - When the propulsion is stopped.
 - When the tractor motor is stopped.
 - When the starter key is removed.
 - When the machine socket is pulled from the vehicle computer.
- Please check the placement of screws and nuts regularly. Tighten them if needed.
- Destroy the oil, grease and the filters properly.
- If you will do the electrical welding on the installed machines to the tractor, please remove the alternator and accumulator cables.
- Spare parts must have the same features with the parts determined by DÖNDER TARIM. If you use DÖNDER TARIM brand spare parts, you fulfill this requirement.

3 LOADING and UNLOADING



Warning

There is a danger of being crushed or getting hit because of lifted machine may fall for any reason!

- Pay attention to the marked fixing points for fixing the loading system while loading or unloading the machine with lifting system.
- Please use the lifting system with minimum 300 kg lifting capacity.
- Do not stay under the lifted machine!

Loading with Crane

(1) Fasten points for fixing the lifting system.



Fig. 6

4 PRODUCT DESCRIPTION

This section

- Gives information about the structure of the machine .
- Gives the names of structure groups and adjustment parts.

Read this chapter near the machine if possible .Thus, you know the machine very well, and this will make a positive contribution to the dominance on the machine.

4.1 General View

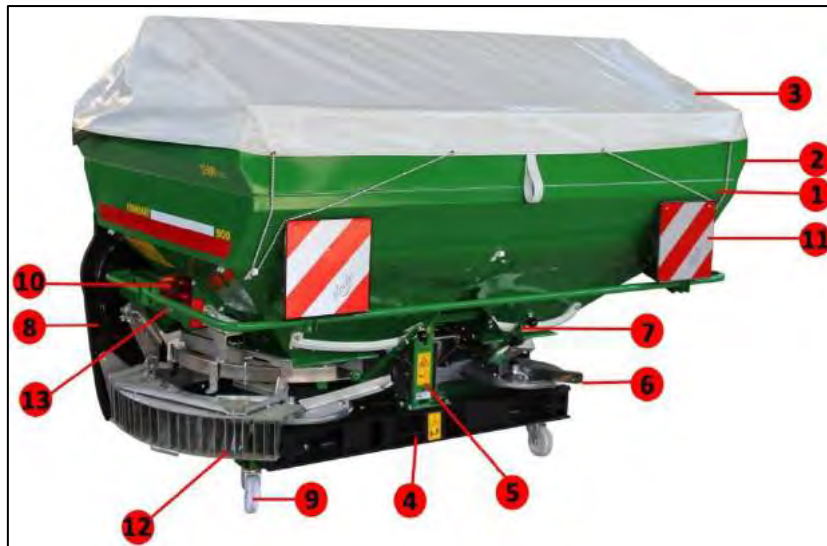


Fig. 7

- (7/1) Fertilizer Caldron
- (7/2) Additional Caldron
- (7/3) Fertilizer Caldron Tarpaulin
- (7/4) Drive Shaft Attachment
- (7/5) Mixing Unit/ Mixing Unit Cover
- (7/6) Throwing Discs and Wings
- (7/7) Amount Adjustment Lever For Manual Spreading
- (7/8) Mudguard (Optional Equipment)
- (7/9) Wheel
- (7/10) Break lamp, Sign Lamp
- (7/11) Reflector/Reflector Plate
- (7/12) Farm Corner Limiter-Limitör (Optional Equipment)
- (7/13) User Manual

4.2 Proper Use

DÖNDER Fertilizer Spreader is manufactured for known usage.

Dry, granulated and palletted fertilizer substances are appropriate for this kind of seed and pest killers.

It is attached to three point hanger system of the tractor. The machine is designed for category 2, but it is possible to use it for other category tractors.

If you want to maximum productivity, read the instructions in this manual and understand the instructions well. Use original DÖNDER spare parts for your machine.

Otherwise, the user has the responsibility in the case of applying incorrectly. DÖNDER TARIM has no any responsibility for this kind of situation.

4.3 The Dangers Around the Working Field of the Machine

The places that can be reached by the people around the machine are within the dangerous area. For example;

- Drive Shaft: because of turning while working, there is a risk to pulled inside. It can cause heavy injuries.
- Disc and throw wings: because of turning while working, any intervention while working can cause heavy injuries.
- Lifting the machine with tractor hydraulic arms and went down unwilling.
- Slippage the tractor unwilling.
- Leakage of hydraulic propulsion system for any reason or hose burst.
- Choosing proper tractor weights.
- Load more product than the machine capacity.
- Cornering situation in suspensory type machines during transportation.
- Attaching the machine to the tractor or removing it from the tractor , jamming between tractor or machine: do not go in between the tractor the machine while attaching the machine to the tractor or removing it from the tractor.

4.4 Metal Label and CE



The writings on the metal label give information about the machine. It is numbered separately for each machine.

The CE means that the product is not harmful for human, plants and other creatures and not harmful for the environment if it is used suitable for its purpose.

TYPE: Machine Type
 MODEL: Machina Model
 SERIE NO: Machine Serial No
 WEIGHT: Empty Machine Weight

5 STRUCTURE and FUNCTION

This section contains information about machine structure and its functions.

5.1 Structure



Fig. 8

DÖNDER Fertilizer Spreader is equipped with two dumping holes on the caldron and two changeable discs (fig.8/1). There are short and long distance throw wings that can be replaced on the discs (Fig.8/3.4).

The product placed in the caldron is equally sent to the discs.

The product is spreaded by the discs to both sides equally. The turning cycle of the disk and the wings is 520 rp/min.

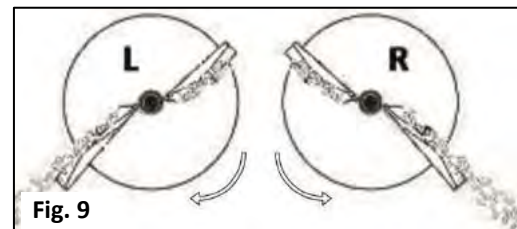


Fig. 9

Product tables are used for adjust the product amount will be spreaded.

5.2 Mixer

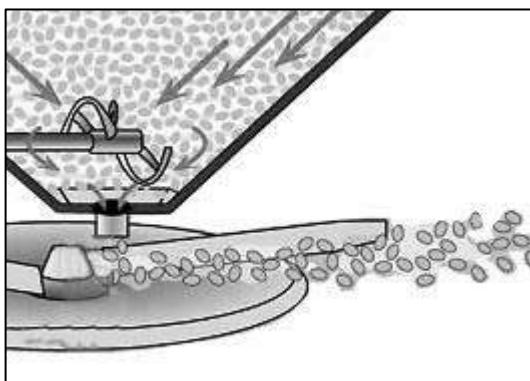


Fig. 10

The mixers placed on the fertilizer dumping holes, send the fertilizer to the discs equally.it provides steady fertilizer flow.

5.3 Disc and Wings

They are the parts that spread the product as adjusted amount and adjusted distance. According to the drive way (shown with the arrow)

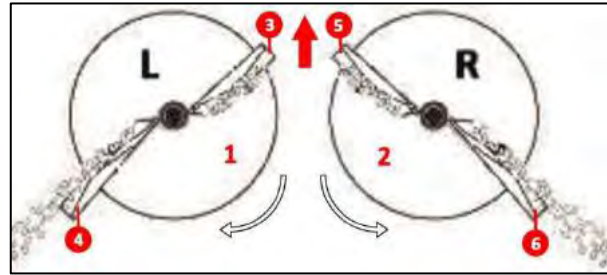


Fig. 11

- Left Disc (Fig.11/1)
- Right Disc (Fig. 11/2)
- Left throw wing short (Fig.11/3)
- Left throw wing long (Fig.11/4)
- Right throw wing short (Fig.11/5)
- Right throw wing long (Fig.11/6)

When looked above, the disc turning ways are following;

- Left Disc Clockwise
- Right Disc Anti-clockwise

The disk and wing sets that can be used;

- 10-16 mt Disc Wing Set: 10-16 meter wing and disc sets used for extent works.
- 18-24 mt Disc Wing Set; 18-24 mt wing and disc sets used for extent works.
- 24-36 mt Disk Wing Set; 24-36 mt wing and disc sets used for extent works.

The movement of discs and the mixer is provided with rag wheel system connected to the mid and side transmission shaft.



Adjustments for fertilizer spread are organized according to the data in the fertilizer table. Adjusted working extent and amount control are made via portable test units.

5.4 Fertilizer Pouring Unit

5.4.1 Closing Bolt and Dosing Bolt Fertilizer spreading adjustment is made with two ways according to machine's gear feature.

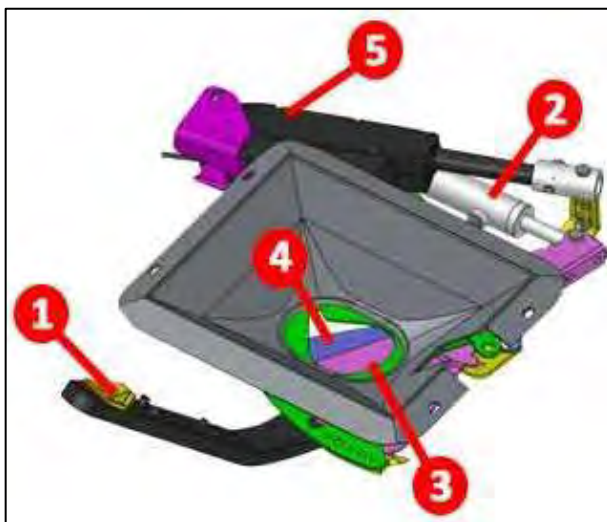


Fig. 12

Electronically with vehicle computer.

Requested fertilizer adjustment data is entered to the computer. Amount test is made simply. The device adjusts the amount according to the data automatically.

Manually with control lever. The control lever (Fig.12/1) is fixed as required adjustments for fertilizer spread by reading from the fertilizer table.

Closing bolt(Fig.12/3) can be controlled hydraulically for all equipment.

5.5 Fertilizing in the Farm Limit / Side

5.5.1 Limiter (Optional)

The farm side limiter, LIMITÖR which can be attached to CGSA series fertilizer spread machines, is an equipment can be used farm sides, farm limits, ditches, road sides or in the puddles and adjust the spread distance. When the needed adjustments are made, it can be hydraulically remote controlled.



Fig. 13

5.5.2 Fertilizer Limiter (Optional)

It is an equipment for one sided spread process, it is a manual fertilizer limiter.



Fig. 14

5.6 Drive Shaft

Drive shaft is a component which provides the movement between the machine and the tractor for the machine usage. Different drive shafts can be used according to the machine types.

Fig.15 Standart Drive Shaft.

80 cm,90 cm



Fig. 15

Fig.16 Ratchet Gib Cutting Drive Shaft.

90 cm, 100 cm, 115 cm



Fig. 16

Fig.17 Russian Style Drive Shaft



Fig. 17

5.7 Hydraulic Connections



WARNING!

Injury risk because of hydraulic oil coming out with high pressure.



All the hydraulic lines are colored on your machine with the purpose of providing convenience.

Connection		Output for Connection		Coloring
1	Double Acting Hydraulic Cylinder	Fertilizer Pouring Unit –Left-	Turning On	2 x Green
			Turning Off	1 x Green
2	Double Acting Hydraulic Cylinder	Fertilizer Pouring Unit –Right-	Turning On	2 x Yellow
			Turning Off	1 x Yellow
3	Single Acting Hydraulic Cylinder	Limiter (Farm Side Limiter)	Landing	2 x White
			Pressured Lock	1 x White



Persons or machine equipment can be damaged by false connected hydraulic hose lines. Please pay attention to the colored signs on the hydraulic hoses to avoid false connection.



- Allowed hydraulic working pressure is 200 bar for the machine equipments.
- Check the hydraulic oil level in your tractor. If it is low, please fill it.
- Ensure the hydraulic socket connection to the tractor and pay attention to they are placed well.
- Ensure that there is no any leakage from the hydraulic connection sockets.

5.7.1 Systems with Single Acting Hydraulic Cylinder (EcoMaster)

The pouring units with this system has single bolt cover. In these systems, opening the fertilizer pouring cover is provided via a string found in the systems, opening the cover is provided via single acting hydraulic cylinder.

5.7.2 Road Condition for Systems with Single Acting Hydraulic Cylinder

Because of the fertilizer pouring cover is opened via a string in these systems, a lever is placed to the hydraulic socket entrance for the road condition (Fig.18).If you will travel without fertilizer spread while the machine is attached, please check the lever for off position. The reason for this because the string can overcome the hydraulic pressure in the tractor.

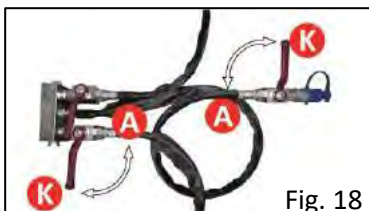
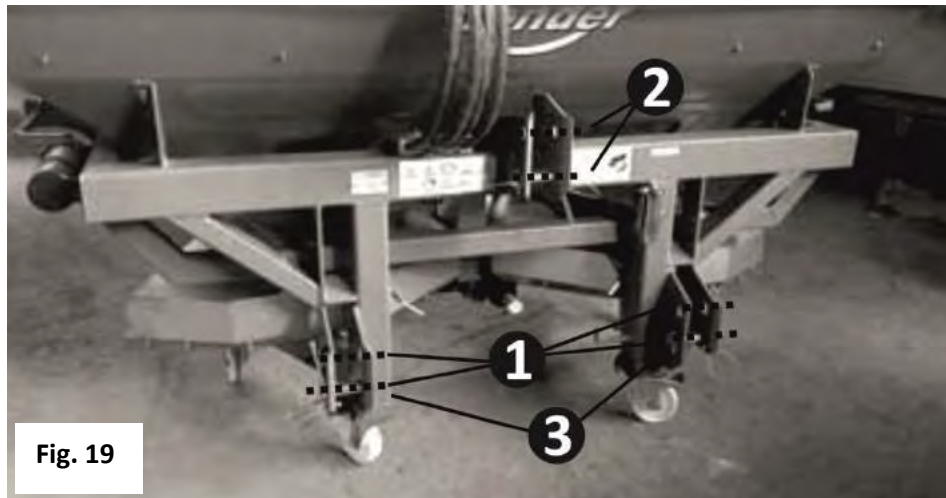


Fig. 18

Open (Fig.18/A) and closed (Fig.18/K) positions are shown for the levers.

5.8 Three Points Suspender Attachment



CGSA Fertilizer Spreader Machines' sachtet has category II three point suspender features. With different adaptors, it can be used for category III.

Three Point Suspender gear is showed above.

(Fig. 19) (Fig. 19/1) Hydraulic Lever Attachment

(Fig. 19/2) Mid-lever Attachment

Hydraulic lever attachment that showed at Fig. 19/3 can be used for the intended height that you couldn't reach when you attach the machine from the holes above. When the machine is being attached to these holes, tractor hydraulic levers may not be lowered completely, lifting a bit high may be required for attaching the machine.

This phased hydraulic lever attachment (Fig.19/3) can be used for late fertilizing.



WARNING

When the machine is attaching to the tractor,

- Do not stay on between the tractor and the machine.
- Fix the tractor to avoid any slippage, set the parking break .
- Shut the engine down if needed.
- After doing the hydraulic lever attachments, put in the stringed gibs on the gibs and lock it.
- After doing mid-lever attachment put in the stringed gibs on the gibs and lock it.

5.9 Carrying, Stoppage Wheels (Optional Equipment)

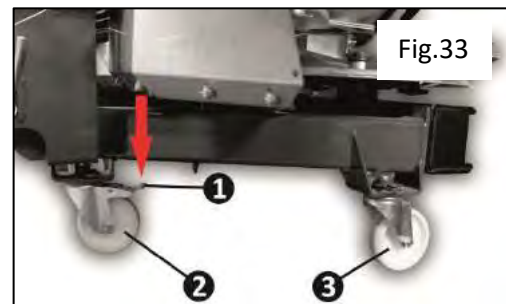
Removable carrying and stoppage wheels provide easy attachment to three point sumpender and make the machine easy to move on the fields like farm, storehouse,

To fix the machine in a steady condition, the locks on the wheels can be used.



It can be filled only when the fertilizer caldron is empty. In case of full, there is a roll risk.

The machine must be ensured against unwilled rolling, slippage when the machine is lifted to install the wheels.



Installion and De-Instalion of Carrying and Stoppage Wheels

1. Attach the machine to the tractor and lift it with tractor hydraulic levers.
2. Take required precautions to avoid unwilled running of the machine.
3. Attach the wheels with break (Fig.33/2) to the front side of the machine and put in the pin. Before De-installing, remove the pin.
4. Attach the steady wheels (Fig33/3) to the backside of the machine put in the pin. Before De-installing, remove the pin.



Push the break locks (Fig. 33/2) through the arrow direction for the breaking situation(Fig.33/1).

5.10 Fertilizer Caldron Tarpaulin (Optional Equipment)

Fertilizer caldron tarpaulin provides protection for the fertilizer from the moistured and rainy days and other external factors.

The tarpaulin can be easily folded by unlocking the steady wheels during fertilizer filling.



5.11 Econometer – ProPlus (Optional Equipment)



Please read and understand the related user manual for Econometer **ProPlus** .

CGSA fertilizer spread machine can be easily controlled with econometer ProPlus. At the same time, the machine can be inspected and remote controlled.

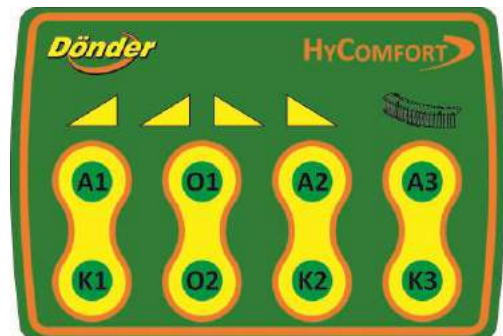
Fertilizer throwing amount is controlled with electrical motors depends on the tractor speed.

Determined fertilizer throwing amount is adjusted with amount cover adjustment and fertilizer calibration.



5.12 HyComfort Equipment (Optional Donanım)

With HyComfort Electrical 3-Ways Unit, you can increase the tractor hydraulic output in the tractors which has only 1 output and you can control these outputs from the remote control in the tractor cabin.



6 START - UP

This section contains the information of machine usage and attaching the machine to the tractor.



IMPORTANT

- Please read the user manual before beginning the machine usage and understand it well.
- The user is responsible for all the information in this manual.
- This user manual contains important information for using the machine in a secure , right and productive way.
- Attach the machine attachment to only a proper tractor.
- The tractor and the machine must be in accordance with international traffic rules.

6.1 Tractor Eligibility Check

The tractor that the machine will be attached , must be eligible for the attached machine features. Otherwise, there may be damage.

Required specifications for the tractor eligibility;

- Allowed total weight.
- Allowed axle loadings.
- Carrying capacity of the tyres attached to the tractor.

To the front axles of the tractor, the weight must be at least 20% weight of the unladen weight of the tractor.

The prescribed breaking deceleration is provided by the manufacturer in cases of the machine is attached.

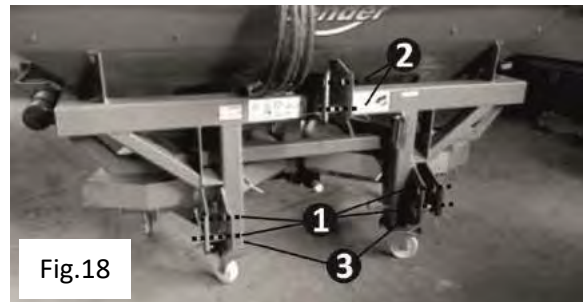


Please contact us if you have any question about the tractor eligibility. Security, proper and productive running is related with the tractor eligibility.

7 ATTACHING and REMOVING the MACHINE

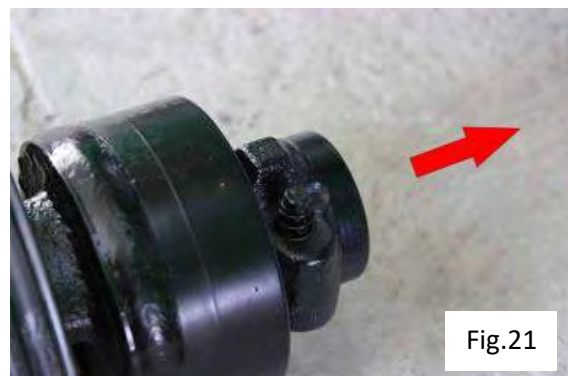
7.1 Three Point Suspender Gear Attachment

- Please pay attention to absent of the product in the machine while attaching the machine to the tractor.
- Firstly, do the hydraulic lever attachments shown in Fig.18/1. Fix the gibs and put in the stringed gibs and lock them.
- After doing the hydraulic lever attachment, attach the mid-lever (Fig. 18/2) . Tighten the mid-lever or loosen it (pay attention to the machine position). Later tighten the lock nut.
- The location of the machine on the fields as parallel to the fields, you can adjust it via the balance bar (Fig. 20/1) found on the machine.



7.2 Attaching the Drive Shaft

- Free cycling part of the shaft (fig.21) must be attached to the spline shaft on the spreader machine gearbox.
- For the attachment of spline shaft and tractor tail axle, you should press the gib found in both side(Fig. 22) .
- The fix part of the shaft (Fig. 23) must be attached to the tractor tail axle by pressing the gin on it.
- After attached both side, please check them. The shaft must not be displaced when you pulled it. To remove it from the shaft, please push the gibs shown in fig.22 and fig.23 .



7.3 Safety Usage of the Drive Shaft

Drive shaft is a part provides the turning action between the tractor and the attached machine. There are a lots of drive shaft types. The shafts that we use for the CGSA series suspendable type fertilizer spreader machines, is free rolling safe shafts.

These kind of shafts do not damage to the machine gearbox or the tractor in case of sudden stoppages while the machine is working.

Drive shaft , when attached and while running, makes turning move, it is forbidden to remove the guard on it.

If the plastic guard is damaged on the drive shaft, please change it with a new one.

Install the fixing chains as shown in the fig.24 during the usage of drive shaft. Do not remove it during the usage.

The machine must be used with the drive shaft that brings with it. If you will use a different drive shaft, please check the eligibility.

The manufacturer company is not responsible for the usage of different drive shafts.



- There is a smashing risk between the tractor and the machine while attaching the drive shaft.
- While attaching the drive shaft the tractor motor must be stopped and the unwilling moving must be prevented.
- Please use grease oil before attaching the tractor tail axle, drive shaft and machine gearbox.
- Please read the drive shaft user manual and understand well.

7.4 Connection of Hydraulic Hoses

7.4.1 CGSA EcoMaster Hydraulic Hose Connection

CGSA EcoMaster Fertilizer spreader machine has single bolted cover pouring unit. In this pouring unit, fertilizer pouring cover is closed with single acting hydraulic cylinder and opened with the string found on the system.

Just one hydraulic output is enough for your tractor to attach this machine model.

There are valves one each of the hoses connected with hydraulic cylinder and master input connected to the tractor. Please turn the valves to off position when the machine is attached to the tractor during transportation.(See Page 25)

7.4.2 CGSA Pro – CGSA ProPlus Hydraulic Hose Connection

In these two kinds of machines, there are 4 hydraulic hoses. The reason for this , fertilizer spreaders of Pro and Proplus machines have double-bolted cover system. There is no string for this systems. thanks to this system, the damages that can be occurred with string deformation, are prevented.

Opening and closing of the double-bolted fertilizer cover is provided with double acting hydraulic cylinder.

To attach these kind of machines to your tractor, your tractor must have four hydraulic outputs.

See Page 25 for hydraulic hose connection.

7.5 Removing the Machine from the Tractor



WARNING

Smashed and/or Getting hit Danger

- The fertilizer caldron must be empty while the fertilizer spreader machine is being removed from the tractor.
- Please check the machine generally before remove the machine . If you see any danger , please ensure it for your safety.

You can follow the instructions below while removing the machine from the tractor;

1. Land the machine attached to the tractor to a smooth surface.
2. Remove the mid-lever attachment.
3. Remove the hydraulic lever attachments.
4. Power up the tractor and drive forward around 25 cm.
5. Remove the Drive shaft connections.
6. Secure the machine against slippage or rolling.
7. Remove the hydraulic hose connections.
8. Remove the lightning system connection.
9. If you have ecometer (CGSA ProPlus) ,remove the required connections.



IMPORTANT

Clean the machine after every usage very well. Lubricate the necessary places. Maintenance is important for machine productivity.

8 ADJUSTMENTS



WARNING

- There is a risk of cutting, smashing, tearing, pulled inside while doing the adjustments in the machine.
- Secure the tractor against unwilled moving and start up before doing the machine adjustments.
- Touch the moving work parts after they stopped completely.

All the adjustments of CGSA fertilizer spreader machine are done according to the data in the fertilizer table.

Available fertilizer types in the market are tested by our machines and the data recorded our fertilizer tables. The data in the fertilizer table is calculated according to the features of normal weather conditions and environment circumstances.

Following factors may cause changes on the product features;

- Positive or negative effect in the weather conditions.
- Deviations from the physical features of the product.
- The changes on the fertilizer's fertilizer features.

These factors may cause deviations in requested amount and working widths.

We would like to declare that , we are not responsible for the problems because of fertilizer failures.



Do your adjustments at maximum. The adjustments that done approximately may change the fertilizer negatively.

The values on the fertilizer tables are given only guide values. Different adjustments may be required according to the fertilizer features.



If you have any question, please contact with us.

You can get information from us for different fertilizer/product usage adjustments.

8.1 Suspending Height Adjustment



WARNING

Take precautions for the machine falling risk before adjusting the suspending height on mid-lever.

No person should be stayed under or behind the machine, it is forbidden. Otherwise, heavy injuries may occur.

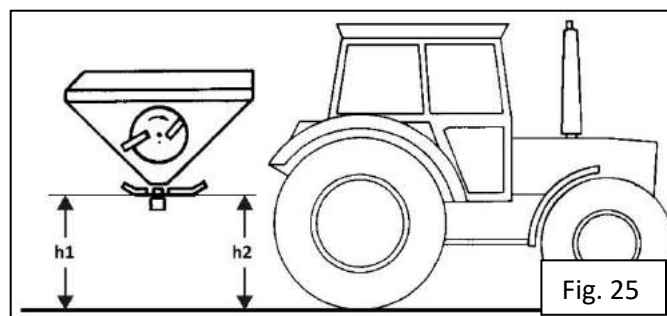


IMPORTANT

Please adjust the suspending height adjustment according to the data determined in fertilizer table for the farm. Measure the adjusted suspending height for both side of fertilizer spreader front and back discs by beginning the floor.

- Please wait till the discs completely stop before suspending height adjustment.
- Move away persons from the dangerous area under or around the machine.
- Adjust required suspending height in the farm according to the data in the fertilizer table. Also consider the adjustments that can be done according to the product size.
- Please lift/lower the machine with tractor hydraulic levers until the discs reach to the required height both sideway and center for fertilizer spreader machine.
- Suspending height is h_1 and h_2 , if the heights are different in both front and back side of the discs, adjust the balance with mid-lever.

$h_1 > h_2$: Extend the mid lever
 $h_1 < h_2$: Shorten the mid lever



Given suspending heights are 80 cm in both vertical and horizontal as general rule.

During spring fertilizing, the product must be calculated as adding the half of 10-40 cm height to given suspending height. For example, if the product height is 30 cm then it must be adjusted as $80+15=95$ cm.

For higher product heights, if these heights will not possible, adjustments must be done according to the given late fertilizing data.

8.2 Normal / Late Fertilizing

The discs on the machine are equipped with fertilizer spreader wings as standard. With these wings, the late fertilizing can be done for the products no more than 1 m except normal fertilizing.

You can follow the rules below for late fertilizing adjustments;

- Deactivate the sub output shaft (tail axle) of the tractor if needed.
- Ensure that the fertilizer spreader discs will not move unwilling.
- If the discs are still moving, just wait for them to stop completely.
- Normal or late fertilizing, bend the wing-ends (Fig. 26/1-2) through downward or upward.
- For normal fertilizing, bend the wing-end through downward(Fig. 27).
- For late fertilizing, bend the wing-end through upward (Fig. 27).



Fig. 26

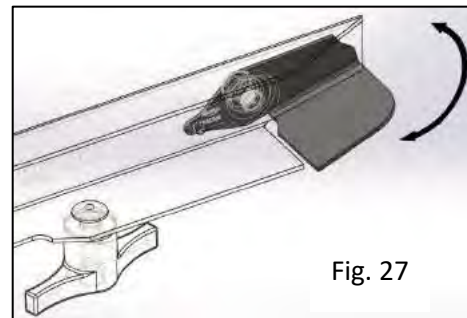


Fig. 27

Suspending Height in Late Fertilizing

Adjust the distance among fertilizer spreader machine suspending height, product height and the discs as 5 cm with the tractor hydraulic levers. If needed, connect the under hydraulic levers to lower connection of the machine. So, the machine will get a little bit higher.

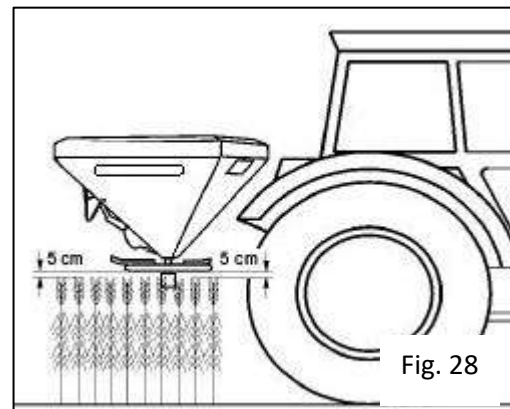


Fig. 28

8.3 Adjustment of Fertilizer Throwing Machines



For Ecometered CGSA ProPlus ,please see the user Manuel for ecometer usage.

Fertilizer throwing amount adjustment for the machines without ecometer

Adjust the fertilizer amount needed for a hectare via adjustment lever (Fig. 29/3).

See the required bolt adjustment from the fertilizer table or determine it with calculating disc.

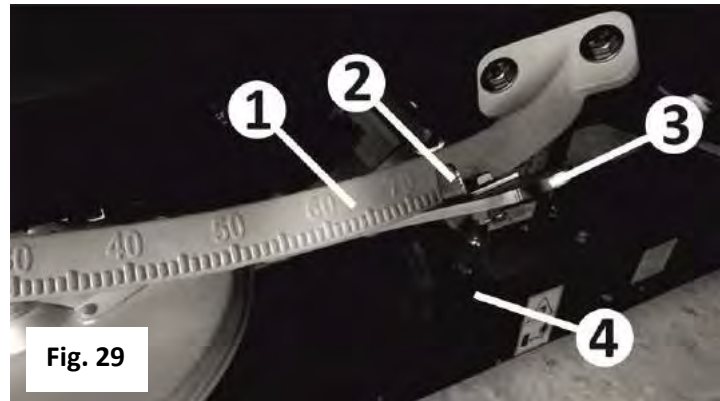


Fig. 29



The adjustment values in the fertilizer table are guide values. Fertilizer flow may change depends on the physical specifications of the fertilizer and environment conditions. So, it is useful to do other adjustments. For that, a check must be done before fertilizing process.



Determining the fertilizer throwing amount with calculating disk can be done after checking the fertilizer throwing amount. In this way, determining the amount adjustment depends on different fertilizer flow specifications, can be considered previously.

8.3.1 Adjusting the Amount Adjustment Via Adjustment lever

- Set the fertilizer pouring cover to off position.
- Loosen the thumbnut (Fig.30/4) by turning it anti clockwise.
- Find the required scale value (Fig.30/1) .
- Set the indicator (Fig.30/2) on the value that you found between adjustment lever (Fig. 30/3) and scale.
- Tighten the thumbnut (Fig.30/4) by turning it to clockwise.

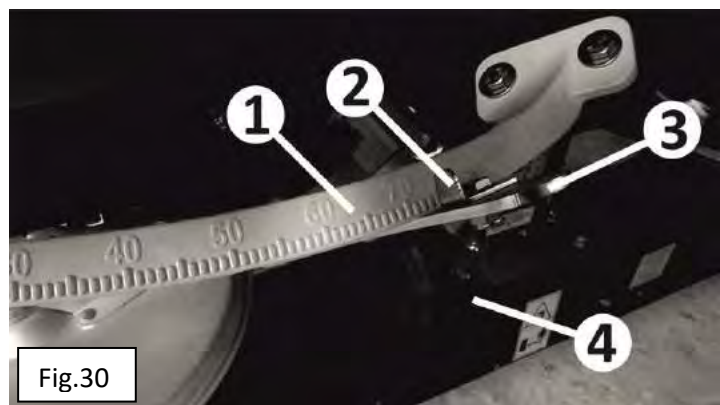


Fig.30



Choose equal values for right and left units.

8.3.2 Reading Amount Adjustment from the Fertilizer Table

Amount Adjustment depends on following criteria,

- Product Type which will be spreaded.
- Working width (Meter)
- Running speed (km/h)
- Fertilizer amount that will be spreaded to hectare (Kg/Ha).

Example:

Fertilizer Type: **Urea 0,68**

Working Width: **24 Meter**

Work Speed: **10 km/s**

Fertilizer Amount that will be spreaded to hectare:
260 Kg/Ha

Scale Value: ?

Practicing:

1. Find the value pages related to required spreading values for UREA 0,68.
2. For the columns where the working width 24 meter , find 10km/h speed column.
3. In the **10 km/h** column, find the nearest value to the fertilizer will be spreaded (**264 Kg/Ha**).
4. For **264 Kg/Ha**, find the scale value **43** in the same line.
5. Set the amount adjustment with adjustment lever to 43 and fix it.

URE 0,68															
	20			21			24			27			28		
	km/h			km/h			km/h			km/h			km/h		
	8	10	12	8	10	12	8	10	12	8	10	12	8	10	12
25	100	80	66	95	76	63	83	66	55	74	59	49	71	57	47
26	111	89	74	106	85	71	93	74	62	82	66	55	79	63	53
27	123	99	82	117	94	78	103	82	68	91	73	61	88	70	59
28	136	109	91	130	104	86	113	91	76	101	81	67	97	78	65
29	150	120	100	143	114	95	125	100	83	111	89	74	107	86	71
30	164	131	109	156	125	104	137	111	91	121	97	81	117	94	78
31	179	143	119	170	136	114	149	121	99	132	106	88	126	102	85
32	194	156	130	185	148	123	162	133	108	144	115	96	139	111	93
33	210	168	140	200	160	134	175	145	117	156	125	104	150	120	100
34	227	182	151	216	173	144	189	156	126	168	135	112	162	130	108
35	244	195	163	233	186	155	204	167	136	181	145	121	175	140	116
36	262	210	175	250	200	166	218	175	146	194	155	129	187	150	125
37	280	224	187	267	213	178	233	187	156	208	166	138	200	160	133
38	299	239	199	285	228	190	249	199	166	221	177	148	213	171	142
39	318	254	212	303	242	202	265	212	177	235	188	157	227	182	151
40	337	270	225	321	257	214	281	225	187	250	200	166	241	193	160
41	357	285	238	340	272	226	297	238	198	264	211	176	255	204	170
42	377	301	251	359	287	239	314	251	209	279	223	185	269	215	179
43	397	317	264	378	302	252	331	264	220	294	235	196	283	227	189
44	417	334	278	397	318	265	347	278	232	309	247	206	298	238	199
45	437	350	292	417	333	278	364	292	243	324	259	216	312	250	208
46	458	366	305	436	349	291	382	305	254	339	271	226	327	262	218
47	478	383	319	456	365	304	399	319	265	354	284	236	342	273	228
48	499	399	333	475	380	317	415	333	277	370	296	246	356	285	238
49	519	416	346	495	396	330	433	346	289	385	308	257	371	297	247
50	540	432	360	514	411	343	450	360	300	400	320	267	386	309	257
51	560	448	373	533	427	356	467	373	311	415	332	277	400	320	267
52	580	464	387	553	442	368	483	387	322	430	344	287	414	332	276
53	600	480	400	571	457	381	500	400	333	444	356	296	429	343	286
54	619	496	413	590	472	393	516	413	344	459	367	306	442	354	295
55	639	511	426	608	486	405	532	426	355	473	378	315	456	365	304
56	657	526	438	626	501	417	548	438	365	487	389	325	469	376	313
57	675	540	450	643	515	429	563	450	375	500	400	334	482	386	322
58	693	554	462	660	528	440	578	462	385	513	411	342	495	396	330
59	710	568	473	676	541	451	592	473	394	526	421	351	507	406	338
60	725	581	484	692	554	461	605	484	404	538	431	359	519	415	346
61	742	594	495	707	565	471	618	495	412	550	440	366	530	424	353
62	757	606	505	721	577	481	631	505	421	561	449	374	541	433	360
63	771	617	514	734	587	490	643	514	428	571	457	381	551	441	367



We recommend that control the spreading amount with this scale value.

Fertilizer spreading amount check is useful for full productivity of your machine.

8.4 Fertilizer Spreading Amount Check



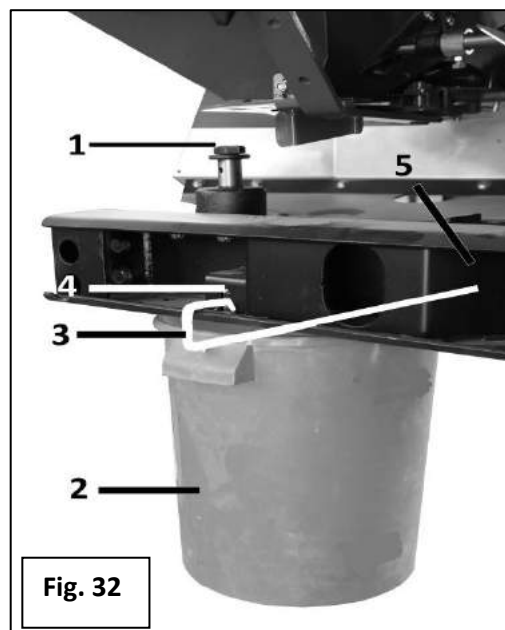
Please see the ecometer manual for ecometered CGSA ProPlus machines.

Fertilizer Spreading Amount Checking in Non-Ecometer Machines

- We recommend fertilizer spreading checking after every fertilizer change.
- Fertilizer spreading amount check must be done with removing the spreading disc/discs can be found under left-right or both pouring units.
- Please do the fertilizer spreading amount check while the drive shaft is attached (while running the tail axle), on a smooth floor or a steady position.
- Driving the measure part will give more exact results considering the real driving speed of the tractor.
- If the driving speed of the tractor is known for the farm conditions, fertilizer spreading amount check can be done in a steady position.

8.4.1 Preparations for fertilizer Spreading Amount Checking

- Adjust the required scale value with adjustment lever according the side you choose for fertilizer spreading.
- Remove both discs.
 - Remove the thumbnut that fixes the disc by turning it to anti-clockwise (Fig. 32/1).
 - After removing the disc, put the thumbnut to its place.
- Install the calibration bucket (Fig.32/2) with connection sticks (Fig.32/3) to the sockets found in saches (Fig.32/4 and Fig.32/5).



8.4.2 Fertilizer Spreading Amount Check by Driving the Measuring Part

Example:

Fertilizer Type: **KAS %27** **BASF (White)**

Working Width: **24 m**

Work Speed: **10 km/s**

The Fertilizer will be spread: **350 kg/ha**

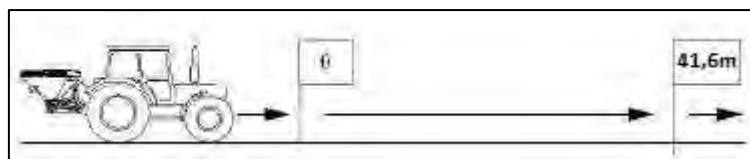
Scale Grade According to the Table: **43**

1. Concerning the fertilizer spreading amount converting, please consider 20 multiplier and 41,6 measurement part that required for 24 m working width from related table (Table-1).

Working Width (m)	Required Measure Part(m)	fertilizer Spread Field (Ha)	Required multiplier for total fertilizer spreading
9,00	55,50	1/40	40
10,00	50,00	1/40	40
12,00	41,60	1/40	40
15,00	33,30	1/40	40
16,00	31,25	1/40	40
18,00	27,75	1/40	40
20,00	25,00	1/40	40
21,00	23,80	1/40	40
24,00	41,60	1/20	20
27,00	37,00	1/20	20
28,00	35,70	1/20	20
30,00	33,30	1/20	20
32,00	31,25	1/20	20
36,00	27,75	1/20	20

Table-1

- Please measure the measurement part exactly on the farm. Mark the beginning and finishing points.



- For the amount adjustment, set the scale grade 43 with adjustment lever.
- Please run the tractor tail axle as 540rp/min (If it is stated a different value in the fertilizer spreading table).
- Plough the measurement part from the beginning to the end.
- Open the pouring covers of the unit/units that you calibrated when you begin to plough and close them completely at the end point.
- Measure exactly the fertilizer acquired (Ex. 17,5 kg)
- Calculate the adjusted real fertilizer amount from the fertilizer amount acquired (kg/ha).

Fertilizer Spreading Amount	=	Acquired Fertilizer Amount (17,5 kg) x Multiplier (20)	=	350 kg/ha
		ha		



If the fertilizer amount is not complied with the real amount and the requested amount, set the amount adjustment with adjustment level as required.

It may be needed to repeat the fertilizer spreading amount checking.

Set both scale grades to the unit that you determine

8.4.2.1 Converting the Measurement Part for the Working Widths that is not Mentioned in the Table

For the widths 21 meter and below 21 meter – Multiplier 40

Required Measurement part for requested working width(m)	=	500	
		Working Width (m)	

For the widths 24 meter and above 24 meter – Multiplier 20

Required Measurement part for requested working width (m)	=	1000	
		Working Width (m)	

8.4.3 Fertilizer Spreading Amount Checking in Steady Position

Example:

Fertilizer Type: **KAS %27 BASF (White)**

Working Width: **24 m**

Work Speed: **10 km/s**

The Fertilizer will be Spreaded: **350 kg/ha**

Scale Grade According to the Table: **43**

- Concerning the fertilizer spreading amount converting, Consider the requested 10km/h running speed in 24 m working width for 41,6 measurement part, 14,98 sec time and 20 multiplier from related table (Table-2).



Convert the times and running speeds for not mentioned working widths in the list.

Working Width (m)	Required Measurement Part (m)	Required Multiplier for Total Fertilizer Spreading	Work Speed(km/s) Required Time for Plough the Measurement Part (sec)		
			8	10	12
9,00	55,50	40	24,97	19,98	16,65
10,00	50,00	40	22,50	18,00	15,00
12,00	41,60	40	18,72	14,98	12,48
15,00	33,30	40	14,98	11,99	9,99
16,00	31,25	40	14,06	11,25	9,37
18,00	27,75	40	12,49	9,99	8,32
20,00	25,00	40	11,25	9,00	7,50
21,00	23,80	40	10,71	8,57	7,14
24,00	41,60	20	18,72	14,98	12,48
27,00	37,00	20	16,65	13,32	11,10
28,00	35,70	20	16,06	12,85	10,71
30,00	33,30	20	14,98	11,99	9,99
32,00	31,25	20	14,06	11,25	9,37
36,00	27,75	20	12,49	9,99	8,32

Table-2

- Set the scale grade as 43 with adjustment lever.
- Run the tractor tail axle as 540rp/min (If it is not mentioned a different value in the fertilizer table)
- Open the covers of the pouring units that you have calibrated during the stated time and close them at the end of time.
- Measure the fertilizer amount acquired (Ex; 17,5 kg)
- Calculate the adjusted real fertilizer amount from the fertilizer amount acquired (kg).

Fertilizer Spreading Amount	=	Acquired Fertilizer Amount (17,5 kg) x Multiplier (20)	=	350 kg/ha
		ha		



If the fertilizer amount is not complied with the real amount and the requested amount, set the amount adjustment with adjustment level as required.

It may be needed to repeat the fertilizer spreading amount Check.

Set both scale grades to the unit that you determine.

Calculating Required Rate Measurement Time for the working widths or Running Speeds that is not mentioned in the Table

Required Measurement Time for Required Working Width (second)	=	Measurement Part (m)	X	3,6
		Work Speed (km/s)		

8.5 Setting the Bolt Adjustment Via Calculating Disc

By using the amount calculating disc, after the fertilizer spreading amount checking, it is provided an exact scale grade determination via the acquired fertilizer amount.

Calculating Disc compose of following parts,

- Outer White scale (Fig.37/1) indicates fertilizer spreading amount . (kg/ha). It means the product amount that you want to spread.
- Inner white scale (Fig. 37/2), indicates the fertilizer amount that acquired while fertilizer spreading amount check (kg).
- The yellow scale in the mid (Fig.60/3), indicates scale position value.
- Required Measurement Parts [m] (Fig. 38/1).

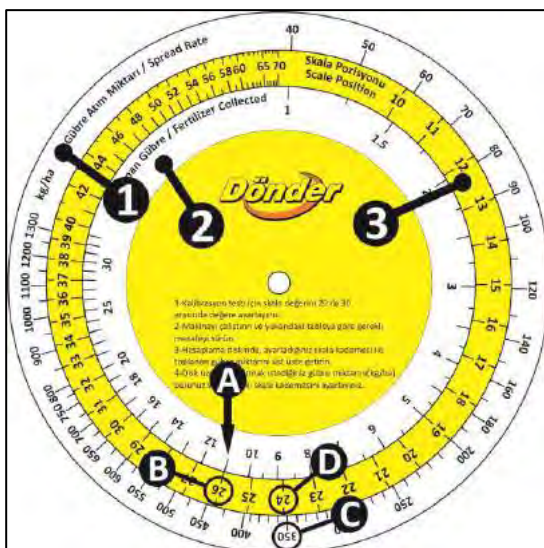


Fig. 37

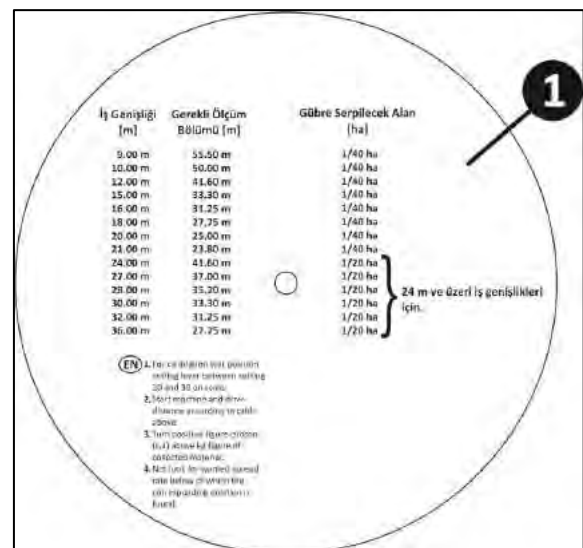


Fig. 38



Fertilizer spreaded field value during fertilizer spreading amount checking,

- 1/40 ha for the working widths of 23 m and up to 23 m.
- 1/20 ha for the working widths of 24 m and more than 24 m.



For the widths of 24 meter and more than 24 m, consider the half of fertilizer amount that gathered in the test pouch.

Example;

If 25 kg fertilizer is gathered in the test pouch, consider the value of $25/2=12.5$ kg .
Determine the scale grade with this value.

1. Set the scale grade between 20 and 30 values.
2. Apply the fertilizer spreading amount checking.
3. Pick the calculating discs.
Find the numerical value (Fig.37/A) for (Fig.37/2) the acquired value from the scale (kg) and add them up with the set scale value of colored scale at (Fig.37/3) and (Fig.37/B).
4. Find the fertilizer amount that wanted to spread [kg/ha] from outer white scale (Fig. 37/1). Read (Fig.37/C), and scale value of the machine (Fig.37/D).
5. Set the machine scale value.



We recommend that a new fertilizer spreading amount checking with the scale grade that you set.

8.6 Adjustment of Working Width



There are different disc sets for different working widths.

Existing trace distance determines the required disc set choosing.

Working widths can be adjusted for each disk set working fields.

Working Width	Disc Set
10-16 meter	DT 10-16
18-24 meter	DT 18-24
24-36 meter	DT 24-36



Fertilizer specifications effect the spreading width. The factors that affect the spreading width;

- Product particle size
- Unit weight
- Surface Conditions
- Moisture rate.

We recommend you to use a good quality fertilizer ,produced by a known producer for, a normal fertilizer distribution and checking the working width that set.

8.6.1 Changing the Discs



Precautions must be taken for not moving the machine unwillingly when the disc sets will be changed. Moving the discs during the changing process can be really dangerous and risky.

Secure the machine always!

1. Remove the screw on the disc (Fig. 39/1)
2. Remove the disc from the drive shaft.
3. Put the other disc on.
4. Put the screw that you removed before on the disc and tighten it well.



While changing the disc sets, do not forget which one is right and which one is left disc!

- 'L' is LEFT disc.
- 'R' is RIGHT disc.

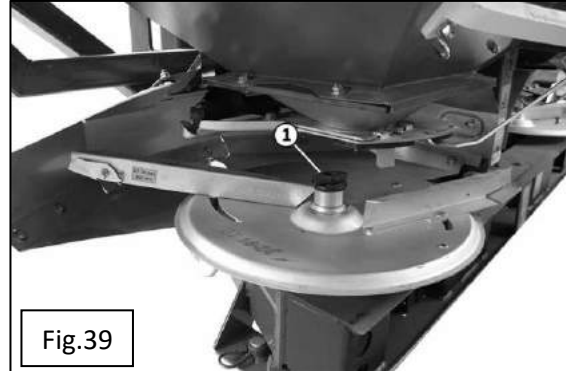


Fig.39

There is only one cotter on left and right drive shaft. There is one cotter canal on left disk core and there is two cotter canals on the right disk core.



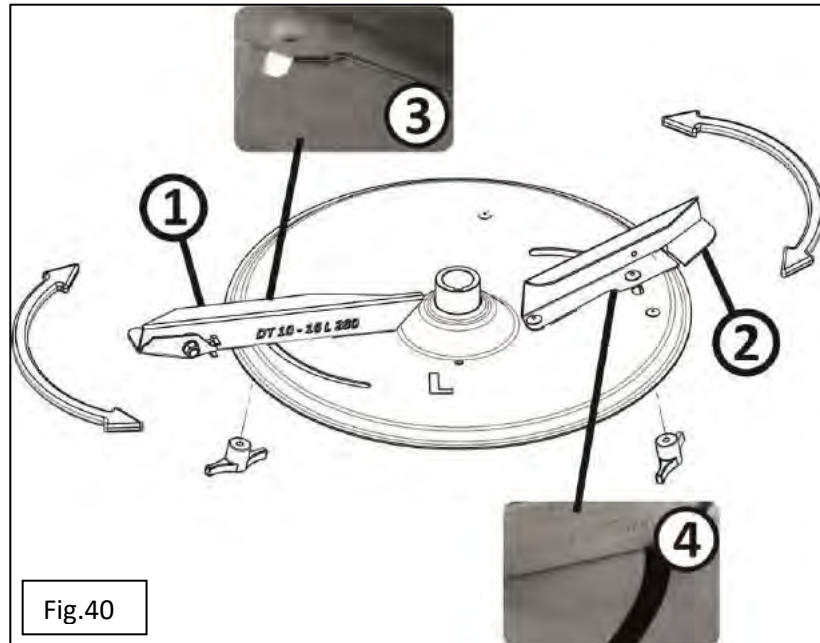
Please turn the amount adjustment cover on completely before changing the disc sets for the machines with ecometer (ProPlus) equipment.

8.6.2 Adjusting the Fertilizer Spreading Disc Wings

The wing adjustments of fertilizer spread machine is depends on following;

- Work width,
- Fertilizer type.

There are two different, unchangeable scales (Fig.40/3 and Fig.40/4) on each disc to do the adjustment for the wings on the fertilizer spread discs without using any equipment.



Wing Adjustment Values Belong to DT 10-16 and DT 18-24 Disc Sets

For short fertilizing, the wing values

are among 60-78 (Fig.40-2)

For long fertilizing, the wing values

are among 80-94 (Fig.40/1).

Wing Adjustment Values Belong to DT 24-36 Disc Sets

For short fertilizing , the wing values

are among 6-28 (Fig.40-2).

For long fertilizing, the wing values

are among 38-54 (Fig.40/1).



Adjusting the throwing wings to a higher value causes the working width extend.

Short throwing wing spreads the product to the mid fields, and Long throwing wing spreads the product to the outer fields.

You can adjust the fertilizing spread wings as following:

1. Deactivate the tractor tail axle.
2. Secure the tractor in any case.
3. Wait to stop the discs before adjustment and secure the machine in any case.
4. Adjust the required wing position values for requested working width.
 - 4.1. Remove the thumbnuts which fix the throwing wings under the disc.
 - 4.2. Read the necessary values from the fertilizer table for short or long throwing wings.
 - 4.3. Adjust the related throwing wing after reading the value and tighten the throwing wing thumbnut.

Example;

Fertilizing Types	Throwing Wings for Working Width			
	10m	12m	15m	16m
Urea %46 Granulated Fertilizer Group 1	71/87	71/87	73/89	73/89

Fertilizer Types: Urea %46 Granulated

Fertilizer Group 1

Requested Working Width: **15m**

Throwing Adjustment Level **73** (Short Wing)

89 (Long Wing)



You can check the related product type throwing tables for different working width throwing wing levels.

Necessary values are given for each fertilizer type and working width.

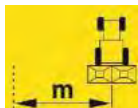
8.7 Fertilizing in Farm Limits

8.7.1 Fertilizing in Farm Limits with LIMİTER

The adjustment of LIMİTÖR ,farm sides limiter, depends on following;

- Side distance,
- Fertilizer Type,
- Products on farm side.

		DT 10-16				DT 18-24				DT 24-36					
		5	6	7,5	8	9	10	10,5	12	12	13,5	14	15	16	18
KAS CAN AN NPK DAP MAP		12	10	8	7	8	6	4	2	2	1	0	0	0	0
		15	13	12	10	13	12	11	10	11	10	9	8	7	5
		15	13	15	14	15	14	14	12	12	12	12	11	10	8
		15	13	15	14	15	14	14	12	12	12	12	11	10	8
UREA		5	7	4	4	4	3	3	2	2	1	0	-	-	-
		13	11	9	8	8	7	6	6	6	6	5	-	-	-
		15	13	11	10	11	10	9	8	8	8	7	7	6	-
P K PK MgO		9	7	4	3	3	3	3	0	0	0	0	0	0	0
		12	11	9	8	7	5	4	3	3	2	1	0	0	0
		15	14	12	11	10	8	7	6	6	5	5	4	4	3
Fig. 41		A								B					



Limit/Side distance appropriate to installed OM discs(Half-work safety)



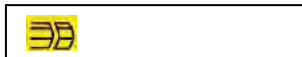
Fertilizing on farm limit.



Fertilizing on Farm side.



Fertilizing on farm,ditch.



Required reduction for tail axle rotation speed.

A

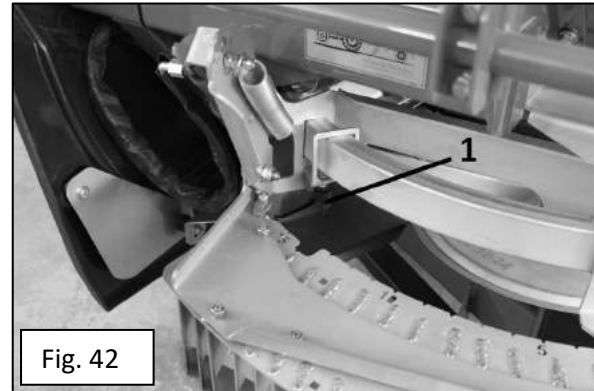
Installing position for 21m and less than 21m working widths

B

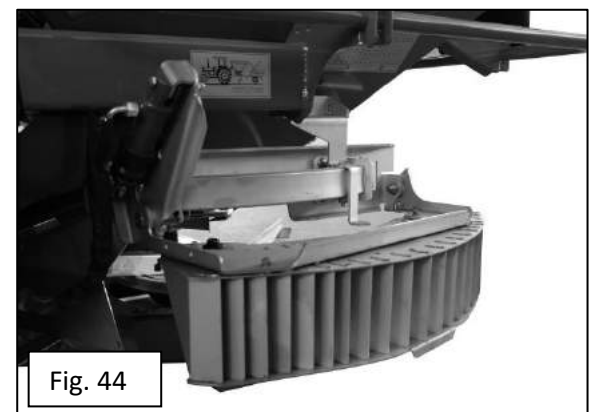
Installing position for 22m and more than 22m working widths

Slide the farm side fertilizing equipment on the guide to determine the numerical values.

- Remove the tighten handle (Fig.42/1) for this .
If the turning area of tighten handle is insufficient , lift the handle upward, turn it and lower it again.
- Slide the farm side fertilizing equipment (LİMİTÖR) on the guide (Fig.43/1) till match the value that will be adjusted from the indicator (Fig. 43/2) fertilizer table (Fig. 41).
- Fix the tighten handle again (Fig. 42/1) .

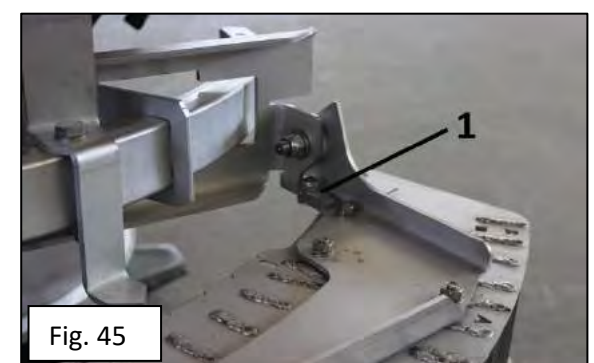


Fertilizing equipment (LİMİTÖR) for **Late Fertilizing** in farm limit is adjusted in to its half-height (Fig. 44).



There is an adjustment latch both left and right side of the farm limit fertilizing equipment (Fig.45/1) .

1. Remove the adjustment latch nuts.
2. Lift the equipment with hand.
3. Turn the adjustment latch till the adjustment point and tighten the latch.
4. Lower the equipment.



8.7.2 Fertilizing with Fertilizer Limiter on Farm Limit/Side

Fertilizer limiter is an economic equipment which can be controlled by manual (Fig. 46).



In which spread disc the limiter is attached during the usage, The fertilizer flow should be stopped by closing the other discs' pouring cover.

The limiter restricts the spread distance of the working disc and restricts the fertilizer which spreaded until the core of the closed disc .

9 TRANSPORTATION DRIVE



- Please pay attention to " Safety Warnings for the User" in transportation drive.
- Check the following before transportation drive;
 - Check the lighting system is ok and can be seen.
 - Check the hydraulic system for avoiding any problems.
 - Check the feeding line is connected properly.



WARNING

Danger because of displacing the connected/attached machine.
Hydraulic levers and mid-lever connection gibs must be attached properly before the transportation drive.
Stringed gibs must be placed on the gibs.



WARNING

Danger because of insufficient balance and fall over.

- Pay attention to your drive style in accordance with the connected or pulled machine to dominate the drive securely. Consider you personal abilities, drive way, traffic, sight distance and tractor drive features while doing this.
- Please tighten the lock the hydraulic levers to prevent the free movement of the machine before the transportation drive.



WARNING

There is a danger risk because of the damage while driving the tractor, inadequate strength, inadequate steering wheel and breaking system function in the improper usage of the tractor.
Please consider the allowed maximum loading capacity of the attached machine and axle and support loadings of your tractor. According to the circumstances, start the machine with half-filled gas tank.



Please lift the fertilizer spread machine as the reflectors' top side will be on the road and only 1,5 meter high in transportation condition .

10 MACHINE USAGE



Please pay attention to following instructions for machine usage.

- 'Pictured Warning Signs and Other Signs'
- 'Safety Warnings for the user'

It is important to pay attention to these warnings.



WARNING

It is important to pay attention to these warnings.

Run the machine only when all the guarding equipments are installed and working.

It is forbidden to remove the guarding equipment in following conditions,

- While the machine is working.
- When drive shaft and hydraulic lines are connected.
- When the tractor is not secured.



WARNING

Danger because of leaping out some damaged parts which showed up by improper usage of rotation speed in tractor tail axle.

Please consider the allowed rotation speed of tractor tail axle before running the tractor tail axle.



WARNING

Every 4 or 5 filling of fertilizer caldron, please check the screws are placed well.

Please use coarse-grained fertilizer listed in the fertilizer table. Please pay attention to following for mixed fertilizer spreading,

- Different type fertilizers have different throwing specifications.
- Separation may be needed for different type fertilizers.

Please clean the machine with fresh water after every usage.

10.1 Product loading / Filling to Fertilizer Spread Machine

WARNING



There is a danger risk because of the damage while driving the tractor, inadequate strength, inadequate steering wheel and breaking system function in the improper usage of the tractor.

Please consider the allowed maximum loading capacity of the attached machine and axle and support loadings of your tractor.

If needed, start the machine with half-filled gas tank.

ATTENTION



Load/Fill the machines only attached to fertilizer spread machines.

Do not remove the machine from the tractor if the tank/bunker is filled with fertilizer . THERE IS ROLLING DANGER!



- Before filling/loading the fertilizer spreading machine, please remove foreign parts and other scraps from the machine caldron.
- Fill the caldron when the sieve is closed. Pay attention to foreign parts and scraps inside the caldron.
- Please consider the maximum loading capacity for the fertilizer spreading machine.
- Fill/load the fertilizer spreading machine when the fertilizer pouring covers are closed.
- Pay attention to the manufacturer warnings. Wear protective gears if needed.

10.2 Usage of Fertilizer Spreading Machine



The wings and the discs (Disc sets) of fertilizer spreading machine are made of special stainless steel. Even if the materials are made of stainless steel, they are under effect of corrosion.

Fertilizer types, usage time or fertilizer spreading amounts effect the life-time of the disc sets.

Corrosions on the throwing wings can cause working width deviations.



WARNING

There is a risk of leaping out some corroded parts because of the installed throwing wings on corroded spreading discs.

Please check the discs and wings against any problem or any corrosion can be seen before and after running it. If you see or find a problem, please fix it.



WARNING

Danger because of leaping out some parts or foreign bodies.

Please be careful about not staying on any person in working field of the machine. Pay attention not having damaged the persons of objects while fertilizing.

- Fertilizer spreading machine is attached to the machine and hydraulic hoses are connected.
- Necessary adjustments are made.
- 1. Run the tractor tail axle while the tractor is working in low rotation rate.
 - a. Tractor tail axle rotation speed is 540rp/m, unless indicated otherwise in the fertilizer tables.
 - b. Follow the drive speed mentioned in the tables for the non-Ecometer (ProPlus) equipment machines.
- 2. Open the pouring unit covers hydraulically at the beginning of work. Drive the tractor in mentioned speed in the tables.
- 3. Use the LiMITÖR equipment for farm side/limit fertilizing.
- 4. At the end of fertilizing,
 - a. Close the pouring unit covers.
 - b. Stop the tail axle.



If you identify a non-equal fertilizer flow even if you adjust the same scale grade, check the base adjustments of unloading covers.

The lifetime of wings that connected to fertilizer spread discs depends on fertilizer type, usage time and fertilizer throwing amount.

11 MALFUNCTIONS and SUGGESTIONS

Malfunction	Reason	Solution Suggestion
Unbalanced fertilizer distribution.	Sticking fertilizers on discs and throwing wings	Clean the discs and the throwing wings.
	Fertilizer pouring unit covers do not open completely.	
There are so many fertilizer on the tractor track.	Discs do not reach the stated rotation speed	Increase the tractor motor rotation speed.
	Fertilizer spreading disc sets are corroded or malfunctioned.	Check the disc sets. Change the corroded or malfunctioned parts with the new ones.
	Spreading specifications of the fertilizer are differ from the normal specifications shown in the table.	Please contact with DÖNDER TARIM.
There are so many piling up on overlapping field.	Stated disc rotation speed is exceeded.	Lower the tractor motor rotation speed.
	Spreading specifications of the fertilizer are differ from the normal specifications shown in the table.	Please contact with DÖNDER TARIM.
Unbalanced fertilizer pouring in same scale grade from both fertilizer pouring units.	Fertilizer bridge overing.	Remove the fertilizer bridge overing factor.
	The pin on the mixer can be cut because of heavy load.	Change the pin with the new one.
	Base adjustments of Fertilizer Pouring Units are different.	Check the base adjustments of fertilizer pouring units.
The PTO Shaft is rotating but the machine discs aren't rotating/low speed rotating.	The fertilizer spreader gearbox should be damaged.	You can contact your authorized service. If needs change gearbox with new one gearbox.
	Fertilizer Spreaders's shaft (axle) pin should be cutting.	Check the pin on the shaft(axle). If it's cut change with new one.

12 Cleaning, Maintenance and Repairing



Before doing cleaning, maintenance and repairing for the machine, secure the machine and the tractor against unwilld moves.

During the cleaning, maintenance and repairing of the machine, put the guarding equipments properly removed while cleaning or repairing.

Change the malfunction equipments with the new ones.

12.1 Cleaning

Clean the machine after every usage. Dry the wet parts of the machine after cleaning.

For the machines with ProPlus , pay attention to water leaking to electrical motors and electrical parts.

12.2 Greasing Instruction

Oil the required parts after machine cleaning.

You can use multifunctional grease oil for oiling.

12.2.1 Drive Shaft Oiling

Drive guard hoses must be oiled to prevent freezing in winter.

For drive shaft oiling, please check the drive shaft usage manual.

12.3 Repairing

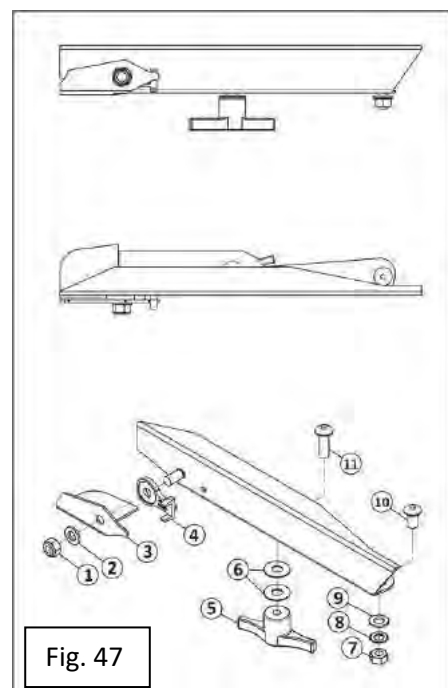
12.3.1 Changing the Throwing Wings of the Fertilizer Spreading Discs

1. Remove the wing fixing screws (Fig.47/10).
2. Handle(Fig.47/5)
3. Change the fertilizer spreading wing.
4. Tighten the wing fixing screw as the wing can be move by handı (Fig.47/10).
5. Tighten the wing fixing screws (Fig.47/10) and thumbnut (Fig.47/5) after the throwing wing adjustment.
6. Ensure about all screw connections are tighten well.



Pay attention to fertilizer spreading throwing wing installation directions.

Open side of U throwing wings shows the turning direction.



12.4 Base Adjustments of Fertilizer Pouring Unit

The base adjustments of fertilizer pouring for fertilizer spreading machine are adjusted according to scale 8 grade.

For this, the transversal section of unloading hole (Fig.49/1) is adjusted with a gauge (Fig.49/2) (hole gauge $\varnothing 12$ mm gib).

This adjustment is the base adjustment of the fertilizer pouring unit.

If you identify a non-equal pouring even if you adjust the same scale grade, check the base adjustments of pouring units. You can check it by applying the following instructions;

1. Open the pouring unit covers hydraulically.
2. Open the amount adjustment lever (Fig.50/3) and amount adjustment cover.
3. Place the $\varnothing 12$ mm diameter round to the hole (Fig.49/1).
4. Set the adjustment lever (Fig.50/3) through 0 grade on the scale till $\varnothing 12$ mm gib.
5. Fix the adjustment lever with handle (Fig.50/4).
6. Loose the indicator screw and set the indicator (Fig.50/2) to 8 in the scale and tighten the nut.
7. Remove $\varnothing 12$ mm gib.
8. Do this check/adjustments for both fertilizer pouring units.

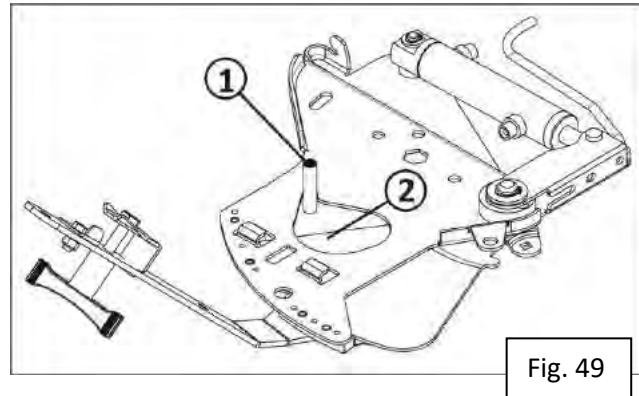


Fig. 49

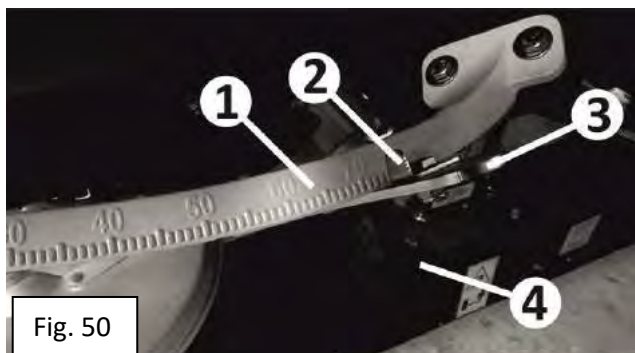


Fig. 50



CGSA Serie

Fertilizer Spreader Machine

Fertilizer Table



CGSA 2017/1

01.01.2017



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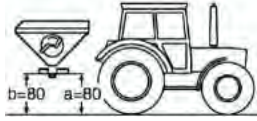
Keep it for next using.

Urea %46 Granular Ø 3,02mm

Diameter: 3,02 mm

Bulk Density: 0,74 kg/l

Flow Factor: 0,68



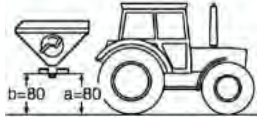
Disc Set	DT 10-16				DT 18-24				DT 24-36			
Working Width (m)	10	12	15	16	18	20	21	24	24	27	28	30
Wing Setting	71/87	71/87	73/89	73/89	68/83	70/84	70/84	72/92	17/45	18/48	19/49	20/51

Disc Set		DT 10-16				DT 18-24				DT 24-36			
Distance to Border (m)		5	6	7,5	8	9	10	10,5	12	12	13,5	14	15
Limiter	Side Spreading	A5	A7	A4	A4	A4	A3	A3	B2	B1	B1	B0	B0
	Border Spreading	A13	A11	A9	A8	A8	A7	A6	B6	B6	B6	B5	B5
	Water Course Spreading	A15	A13	A11	A10	A11	A10	A9	B8	B8	B8	B7	B7

Urea %46 Granular Ø 3,02mm

Diameter: 3,02 mm

Bulk Density: 0,74 kg/l



Flow Factor: 0,68

		Shutter Position for Spread Rate Setting																									
Width	kg/ha	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	590	610	620	630	640	650	
	10	km/s	10	16	19	21	23	24,5	26	27	28,5	29,5	30,5	31,5	32,5	33,5	34,5	35	36	37	38	38,5	41,5	42	42,5	42,5	43
12		17,5	20,5	22,5	24,5	26	27,5	29	30,5	31,5	32,5	34	35	36	37	38	39	40	41	42	45	46	46	46,5	47	47,5	
14		18,5	21,5	24	26	27,5	29	30,5	32	33,5	34,5	36	37	38,5	39,5	40,5	41,5	42,5	44	45	48,5	49,5	50	50,5	51	51,5	
12	km/s	10	17,5	20,5	22,5	24,5	26	27,5	29	30,5	31,5	32,5	34	35	36	37	38	39	40	41	42	45	46	46	46,5	47	47,5
	12	18,5	21,5	24	26	28	29,5	31	32,5	34	35	36,5	37,5	39	40	41	42	43,5	44,5	45,5	49,5	50,5	50,5	51	51,5	52	
	14	19,5	23	25,5	27,5	29,5	31	33	34,5	36	37,5	39	40	41,5	42,5	44	45,5	46,5	48	49	54	55	55,5	56	56,5	57	
15	km/s	10	19	22	24,5	26,5	28,5	30	31,5	33	34,5	35,5	37	38	39,5	40,5	42	43	44	45,5	46,5	50,5	51,5	52	52,5	53	53,5
	12	20,5	23,5	26	28,5	30,5	32	34	35,5	37	38,5	40	41,5	42,5	44	45,5	47	48	49,5	51	56	57,5	58	58,5	59,5	60	
	14	21,5	25	27,5	30	32	34	36	37,5	39,5	41	42,5	44,5	46	47,5	49	50,5	52,5	54	56	63	65	66	67,5	69	72	
16	km/s	10	19,5	22,5	25	27	29	30,5	32,5	34	35	36,5	38	39,5	40,5	42	43	44,5	45,5	46,5	48	52,5	53,5	54	54,5	55	55,5
	12	21	24	26,5	29	31	33	34,5	36,5	38	39,5	41	42,5	44	45,5	47	48,5	50	51,5	53	58,5	60	61	61,5	62,5	63,5	
	14	22	25,5	28	30,5	33	35	37	39	40,5	42,5	44	45,5	47,5	49	51	52,5	54,5	56	58	67,5	72,5					
18	km/s	10	20,5	23,5	26	28,5	30,5	32	34	35,5	37	38,5	40	41,5	42,5	44	45,5	47	48	49,5	51	56	57,5	58	58,5	59,5	60
	12	21,5	25	28	30,5	32,5	34,5	36,5	38	40	41,5	43,5	45	46,5	48	50	51,5	53	55	57	64,5	67	69	71			
	14	23	26,5	29,5	32	34,5	36,5	39	41	42,5	44,5	46,5	48,5	50,5	52,5	54,5	56,5	58,5	61	64							
20	km/s	10	21	24,5	27	29,5	31,5	33,5	35	37	38,5	40	42	43,5	45	46,5	48	49,5	51	52,5	54	60,5	62	63	64	65	66
	12	22,5	26	29	31,5	34	36	38	40	42	43,5	45,5	47,5	49	51	53	55	57	59	61							
	14	24	27,5	30,5	33,5	36	38,5	40,5	42,5	45	47	49	51,5	53,5	56	58	61	64	68								
21	km/s	10	21,5	25	27,5	30	32	34	36	37,5	39,5	41	42,5	44,5	46	47,5	49	50,5	52,5	54	56	63	65	66	67,5	69	72
	12	23	26,5	29,5	32	34,5	36,5	39	41	42,5	44,5	46,5	48,5	50,5	52,5	54,5	56,5	58,5	61	64							
	14	24	28	31	34	36,5	39	41,5	43,5	46	48	50,5	52,5	55	57,5	60,5	63,5	67,5									
24	km/s	10	22,5	26	29	31,5	34	36	38	40	42	43,5	45,5	47,5	49	51	53	55	57	59	61						
	12	24	28	31	34	36,5	39	41	43,5	45,5	47,5	50	52	54,5	57	59,5	62,5	66	73,5								
	14	25,5	29,5	33	36	39	41,5	44	46,5	49	51,5	54,5	57	60,5	64	69											
27	km/s	10	23,5	27	30,5	33	35,5	37,5	40	42	44	46	48	50,5	52,5	54,5	57	59	62	65	70						
	12	25	29	32,5	35,5	38	41	43,5	46	48	50,5	53	56	58,5	62	66											
	14	26,5	31	34,5	37,5	41	43,5	46,5	49,5	52,5	55,5	58,5	62,5	67,5													
28	km/s	10	24	27,5	30,5	33,5	36	38,5	40,5	42,5	45	47	49	51,5	53,5	56	58	61	64	68							
	12	25,5	29,5	33	36	39	41,5	44	46,5	49	51,5	54,5	57	60,5	64	69											
	14	27	31	35	38,5	41,5	44,5	47,5	50,5	53,5	56,5	60,5	64,5														
30	km/s	10	24,5	28,5	31,5	34,5	37	39,5	42	44	46,5	48,5	51	53,5	56	58,5	61	64,5	70								
	12	26	30,5	34	37	40	42,5	45,5	48	51	54	57	60	64	70												
	14	27,5	32	36	39,5	42,5	46	49	52,5	56	59,5	64	72														

CAN %27 Granular Ø 3,88 mm

Diameter: 3,88 mm

Bulk density: 1,00 kg/l

Flow Factor: 0,92



Disc Set	DT 10-16				DT 18-24				DT 24-36						
Working Width (m)	10	12	15	16	18	20	21	24	24	27	28	30	32	33	36
Wing Setting	68/87	68/87	70/89	70/89	63/81	63/86	63/86	65/86	10/44	12/44	13/44	15/44	15/44	15/44	16/47

Disc Set		DT 10-16				DT 18-24				DT 24-36						
Distance to Border (m)		5	6	7,5	8	9	10	10,5	12	12	13,5	14	15	16	16,5	18
Limiter	Side Spreading	A12	A10	A8	A7	A8	A6	A4	B2	B2	B1	B0	B0	B0	B0	B0
	Border Spreading	A15	A13	A12	A10	A13	A12	A11	B10	B11	B10	B9	B8	B7	B6	B5
	Water Course Spreading	A15 ⁴	A13 ²	A15	A14	A15	A14	A14	B12	B12	B12	B12	B11	B10	B9	B8

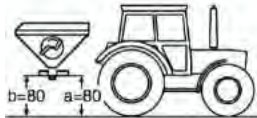
- 2 Disc-speed 600 d/dk
- 4 Disc-speed 535 d/dk

DAP 18/46 Granular Ø 3,47 mm

Diameter: 3,47 mm

Bulk Density: 0,96 kg/l

Flow Factor: 0,92

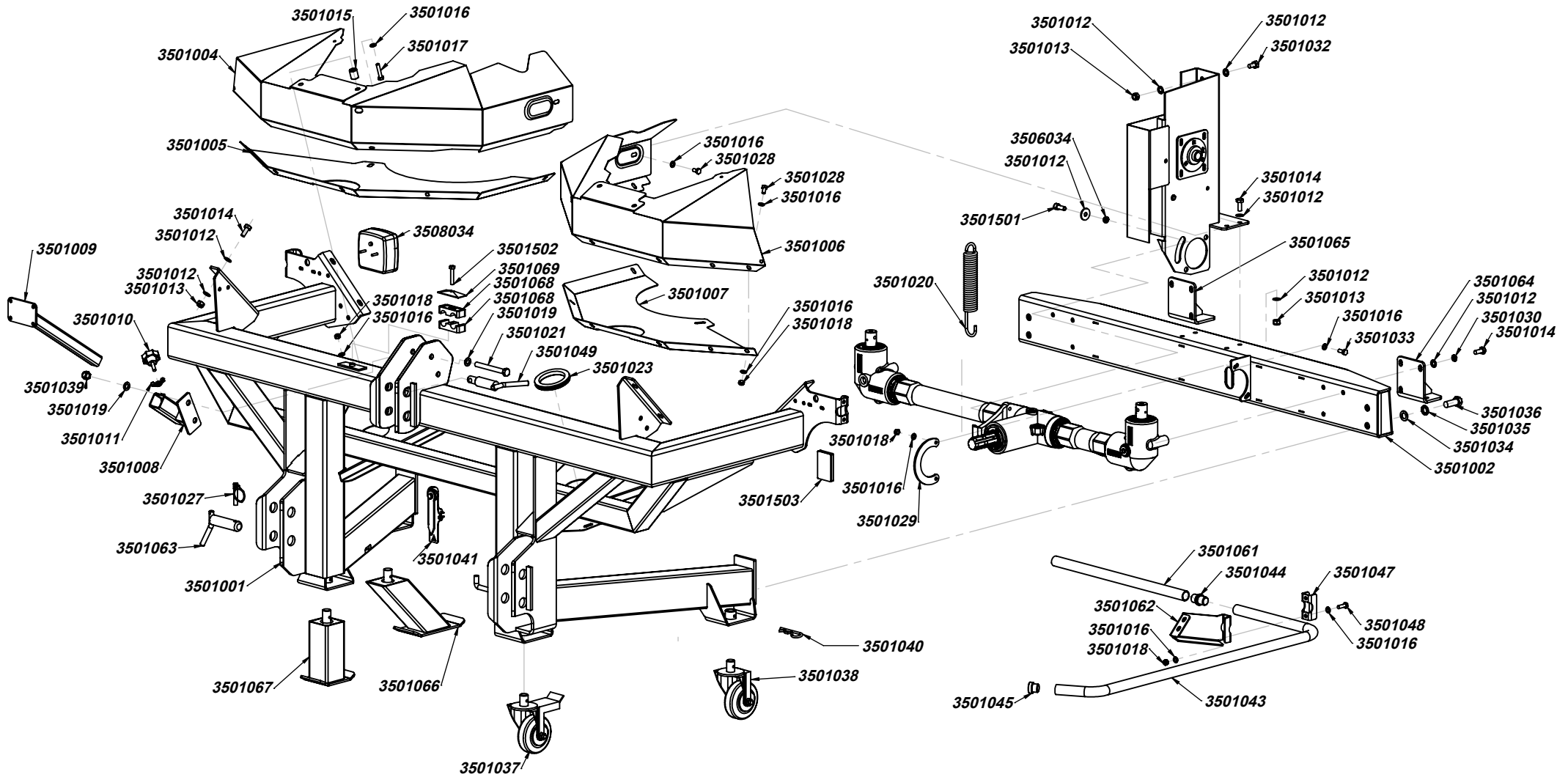


Disc Set	DT 10-16				DT 18-24				DT 24-36						
Working Width (m)	10	12	15	16	18	20	21	24	24	27	28	30	32	33	36
Wing Setting	68/89	68/89	70/91	70/91	64/83	66/85	66/85	68/85	12/47	14/49	14/49	15/49	16/49	16/49	18/52

Disc Set		DT 10-16				DT 18-24				DT 24-36						
Distance to Border (m)		5	6	7,5	8	9	10	10,5	12	12	13,5	14	15	16	16,5	18
Limiter	Side Spreading	A12	A10	A8	A7	A8	A6	A4	B2	B2	B1	B0	B0	B0	B0	B0
	Border Spreading	A15	A13	A12	A10	A13	A12	A11	B10	B11	B10	B9	B8	B7	B6	B5
	Water Course Spreading	A15 ⁴	A13 ²	A15	A14	A15	A14	A14	B12	B12	B12	B12	B11	B10	B9	B8

- 2 Disc-speed 600 d/dk
- 4 Disc-speed 535 d/dk

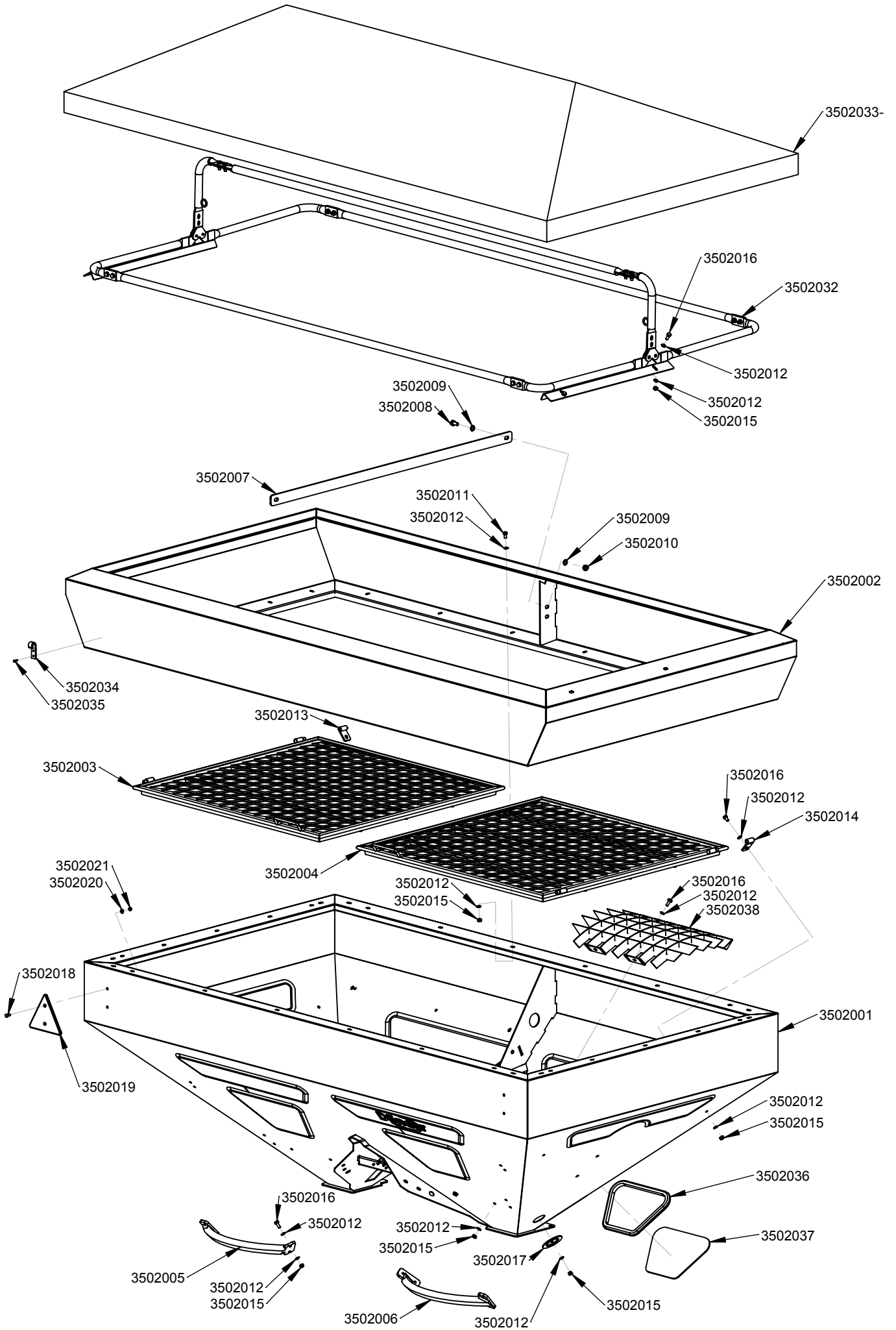
CHASSIS GROUP



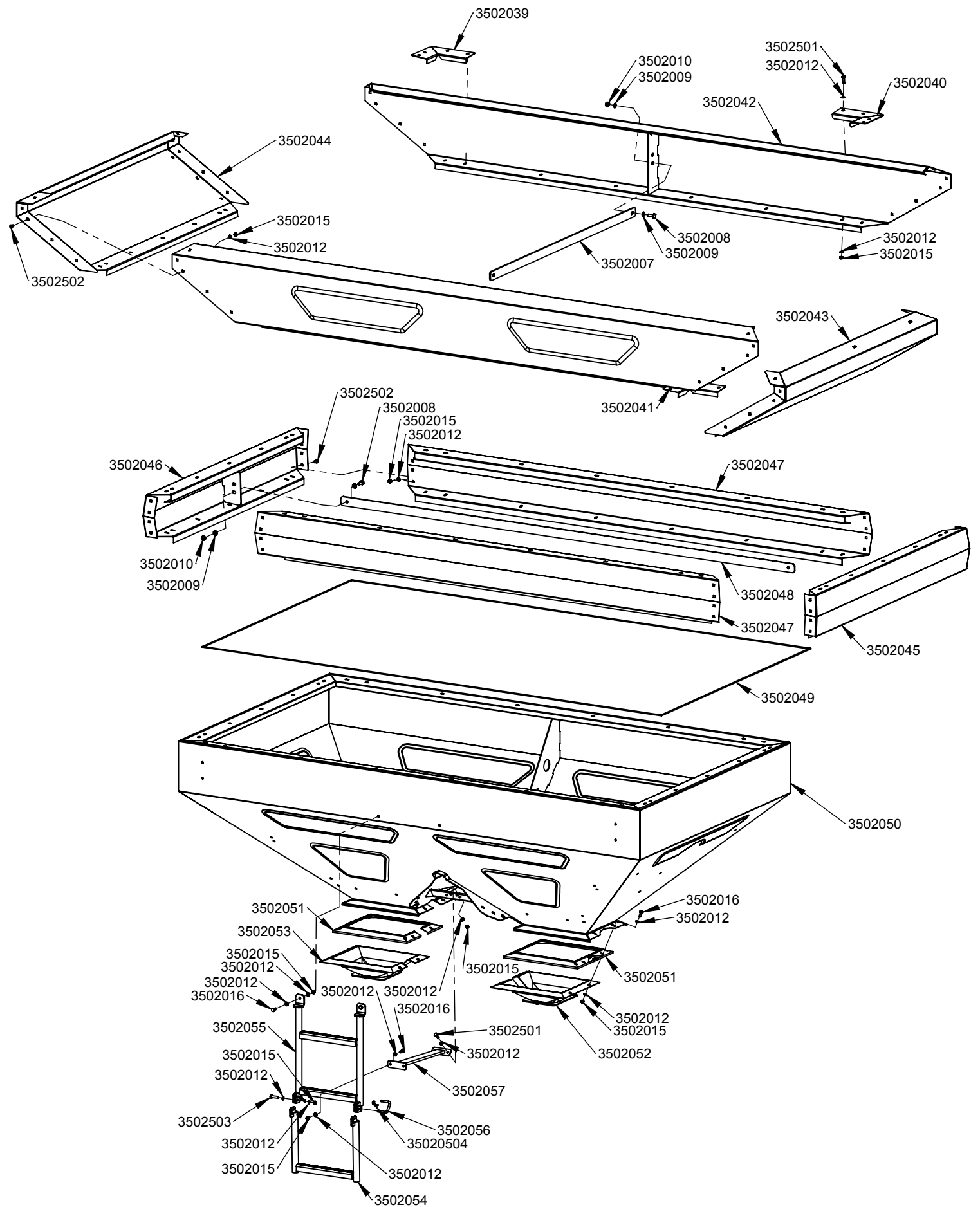
CHASSIS GROUP PART LIST

NR	PART NUMBER	DESCRIPTION	QTY
1	3501001	CHASSIS	1
1-B	3501001-B	CHASSIS (CGSA-T / CGSA-TT)	1
2	3501002	TRAVERSE	1
4	3501004	RIGHT SHROUDING	1
4-B	3501004-B	RIGHT SHROUDING CROM	1
5	3501005	RIGHT SHROUDING LOWER	1
5-B	3501005-B	RIGHT SHROUDING LOWER CROM	1
6	3501006	LEFT SHROUDING	1
6-B	3501006-B	LEFT SHROUDING CROM	1
7	3501007	LEFT SHROUDING LOWER	1
7-B	3501007-B	LEFT SHROUDING LOWER CROM	1
8	3501008	VALVE SEAT 1	1
9	3501009	VALVE SEAT 2	1
10	3501010	HANDLE	1
11	3501011	BUTTERFLY NUT	1
12	3501012	M10 WASSER	43
13	3501013	M10 FIBER NUT	14
14	3501014	M10x25 BOLT	18
15	3501015	SHROUDING RING	2
16	3501016	M8 WASHER	72
17	3501017	M8x40 BOLT	8
18	3501018	M8 FIBER NUT	50
19	3501019	M12 WASHER	2
20	3501020	TORQUE SPRING	1
21	3501021	M12x110 BOLT	1
22	3501023	COVER	2
23	3501027	SPRING PIN	4
24	3501028	M8x15 BOLT	14
25	3501029	ARCH	1
26	3501030	M10 WASHER TRACKED	7
27	3501032	M10x20 BOLT	2
28	3501033	M8x20 BOLT	18
29	3501034	M16 WASHER	4
30	3501035	M16 WASHER TRACKED	4
31	3501036	M16x40 BOLT	4
32	3501037	FREE CURCULATION WHEEL	2
33	3501038	RIGIDLY WHEEL	2
34	3501039	M12 FIBER NUT	1
35	3501040	BODKIN (5mm)	4
36	3501041	BALANCER	1
37	3501043	DISC PROTECTION PIPE (SIDE)	2
38	3501044	DISC PROTECTION CONNECTOR	2
39	3501045	DISC PROTECTION COVER	2
40	3501047	DISC PROTECTION CLAMP-2	4
41	3501048	M8 X25 BOLT	8
42	3501049	RIGDLY MIDDLE ARM PIN	1
43	3501061	DISC PROTECTION MIDDLE PIPE 416 CM	1
44	3501062	DISC PROTECTION SHORT CLAMP	2
45	3501063	PERNO 100	2
46	3501064	GEAR BOX FASTENING RIGHT SUPPORT	1
47	3501065	GEAR BOX FASTENING LEFT SUPPORT	1
48	3501066	3000 LT BEHIND LEG	2
49	3501067	3000 LT FRONT LEG	2
50	3501068	PIPE CLAMP	2
51	3501069	PIPE CLAMP COVER	1
52	3501501	M10X25 12.8 BOLT	1
53	3501502	M8X45 BOLT	1
54	3501503	REFLECTOR	2
55	3506034	GEAR BOX RING	1
56	3508034	LAMP	1

HOPPER GROUP



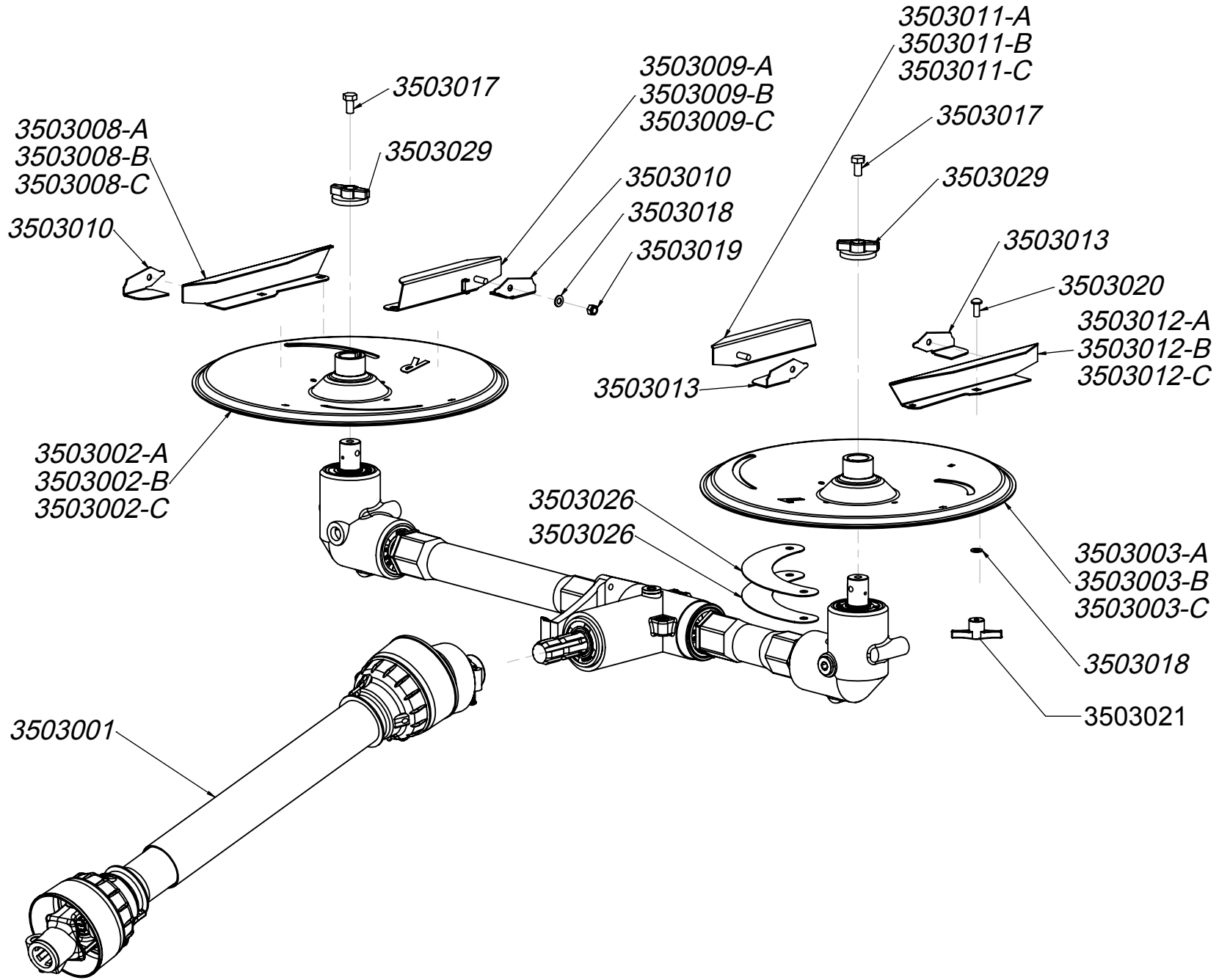
HOPPER GROUP



HOPPER GROUP PART LIST

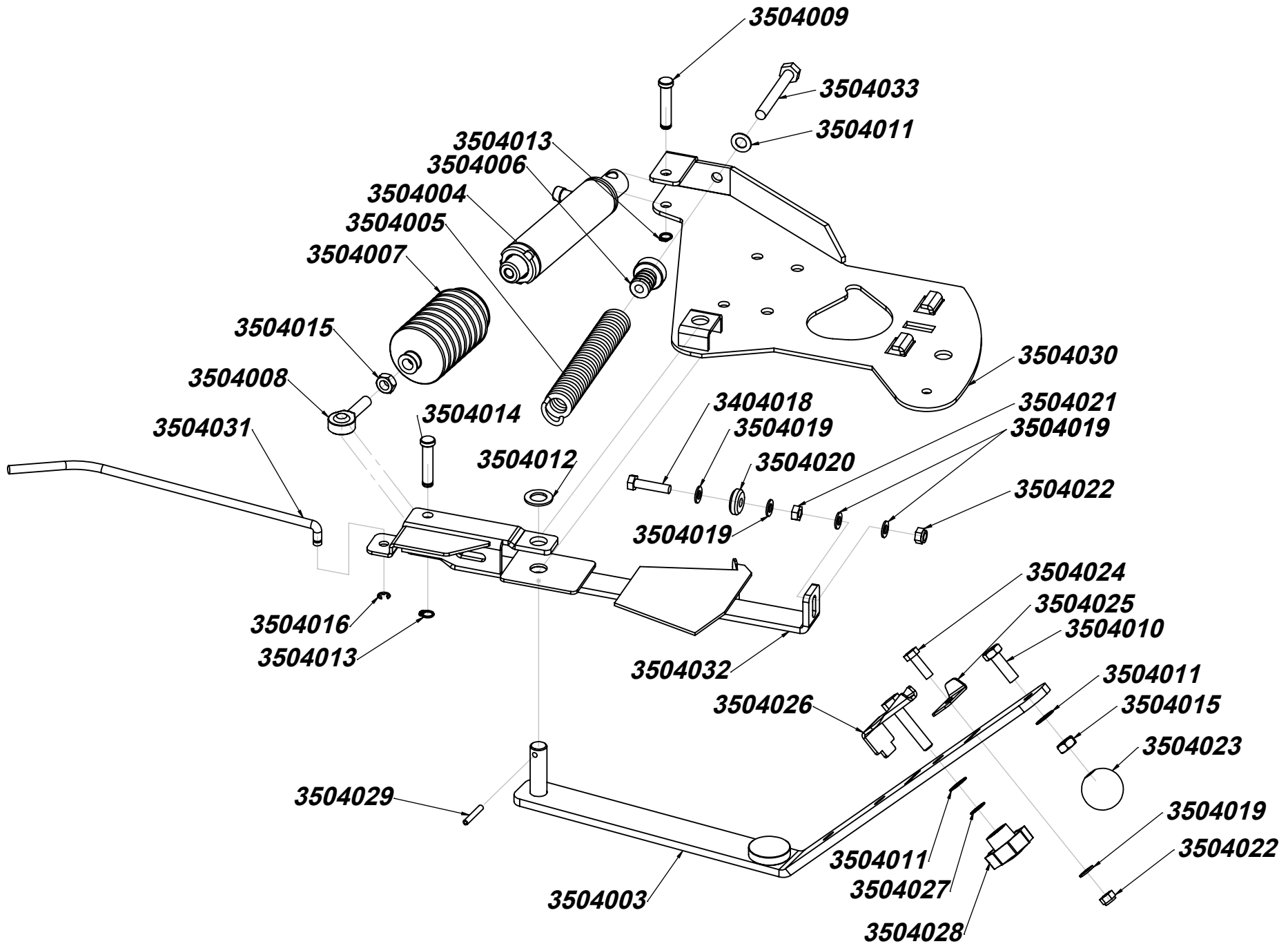
NR.	PART NUMBER	PART NAME	QTY
1	3502001	HOPPER 1350 lt	1
2	3502001-B	HOPPER 900 lt	1
3	3502002	EXTENSION 1000 TL ON 1350 LT	1
4	3502002-D	EXTENSION 300 LT ON 970 LT	1
5	3502002-E	EXTENSION600 LT ON 970 LT	1
6	3502003	LEFT SIEVE	1
7	3502004	RIGHT SIEVE	1
8	3502005	LEFT SCALA	1
9	3502006	RIGHT SCALA	1
10	3502007	EXTENSION SUPPORT IRON 125 CM ON 1350 LT	1
11	3502007-B	EXTENSION SUPPORT IRON 130 CM ON 900 LT	1
12	3502008	M 10x20 BOLT	2
13	3502009	M 10 WASHER	4
14	3502010	M 10 FIBER NUT	2
15	3502011	M 8x15 BOLT	26
16	3502012	M 8 WASHER	76
17	3502013	HINGE-1	2
18	3502014	HINGE-2	2
19	3502015	M 8 FIBER NUT	48
20	3502016	M 8x20 BOLT	48
21	3502017	WASHER	4
22	3502018	M 6x15 BOLT	20
23	3502019	REFLECTOR	2
24	3502020	M 6 WASHER	36
25	3502021	M 6 FIBER NUT	20
26	3502032-A	TENT FRAMA 900 LT	1
27	3502032-C	TENT FRAMA 1350 lt	1
28	3502032-E	TENT FRAMA 2350 lt	1
29	3502032-F	TENT FRAME 3000 LT	1
30	3502033-A	TENT 900 lt	1
31	3502033-C	TENT 1350 lt	1
32	3502033-E	TENT 2350 lt	1
33	3502033-F	TENT 3000 LT	1
34	3502034	PLASTIC HOOK	3
35	3502035	M 4x16 BOLT	6
36	3502036	INDIGATOR	2
37	3502037	INDIGATOR GLASS	2
38	3502038	REGULATOR	2
39	3502039	RIGHT CORNER TOP EXTENSION SUPPORT	2
40	3502040	LEFT CORNER TOP EXTENSION SUPPORT	2
41	3502041	EXTENSION 1075 LT BACK PART	1
42	3502042	EXTENSION 1075 FRONT PART	1
43	3502043	EXTENSION 1075 RIGHT PART	1
44	3502044	EXTENSION 1075 LEFT PART	1
45	3502045	EXTENSION 575 RIGHT PART	1
46	3502046	EXTENSION 575 LEFT PART	1
47	3502047	EXTENSION 575 FRONT BACK PART	2
48	3502048	SUPPORT 575 LT 226 CM	1
49	3502049	EXTENSION RING1350 LT	2
50	3502049-B	EXTENSION RING 970 LT	1
51	3502050	CROM FLOOR HOPPER 1350LT	1
52	3502050-B	CROM FLOOR HOPPER 970 LT	1
53	3502051	BOTTOM HOOPER RING	2
54	3502052	BOTTOM HOOPER RIGHT	1
55	3502053	BOTTOM HOPPER LEFT	1
56	3502054	BOTTOM LADDER 3000 LT	1
57	3502055	TOP LADDER 3000 LT	1
58	3502056	LADDER FASTENING	2
59	3502057	LADDER SUPPORT	1
60	3502501	M8X25 BOLT	18
61	3502502	M8X15 BUFFER BOLT	36
62	3502503	M8X30 BOLT	2
63	3502504	3MM BODKIN	2

DISC GROUP

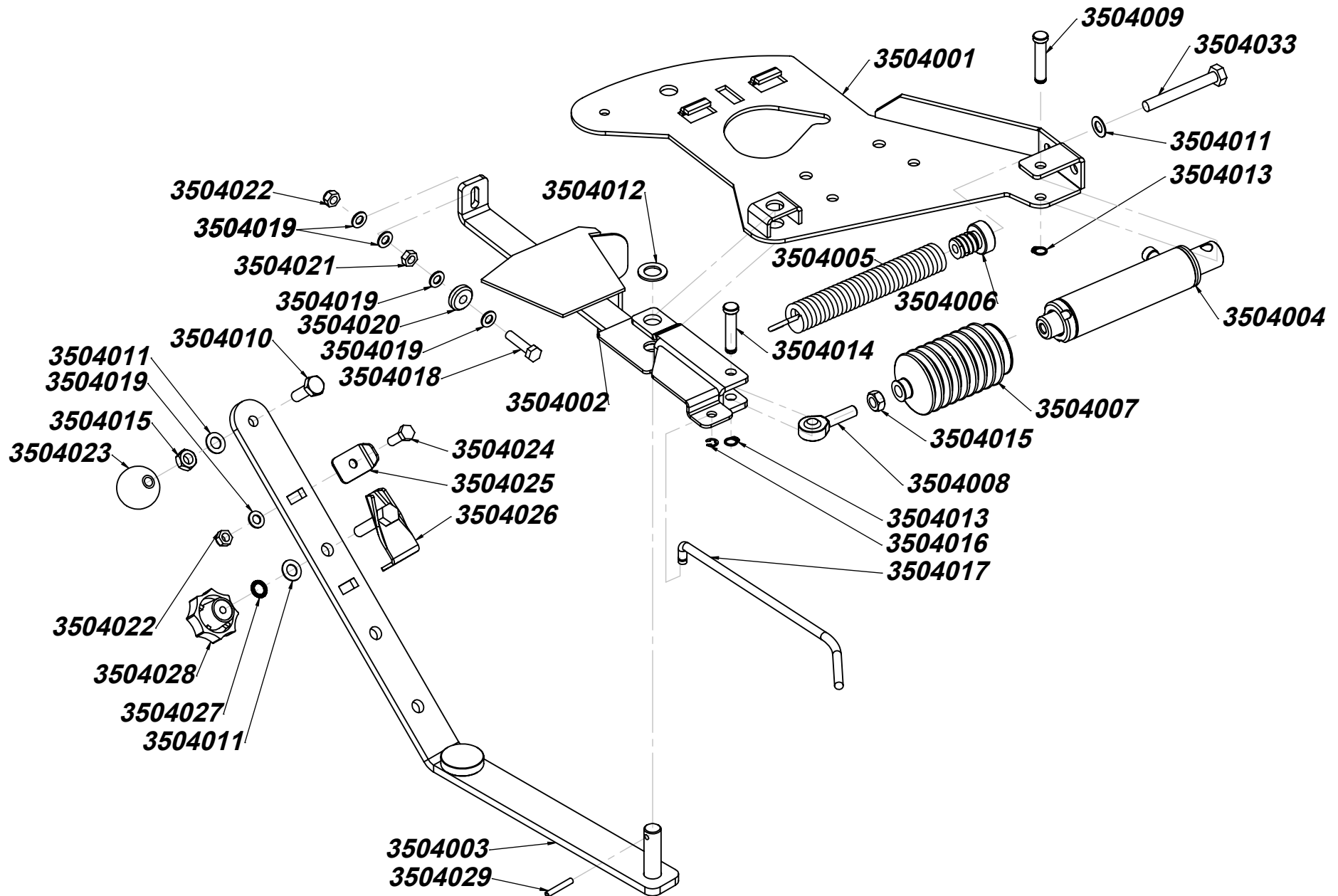


DISC GROUP PART LIST			
Nr	PART NUMBER	DESCRIPTION	QTY.
1	3503001	SHAFT (K.T2.101.101.100)	1
2	3503002-A	RIGHT DISC (DT 10-16)	1
2-B	3503002-B	RIGHT DISC (DT 18-24)	1
2-C	3503002-C	RIGHT DISC (DT 24-36)	1
3	3503003-A	LEFT DISC (DT 10-16)	1
3-B	3503003-B	LEFT DISC (DT 18-24)	1
3-C	3503003-C	LEFT DISC (DT 24-36)	1
4	3503008-A	RIGHT LONG WING (DT 10-16 RIGHT 280)	1
4-B	3503008-B	RIGHT LONG WING (DT 18-24 RIGHT 360)	1
4-C	3503008-C	RIGHT LONG WING (DT 24-36 RIGHT 410)	1
5	3503009-A	RIGHT SHORT WING (DT 10-16 RIGHT 215)	1
5-B	3503009-B	RIGHT SHORT WING (DT 18-24 RIGHT 260)	1
5-C	3503009-C	RIGHT SHORT WING (DT 24-36 RIGHT 300)	1
6	3503010	RIGHT WING TIP	2
7	3503011-A	LEFT SHORT WING (DT 10-16 LEFT 215)	1
7-B	3503011-B	LEFT SHORT WING (DT 18-24 LEFT 260)	1
7-C	3503011-C	LEFT SHORT WING (DT 24-36 LEFT 300)	1
8	3503012-A	LEFT LONG WING (DT 10-16 LEFT 260)	1
8-B	3503012-B	LEFT LONG WING (DT 18-24 LEFT 360)	1
8-C	3503012-C	LEFT LONG WING (DT 24-36 LEFT 410)	1
9	3503013	LEFT WING TIP	2
11	3503015	M10 WASHER	2
12	3503016	M10 WASHER TRACKED	2
13	3503017	M10x20 BOLT	2
14	3503018	M8 WASHER	12
15	3503019	M8 FIBER NUT	4
16	3503020	M8 BOLT	4
17	3503021	M8 HANDLE	4
18	3503026	BALANCING WEIGHT (24/36)	4
19	3503026-A	BALANCING WEIGHT (10/16-18/24)	4
20	3503029	DISC HANDLE	2

RIGHT SIDE UNIT



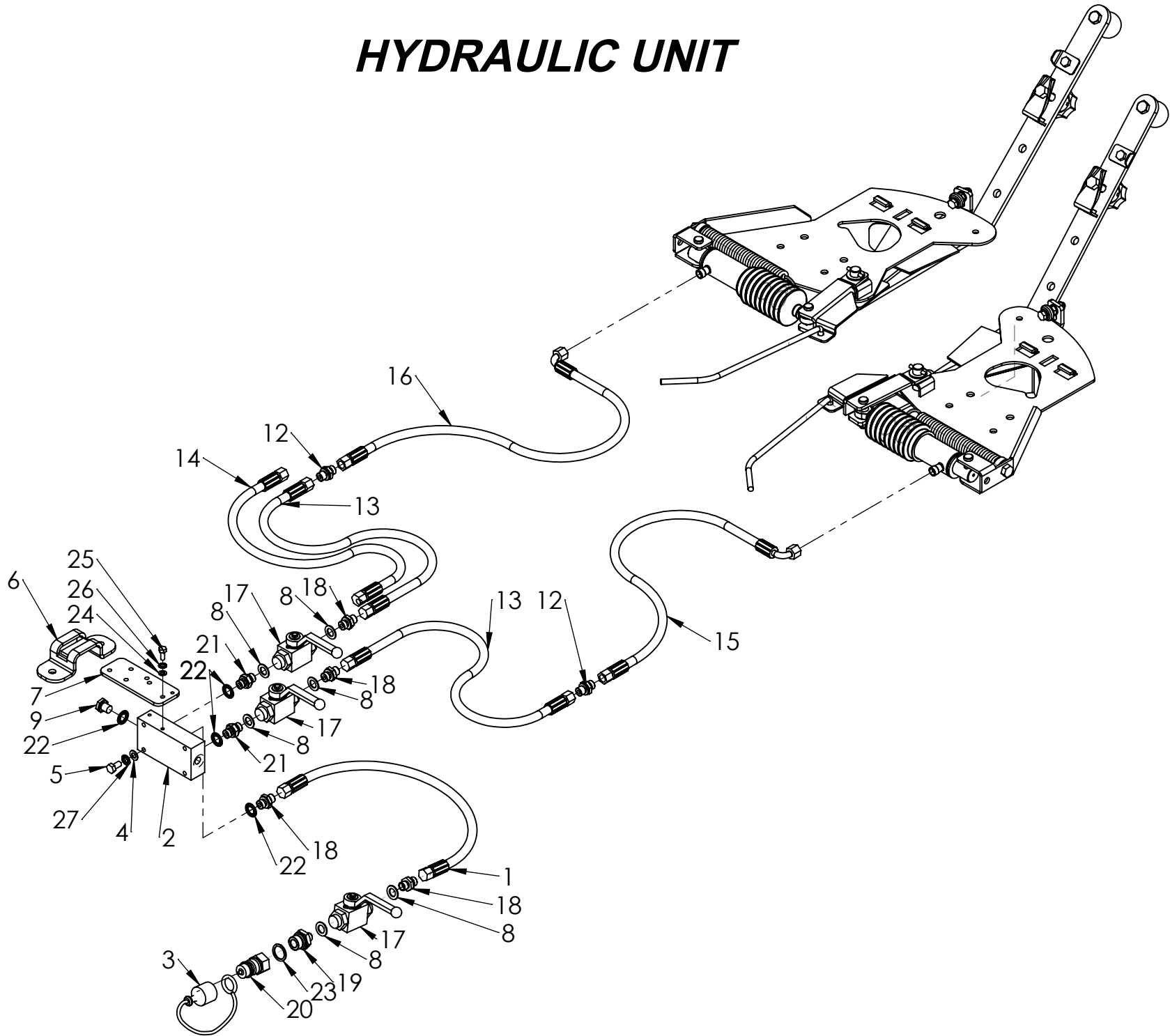
LEFT SIDE UNIT



RIGHT AND LEFT SIDE UNIT PART LIST

NR	PART NUMBER	DESCRIPTION	QTY
1	3504001	LEFT IRON SHEET	1
1-B	3504001-B	LEFT IRON SHEET CROM	1
2	3504002	LEFT COVER	1
3	3504003	ADJUSTMENT LEVEL	2
4	3504004	PISTON	2
5	3504005	PISTON SPRING	2
6	3504006	SPRING NUT	2
7	3504007	PISTON BELLOWS	2
8	3504008	PISTON ROT	2
9	3504009	PISTON PIN	2
10	3504010	M10x30 BOLT	4
11	3504011	M10 WASHER	6
12	3504012	M16 WASHER	2
13	3504013	INSIDE RING	4
14	3504014	ROT PIN	2
15	3504015	M10 NUT	4
16	3504016	IRON AXE RING	2
17	3504017	LEFT IRON AXE	1
18	3504018	M8x40 BOLT	2
19	3504019	M8 WASHER	8
20	3504020	ADJUSTMENT WHEEL	2
21	3504021	M8 NUT	2
22	3504022	M8 FIBER NUT	4
23	3504023	M10 HANDLE	2
24	3504024	M8x25 BOLT	2
25	3504025	INDICATOR	2
26	3504026	LEVEL FIXER	2
27	3504027	M10 WASHER TRACKED	2
28	3504028	M10 HANDLE	2
29	3504029	C PIN (5mm)	2
30	3504030	RIGHT IRON SHEET	1
30-B	3504030-B	LEFT IRON SEAT CROM	1
31	3504031	RIGHT IRON AXE	1
32	3504032	RIGHT COVER	1
33	3504033	M10x80 BOLT	2

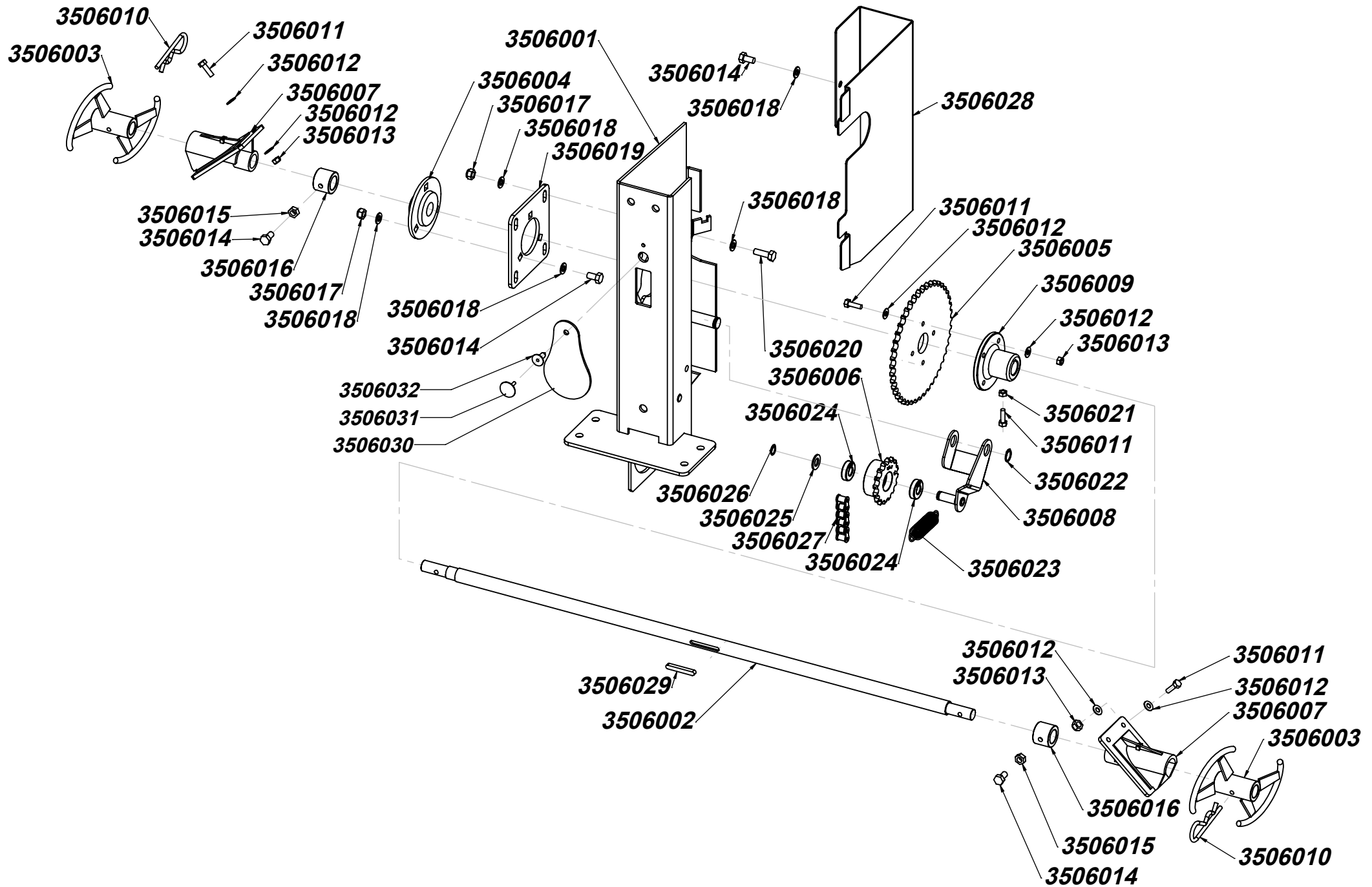
HYDRAULIC UNIT



HYDRAULIC UNIT PART LIST

NR	PART NUMBER	DESCRIPTION	QTY
1	3505002	MAIN PIPE 105 CM	1
2	3505004	DISTURBUTOR	1
3	3505007	VALVE PLASTIC COVER	1
4	3505008	M8 WASHER	2
5	3505009	M8X15 BOLT	2
6	3505010	DISTRUBUTOR PART 1	1
7	3505011	DISTRUBUTOR PART 2	1
8	3505013	1/4 COPPER WASHER	6
9	3505014	1/4 DISTRUBUTOR STROPPER	2
12	3505015	M14 X 1,5 NIPPLE	2
13	3505016	MAIN PIPE 140 CM	2
14	3505017	EXTRA PIPE 240 CM (CGSA-T/CGSA-TT)	1
15	3505018	PIPE 160 CM	1
16	3505019	PIPE 110 CM	1
17	3505020	VALVE	3
18	3505021	NIPPLE M14X1,5-1/4	4
19	3505022	NIPPLE 1/4-1/2	1
20	3505023	1/2 HYDRAULIC ADAPTER	1
21	3505024	1/4 NIPPLE	2
22	3505025	1/4 O-RING WASHER	5
23	3505026	1/2 COPPER WASHER	1
24	3505501	M6 WASHER	2
25	3505502	M6X16 BOLT	2
26	3505503	M6 TRACKING WASHER	2
27	3505504	M8 TRACKING WASHER	2

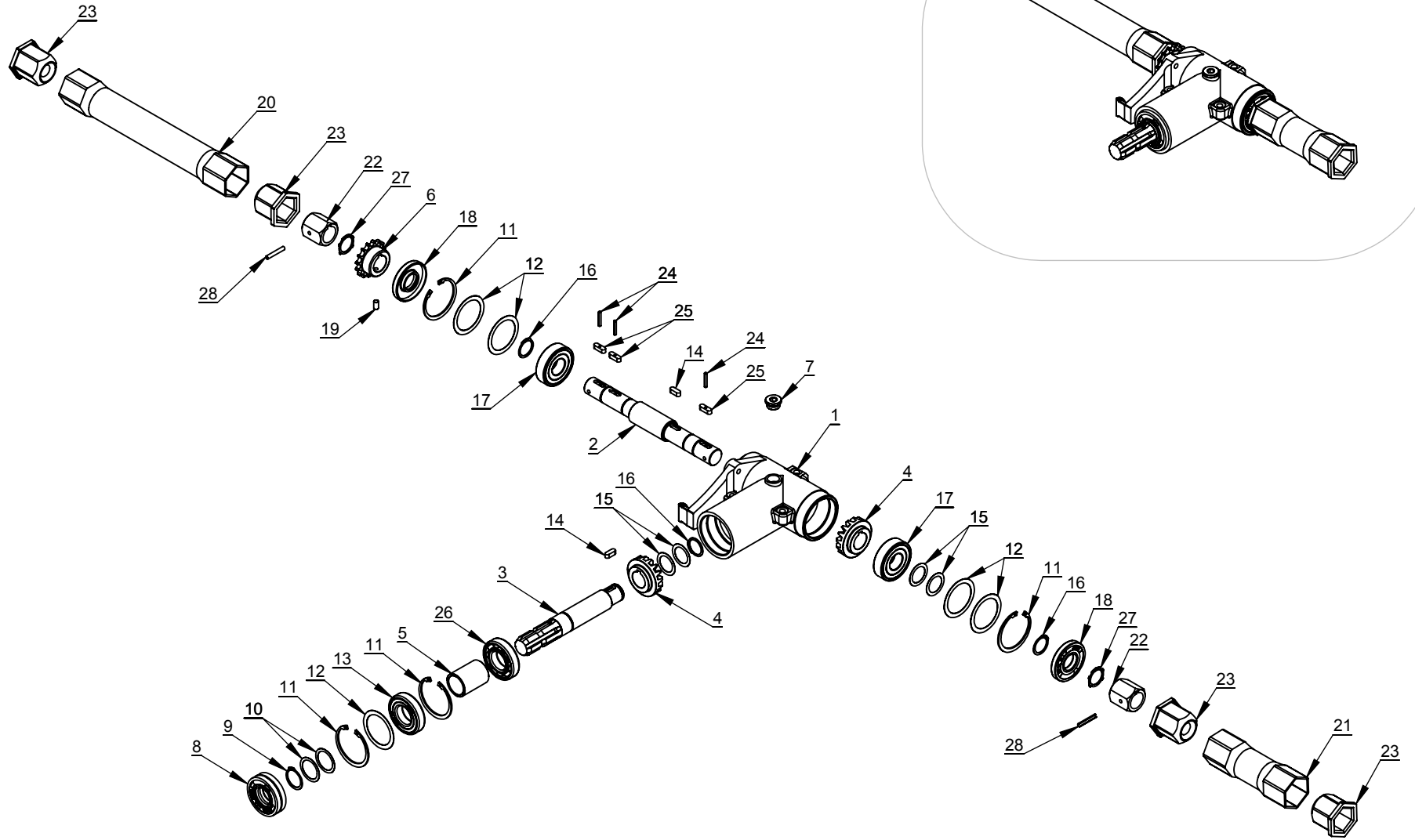
PERPENDICULAR SUPPORT GROUP



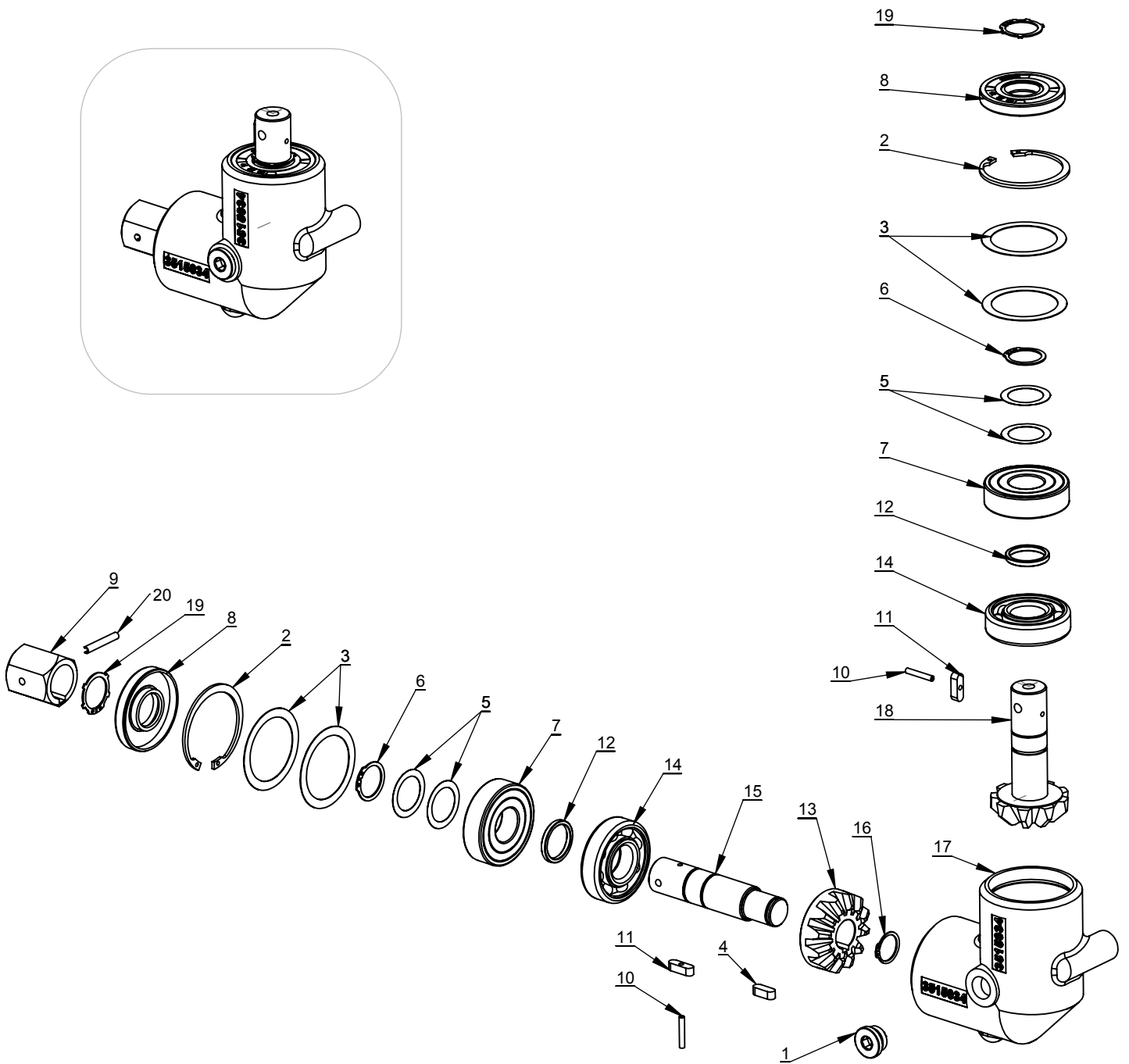
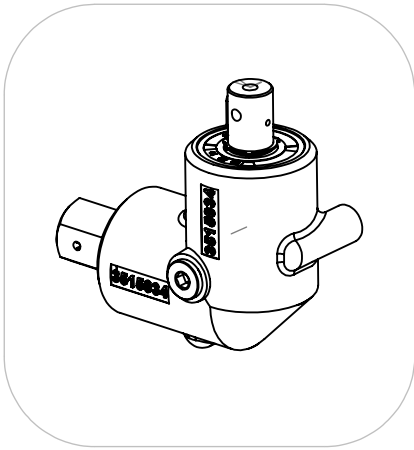
PERPENDICULAR SUPPORT GROUP PART LIST

Nr.	PART NUMBER	DESCRIPTION	QTY.
1	3506001	COLON	1
2	3506002	MIXER MILE	1
3	3506003	MIXER	2
4	3506004	IRON SEAT (PF 204)	1
5	3506005	1/2 44 TOOTH GEAR	1
6	3506006	1/2 16 TOOTH GEAR	1
7	3506007	HORIZONTAL MIXER SEAT	2
8	3506008	SPRING IRON	1
9	3506009	BIG GEAR FLANGE	1
10	3506010	BODKIN (5mm)	2
11	3506011	M6x20 BOLT	7
12	3506012	M6 WASHER	12
13	3506013	M6 FIBER NUT	6
14	3506014	M8x15 BOLT	5
15	3506015	M8 NUT	2
16	3506016	MIXER MILE RING	2
17	3506017	M8 FIBER NUT	7
18	3506018	M8 WASHER	14
19	3506019	IRON SEAT	1
20	3506020	M8x25 BOLT	4
21	3506021	M6 NUT	1
22	3506022	RING	1
23	3506023	SPRING	1
24	3506024	BEAR (6001 Z)	2
25	3506025	M12 WASHER	1
26	3506026	Q11 RING	1
27	3506027	1/2" CHAIN	1
28	3506028	COVER	1
29	3506029	WEDGE (A6x6x50)	1
30	3506030	CHAIN GLASS	1
31	3506031	MALE CLIP	1
32	3506032	FEMALE CLIP	1

GEARBOX UNIT MIDDLE PART



GEARBOX UNIT SIDE PART



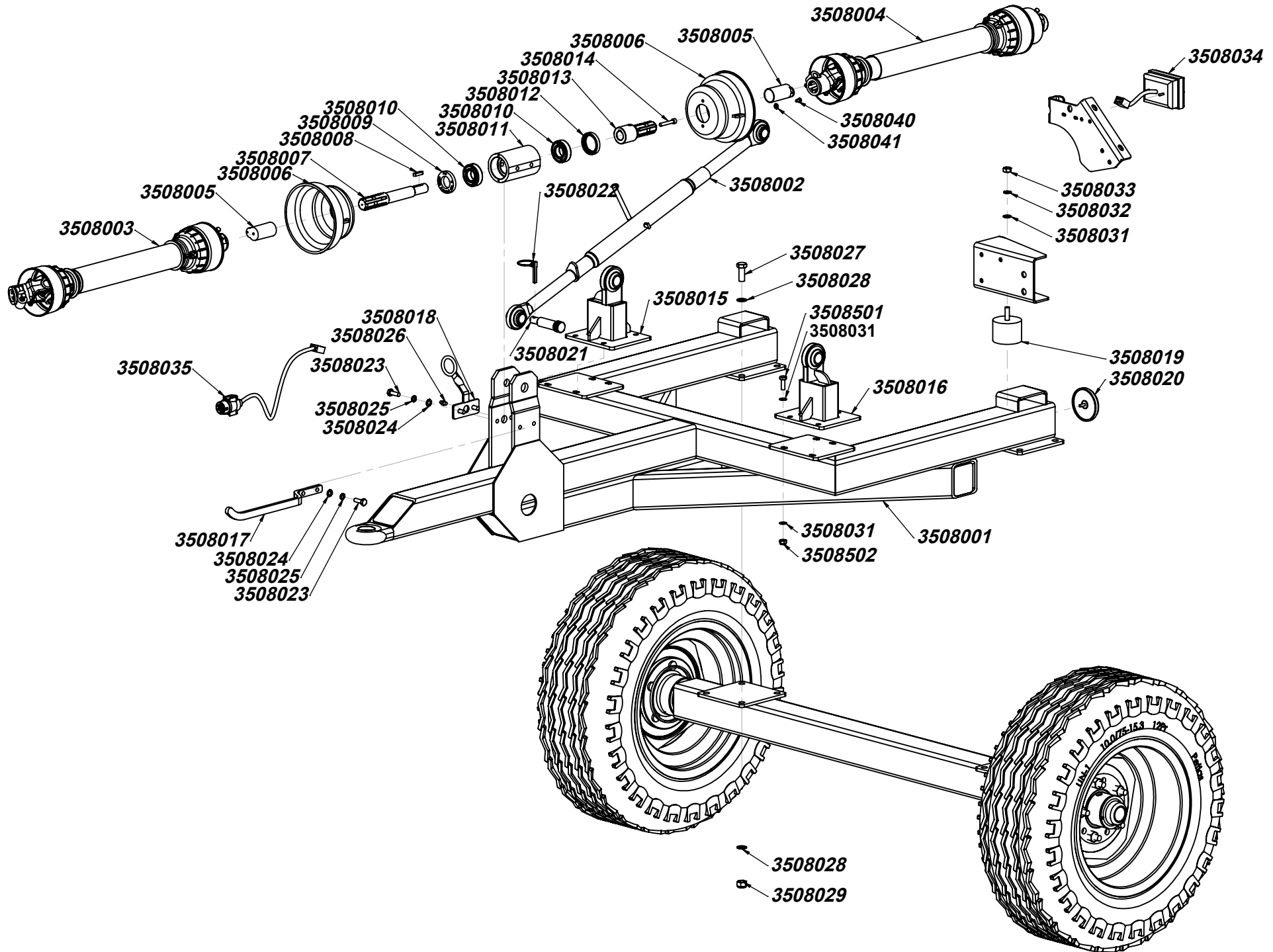
GEARBOX UNIT MIDDLE PART LIST

NR	PART NUMBER	DESCRIPTION	QTY.
1	3515001	MIDDLE BOX	1
2	3515037	MIDDLE MILE	1
3	3515039	MILE WITH FRAISE	1
4	3515004	Z 16 Dişli	2
5	3515005	PIPE	1
6	3515006	Z 16 CHAIN WHEEL	1
7	3515007	OIL CAP	1
8	3515008	35x72x10 SEAL RING	1
9	3515009	35 RING	1
10	3515010	35x0,30 SHIM	2
11	3515011	72 RING	4
12	3515012	72x0,50 SHIM	5
13	3515013	6207 ZZ BEARING	1
14	3515014	8x7x22 WEDGE	2
15	3515015	30x0,30 SHIM	4
16	3515016	30 RING	3
17	3515017	6306 ZZ BEARING	2
18	3515018	30x72x10 SEAL RING	2
19	3515019	M 8x10 STAY BOLT	1
20	3515020	PIPE COUPLIN (LONG)	1
21	3515021	PIPE COUPLIN (SHORT)	1
22	3515038	COUPLIN ADAPTER	2
23	3515024	COUPLIN PLASTIC	4
24	3515025	4x20 C PIN	3
25	3515026	8x7x25 WEDGE	3
26	3515030	6207 BEARING	1
27	3515036	30 RING	2
28	3515501	6x40 C PIN	2
29	3515050	GEAR BOX COMPLATE	1
30	3515051	MIDDLE GEAR BOX COMPLATE	1
31	3515052	RIGHT GEAR BOX COMPLATE	1
32	3515053	LEFT GEAR BOX COMPLATE	1

GEARBOX UNIT SIDE PART LIST

Nr.	PART NUMBER	DESCRIPTION	QTY.
1	3515007	OIL CAP	1
2	3515011	72 RING	2
3	3515012	72x0,50 SHIM	4
4	3515014	8x7x22 WEDGE	1
5	3515015	30x0,30 SHIM	4
6	3515016	30RING	2
7	3515017	6306 ZZ BEARING	2
8	3515018	30x72x10 SEAL RING	2
9	3515038	COUPLIN ADAPTER	1
10	3515025	4x20 C PIN	2
11	3515026	8x7x25 WEDGE	2
12	3515028	MILE RING	2
13	3515029	Z 12 GEAR	1
14	3515031	6306 BEARING	2
15	3515041	SIDE MILE	1
16	3515033	25 RING	1
17	3515034	SIDE BOX	1
18	3515035	Z 9 GEAR	1
19	3515036	30 RING	2
20	3515501	6x40 C PIN	1

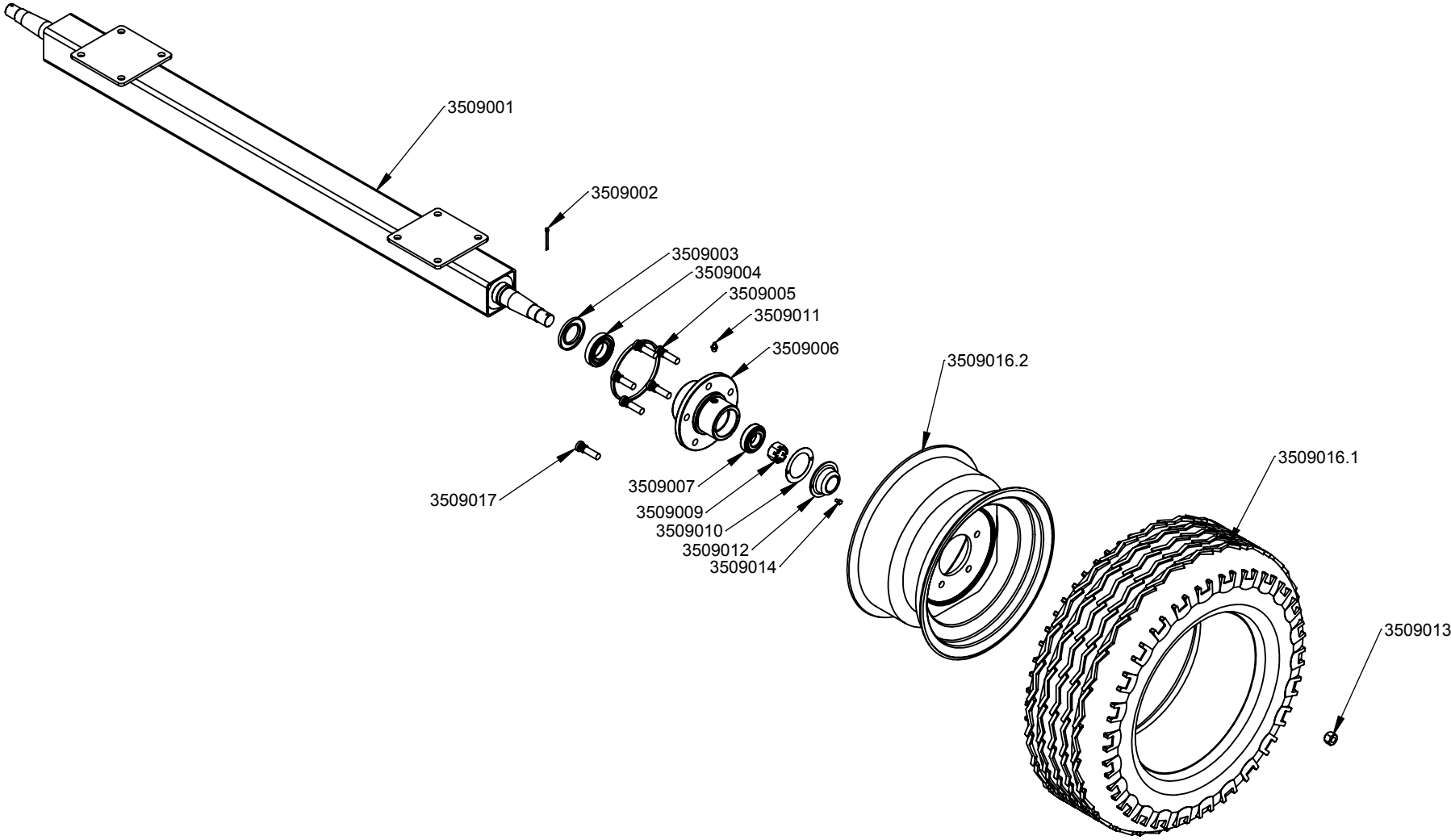
CGSA-T CHASIS GROUP



CGSA-T CHASSIS GROUP PART LIST

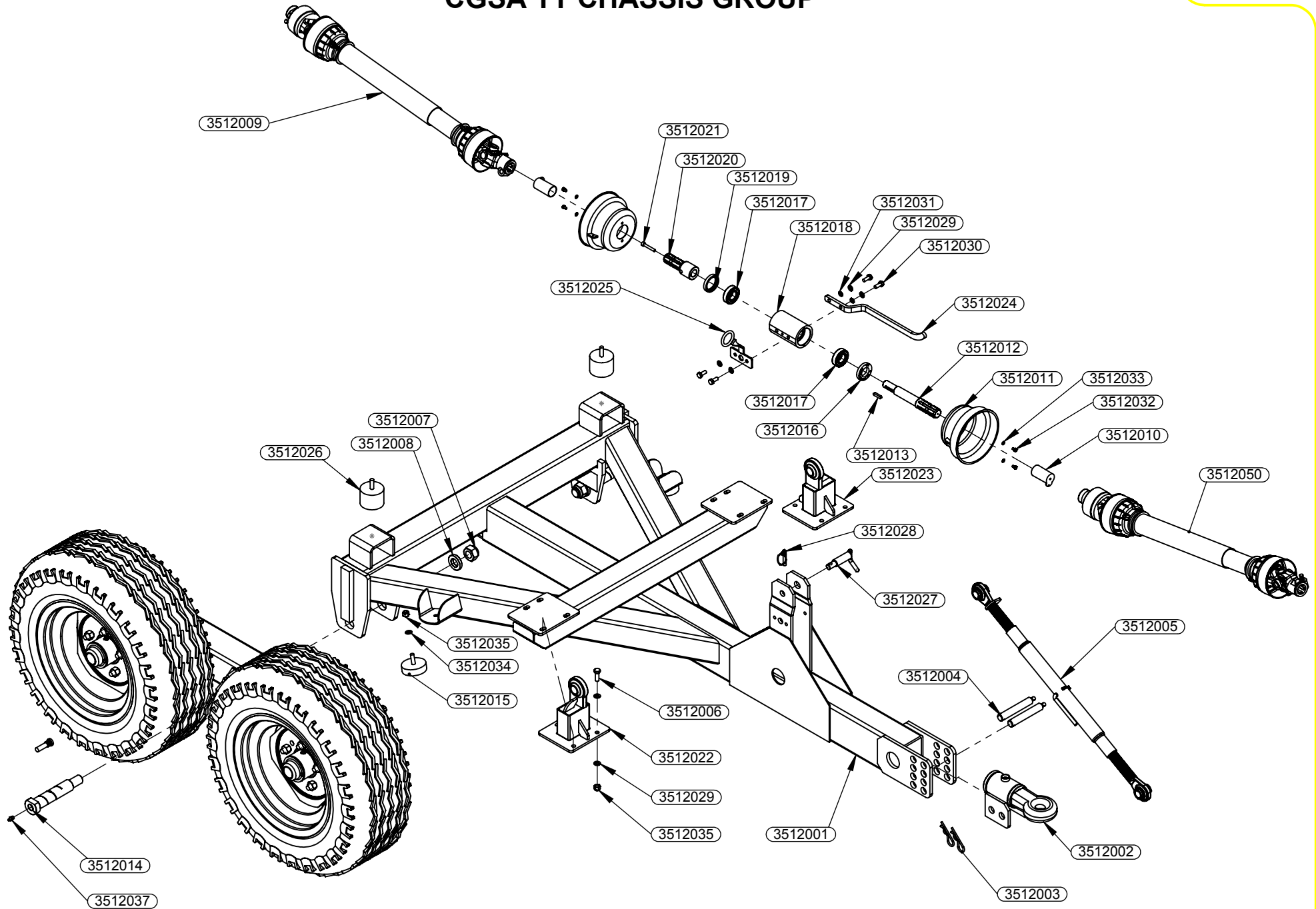
Nr.	PART NUMBER	DESCRIPTION	QTY.
1	3508001	PULLING CHASSIS	1
2	3508002	MIDDLE ARM	1
3	3508003	SHORT SHAFT (K.T2.101.80)	1
4	3508004	LONG SHAFT (K.T2.101.90)	1
5	3508005	MILLING AXLE COVER	2
6	3508006	SHAFT PROTECTION	2
7	3508007	LONG MILLING AXLE	1
8	3508008	WEDGE PIN (8x7x36)	1
9	3508009	SEAL RING (38x62x10)	1
10	3508010	BALL BEARING (6206 ZZ)	2
11	3508011	MIDDLE SEAT	1
12	3508012	SEAL RING (48x62x10)	1
13	3508013	MILLING AXLE HIEVE	1
14	3508014	ALIAN BOLT (M8x50)	1
15	3508015	RIGHT ARM SEAT	1
16	3508016	LEFT ARM SEAT	1
17	3508017	SHAFT HOOK	1
18	3508018	PIPE HOOK	1
19	3508019	BATTEN	2
20	3508020	REFLECTOR	2
21	3508021	MIDDLE ARM PIN	1
22	3508022	SPRING PIN	1
23	3508023	M10x30 BOLT	4
24	3508024	M10 WASHER	4
25	3508025	M10 TRACKING WASHER	4
26	3508026	M8 GREASE FITTING	1
27	3508027	M16x40 BOLT	8
28	3508028	M16 WASHER	16
29	3508029	M16 FIBER NUT	8
30	3508031	M12 WASHER	2
31	3508032	M12 TRACKING WASHER	2
32	3508033	M12 NUT	2
33	3508034	LAMP	2
34	3508035	ELECTRIC JACK	1
35	3508040	M6x10 BOLT	4
36	3508041	M6 WASFER	4
37	3508501	M12X30 BOLT	2
38	3508502	M12 FIBER NUT	2

CGSA T TRAILED AXLE GROUP



CGSA T TRAILED AXLE GROUP PART LIST			
NR.	PART NUMBER	DESCRIPTION	QTY.
1	3509001	CGSA-T AXLE	1
2	3509002	COTTER PIN (Ø5mm)	2
3	3509003	SEAL RING 50x85x7	2
4	3509004	30209 CONICAL BELL BEARING	2
5	3509005	5/8' JOG BOLT(KIT)	2
6	3509006	WHEEL CENTER	2
7	3509007	30207 CONICAL BELL BEARING	2
8	3509009	12 TOOTH NUT	2
9	3509010	GASKET	2
10	3509011	GREASE FITTING (M10)	2
11	3509012	WHEEL CENTER COVER	2
12	3509013	5/8' JOG NUT	10
13	3509014	M 6x10 BOLT	2
14	3509016	MOUNTED WHEEL (10.0/75-15.3 12	2
15	3509016,1	WHEEL (10.0/75-15.3)	1
16	3509016,2	RIM (9.00/15.3)	1
17	3509017	JOG BOLT	1

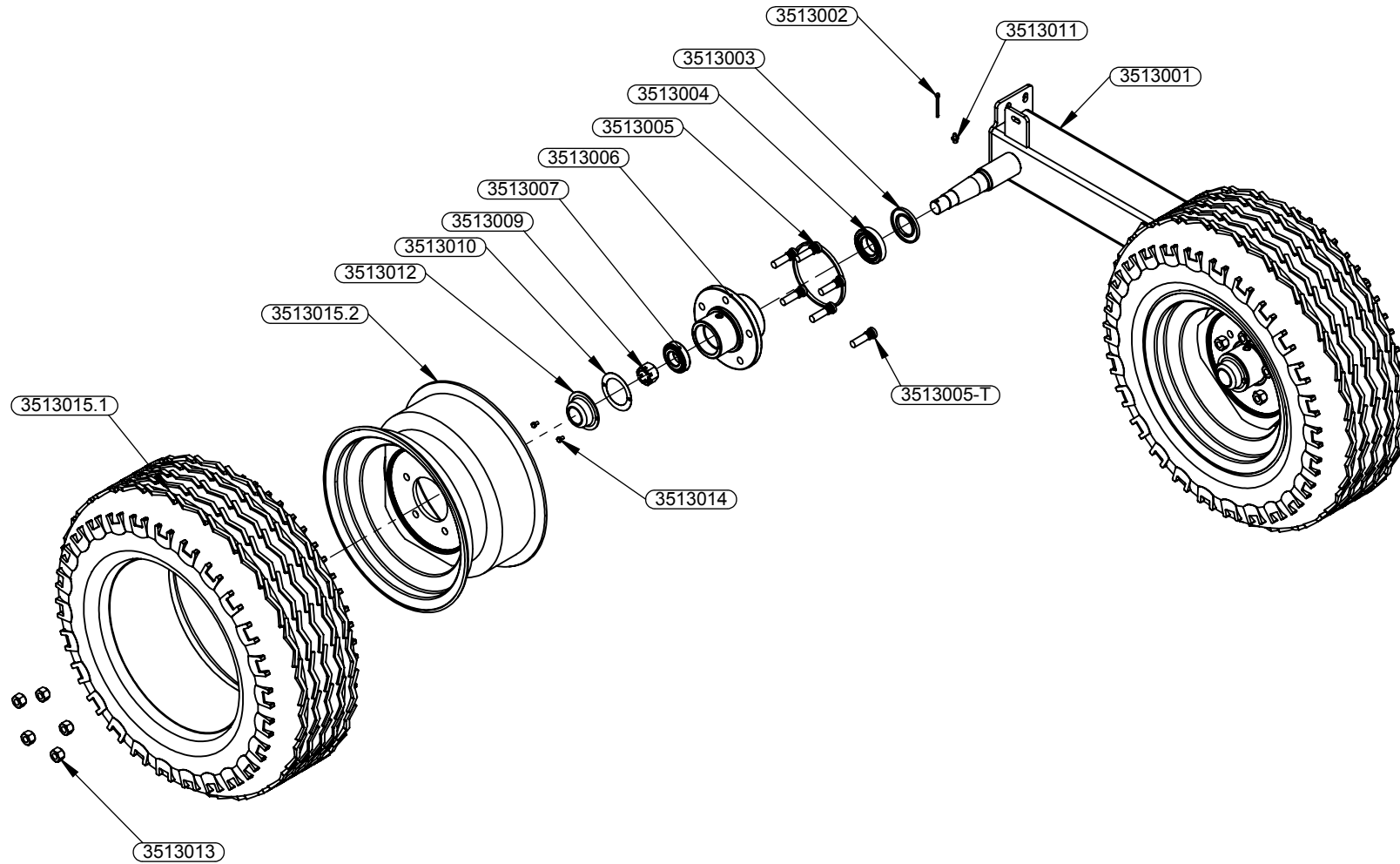
CGSA TT CHASSIS GROUP



CGSA-TT CHASSIS GROUP PART LIST

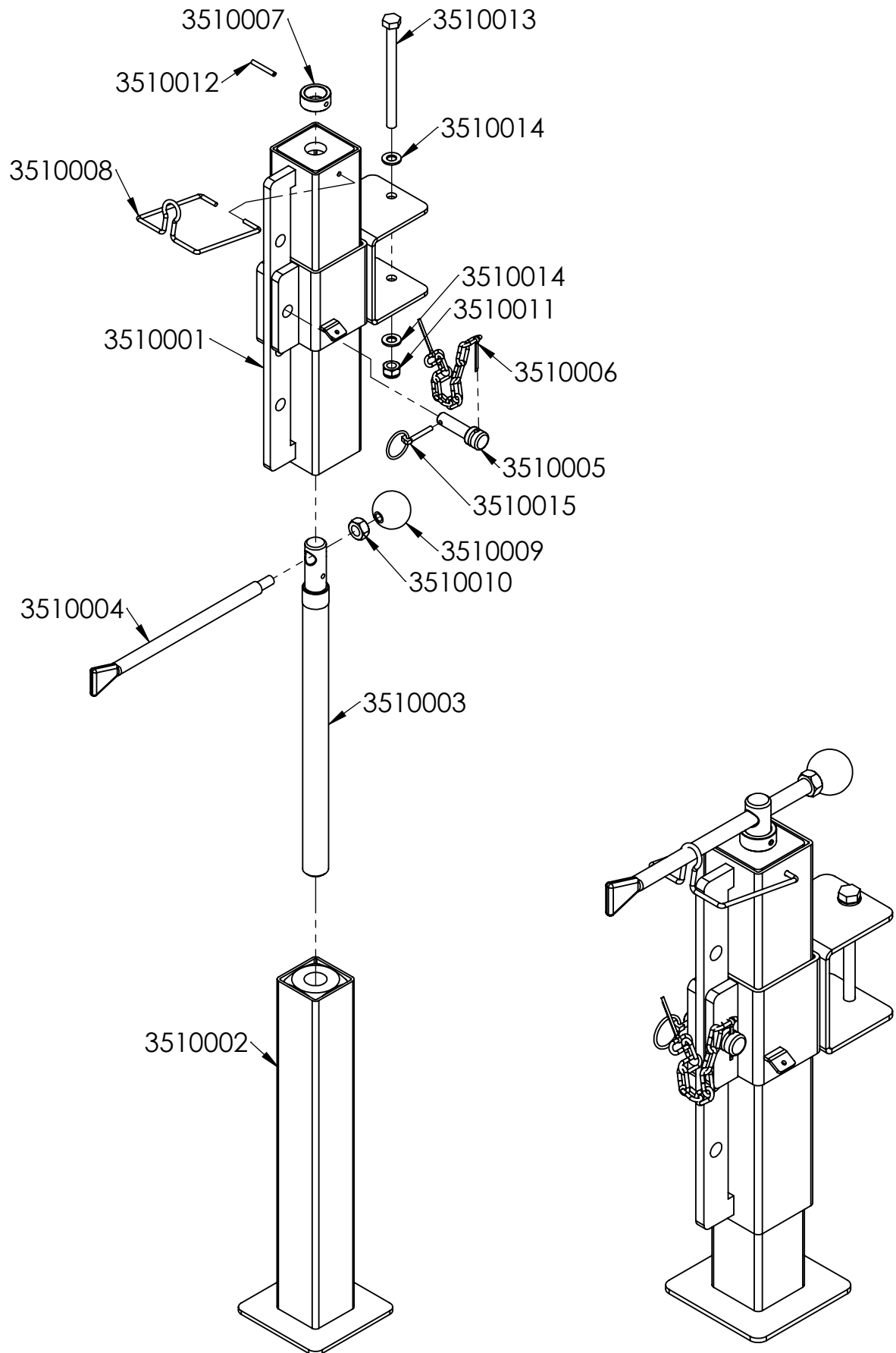
Nr.	PART NUMBER	DESCRIPTION	QTY.
1	3512001	CGSA-TT PULLING CHASSIS	1
2	3512002	DROW BAR	1
3	3512003	BODKIN (5mm)	2
4	3512004	DROW BAR PIN	2
5	3512005	MIDDLE ARM	1
6	3512006	M10x50 BOLT	8
7	3512007	M30 FIBER NUT	2
8	3512008	M30 WASHER	2
9	3512009	LONG SHAFT (K.T2.910.971.090)	1
10	3512010	MILLING AXLE COVER	2
11	3512011	SHAFT PROTECTION	2
12	3512012	LONG MILLING AXLE	1
13	3512013	WEDGE PIN (A8x7x36)	1
14	3512014	AXLE FASTENING PIN	2
15	3512015	SMALL WEDGE	2
16	3512016	SEAL RING (38x62x10)	1
17	3512017	BEARING (6206 zz)	2
18	3512018	MIDDLE SEAT	1
19	3512019	SEAL RING (48x62x10)	1
20	3512020	MILLING AXLE HIEVE	1
21	3512021	M8x50 ALLIAN BOLT	1
22	3512022	RIGHT ARM SEAT	1
23	3512023	LEFT ARM SEAT	1
24	3512024	SHAFT HOOK	1
25	3512025	PIPE HOOK	1
26	3512026	WEDGE	2
27	3512027	MIDDLE PIN	1
28	3512028	SPRING PIN (10mm)	1
29	3512029	M10 WASHER	20
30	3512030	M10x25 BOLT	4
31	3512031	M10 TRACKED WASHER	4
32	3512032	M6x10 BOLT	4
33	3512033	M6 WASHER	8
34	3512034	M12 WASHER	4
35	3512035	M12 FIBER NUT	10
37	3512037	M10 GREASE NIPPLE	1
38	3512050	SHAFT (K.T2.910.971.090)	1

CGSA TT AXLE GROUP



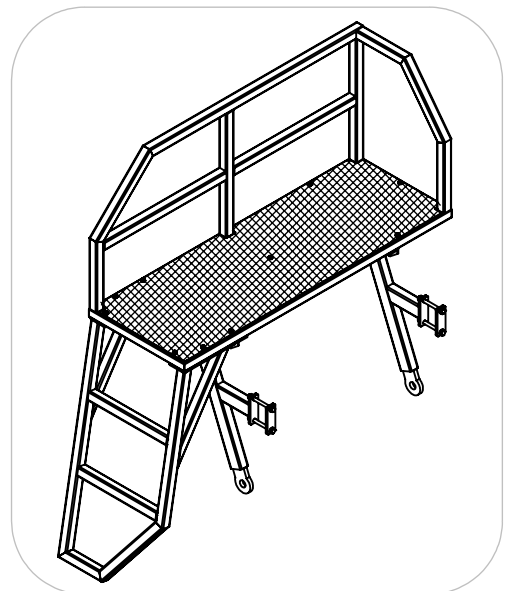
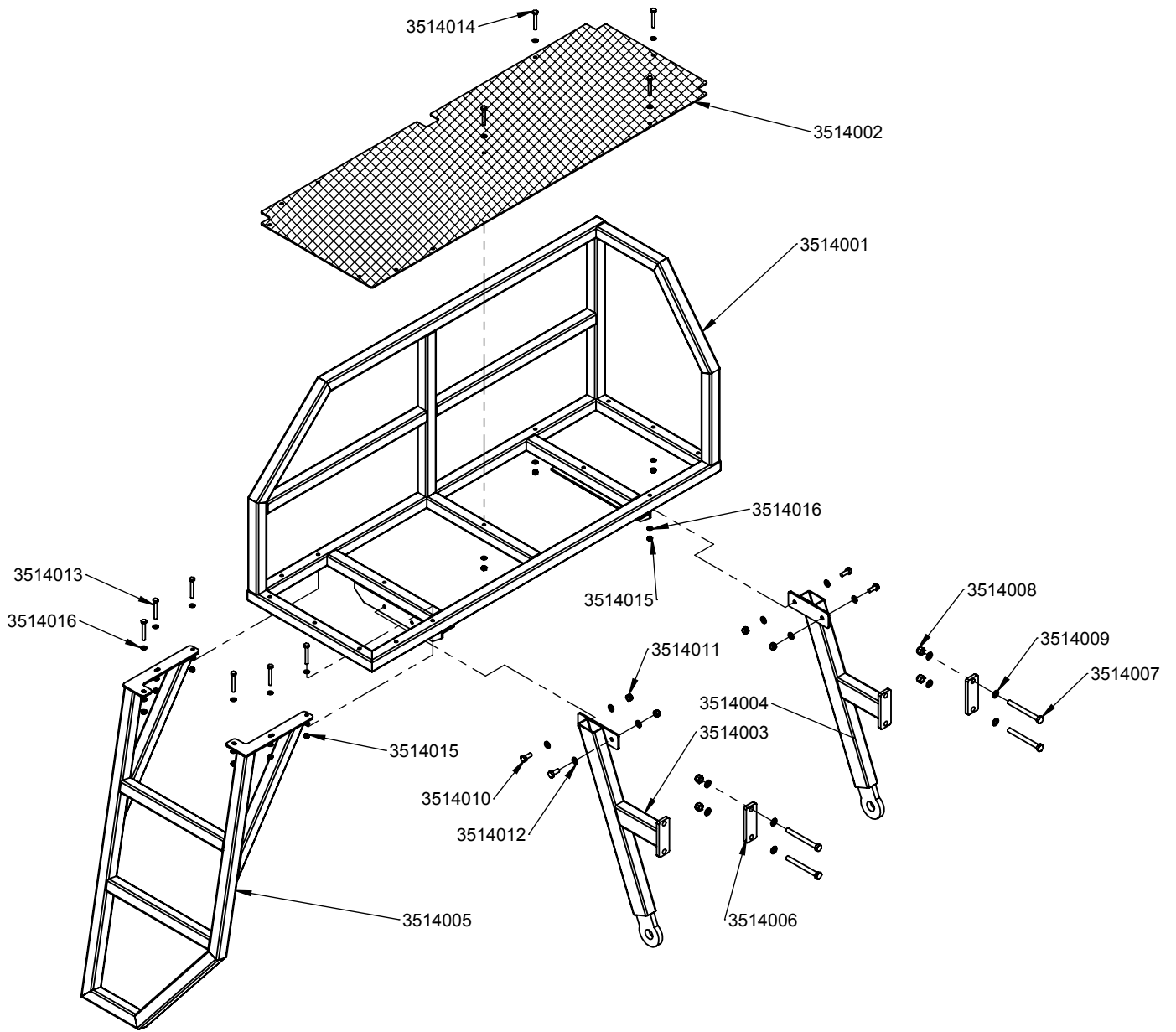
CGSA -TT TRAILED AXLE GROUP PART LIST			
NR	PART NUMBER	DESCRIPTION	QTY.
1	3513001	TANDEM HOOK	1
2	3513002	CONTER PIN (Ø5mm)	2
3	3513003	50x85x7 SEAL RING	2
4	3513004	30209 BEARING	2
5	3513005	5/8' JOG BOLT (GROUP)	2
6	3513006	WHEEL CENTER	2
7	3513007	30207 BEARING	2
8	3513009	12 TOOTH NUT	2
9	3513010	GASKET	2
10	3513011	GREASE NIPPLE (M10)	2
11	3513012	WHELL CENTER COVER	2
12	3513013	5/8' JOG NUT	10
13	3513014	M 6x10 BOLT	4
14	3513015	MOUNTED WHEEL (10.0/75-15.3 12 Pr)	3
14,1	3513015,1	WHEEL (10.0/75-15.3)	1
14,2	3513015,2	RIM (9.00/15.3)	1
15	3513005-T	JOG BOLT (SIGL)	1

LIFTING DEVICE GROUP



LIFTING DEVICE GROUP PART LIST			
NR	PART NUMBER	DESCRIPTION	QTY
1	3510001	SQUARE IRON PROFIL OUT	1
2	3510001-B	SQUARE IRON PROFIL OUT CGSA-TT	1
3	3510002	SQUARE IRON PROFIL INSIDE	1
4	3510003	LIFTING DEVICE AXLE	1
5	3510004	ADJUST LEVEL	1
6	3510005	ADJUST PIN	1
7	3510006	CHAIN	1
8	3510007	LIFTING DEVICE RING	1
9	3510008	LIFTING DEVICE LOCK	1
10	3510009	M 10 KNOB	1
11	3510010	M 12 NUT	1
12	3510011	M10 FFIBER NUT	1
13	3510012	5X32 C PIN	1
14	3510013	M10X130 BOLT	1
15	3510014	M10 WASHER	2
16	3510015	4,5 SPRING PIN	1

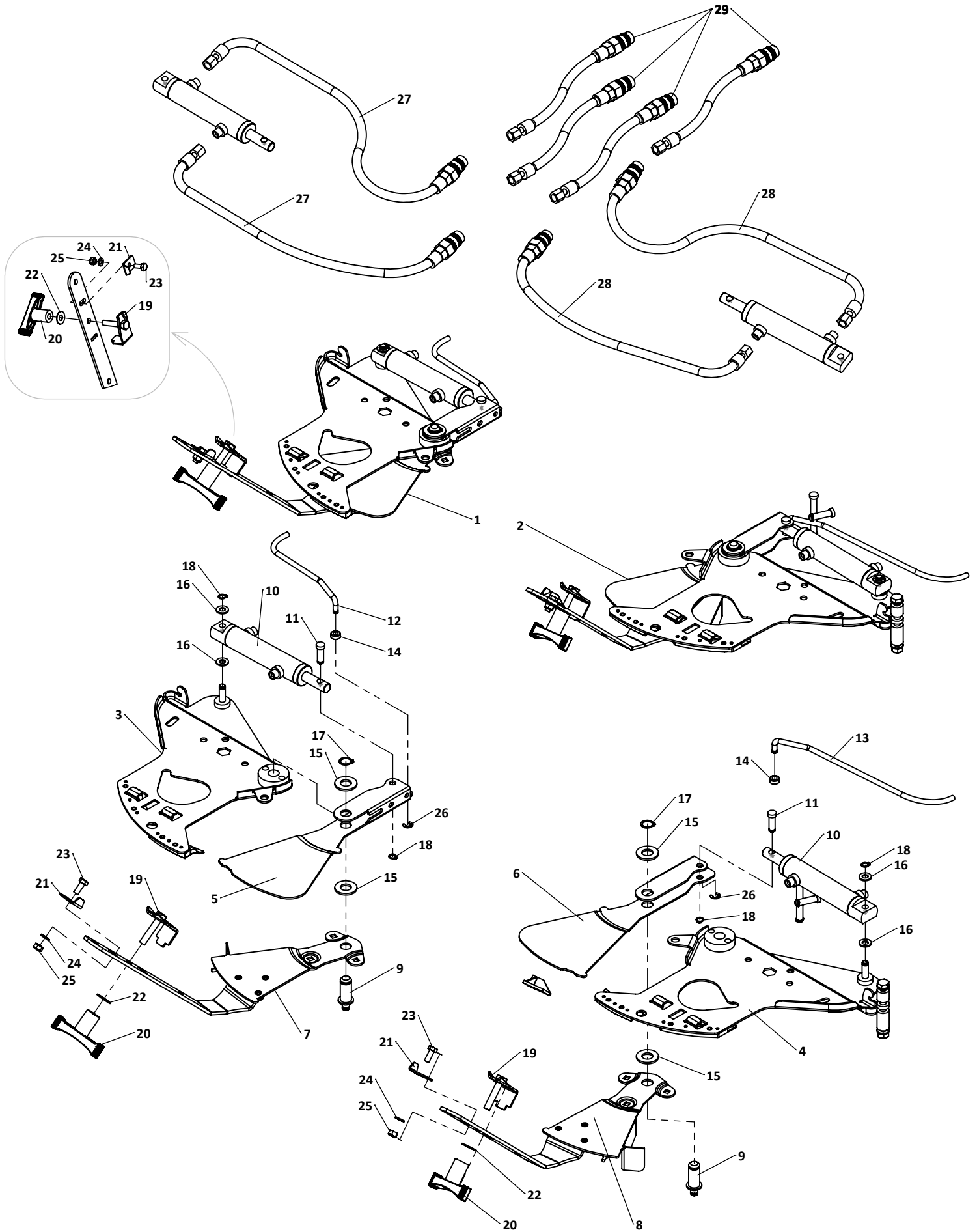
BANISTER GROUP



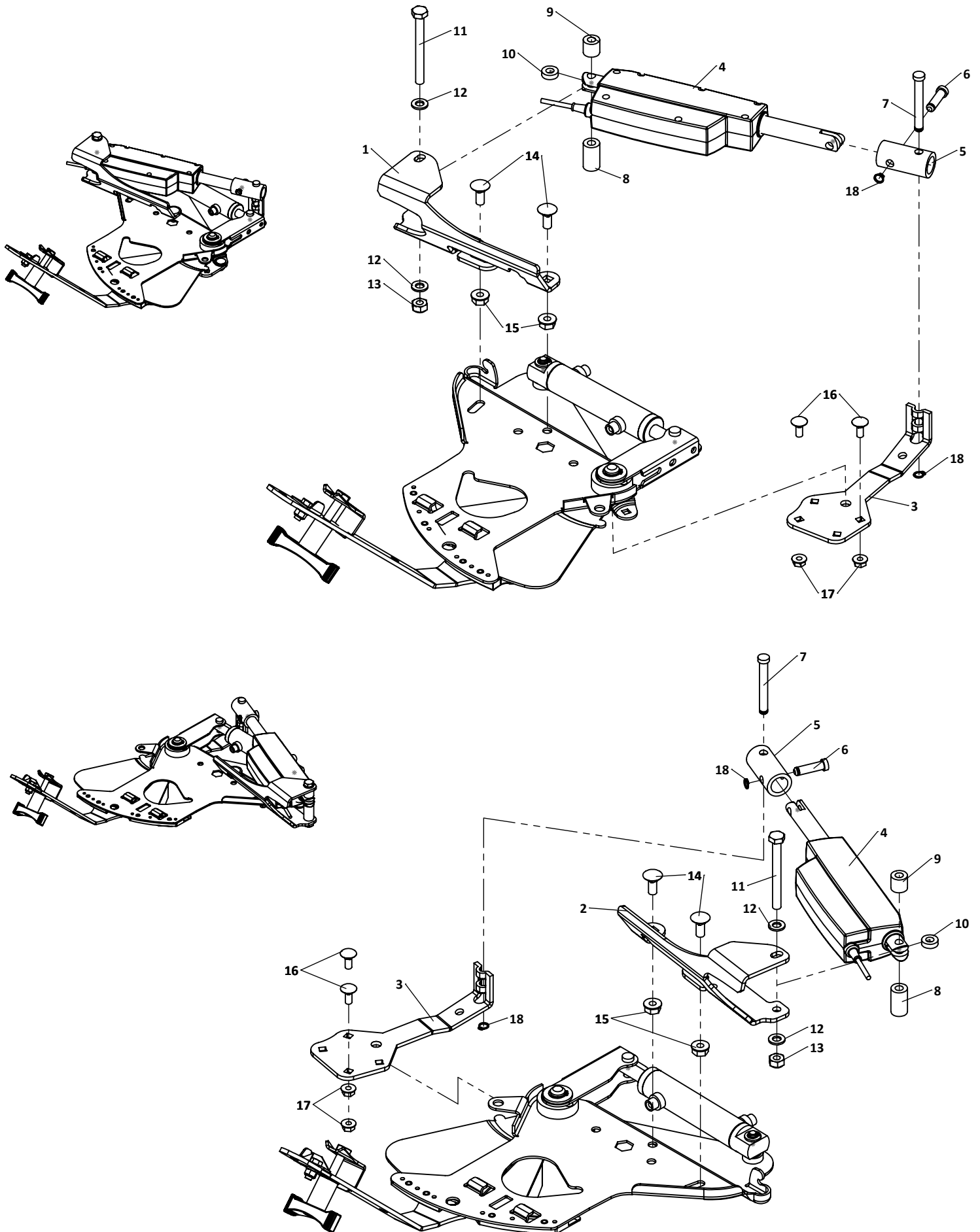
BANISTER GROUP PART LIST

Nr.	PART NUMBER	DESCRIPTION	QTY.
1	3514001	BANISTER	1
2	3514002	BANISTER FLOOR	1
3	3514003	LEFT SUPPORT	1
4	3514004	RIGHT SUPPORT	1
5	3514005	LADDER	1
6	3514006	SUPPORT PORT	2
7	3514007	M12x120 BOLT	4
8	3514008	M12 FIBER NUT	4
9	3514009	M12 WASHER	8
10	3514010	M10x25 BOLT	4
11	3514011	M10 FIBER NUT	4
12	3514012	M10 WASHER	8
13	3514013	M8x60 BOLT	6
14	3514014	M8x55 BOLT	4
15	3514015	M8 FIBER NUT	10
16	3514016	M8 WASHER	20

FERTILIZER FLOW UNIT - PRO -



FETRILIZER FLOW UNIT -ProPlus-



FERTILIZER FLOW UNIT

-PRO-

Nr.	Part Code	Description	Quantity	
			Left	Right
1	350.100.001	Fertilizer Flow Unit -Left-	1	-
2	350.100.002	Fertilizer Flow Unit -Right-	-	1
3	350.100.001.001	Base Plate -Left-	1	-
4	350.100.002.001	Base Plate -Right-	-	1
5	350.100.001.002	Open/Closed Cover -Left-	1	-
6	350.100.002.002	Open/Closed Cover -Right-	-	1
7	350.100.001.003	Rate Adjustment Cover -Left-	1	-
8	350.100.002.003	Rate Adjustment Cover -Right-	-	1
9	350.100.003	Connection Pin	1	1
10	350.100.008	Piston	1	1
11	350.100.006	Piston Pin	1	1
12	350.100.020	Rod -Left-	1	-
13	350.100.021	Rod -Right-	-	1
14	350.100.019	Ø16xØ8x7 mm Washer	1	1
15	350.100.004	Ø36xØ16x3 mm Washer	2	2
16	350.100.016	Ø20xØ10x3 mm Washer	2	2
17	5.450.015	DIN 471 Ø18mm Circlip	1	1
18	5.450.007	DIN 471 Ø10mm Circlip	2	2
19	350.100.017	Adjustment Lever Clamping Piece	1	1
20	5.653.003	M10 Handle	1	1
21	350.100.018	Hand	1	1
22	5.201.011	3/8 K:2.5 mm Washer	1	1
23	5.100.108	M8x20 Bolt	1	1
24	5.200.006	M8 Washer	1	1
25	5.151.004	M8 Fiber Nut	1	1
26	5.454.010	DIN 6799 Ø8mm Circlip	1	1
27	350.100.022	Hydraulic Hose 2800 mm	2	-
28	350.100.023	Hydraulic Hose 2400 mm	-	2
29	350.100.024	Hydraulic Hose (For CGSA T/TT)	2	2

FERTILIZER FLOW UNIT -ProPlus-

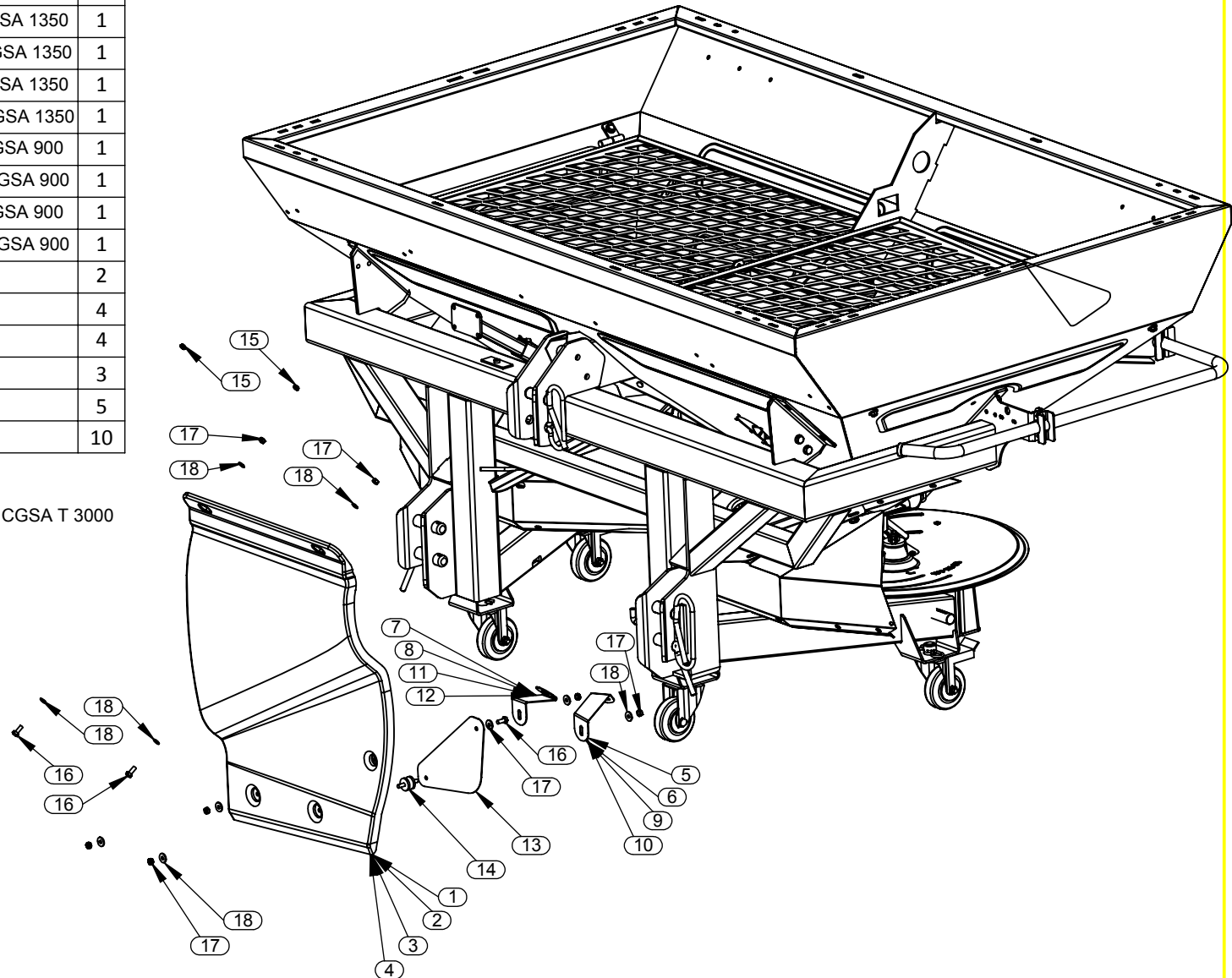
Nr.	Part Code	Description	Quantity	
			Left	Right
1	350.100.001.004	Actuator Connection Sheet -Left-	1	-
2	350.100.002.004	Acuator Connection Sheet -Right-	-	1
3	350.100.005	Actuator Cover Sheet	1	1
4	5.905.001	Actuator	1	1
5	350.100.007	Movemet Transfer Compenant	1	1
6	350.100.013	Ø10mm L:37mm Pin	1	1
7	350.100.009	Ø10mm L:78 Pin	1	1
8	350.100.010	Ø20xØ10x35 mm Bush	1	1
9	350.100.012	Ø20xØ10x19 mm Bush	1	1
10	350.100.011	Ø20xØ10x6.2 mm Bush	1	1
11	5.100.160	M10x100 Bolt	1	1
12	5.200.007	M10 Washer	2	2
13	5.151.005	M10 Fiber Nut	1	1
14	5.113.001	M10x25 Mushroom Head Square Neck Bolt	2	2
15	5.154.005	M10 Hexagon Flange Nut	2	2
16	5.113.002	M8x20 Mushroom Head Square Neck Bolt	2	2
17	5.154.004	M8 Hexagon Flange Nut	2	2
18	5.450.007	DIN 471 Circlip Ø10 mm	2	2

Chassis Group			
Nr.	Part Number	Description	Qty.
1	3501201	CGSA 1350 Mudguard (Left) *	1
2	3501202	CGSA 1350 Mudguard (Right) *	1
3	3501203	CGSA 900 Mudguard (Left)**	1
4	3501204	CGSA 900 Mudguard (Right)**	1
5	3501205	Mudguard Connection Part-1 (Left) for CGSA 1350	1
6	3501206	Mudguard Connection Part-1(Right) for CGSA 1350	1
7	3501207	Mudguard Connection Part-2 (Left) for CGSA 1350	1
8	3501208	Mudguard Connection Part-2 (Right) for CGSA 1350	1
9	3501209	Mudguard Connection Part-1 (Left) for CGSA 900	1
10	3501210	Mudguard Connection Part-1 (Right) for CGSA 900	1
11	3501211	Mudguard Connection Part-2 (Left) for CGSA 900	1
12	3501212	Mudguard Connection Part-2 (Right) for CGSA 900	1
13	3501213	Support Part	2
14	3501214	Connection Batten	4
15	3501215	Stopper	4
16	3501033	M8x20 Bolt	3
17	3501018	M8 Fiber Nut	5
18	3501016	M8 Washer	10

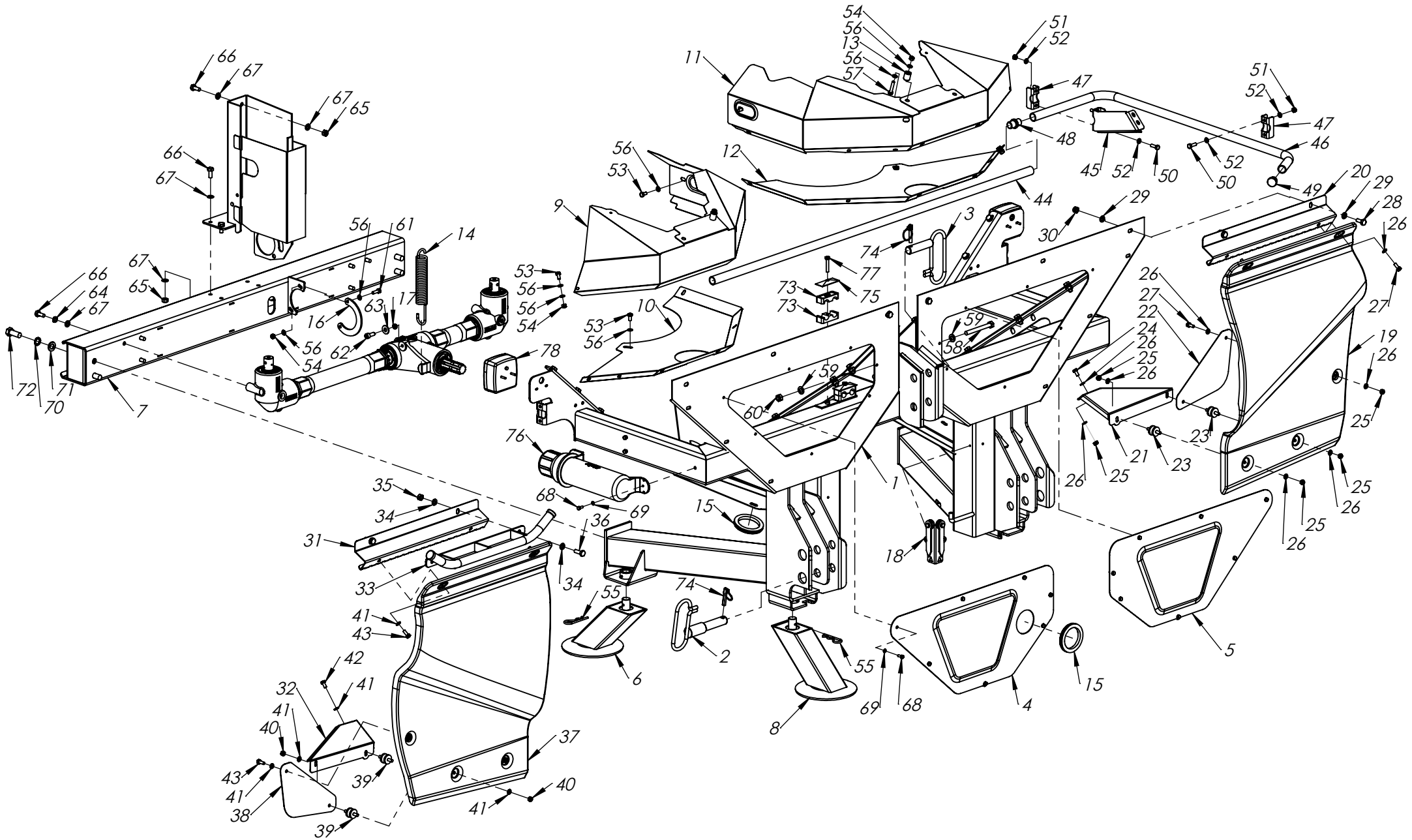
Mudguard optional

* For All Type Of: CGSA 1350,CGSA 2500,CGSA 3000, CGSA T 2500,CGSA T 3000
CGSA TT 2500,CGSA TT 3000

** For All Type Of: CGSA 900,CGSA 1200,CGSA 1500



CGSA 4000 CHASSIS GROUP



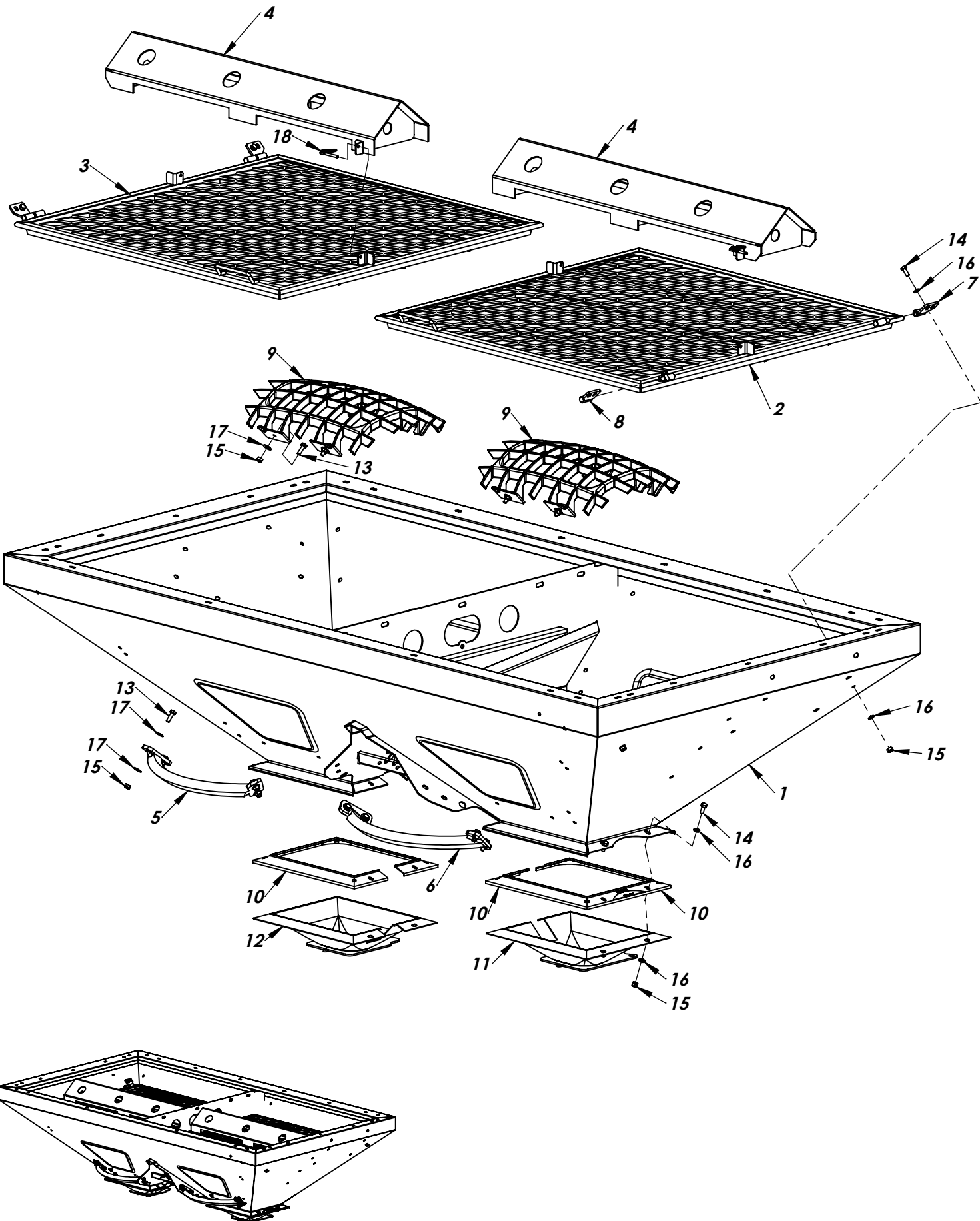
CSA 4000 CHASSIS GROUP

Nr.	Part Number	Part Name	Qty
1	3540001	Chassis	1
2	3540003	Perno	2
3	3540004	Middle Arm Pin	1
4	3540005	Right Chassis cover	1
5	3540006	Left Chassis Cover	1
6	3540007	Behind Leg	2
7	3540008	Traverse	1
8	3540014	Front Leg	2
9	3501004	Right Shrouding	1
10	3501005	Right Shrouding Lower	1
11	3501006	Left Shrouding	1
12	3501007	Left Shrouding Lower	1
13	3501015	Shrouding Ring	2
14	3501020	Torque Spring	1
15	3501023	Cover	3
16	3501029	Arch	1
17	3506034	Gearbox Ring	1
18	3501041	Balance	1
19	3501203	Mudguard Left	1
20	3540011	Left Mudguard Hook	1
21	3540012	Support Mudguard Left	1
22	3501213	Support Part	1
23	005.668.006	Connection Batten	2
24	005.100.106	M8 X 16 Stainless Bolt	1
25	005.151.004	M8 Stainless Fiber Nut	6
26	005.200.006	M8 Stainless Washer	10
27	005.100.108	M8x20 Stainless Bolt	3
28	005.100.144	M10X25 Stainless Bolt	2
29	005.200.007	M10 Stainless Washer	4
30	005.151.005	M10 Stainless Fiber Nut	2
31	3540015	Right Mudguard Hook	1
32	3540016	Support Mudguard Right	1
33	3540009	Chassis Handle	1
34	005.200.007	M10 Stainless Washer	4
35	005.151.005	M10 Stainless Fiber Nut	2
36	005.100.146	M10X30 Stainless Bolt	2
37	3501204	Mudguard Right	1
38	3501213	Support Part	1
39	005.668.006	Connection Batten	2
40	005.151.004	M8 Stainless Fiber Nut	6
41	005.200.006	M8 Stainless Washer	10
42	005.100.106	M8 X 16 Stainless Bolt	1
43	005.100.108	M8x20 Stainless Bolt	3
44	3501061	Disc Protection Middle Pipe 416 cm	1
45	3501062	Disc Protection Short Clamp	2
46	3501043	Disc Protection Pipe (Side)	2
47	3501047	Disc Protection Clamp-2	4
48	3501044	Disc Protection Connector	2
49	3501045	Disc Protection Cover	2

CSA 4000 CHASSIS GROUP

Nr.	Part Number	Part Name	Qty
50	005.100.110	M8X25 Stainless Bolt	8
51	005.151.004	M8 Stainless Fiber Nut	8
52	005.200.006	M8 Stainless Washer	16
53	005.100.106	M8 X 16 Stainless Bolt	6
54	005.151.004	M8 Stainless Fiber Nut	5
55	005.250.003	Bodkin (Ø5)	4
56	005.200.006	M8 Stainless Washer	14
57	005.100.114	M8X40 Stainless Bolt	2
58	005.100.195	M12x110 Stainless Bolt	2
59	005.200.008	M12 Stainless Washer	4
60	005.151.006	M12 Stainless Fiber Nut	2
61	005.100.110	M8X25 Stainless Bolt	1
62	005.102.100	M10X25 Imbus Bolt	1
63	005.201.014	7/16 Stainless Washer	1
64	005.210.007	M10 Stainless Washer Tracked	6
65	005.151.005	M10 Stainless Fiber Nut	30
66	005.100.144	M10X25 Stainless Bolt	36
67	005.200.007	M10 Stainless Washer	66
68	005.100.038	M6X 16 Stainless Bolt	17
69	005.200.004	M6 Stainless Washer	17
70	005.210.010	M10 Washer Tracked Stainless	4
71	005.200.010	M16 Stainless Washer	4
72	005.100.250	M16X40 Stainless Bolt	4
73	005.810.002	Double Hydraulic Clamp 1	4
74	005.800.007	Ø10 Spring Pin	3
75	005.810.003	Double Hydraulic Clamp 2	2
76	005.900.001	User Manual Tube	1
77	005.100.115	M8X45 Stainless Bolt	2
78	005.671.001	Lamp	2

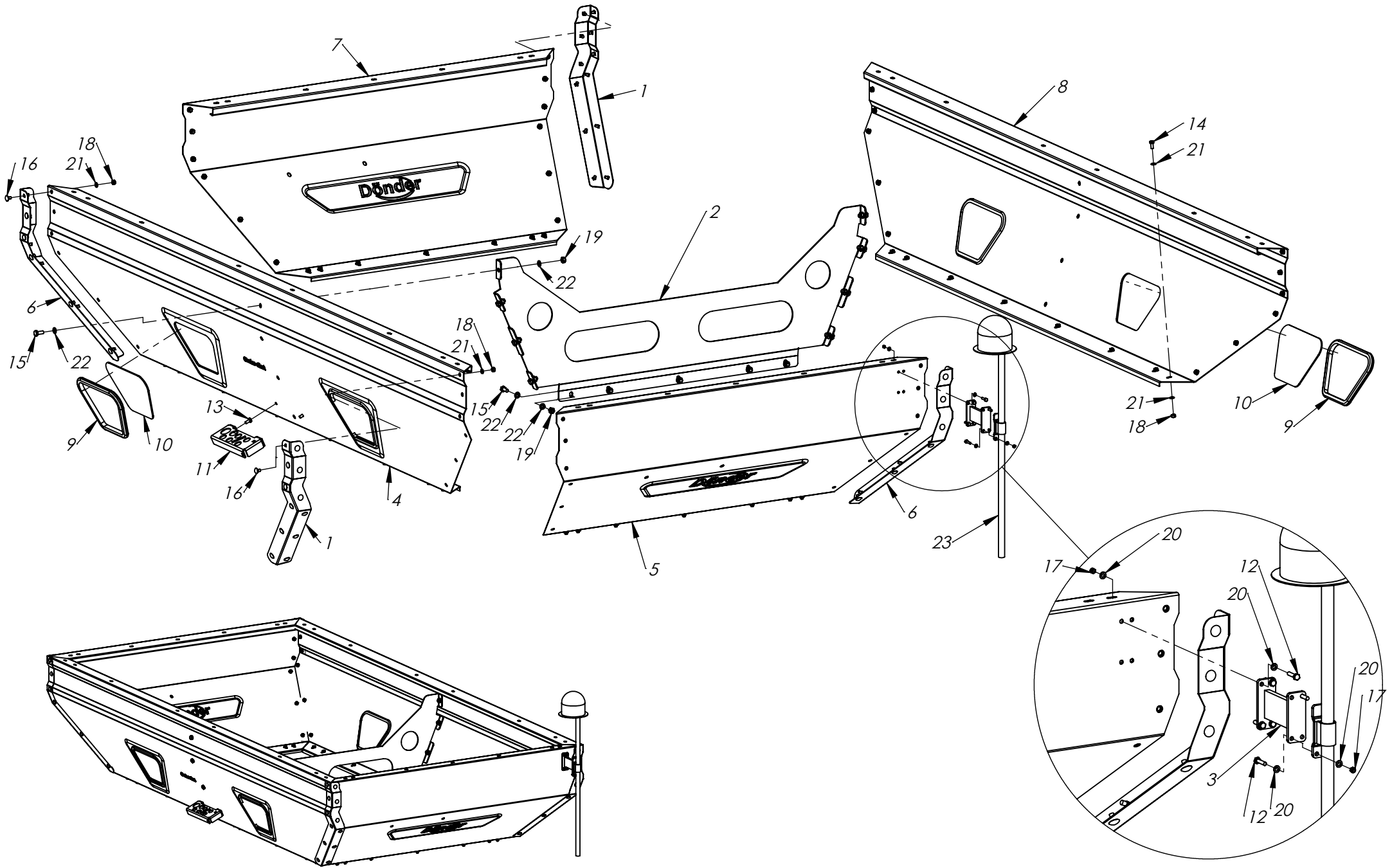
CGSA 4000 BOTTOM HOPPER GROUP



CGSA 4000 BOTTOM HOPPER GROUP

NR.	Part Number	Part Name	Qty
1	3541001	CGSA 4000 Boottom Hopper	1
2	3541005	CGSA 4000 Right Sieve	1
3	3541006	CGSA 4000 Left Sieve	1
4	3541021	Regulator	2
5	3502005	Left Scala	1
6	3502006	Right Scala	1
7	3502013	Hinge-1	2
8	3502014	Hinge -2	2
9	3502038	Regulator	2
10	3502051	Bottom Hooper Ring	2
11	3502052	Bottom Hooper Right	1
12	3502053	Bottom Hooper Left	1
13	005.100.110	M8X25 Stainless Bolt	12
14	005.100.108	M8x20 Stainless Bolt	8
15	005.151.004	M8 Stainless Fiber Nut	20
16	005.200.006	M8 Stainless Washer	16
17	005.201.009	5/16 Stainless Washer	20
18	005.800.003	Ø6 Spring Pin	4

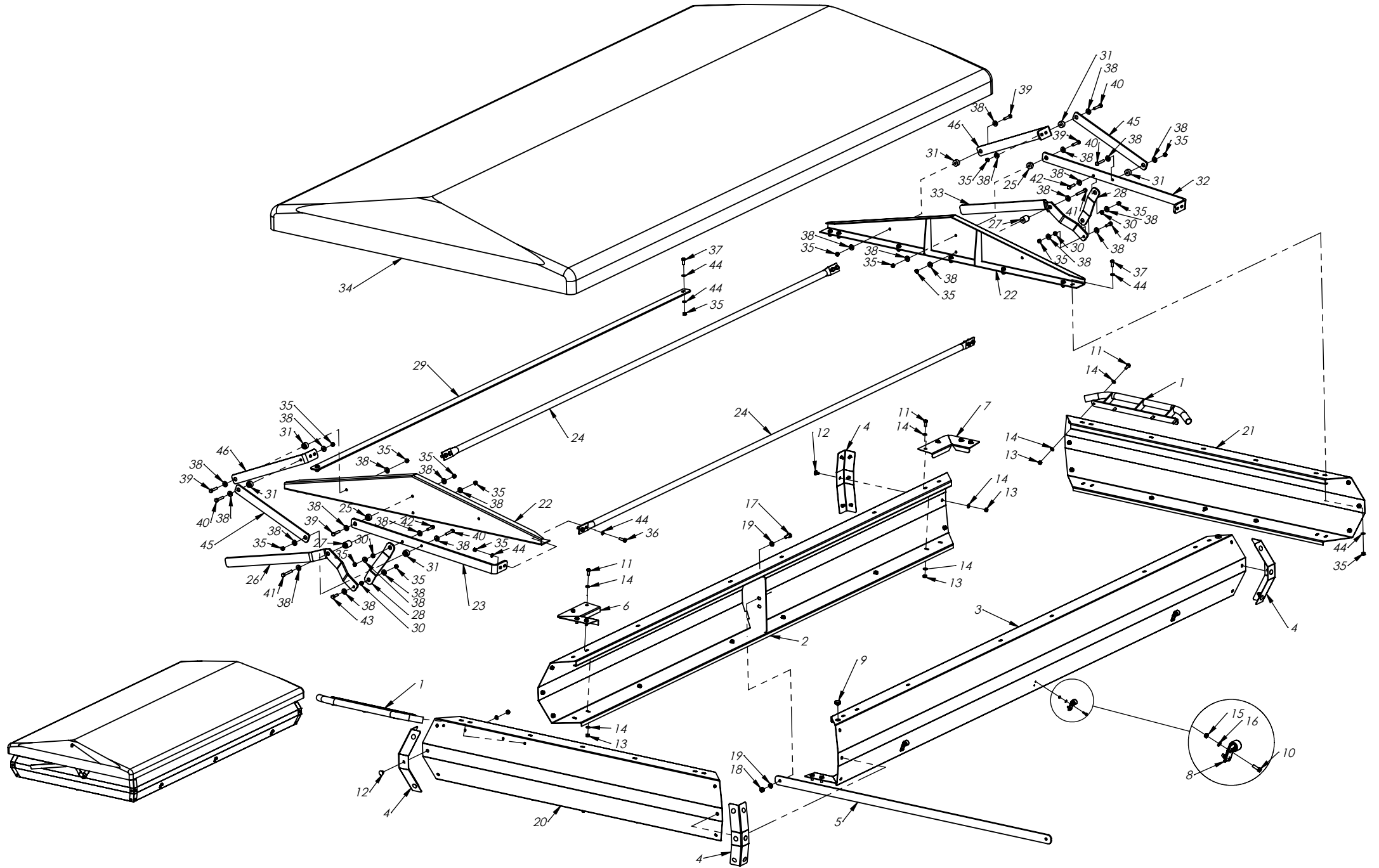
CGSA 4000 MIDDLE EXTENTION GROUP



CGSA 4000 MIDDLE EXTENTION GROUP

NR.	Part Number	Part Name	Qty
1	3541050	Middle Extention Corner Support 1	2
2	3541051	Middle Extention Tie	1
3	3541052	Overhead Light Inter Connection	1
4	3541053	Middle Front Hopper	1
5	3541054	Middle Left Side Hopper	1
6	3541055	Middle Extention Corner Support 2	2
7	3541056	Middle Right Side Hopper	1
8	3541057	Middle Extention Rear Hopper	1
9	3502036	Indicator Rubber	4
10	3502037	Indicator Glass	4
11	3502062	Hydraulic Adapter Seat	1
12	005.100.042	M6X25 Stainless Bolt	6
13	005.100.106	M8 X 16 Stainless Bolt	2
14	005.100.108	M8x20 Stainless Bolt	30
15	005.100.144	M10X25 Stainless Bolt	13
16	005.113.025	M8X20 Stainless Buffer Bolt	48
17	005.151.002	M6 Stainless Fiber Nut	6
18	005.151.004	M8 Stainless Fiber Nut	78
19	005.151.005	M10 Stainless Fiber Nut	13
20	005.200.004	M6 Stainless Washer	12
21	005.200.006	M8 Stainless Washer	110
22	005.200.007	M10 Stainless Washer	26
23	005.671.003	Overhead light	1

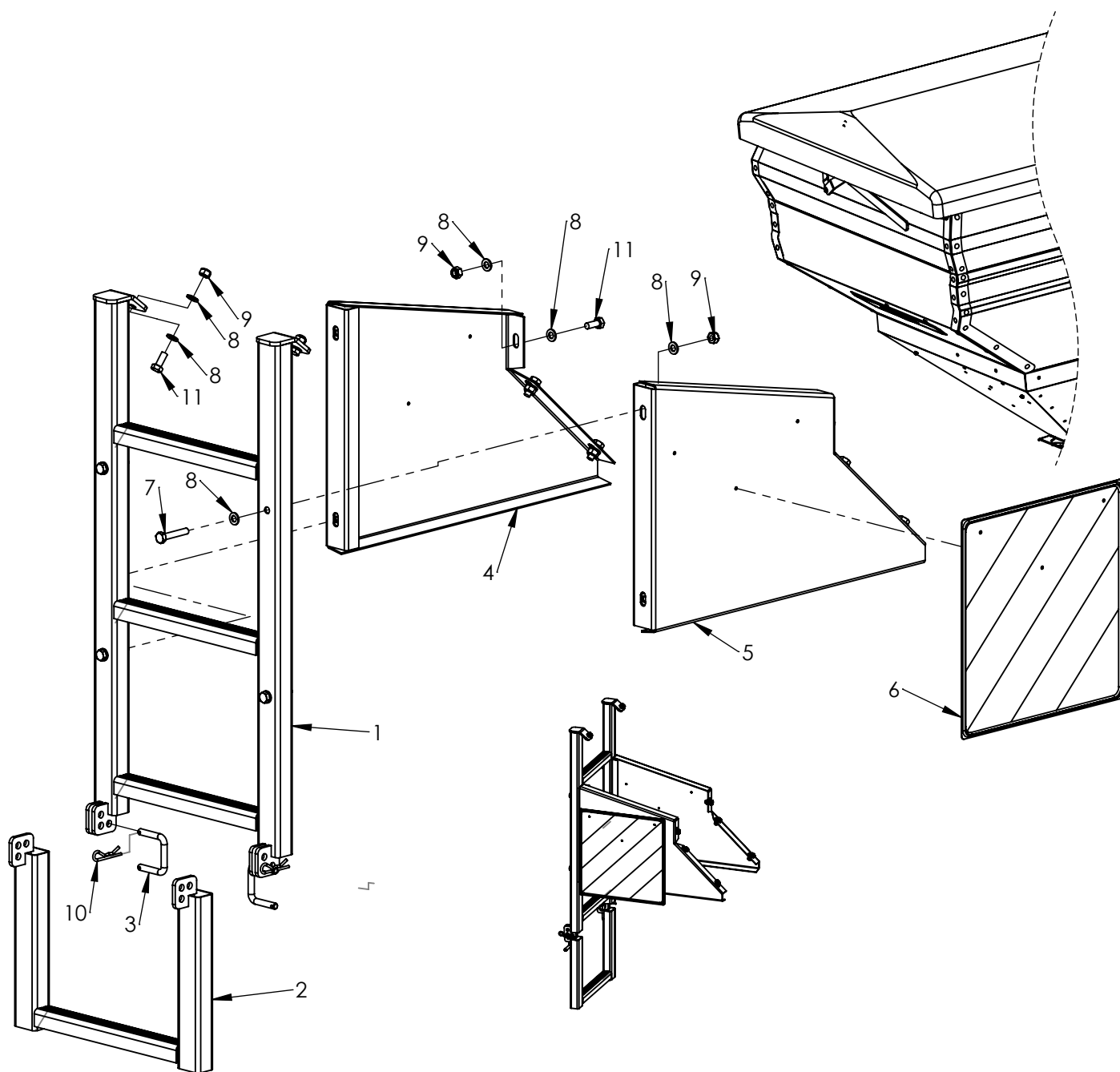
CGSA 4000 TOP HOPPER GROUP



CGSA 4000 TOP HOPPER GROUP

NR.	Part Number	Part Name	Qty
1	3541075	Extension Handle	2
2	3541076	Top Extension Front	1
3	3541077	Top Extension Back	1
4	3541079	Corner Top Extension Support	4
5	3541080	Extension Support Iron	1
6	3541081	Top Bottom Extension Connection Support 1	2
7	3541082	Top Bottom Extension Connection Support 2	2
8	005.669.003	Hook	3
9	005.669.012	Wedge	2
10	005.100.004	M5x16 Stainless Bolt	6
11	005.100.108	M8x20 Stainless Bolt	38
12	005.113.025	M8X20 Stainless Buffer Bolt	24
13	005.151.004	M8 Stainless Fiber Nut	62
14	005.200.006	M8 Stainless Washer	100
15	005.151.001	M5 Stainless Fiber nut	6
16	005.200.003	M5 Stainless Washer	6
17	005.100.144	M10X25 Stainless Bolt	2
18	005.151.005	M10 Stainless Fiber Nut	2
19	005.200.007	M10 Stainless Washer	4
20	3541078	Top Extension Left	1
21	3541078	Top Extension Right	1
22	3541101	Tent Side Frame	2
23	3541102	Tent Level 1 (Left)	1
24	3541104	Tent Pipe	2
25	3541106	11mm Tent Bushes	2
26	3541108	Tent Level 4 (Left)	1
27	3541107	30mm Tent Bushes	2
28	3541109	Tent Level 5	2
29	3541110	CGSA 4000 Tent Connection	1
30	3541111	7mm Tent Bushes	4
31	3541112	13mm Tent Bushes	6
32	3541113	Tent Level 1 (Right)	1
33	3541114	Tent Level 4 (Right)	1
34	3541115	Tent	1
35	005.151.004	M8 Stainless Fiber Nut	38
36	005.100.110	M8X25 Stainless Bolt	8
37	005.100.108	M8x20 Stainless Bolt	16
38	005.201.010	5/16 Stainless Washer	28
39	005.100.114	M8X40 Stainless Bolt	4
40	005.100.115	M8X45 Stainless Bolt	4
41	005.100.118	M8X60 Stainless Bolt	2
42	005.100.113	M8X35 Stainless Bolt	2
43	005.100.112	M8X30 Stainless Bolt	2
44	005.200.006	M8 Stainless Washer	48
45	3541103	Tent Level 2	2
46	3541105	Tent Level 3	2

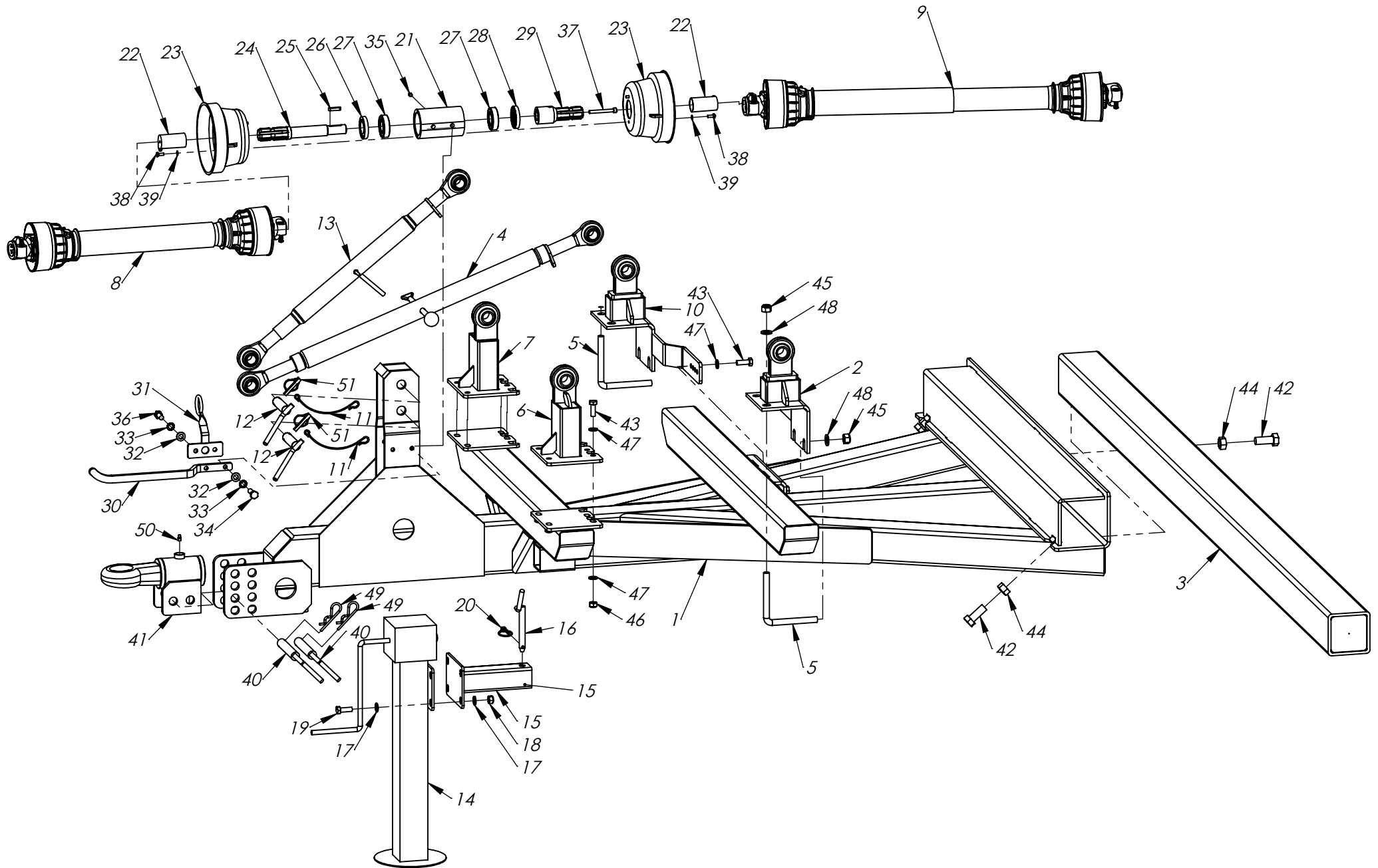
CGSA 4000 LADDER GROUP



CGSA 4000 LADDER GROUP

Nr.	Part Number	Part Name	Qty
1	3543001	Top Ladder	1
2	3543002	Bottom Ladder	1
3	3543003	Ladder Lock	2
4	3543004	Left Ladder Support	1
5	3543005	Right Ladder Support	1
6	005.900.002	Reflective Sheet 300x300x1.5	2
7	005.100.115	M8X 45 Bolt	4
8	005.200.006	M8 Stainless Washer	24
9	005.151.004	M8 Stainless Fiber Nut	12
10	005.250.001	Ø 3 Bodkin	2
11	005.100.108	M8x20 Bolt	8

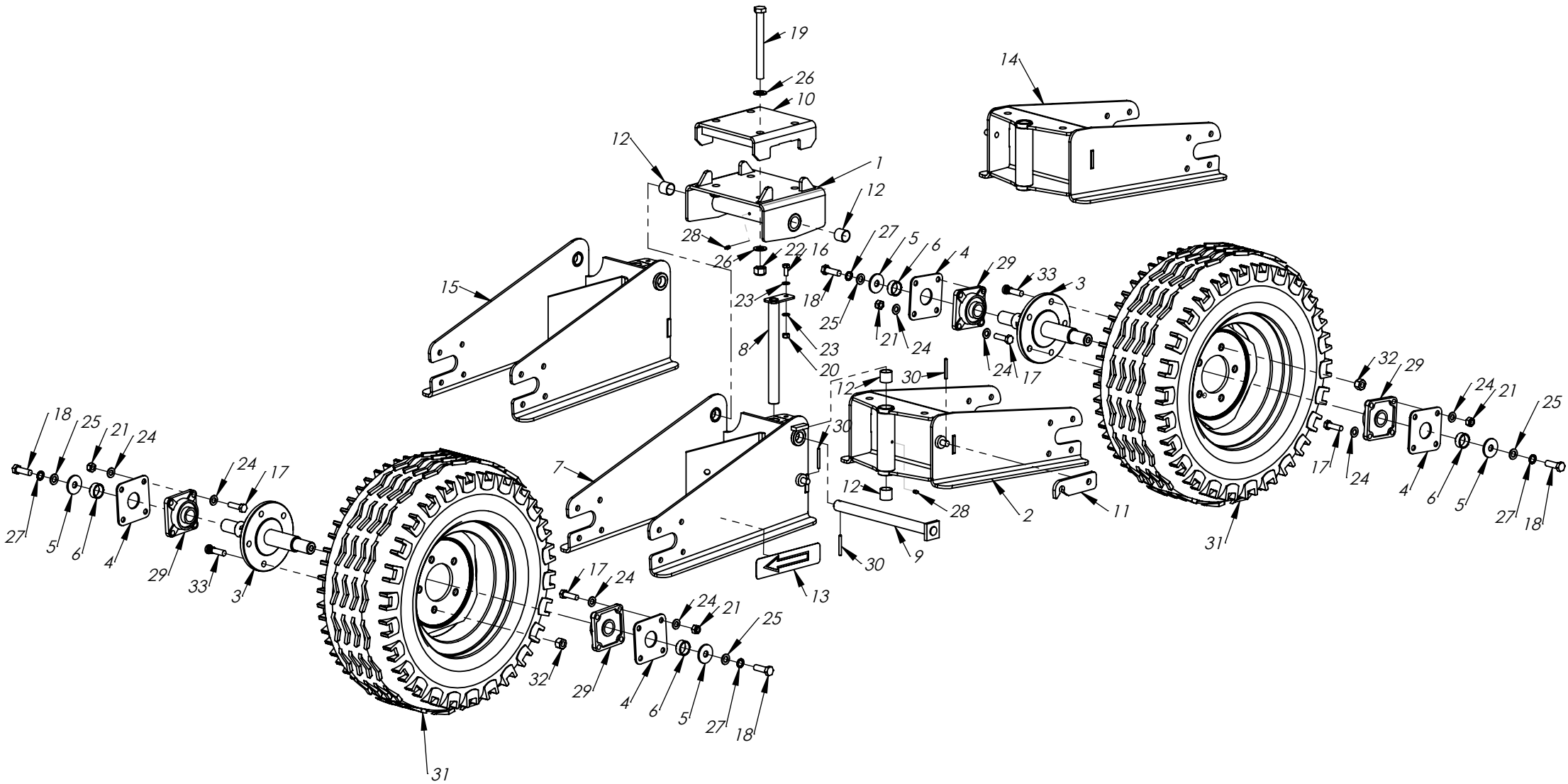
CGSA TT 4000 CHASSIS GROUP



CGSA TT 4000 CHASSIS GROUP

Nr	Part Number	Part Name	Qty
1	3546001	CGSA TT 4000 Chassis	1
2	3546002	Machine Connection (Left)	1
3	3546003	Chassis Profile	1
4	3546004	4000 Middle Arm	1
5	3546005	Stud Corner	4
6	3546006	Lifter Connection (Left)	1
7	3546007	Lifter Connection (Right)	1
8	3546011	80cm Shaft	1
9	3546012	115 cm Shaft	1
10	3546013	Machine Connection (Right)	1
11	3546014	Pin Holder	2
12	3501070	CGSA Middle Arm Pin	2
13	3508002	Middle Arm	1
14	3546008	Lifting Device	1
15	3546009	Jack Connection	1
16	3546010	Lifting Device Pin	1
17	005.200.008	M12 Washer	8
18	005.151.006	M12 Fiber Nut	4
19	005.100.181	M12X35 Bolt	4
20	005.800.003	Ø6 Spring Pin	1
21	3508011	Middle Seat	1
22	3508005	Milling Axle Cover	2
23	3508006	Shaft Protection	2
24	3508007	Long Mile With Fraise	1
25	3508008	Wedge Pin (8x7x36)	1
26	3508009	Seal Ring (38x62x10)	1
27	3508010	Bearing (6206 ZZ)	2
28	3508012	Seal Ring(48x62x10).	1
29	3508013	Short Mile With Fraise	1
30	3508017	Shaft Hook.	1
31	3508018	Pipe Hook	1
32	005.200.008	M12 Washer	4
33	005.210.008	M12 Washer Tracked	4
34	005.100.182	M12x40 Bolt	2
35	005.400.004	Grease Fitting (M8)	1
36	005.100.180	M12X30 Bolt	2
37	005.102.071	M8x70-28 Imbus Bolt	1
38	005.100.038	M6X 16 Bolt	4
39	005.200.004	M6 Washer	4
40	3512004	Draw Bar Pin	2
41	3512002	Draw Bar	1
42	005.100.320	M20X50 Bolt	3
43	005.100.181	M12X35 Bolt	10
44	005.150.010	M20 Nut	3
45	005.151.008	M16 Fiber Nut	8
46	005.151.006	M12 Fiber Nut	8
47	005.200.008	M12 Washer	18
48	005.200.010	M16 Washer	8
49	005.250.003	Bodkin (Ø5)	2
50	005.400.004	Grease Fitting (M8)	1
51	005.800.007	Ø10 Spring Pin	2

CGSA TT 4000 WHEEL GROUP

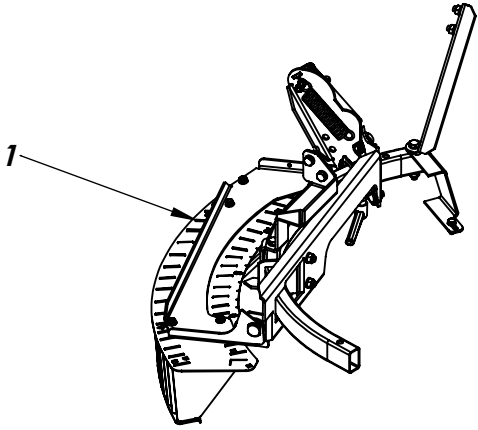


CGSA TT 4000 WHEEL GROUP

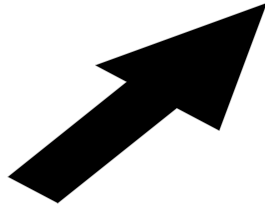
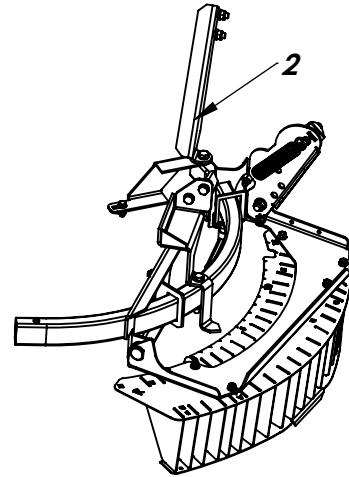
Nr.	Part Number	Part Name	Qty
1	3547001	Tandem Upper Chassis	1
2	3547002	Tandem Left Back Chassis	1
3	3547003	Tandem Axle	2
4	3547004	Bearing Flange	4
5	3547005	Axle Shaft Washer	4
6	3547007	Axle Bush	4
7	3547010	Tandem Left Front Chassis	1
8	3547011	Front Rear Connecting Mile	1
9	3547012	Top Shaft Connecting Mile	1
10	3547013	Tandem Clamp	1
11	3547014	Tandem Lock	1
12	3547015	Tandem Mile Bush	8
13	3547016	Driving Direction Label	1
14	3547102	Tandem Right Back Chassis	1
15	3547110	Tandem Right Front Chassis	1
16	005.100.144	M10X25 Bolt	1
17	005.100.218	M14X50 Bolt	16
18	005.100.252	M16X50 Bolt	4
19	005.101.373	M20X200-50 Bolt	4
20	005.151.005	M10 Fiber Nut	1
21	005.151.007	M14 Fiber Nut	16
22	005.151.010	M20 Fiber Nut	4
23	005.200.007	M10 Washer	2
24	005.200.009	M14 Washer	32
25	005.200.010	M16 Washer	4
26	005.200.012	M20 Washer	8
27	005.210.010	M16 Tracked Washer	4
28	005.400.004	Grease Fitting (M8)	2
29	005.604.007	UCF 207 Bearing	4
30	005.700.168	Ø6-60 Slotted Wedge	3
31	005.850.004	Wheel 5 Jog (10.0/75-15.3 12 Pr)	2
32	005.850.006	5/8' Jog Nut	10
33	005.850.008	Jog Bolt	10

LIMITER GROUP

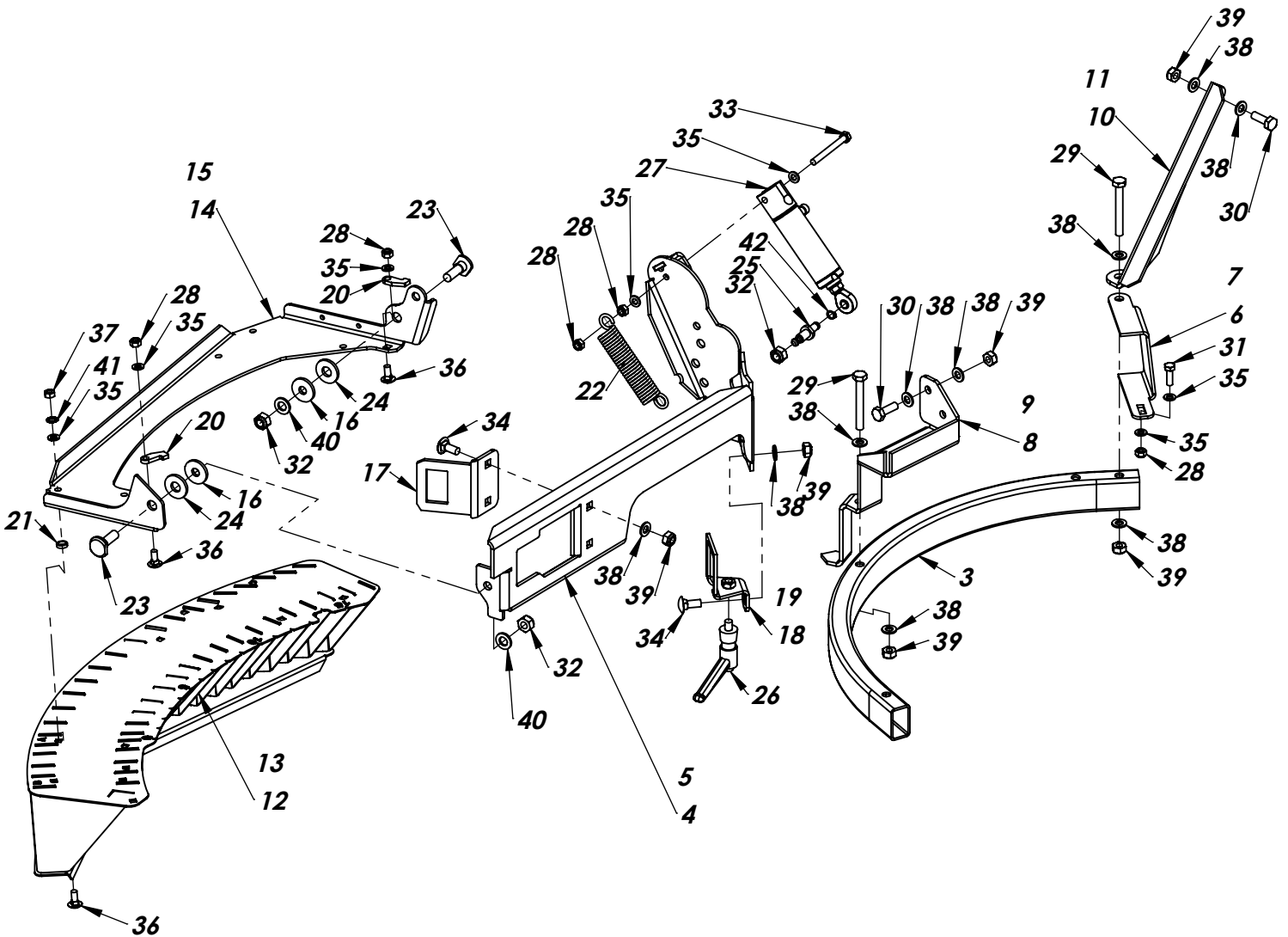
LEFT LIMITER



RIGHT LIMITER



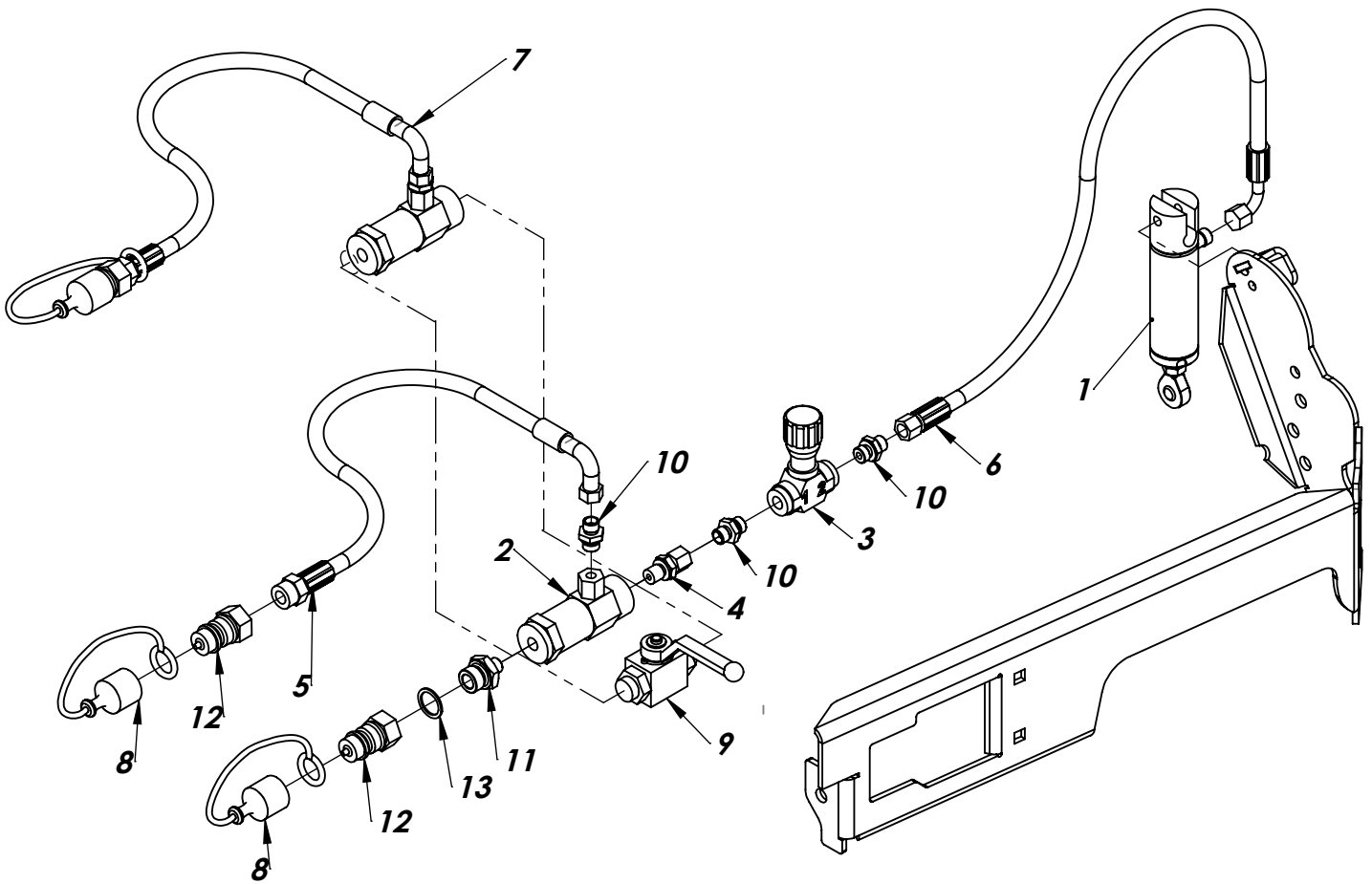
Driving Direction



LIMITER GROUP PART LIST

NR	Part Number	Part Name(en)	Qty
1	3516000	<i>Left Limiter Set</i>	1
2	3517000	<i>Right Limiter set</i>	1
3	3516001	<i>Limiter Profile</i>	1
4	3516002	<i>Limiter Chassis (Left)</i>	1
5	3517002	<i>Limiter Chassis (Right)</i>	1
6	3516003	<i>Limiter Fixer Left 1 (left)</i>	1
7	3517003	<i>Limiter Fixer 1 (Right)</i>	1
8	3516004	<i>Limiter Fixer 2 (Left)</i>	1
9	3517004	<i>Limiter Fixer 2 (Right)</i>	1
10	3516005	<i>Limiter Fixer 3 (Left)</i>	1
11	3517005	<i>Limiter Fixer 3 (Right)</i>	1
12	3516006	<i>Orientation (left)</i>	1
13	3517006	<i>Orientation (Right)</i>	1
14	3516007	<i>Hinge (left)</i>	1
15	3517007	<i>Hinge (Right)</i>	1
16	3516008	<i>Washer Inox</i>	2
17	3516009	<i>Profile Support</i>	1
18	3516010	<i>Step Fixer (Left)</i>	1
19	3517010	<i>Step Fixer (Right)</i>	1
20	3516011	<i>Late fertilizer key</i>	2
21	3516012	<i>Bush Inox</i>	6
22	3516013	<i>Limiter Spring</i>	1
23	3516014	<i>Hinge Bolt</i>	2
24	3516015	<i>Plastic Washer</i>	2
25	3516016	<i>Spring Pin</i>	1
26	3516017	<i>Locking Handle</i>	1
27	3516018	<i>Piston</i>	1
28	005.151.004	<i>M8 Stainless Fiber Nut</i>	5
29	005.100.156	<i>M10x80 Stainless Bolt</i>	2
30	005.100.146	<i>M10X30 Stainless Bolt</i>	4
31	005.100.110	<i>M8X25 Stainless Bolt</i>	1
32	005.151.006	<i>M12 Stainless Fiber Nut</i>	3
33	005.100.122	<i>M8x80 Stainless Bolt</i>	1
34	005.113.038	<i>M10X30 Stainless Buffer Bolt</i>	3
35	005.200.006	<i>M8 Stainless Washer</i>	12
36	005.113.026	<i>M8x25 Stainless Buffer Bolt</i>	8
37	005.150.004	<i>M8 Stainless Nut</i>	6
38	005.200.007	<i>M10 Stainless Washer</i>	15
39	005.151.005	<i>M10 Stainless Fiber Nut</i>	9
40	005.200.008	<i>M12 Washer</i>	2
41	005.210.006	<i>M8 Tracking Washer</i>	6
42	005.450.007	<i>Mile Ring</i>	1

LIMITER HYDRAULIC GROUP

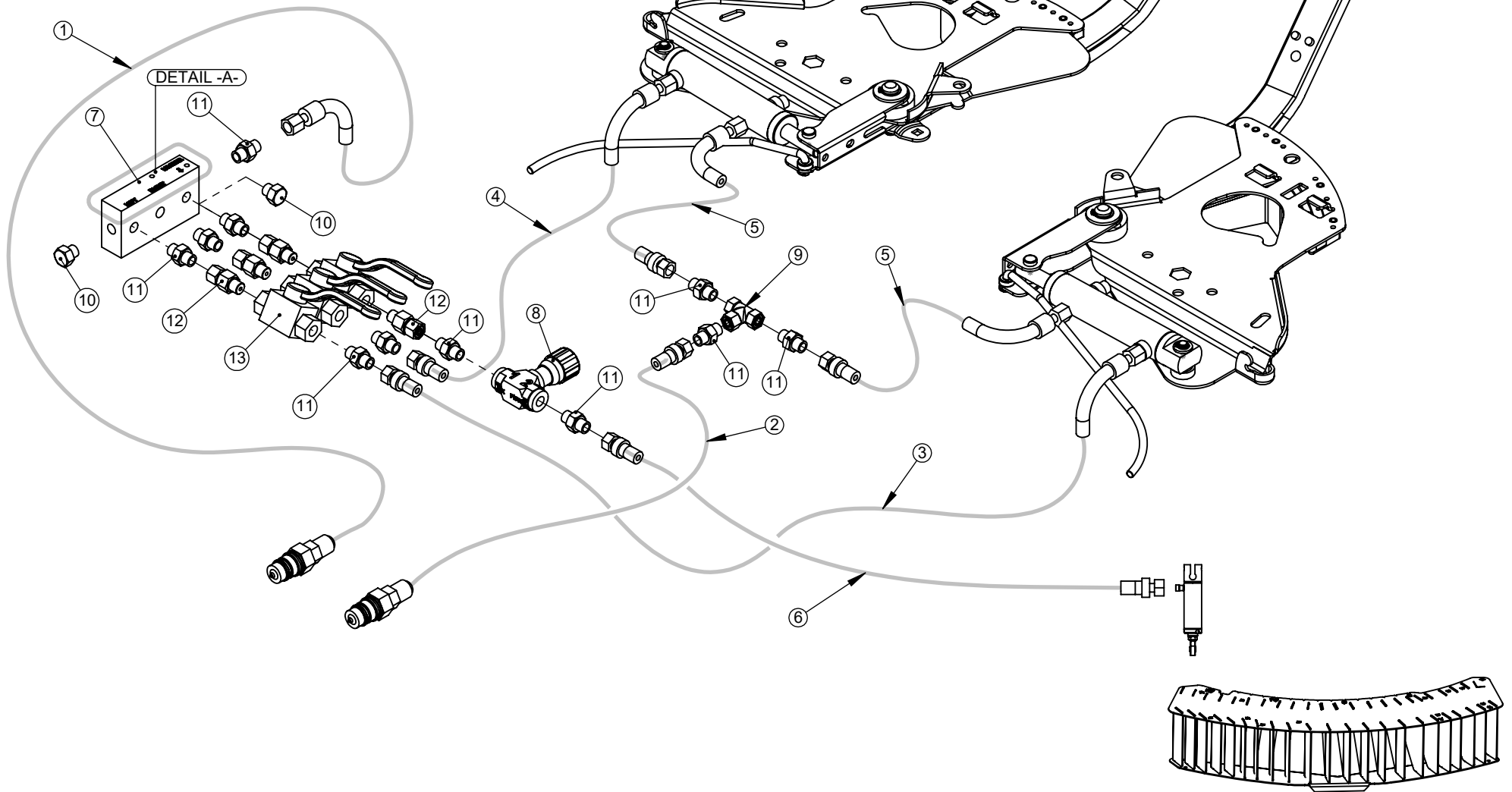


LIMITER HYDRAULIC GROUP			
NR	Part Number	Part Name(en)	Qty
1	3516018	Piston	1
2	3516020	Lock Valve	1
3	3516021	Speed Adjusting Valve	1
4	3516022	Nipple Male - Female	1
5	3516023	Hydraulic Locking Pipe	1
6	3516024	Hydraulic Pipe	1
7	3516025	Hydraulic Locking Set	1
8	3505007	Valve Plastic Cover	2
9	3505020	Valve	1
10	3505021	M14X1,5-1/4 Nipple	3
11	3505022	1/4-1/2 Nipple	1
12	3505023	1/2 Hydraulic Adapter	2
13	3505026	1/2 Copper Washer	1

DETAIL -A- Sticker of Distributor



3-Way Hydraulic Unit Pro-ProPlus



3-Way Hydraulic Unit Part List

Nr.	Part Code	Description	Quantity (pc.)
1	350.102.001	Hydraulic Hose L:1100 mm	1
2	350.102.002	Hydraulic Hose L:2200 mm	1
3	350.102.003	Hydraulic Hose L:2500 mm	1
4	350.102.004	Hydraulic Hose L:2200 mm	1
5	350.102.005	Hydraulic Hose L:800 mm	2
7	350.102.007	Distributor (3-way)	1
9	350.102.009	G 1/4" Hydraulic T Connection	1
10	350.102.010	G 1/4" Stopper	2
11	350.102.011	G 1/4" Nippel	8
12	350.102.012	G 1/4" Swivel Nut Stud Coupling	3
13	350.102.013	Vane	2

For Limiter Spare Parts

Nr.	Part Code	Description	Quantity (pc.)
6	350.102.006	Hydraulic Hose L:3500 mm	1
8	350.102.008	Hydraulic Cylinder Speed Regulator	1
11	350.102.011	G 1/4" Nippel	3
12	350.102.012	G 1/4" Swivel Nut Stud Coupling	1
13	350.102.013	Vane	1