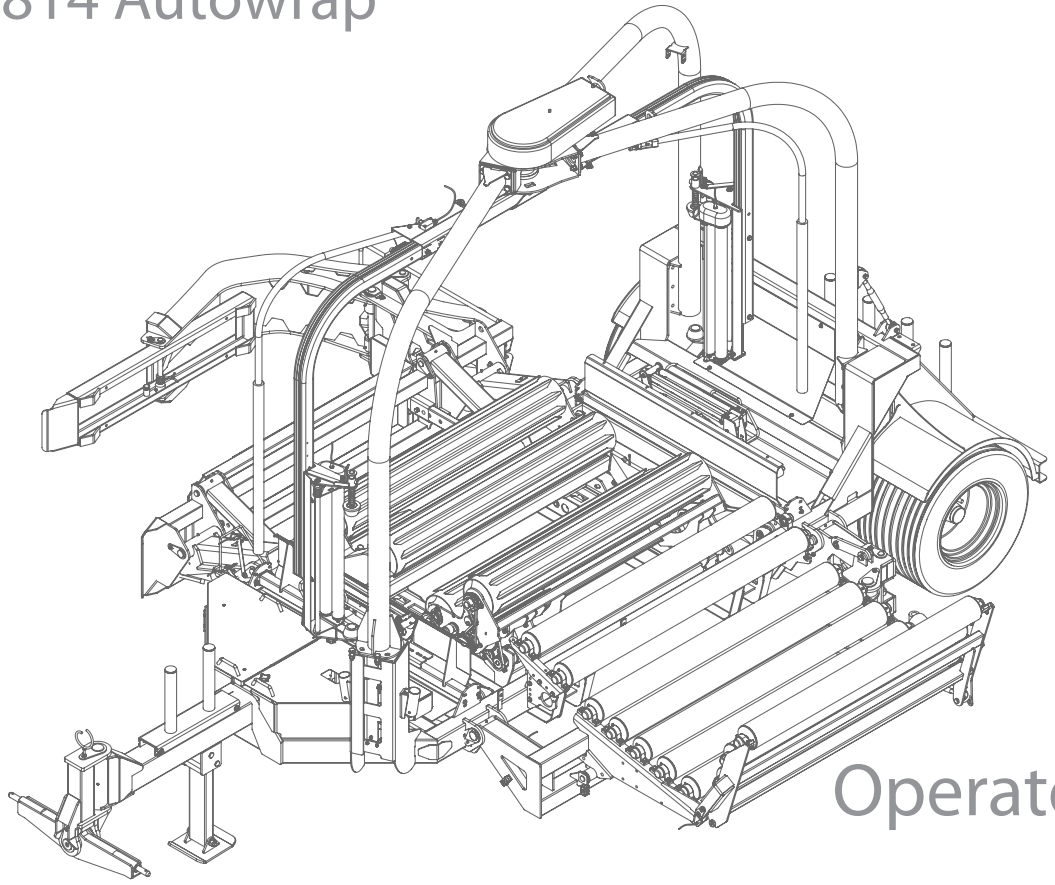
1814 Autowrap

Tanco AUTOWRAP

Innovation in Agricultural Machinery



Operator's manual

TABLE OF CONTENTS

Tanco Autowrap Ltd congratulates you on your choice of the TANCO AUTOWRAP bale wrapping machine. We are certain you will be satisfied with the machine, and that you will have the pleasure of your investment for many years.

There are three models on the 1814 Autowrap range. The ARC and S models are designed for static operation; the LA model is self-loading to operate in the field. All models can be operated fully automatically. The static models have the controller mounted in an enclosure on the machine; this can be operated by radio remote control from the loading tractor.
The LA model has the controller in the tractor cab.

The 1814 is equipped with a patented, special mounting for the rollers, which enables the machine to wrap round* & square bales.

The 1814 can wrap both square and rectangular bales, from 47 x 80 to 120 x 120 x 190 cm long.

It can take bales of up to 1500 kg. It can also wrap round bales of up to ø1500 mm.

This machine has been in operation since 2007; customer demand has enabled us to develop this well adapted machine for the market.

This manual is meant to explain how the 1814 is prepared, mounted, operated and how it works, and along with the spare part's list be a reference for maintenance and troubleshooting. So take good care of this book, it is a part of the machine.

Read carefully through this manual, and specially chapter 4, safety precautions, before starting the machine, and follow the instructions thoroughly.
If problems should occur, ask your dealer for advice before you make the problem worse than it is. See also chapter 12, guarantee.
TANCO AUTOWRAP LTD. reserves the right to alter the product and/or its technical specifications without prior notice and without this entitling any alterations to previously supplied products.

Reservation is made for possible printing errors.

*Optional 'round bale kit' required for wrapping round bales.

Technical Specifications	Arc, S	LA
Height	3400 mm	3400 mm
Width	2440 / 3215 mm	2440 /6950 mm
Length	2540 / 3425 mm	2540 / 3425 mm
Weight	2550kg	4500 kg
Wrapping Arm Speed (Recomended)	25 rev. per minute	25 rev. per minute
Wrapping Arm Speed (max)	30 rev. per minute	30 rev. per minute
Wheel Size	480/45-17	500/50-17
Maximum Bale Size	120x120x190	120x120x190
Maximum Bale Weight	1500 kg	1500 kg
Capacity	Approx. 50 bales per hour	Approx. 50 bales per hour
Pre-Stretcher(s)	750 mm	750 mm
Hydraulic Connection		
Oil Pressure	175 bar / 50 litres/minute	175 bar / 50 litres/minute
Oil Amount (Max / Min)		
Maximum Counter Pressure		
Eltectrical Connection	12 V DC	12 V DC

NB: Tanco Autowrap Ltd. reserves the right to modify the construction and/or technical specifications without warning and without rights to changes on already delivered products.

TANCO AUTOWRAP LTD. does not take the responsibility for damages that may occur on machine, persons or other equipment, because of the machine NOT being used as described in this manual, or because of the safety precautions NOT being followed.

Safety Equipment
Before using the machine, make sure that all guards and covers are securely fitted. The machine must not be operated if a function does not work as described later in this manual.

The AutoWrap 1814 is equipped with an "EMERGENCY STOP" on the wrapping arm. This device stops all functions as quickly as possible, but is by definition not an emergency stop, because it does not interrupt the feed. Nevertheless it has an equivalent function, so we have decided to call it an EMERGENCY STOP in this book.

Become Familiar with the Operations of the Machine
If you are unsure how to operate the machine properly, either use of or maintenance to your Tanco Autowrap, please contact your Tanco Autowrap dealer.

⚠ IMPORTANT!
Always make sure that nobody is inside the hazard area of the wrapping arm when the machine is in use. Safety distance is 5 metres

The machine must not be operated by persons who do not know enough about how to safely operate the machine, or by persons under the age of 16 years.

Dangerous Areas
TANCO AUTOWRAP LTD. has given the safety to the operator the highest priority, but it is still impossible to secure oneself of every danger area on the machine. Therefore we will now go through some of the dangers that can occur when using the Auto Wrap bale wrapper. The 1814 is a large machine with many moving parts. As such there are significant danger area's associated with it and it is vitally important that the operator is conscious of these and remains vigilant at all times when operating the 1814.

- Impact of The Wrapping Arm
During the wrapping process the arm rotates with a speed of 20-27 revolutions per minute around the bale. On the arm there is mounted a film Dispenser unit with a plastic roll. The Dispensers can give a person serious injuries if one comes to close to the working area of the wrapping arm. To reduce this danger we have mounted an emergency stop* device on the wrapping arm, this stops output for the wrap arm and should stop the wrap arm within two feet of movement when something comes in the way of it.

It is very important that this protection always works and that it should not under any circumstances be disconnected.

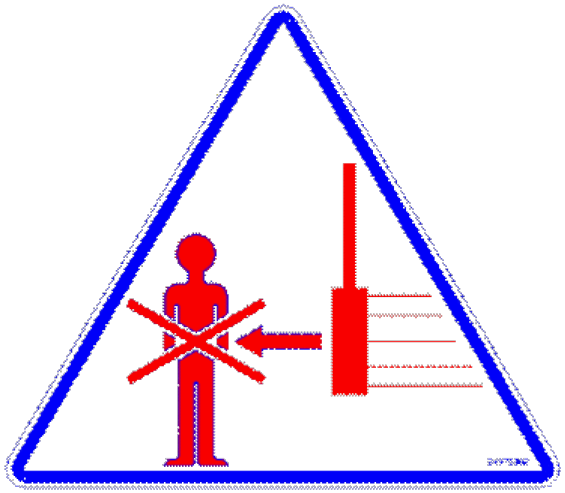


Fig.4.1

- Crush Hazard Between the Tower/Chassis and the Wrapping Arm

As earlier explained, we have a wrapping arm with a Dispenser and a plastic roll. The wrapping arm passes the main frame during each rotation. Here there is a risking of crushing if a person stands to close to the main frame when the wrapping arm passes. The distance between the main frame and the wrapping arm is not large enough to give room for a person.

The clearance between the Dispenser and the Chassis there is also be a crush hazard.

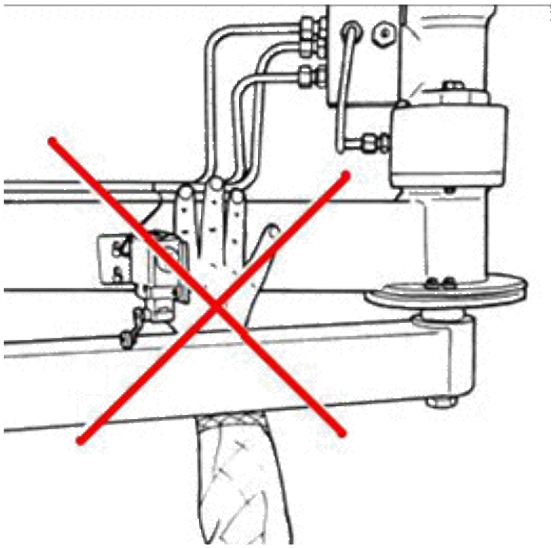


Fig. 4.2

- Crush Hazard Between the Tower and the Wrapping Arm

During the main wrapping process the wrapping arm rotates around the bale. Every time the wrapping arm passes the tower/chassis, there is a crush hazard that can be dangerous for the fingers/ arms or bodies.

The distance between the stationary and the wrapping arm is between 25-40 mm.

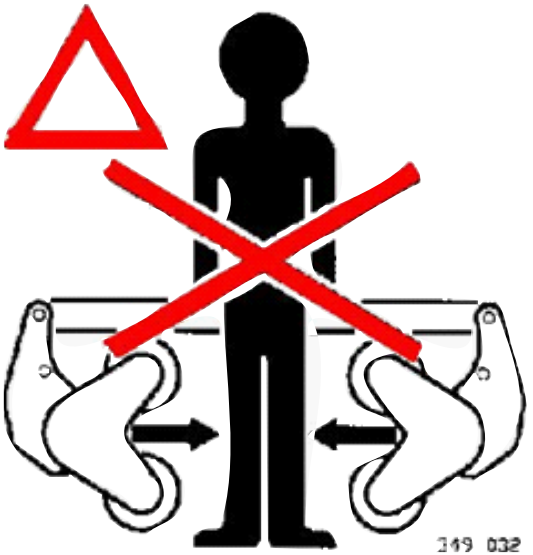


Fig. 4.3

Crush Hazard Between the Rollers and the Main Frame
When adjusting the width of the rollers there is a danger of being trapped and squashed. Keep away from this area, fingers and feet also. (See fig. 4.3).

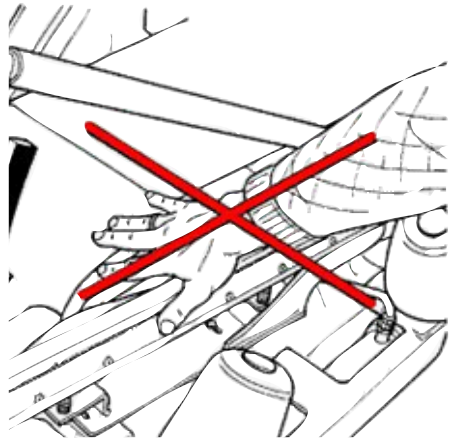


Fig. 4.4

- Crush Hazard Cause by Cut and Start System
At the end of the wrapping process the plastic is held tight & cut from the bale. It's held ready for the start of the next wrapping process. When the cutter arm moves down to hold the plastic, there can occur a trap danger between the cutter arm and the cutter holder. The cutter blade that perforates the plastic is very sharp, so keep hands away from the cutter. (See fig. 4.4).

- Crush Hazard Between the Rollers
When the rollers on the machine are moved together, there is not enough space for a person between the rollers. Here there is a danger of being squeezed, so make sure that nobody is between the rollers when they are moved together.

Note that the rocking rollers can rotate and even if they are in the level position they can drop suddenly. There is a serious risk of crushing associated with this. Never stand on the rollers or stand between or lie under them. If you need to work in this area always ensure that everything is in a safe position. i.e rollers are dropped and fully opened and power supply is disconnected

- Crush Hazard on the Load Arm
Always ensure that when you are operating the load arm there is nobody in the operating area of it as it could cause serious injury, either by crushing or squeezing.

- Hazard on the Conveyor
Always ensure that when you are operating the unloading conveyor there is nobody in the operating area of it as it could cause serious injury. If the optional rotate conveyor is fitted there is a risk of getting crushed when it is closing.
Note: The rollers on the conveyors and the two mounted on the chassis between the rocking rollers and the conveyor are free rolling. Never stand or sit on them as you are likely to loose your balance and cause injury to yourself.

Locking the Conveyor
When the machine is not in use, make sure the unloading conveyor is raised and the parking bracket is connected. If this bracket is not connected, the conveyor can creep down, causing a hazard on the road or to items the beside the machine.(See fig. 4.5)

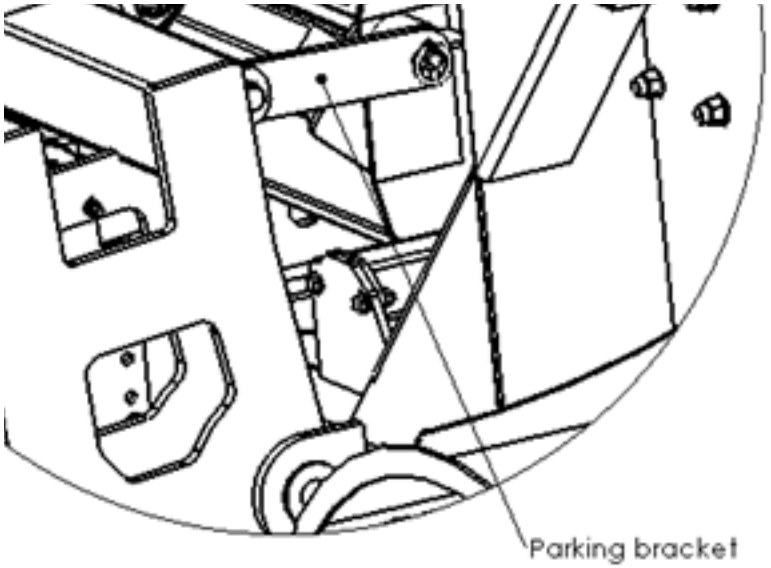


Fig. 4.5

⚠ Connecting heavy working implements often has an overall negative effect on the tractor's driving and braking capacity. When transporting on the road always ensure the machines hydraulic brakes are connected to the tractor and that they are functioning correctly.

Transporting
When transported on a public road there are certain safety measures that must be taken:
1. Move the wrapping arm into the transport position using the controller. (See 10.)

2. Close the grab fully and raise the load arm fully. (See 10.9)

3. Raise the unloading conveyor and secure with the parking bracket. (See section 2.7)

4. Ensure machines lights are connected and working correctly.

5. Cut the flow of oil to the machine by disengaging the tractors spool valve and cut the power to the controller by pressing the Red Button on the controller.

Bale Wrapping Principles
The advantages of round bale silage are many, and include fewer feed units, a flexible harvesting system, large capacity and the possibility of selling feed units.

In principle, the same fermentation processes occur whether the fodder is placed in a silo or pressed into bales and packed in plastic, i.e. lactic acid fermentation in anaerobic conditions. The oxygen in the bale must be exhausted before fermentation begins.

The grass should be dried to approximately 30-40% solid content. The solid content can be determined by twisting the grass by hand. If drops of liquid are forced out of the grass, the solid content is less than 25%. Low solid content (wet grass) can lead to increased butyric acid fermentation if preservatives are not added to the grass. If the solid content is too high, (over 50%), normal fermentation will not take place and there will be enough oxygen in the bale to produce mould fungus.

The Baler
It is vital that the baler produces compact, well-formed bales, as misshapen bales can be difficult to wrap. Wrapping will also often take longer, thereby increasing the amount of plastic used.

Difficult Bales
When a misshapen bale is wrapped, it will have a tendency to move outwards or inwards on the roller. If the bale begins to move outwards, the machine must be lifted slightly at the rear edge to get the bale to rest against the support roller on the main frame. It can therefore be useful to use a hydraulic top link to make this adjustment easier.

If the bale to be wrapped is conical you must ensure that the sharp end is pointed at the tractor. It will then be easier to get the bale to lie correctly during packing. It is easy for such a bale to "turn" forward in the direction in which it is pointing, and therefore lie against the support rollers. If the bale is lying on a slope it must be picked up from the lower side.
A hydraulic top link will again be advantageous.

Types of Plastic
A good type of plastic with good adhesive properties, and which is recommended for bale wrapping, must be used. The thickness of the plastic foil should be at least 25 µ. (25/1,000 mm). In order that the plastic tightens sufficiently around the bale, it is stretched before being wrapped, so it is somewhat thinner when it is put on the bale. With short-term storage (up to eight weeks) it is recommended that bales have a minimum of four layers of plastic at the thinnest points, with at least 52-53% overlap.

For long-term storage, or when the grass is wet when it is wrapped, the bale should have 90-100 µ plastic (six layers) and the same amount of overlap. If thinner plastic is used, more layers should be applied. If it is very hot the plastic will be stretched further, and more layers should be applied. It is better to have slightly too much than too little plastic on the bale.

From experience, light colored plastic produces slightly lower temperatures within the bale, and tends to improve feed quality.

Storage Location
Care should be taken in finding a suitable location for the storage of bales. The storage location should preferably be prepared before the bales are laid out. An elevation close to well-drained roads is recommended. If the wrapped bales are simply placed on stubble there is a danger of the plastic being pierced. A tarpaulin or a thin layer of sand should therefore be laid where the bales are to be stored over the winter.

Bales should be stored in the shade as far as possible. This reduces the danger of air leakage in the bales. A bale which is stored in sunlight and which therefore undergoes greater swings in temperature "pumps in" a great deal of air in comparison to a bale stored in the shade. According to "Teknik for Lantbruket" [Technology for Agriculture] in Sweden, a bale stored in the shade has only 40% of the air leakage of a bale which is stored in sunlight.

Stacking / Protection
If bales are hard and well formed, they can be stacked vertically, but loose and misshapen bales with low solid content should not be stacked higher than one layer, as this could easily cause deformity and the danger of runoff will be increased.

Bales can also be stored on their sides. The layer of plastic is thicker here, providing greater protection against piercing.

Bales should be covered with a tarpaulin or a fine-mesh net to protect against birds and small rodents. If the plastic is pierced, it must be sealed with weatherproof, hard-wearing tape, preferably under the outermost layer of plastic. Ensure that the hole is adequately sealed.

For Best Wrapping Results...

1. Harvest the grass early.

2. Ensure the grass is dried out to 30-40% solid content. If there is a danger of rain, bale and wrap the grass anyway.

3. Take care not to mix any earth in with the grass.

4. Use a baler that produces even, firm bales. Bales 1.2mtrs in width and with a diameter of 1.2-1.5mtrs are preferred sizes.

5. Wrap the bales as soon after baling as possible; never more than two hours afterwards.

6. Use a good plastic type, applying six layers of plastic. This removes the need to use preservatives.

7. Store bales in the shade to reduce the danger of air leakage.

Mounting of the Machine

⚠ Be careful! There is a danger of being crushed when working implements are mounted and connected. Carry out the mounting procedures slowly and carefully, and use separate and approved lifting equipment to make the work easier. See section 2 on safety regulations and pay attention to the various safety decals displayed on different parts of the bale wrapper.

Hinged Tower

Because of the freighting of the machine, AUTO WRAP 1814 is sometimes delivered with the tower hinged down. Raise tower by lifting using the lifting eyes. Fit 10 M16 x 50 bolts but do not tighten. Fit the dispenser to the wrap arm. Measure the height from the bottom of the dispenser to the chassis. Rotate the arm around ½ a turn and measure again. Raise or lower the tower until the wrap arm is parallel to the chassis. Tighten up the top links on the back of the tower. Lower the lifting mechanism and check again. If necessary lift again and tighten top links. Then fit the tower support going to the front of the machine.
Tighten all bolts and lock top links and after several hours' use, tighten all the bolts once again.

Mounting of Dispensers

The dispensers are mounted using two M12 bolts. The dispenser height should be such
that the plastics is being applied as close to the centre of the bale on the end as possible. Generally we recommend that they should be fitted in the lowest position possible (where the plastic just passes over the cut and starts).
The height of the bale can then be decided by the width between the rocking rollers.

Mounting of Emergency Stop* Arm

The machine is equipped with emergency stop-arms on each of the wrap arms.
The releasing arm for the emergency stop component must be mounted.
Put the arm into the bracket and mount the hinge bolt.
Replace the washers and tighten the locking nuts. (See fig. 5.1).
The return spring is to be fastened between the eye bolt on the arm and the eye bolt on the bracket.

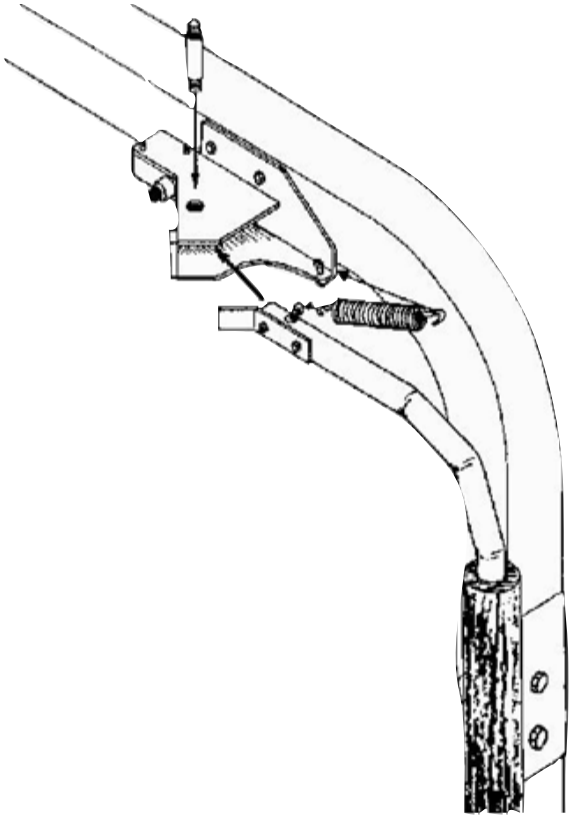


Fig. 5.1

Electrical supply
The electric supply for the machine's control unit and electro-hydraulic components should come directly from the tractors' 12 volt battery .
The electric wires from the battery must have an area measurement of min. 2,5 mm^2.
Connection of other contacts on the tractor can cause risk of malfunction, and is not recommended.
Never tamper or remove fuses fitted. Replace fuses with ones of the same rating.

Brown Leader Goes to Battery Plus Pole
Blue Leader Goes to Battery Minus Pole

EMERGENCY STOP.

The machine is equipped with a safety arm (2) on the wrapping arm (3), and its operation must be tested before work itself is started.

The safety arm is designed to stop the wrapping arm injuring operators or objects, when starting up or during the wrapping process.

The emergency stop* is constructed with a "positive" connection, i.e. it has to be in full order before the machine can be started. Note that if there is a fault with the system, the wrap arm will work in manual mode but the controller will not go into automatic.

This consists of an electrical switch (1) mounted on the arm. This is wired normally open, and the actuating plate attached to the E-Stop arm rests on this and keeps it closed. The signal from the two switches and the film break sensors are fed through the centre of the wrap arm by means of a small electrical coupling.
If the electrical circuit is broken, the hydraulic oil flow is cut off and all functions stop immediately. This is indicated on the control box display by 'EMERGENCY STOP'

Before use, this function must be tested. Start the wrapping arm, hold out an arm or any obstacle, the wrapping arm must stop within 700mm.

To restart the machine the obstacle must be removed and the safety guard must return to its original position. If "STOP" is pressed before "RESTART", the wrapping continues from the point in the program at which the emergency stop was activated.

⚠ IMPORTANT!
GIVEN THE VELOCITY AND MOMENTUM OF THE ARM IT IS IMPOSSIBLE TO STOP THE WRAP ARM IMMEDIATELY.
THE EMERGENCY STOP ARM IS PROVIDED TO HELP REDUCE THE RISK OF SERIOUS INJURY AND GREAT CARE MUST BE TAKEN WHEN OPERATING THIS MACHINE

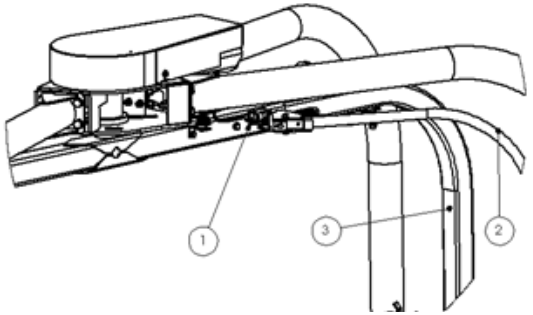


Fig. 5.2

Mounting of Plastic Film (See Fig. 5.3 & 5.4)When loading a plastic roll, first ensure the Top Cone is pushed up to the latched position, then push back the Dispenser Insert until held in position by the Bottom Latch.

Place the Roll on the Bottom Cone and release the Top Latch.
⚠ BEWARE OF FINGERS!

Pull the film between the rollers on the Dispenser Insert in the direction of the arrow, as shown below. (See also the sticker on the dispenser).

Release the Bottom Latch and allow the rollers to lie against the roll of film.
Pull the film from the roll and tie it to the bale.

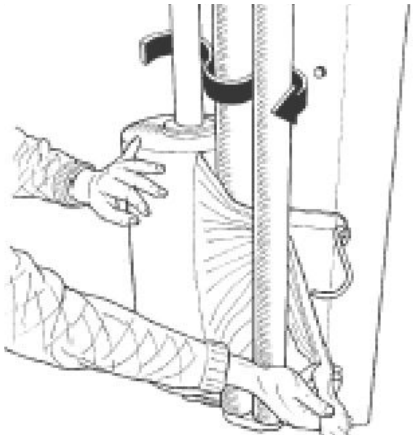


Fig. 5.3

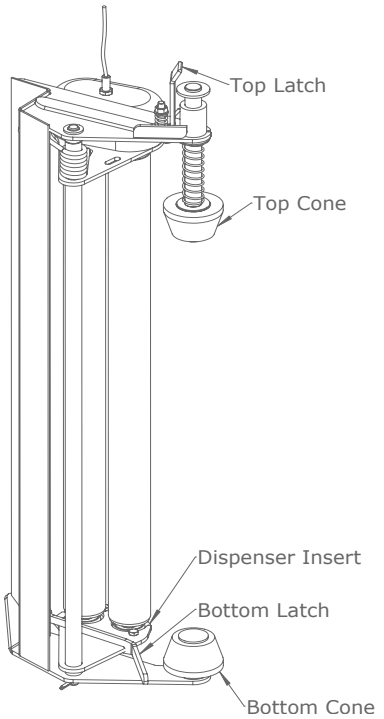


Fig. 5.4

Adjusting the Height of the Dispenser
The standard film dispenser is designed for 750mm film. If using 500 mm film an adaptor is required which must be ordered separately. See parts book and contact your dealer.

The plastic film should hit at the middle of the bale wrapped and therefore it can be necessary to adjust the height of the pre-stretcher.

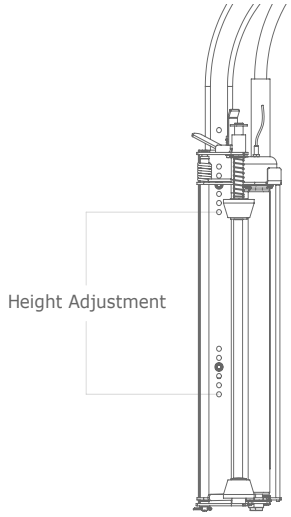


Fig. 5.5

Tanco Dual Stretch Dispenser
All Tanco Autowrap machines are supplied with a patented dual stretch gear system. This system enables a quick change of stretch levels on the Film Dispenser.

If the Gear Bolt is fitted in Position 1 (See Fig. 5.6), the top set of gears provide the stretch @ 70%. By removing the Gear Bolt from Position 1 and fitting it in Position 2, the bottom set of gears become the stretch gears giving 32% (for pre-stretched film) or optionally 55% (for use in hotter climates or with square bales).

Inner Gear	Outer Gear	% Stretch
60 Tooth	35 Tooth	70%
58 Tooth	37 Tooth	55%
54 Tooth	41 Tooth	32%

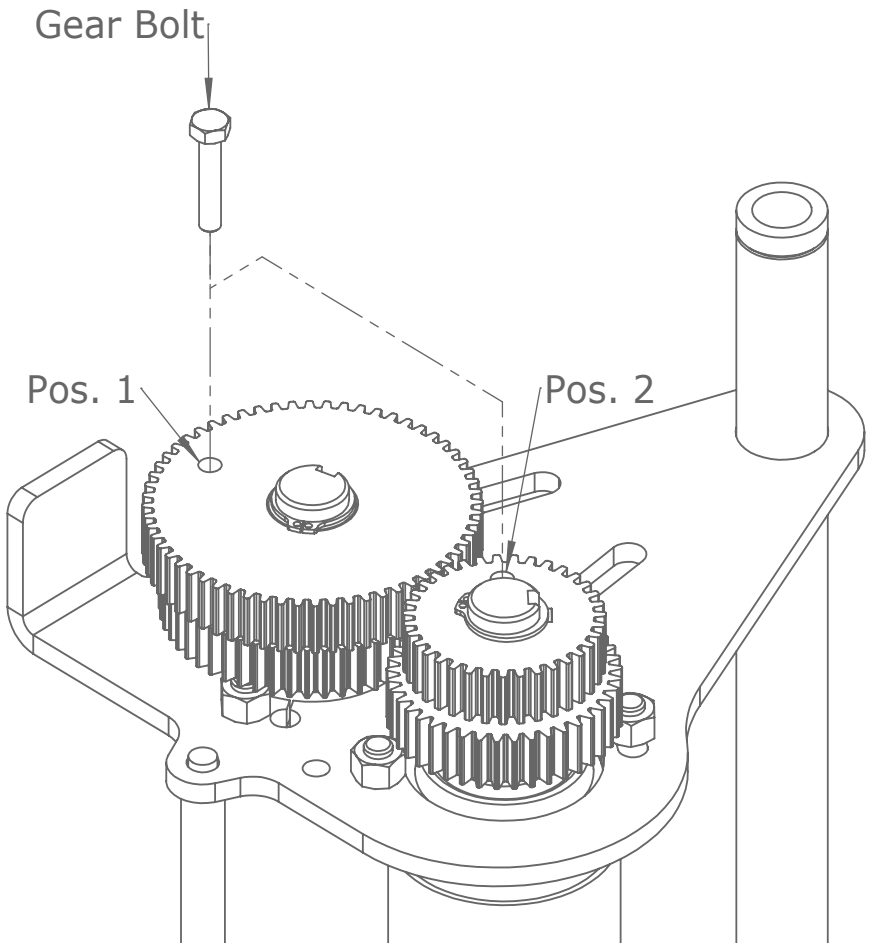


Fig. 5.6

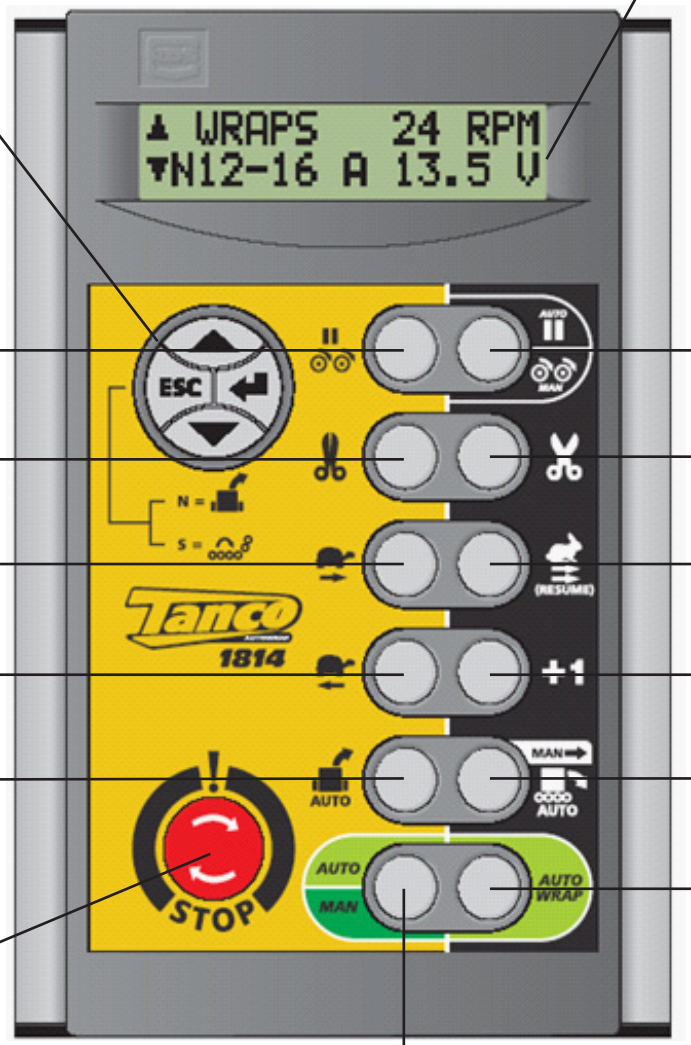
The Tanco Autowrap Bale Wrap Controller enables the operator to monitor and control the operation of the bale wrapper at any stage of the wrapping cycle. The controller is designed for models : 1814 rotating-arm type wrappers.

There are 2 operating modes – Automatic and Manual. The automatic mode permits 'one-touch wrapping' to ease the workload on the operator.
The controller is fully programmable to optimise wrapping performance. Bale counts are automatically logged in any one of 10 selectable memory stores, in addition to a grand total memory store.

IMPORTANT SAFETY INFORMATION!
Please read and understand the instructions for using this controller before operating the machine.

This controller is fitted with a pushbutton type On/Off Emergency Stop switch.
Always ensure the controller is switched OFF via this switch before attempting any adjustment or maintenance to the machine.
Please follow ALL other safety instructions given in the manufacturers' Operator Handbook for this machine.

Main operating Functions and Display
The principal instrument features and operating functions are shown in figure 7.1.



4-way Menu switch to
Set No. of wraps
- Change/reset bale sub-total
- Access Operator Setup menu
- Access Technician Setup menu
- Press ESC to switch between normal (N) and secondary function (S)

A 2-line, 32 character dot matrix , back-lit display shows in the normal operating mode:
- Current No. of wraps
- Target No. of wraps
- Wrapping speed (rpm)
- Bale total (10 separate

L1 - Pause bale rotation
(during auto-wrap cycle)

R1 - Pause wrapping (Auto)
Rotate rollers (Manual)
Level Bale manually for offloading
(if not auto leveled)

L2 - Cut and grip film

R2 - Release film grip

L3 - Slow wrap

R3 - Fast wrap / Resume wrap after manually pausing

L4 - Reverse wrap arm

R4 - Add 1 wrap to current
(or next) bale

L5 - Bale load Cycle (A)
Starts Continuous Cycle
LOAD/WRAP/OFFLOAD
(If Continuous is On)

R5 - Bale unload. Discharges the bale from the conveyor (A).
Tips & rotates rollers (M)

R6 - Start Auto Wrapping cycle
(Press STOP switch to stop cycle e.g. in an emergency, otherwise press to pause the cycle)

Power On/Off
/Emergency Stop

L6 - Select Operating Mode

Fig. 7.1

Operation
Operation in Automatic mode
The controller is generally used in automatic mode for 'one touch wrapping'.
The complete cycle can be broken into three main parts, Loading, Wrapping and Unloading. The default setting of the controller is for each of these tasks to be performed and then wait for the operator to activate the next operation. If Continuous (in Operator Setup) is set to ON, then the machine will run the complete cycle without operator intervention
Note: In Continuous operation the machine loads and unloads simultaneously, take great care that rotate conveyor has sufficient room to operate safely.

'A' on the display indicates that the controller is set in Automatic mode. If not, press L6 to select.
Place a bale on top of the machine. Pressing the L5 button or with the controller in N(see 2.5) mode it can be done using the Hand controller.
If Continuous is set to On (Operator Setup) then this button will start Loading, then when the load arm reaches down sensor Wrapping automatically starts and offloading automatically starts at the end of the wrapping cycle.

Press the R6 switch to commence the automatic wrapping cycle. The cycle is completed when the target number of wraps has been reached.
Once wrapping is complete the bale will be discharged onto the unload conveyors. You can now load the next bale or if you like press the R5 switch to unload the bale. Note if your machine has a non-rotate conveyor you must be stationary when doing this.

Manually interrupting an automatic wrapping cycle

⚠ Press the Stop switch to bring the wrapper to a controlled stop. Pressing the R6 switch will continue the auto-wrap cycle from where it stopped.
For safety reasons, if it is necessary to work on the machine (e.g. in the event of a film break or the film running out), then it is strongly recommended that you then switch the controller off via the red stop button and disengage the machine power source. Pressing the R6 switch after switching the controller back on will resume the auto-wrap cycle from where it stopped.
Unless it is an emergency situation, do not bring the machine to a stop by pressing the red stop button as this will impose unnecessary strain on the machine.

Manual options in Automatic mode
With the controller in automatic mode, the following manual functions are possible.

- Slow Wrap (L3): (not during the wrapping sequence). Press R3 to resume the normal fast wrap.

- Reverse Wrap Arm (L4): (only enabled outside of the wrapping sequence). Press this button to nudge the wrap arm backwards to the desired position.

- Pause Bale Rotation (L1): (function active during auto-wrap cycle). Hold this button to add more film to a particular part of the bale. Release the button when sufficient additional film has been applied.

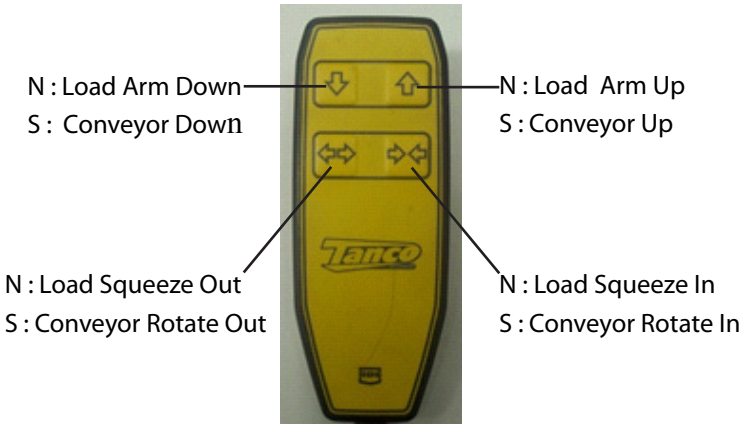
- Bale Indexing (R1): (function active in manual mode). Press and hold this button to index the bale. Release the button when the bale is at the desired position.
Rectangular bales are automatically rotated till level at the end of wrapping before offloading. If the controller thinks the bale is not level then Bale Not Level message flashes on the screen and the sequence will stop. To continue, hold this button down until the bale is level and when the button is released the bale will automatically offload.

NOTE: The R5 button can also be used to rotate the rollers in manual mode but note that it also unloads the bale!

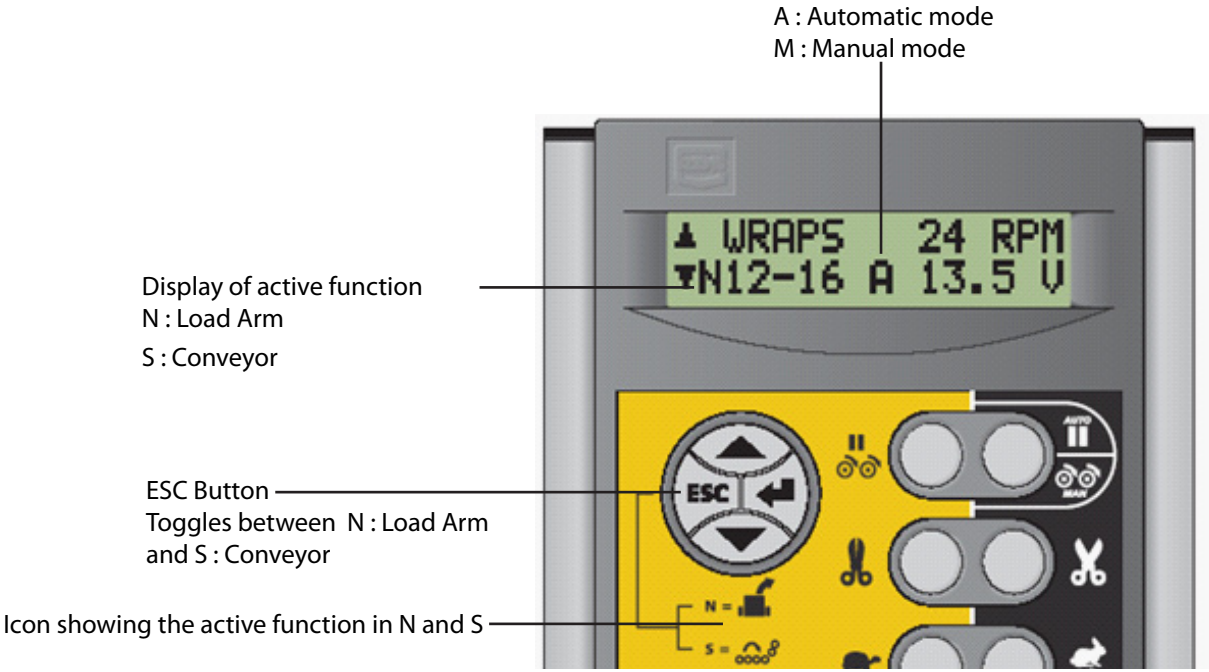
Add 1 Wrap (R4): Each time you press this button an additional wrap will be put on the current bale if the wrapping sequence is in progress, or onto the next bale if the automatic cycle has not yet been started. You can add as many wraps as required.

Operation in Manual mode
'M' on the display indicates that the controller is set in manual mode. If not, press L6 to select. In manual mode you have total control of every stage of the wrapping cycle.
The software logic determines which manual functions can be activated at any point in the wrapping cycle.
Should the operator incorrectly select a function at a certain stage during the wrapping cycle, then that operation will not be performed.

Hand held Controller
The hand held controller manually operate the Load arm Up/Down and Squeeze In/Out in N (NORMAL) function. In S (second function) it operates the Conveyor Up/Down and In/ Out.
The active function is shown on the left of the controller display, See below.
Pressing the ESC button toggles between N and S.
The machine is folded into the road transport position and unfolded to the working position with the hand held controller. See section 10.9 for further information on this.



Hand held Controller



Radio Frequency Remote Controller
The Radio Frequency Remote control is fitted as standard on the static ARC and S Models, it is available as an option on the LA Model.

The remote control facility allows the Wrapper to be entirely controlled from the cab of the loader tractor. The Wrapper is usually parked near where the bales are to be stacked.

Note: The red safety button on the back of the hand held sender unit must be pressed with a button on the front to activate any function other than STOP.

The Wrapper controller must first be set for the desired number of wraps and must be put into the A (Auto) standby mode. (see section 7.2.10) Then pressing AUTO START button will start an automatic wrapping cycle.

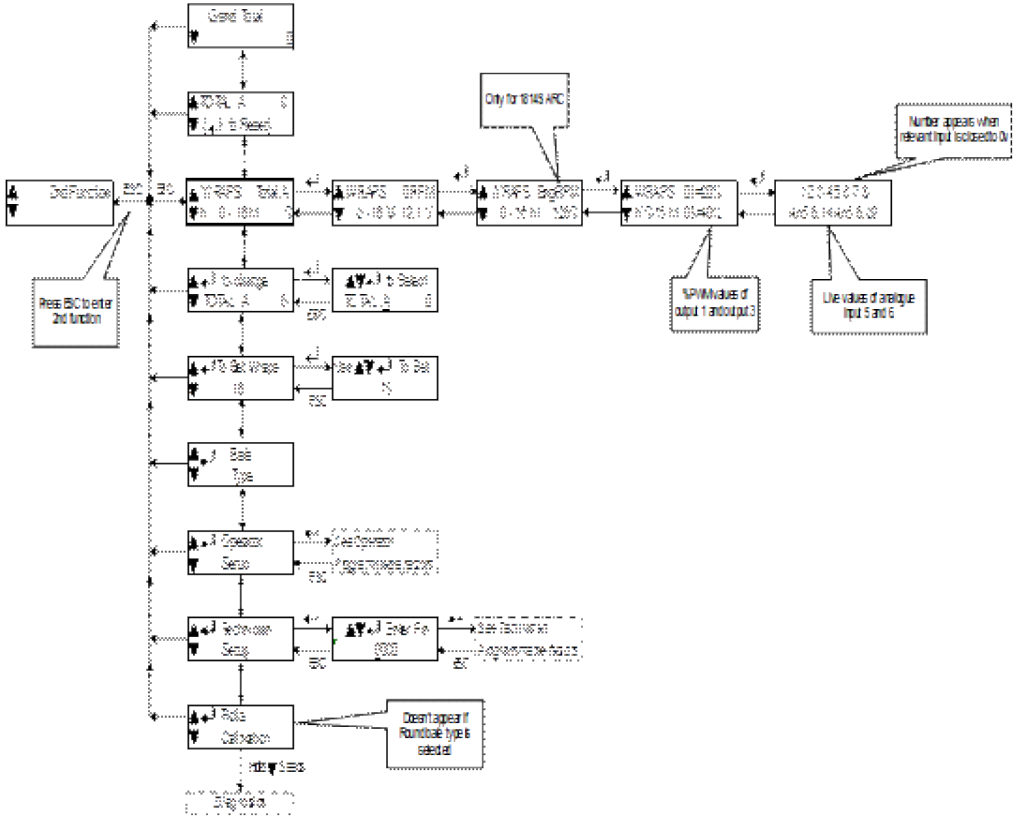
Pressing STOP will instantly stop the wrapping cycle.

From the remote it is also possible to:
1. Manually rotate the wrap arm forward and reverse.
2. Open and close the film Cut and Starts.
3. Add extra wraps to the present bale. (see +1 (R4))
4. Manually offload the bale (Tip). This button will also solve the BALE NOT LEVEL error message by manually rotating the bale for offloading.

*Note: If a new remote control sender unit is being fitted, the controller must be set to receive the unique frequency of this sender. Go to Remote Type in the Operator Setup on the controller, then, enter to RF Learn. Press the Auto Start (and safety button on the back) on the remote sender. A number should flash up on the screen to indicate the controller has picked up and registered the frequency. The new unit is now ready for operation.

The Display Menu
The menu is divided in 3 sections. At the top level the settings used during the daily work with the machine – i.e. Store totals and No. of Wraps.
The Operator Setup' section enables the operator to perform adjustments to the machine operation – e.g. time duration and time delay settings during the automatic cycle.
The 'Technician Setup' menu is not normally accessible to the operator without a PIN access code. 'Technician Setup' is not covered by this manual.
Use the 4-way switch to navigate the menu. Each menu screen indicates which keys to press to make the settings.
The instrument will default back to the main operating display after 30 seconds if no other key is pressed
Here is a summary of the display menu;

Controller Menu Structure

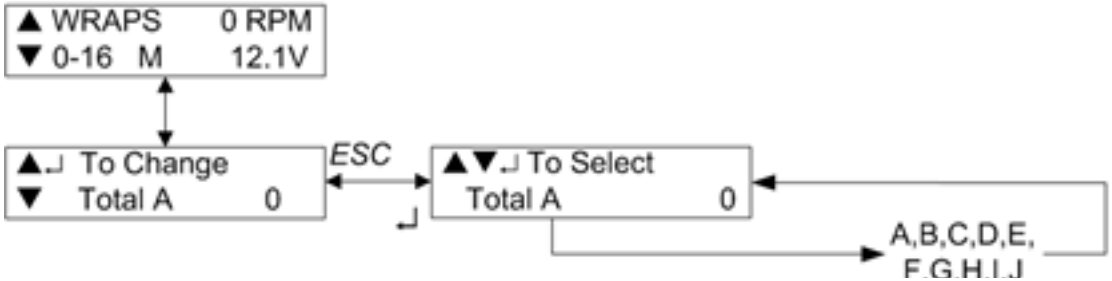


Selecting a Store Total

There are 10 individual memory registers labelled 'Store A' to 'Store J' for bale totals. Each time a bale cycle is completed, the currently selected store total and the grand total increments by 1.

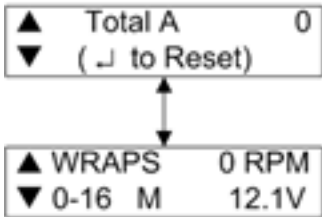
The currently selected store is displayed on one of the two screens selectable in the normal operating mode.

The default setting is Store A. To select a particular store, navigate the display menu using the 4-way switch.



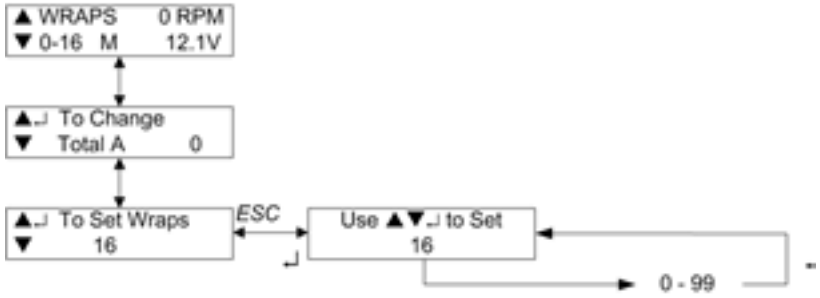
2.9 Resetting a Store Total to Zero

Stores A to J can be individually reset to zero at any time. The Grand Total store cannot be reset. First select the store to be zeroed, then navigate the display menu as shown below.



Setting the Number of Wraps

The default number of wraps is 16. You can set the target number from 0 to 99 by navigating the display menu as shown.



Bale type Setup Menu

The 1814 is fitted with sensors on the rocking rollers to sense the angular position of the bale. This information is used by the controller to optimize film application on rectangular bales. The rotational speed of the bale is automatically changed during wrapping to ensure that we have a consistent overlap. It is also used to rotate the bale to a level position for off-loading.

Bale Type Default Settings

Factor	Round	80x90 (square)	120x70 (rectangular)	120x90 (rectangular)	47x80 500 (rectangular)	47x80 TWIN (square)
Rolls Slow Speed	NA	NA	32%	35%	28	NA
Rolls Fast Speed	41%	40%	41%	41%	38	41
Stop Bale Pulse	1	1	1	1	1	3

Rolls Calibration
To set it up, you must place a bale on the turntable. Then press and hold the top right button (rolls rotate) and allow the bale to do a full rotation. Go to the Rolls calibration menu and press enter. Again press the right button (rolls rotate) and allow the bale to do a full rotation. This records the max and min values for each sensor during a rotation.
The values are displayed. If they are satisfactory you must press enter to store them.

Note: If you do not do a rolls calibration for the particular bale size initially then the proportional control of the rocking rollers during wrapping will not function.
Once the values have been saved they remain with that bale size. i.e no need to recalibrate it.

IMPORTANT: The default values have been selected as being the optimum for a certain bale size but note that variations can occurs with the particular valves on a machine so it may be necessary to tweak them a bit. Please consult with you dealer if you are unhappy or unsure about the overlap on the bale.

Operator Setup Menu

The default settings for the machine are developed by Tanco for optimal operation of the machine. However, the operator can change certain parameters in the 'Operator Setup' menu to take account of operational conditions.

1814 Operator Setup — Software rev. 049

Parameter	Default	Menu No.	Description
Contrast	FULL	4.01	Adjusts the display contrast
Film Break	OFF	4.02	Set 'ON' to enable sensors on the film dispenser. This allows you to continue wrapping with only one dispenser when one runs out.
Remote type	IR	4.41	Set to RF if you using Radio remote.
Continuous	Off`	4.55	Set Off the controller will run Loading, Wrapping and Offloading as individual functions and stop when each is complete. Set 'ON' the controller will run a complete continuous cycle, Loading, Wrapping and Unloading with just one button press, L5 button.
Squeeze in	0.0s	4.07	Set time period squeezing during auto load sequence.
Load up +	0.0s	4.08	Set load arm up time period past up sensor in auto load sequence.
Squeeze out	0.0s	4.09	Set time period grab open during auto load sequence.
Load down pause	0.0s	4.1	Set time period between grab open and load down during auto load sequence.
Load Down +	0.5s	4.53	Set load arm down time period past down sensor in auto load sequence
Load up delay	0.0s	4.54	Time period between squeeze and load arm up in auto load sequence.
Conveyor Down	0	4.14	If required you can set the conveyor to be slightly raised while wrapping (by adjusting the conveyor down sensor posn). This sets the time period that it drops for during auto unload sequence
Pre-Rotate	0.0s	4.51	Tme period which the bale rotates on the table before wrapping so on rectangular bales the film is applied to the long sides of the bale first.
Stop bale pulse	1	4.22	Select the no of ½ turns of the wrap arm before the bale starts turning at the start of the wrap sequence.
Wraps to release	2 Pulses	4.23	Selects the no of wraps before it film is released by the Cut and start units.
Release 2	10 Pulses	4.24	Selects the no of wraps before the second film release by the Cut and start units.
Delay To Stop	0.0s	4.27	Selects the delay on the last rev before wrap stops (note: it will always reverse back till it sees the sensor).
Bale Unload	8	4.29	The time period the rollers turn to unload the bale from the Rocking rollers to the unload conveyor.
Conv. Level	No	4.57	Set to No, the conveyor remains in the down for unloading. Set to Yes, the conveyor raises to receive the unloading bale.
Language	English	4.35	Select the display language.

Technician Setup Menu

1814 Technician Setup (Pin 1,2,3,4) Software rev.050

Parameter	Default	Menu No.	Description
Sequence	1814	5.01	Sets controller to machine model. Should be 1814 or 1814S ARC
Slow Arm PWM	25% *	5.39	Sets Wrapping Arm slow speed by setting min. % valve opens. Note: not actual RPM
Fast Arm PWM	40% *	5.4	Sets Wrapping Arm fast speed by setting max. % valve opens. Note: not actual RPM
Rev Arm PWM	23% *	5.41	Sets Wrapping Arm speed in reverse direction.
1 -D Fast Speed	38%	5.51	Sets Wrapping Arm fast speed when wrapping with one roll of film .
Rolls Slow Speed	32% *	5.45	Sets Bale Rollers slow rotation speed (on rectangular profile bales).
Rolls Fast Speed	41%	5.42	Sets Bale Rollers fast rotation speed (on rectangular bales) .
1-D Rolls Speed	30%	5.47	Sets Bale Rollers rotation speed when wrapping with one roll of film.
Bale level at	25%	5.52	Sets the tolerance between the angular position of both rocking roller set that the controller considers the bale is sitting level on the table. This can be increased if there is a problem levelling the bale.
Rolls Ramp	0.1 Secs	5.46	Set time period for Bale Roller speed to change speed.
Slow Start Time	3.0 Secs	5.15	Time period Wrapping Arm rotates in slow speed at the beginning of wrapping cycle.
C&S Open Time	0.3 Secs	5.16	Time period Film Cut and Start opens during wrapping to release hold on film.
C&S Close Time 1	0.3 Secs	5.17	Time period Cut and Start closes during wrapping after releasing hold on film.
C&S Close Time 2	2.0 Secs	5.18	Time period Cut and Start closes at the end of wrapping cycle to cut and hold the film.
Level timeout	5.0 Secs	5.54	Maximum time period the bale is rotated to get it into a level position for offloading. The rotation will stop before this time if the feedback from the rocking roller angular sensors say the bale is level.
Rolls switch %	65%	5.55	Sets the point in the rotation of the bale where the roller speed changes from fast to slow.
Rolls slow min	0.5 Secs	5.56	Sets the minimum time the rollers stay in slow speed.
Release Delay	0.0 Sec	4.25	Sets the point during the revolution of the Wrapping Arm that the Cut and Start opens to release its hold on the film.
Del. to C&S Open	0.3 Secs	4.44	Sets the point during the last revolution of the Wrapping Arm that the Cut and Start opens to cut and hold the film.
Delay To Slow	0.4 Secs	4.26	Sets the time period the Wrapping Arm stays in fast speed during the last revolution of the wrapping cycle.
Conveyors Delay	2.0 Secs	5.38	Sets the time period between the bale off-loading from the table to the conveyor and the Conveyor rotating to discharge the bale.
Hyd Type	Open Ctr.	5.6	Not applicable, leave set to default of Open Ctr.
Auto Hand Cont.	Off	5.59	Should be left set to default Off.
RPM Alarm	35 RPM	5.25	Sets maximum Wrapping Arm speed above which an alarm will sound and the wrap arm will stop.
Set Default		5.28	Resets the controller to default valves.

Wrapping Arm Speed Setting
Load a bale on to the machine. The wrap arm speed should be factory set to about 27 rpm. It can be adjusted by altering the Fast Arm PWM in the Technician Menu. Ideally this should be done by an experienced technician. If the tractor hydraulic output is less than the 50lt/min recommended it may be necessary adjust the flow control valve which divides the flow in the main valve. (see Hydraulic circuit). When the wrapping arm speed is OK, you can set the overlap.

Film Overlapping Setting
Commence a wrap cycle and stop it after a few turns of the wrap by pressing the red button. Check that the plastic coming off the dispenser is meeting the plastic already on the bale in a position where more than half the film is overlapping the plastic already on the bale. It is always important to check this with the long side of the bale standing up as this traditionally the side that get least plastic due to the geometric condition with rectangular bales. Approx. 52-53% is the ideal overlap.

The overlap is set in the Technician Setup on the controller. It is important to select the right bale size and check the overlap whenever you start a new bale size. When wrapping rectangular bales the controller varies the indexing speed of the bale, it rotates slowly when the bale is standing tall and faster when the bale sitting low. In the Technician Setup, the fast roller speed is adjusted by altering the Rolls Fast Speed and similarly the Rolls Slow Speed for slow.
These changes are best left to an experienced technician.

IMPORTANT: If you have less than 50% overlap, what happens is that while most of the bale with have 4 or 6 layers, some narrow strips will have half that. Therefore DAMAGE TO SILAGE!

Tanco do not accept liability for any damage to silage as they cannot supervise the wrapping and storage of your bales. It is the responsibility of the operator of the machine to check this.

Operating Instructions
We shall now go through a complete wrapping process, from loading to unloading, and explain the practical use of Tanco 1814.

Fitting a roll of film.

Loading (LA Model only)
For the first bale, ensure that the rollers are set the correct width for the bale size. The dispensers should be in the park position close to the film cut & start. Ensuring you have enough room around the machine, lower the conveyors (remove parking bracket first) and lower the load arm.
Note: that the machine overhangs on both sides the tractor when it is folded out. This requires care from the operator not to damage other bales or objects in the field.

With the Controller in N mode, Drive into the bale and squeeze it by pressing load squeeze in button on the hand-controller. Then press load arm up button to raise the load arm close to the rocking rollers. Release the bale by pressing the load squeeze out button. Then lower the load arm to again by pressing the load arm down button.
This sequence can be done automatically by pressing L5 if the controller is configured to operate in this way see section 7.0. However this may not be suitable the oil flow from the tractor varies.

Setting up the rocking rollers
The width between the rocking rollers can be adjusted by changing the position of the width stop pins and moving in and out the Left hand rocking roller frame.
This is done on a separate service using the tractors spool valve.
For smaller bale move rocking rollers closer together and for larger ones move them apart. (See Fig 8.1).
There are also rocking roller stops mounted on the rocking roller frames.
These limit the drop of the rocking roller frames and do not need to be adjusted in general.

Warning There is a risk of crushing fingers and limbs when adjusting the rocking rollers!
The Bale should rotate smoothly; no 'tumbling' should be evident.
If this occurs adjust one of the roller sets out one hole at a time.
The rollers should always run parallel to one another.

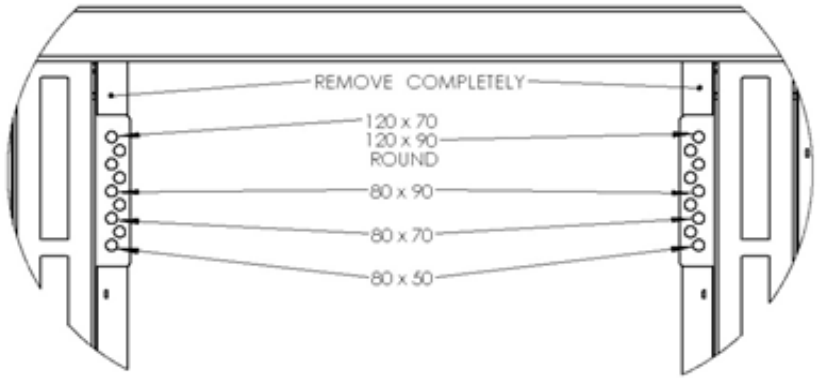


Fig. 8.1 Recommended rocking roller width positions.

Height Adjustment of Film Dispenser
The Dispenser has to be adjusted so that the plastic film is always hitting the Centre of the bale. Therefore it is recommended to keep the film dispensers as low as possible and to keep the bale as high as possible (rocking roller width is minimum).

Start
Remember that the plastic film end has to be held in the Cut and start unit or attached to the bale before starting the wrapping cycle. When the tail of the film is held in the cut and start, press the R6 button to start the wrapping cycle in automatic mode. Note as part of the wrap sequence the film will be released automatically after 2 revolutions and again after 5.

Overlap
There should be a film overlap of 50% - 53%. This should be checked frequently as changes in hydraulic oil temperature could result in the overlap increasing or decreasing.

How Many Layersof Plastic Film?
Depending on the moisture content and the type of bale being wrapped the typical minimum no of layers required are;
- 4 layers – round bales
- 6 layers – Square bales.
- Follow your plastic manufactures guide on the film layers required

Using a 50% overlap cover the bale completely in film, then rotate the wrapping arm around the bale 1 more time. This number should be an even number (typically 4 rotations for a 1.2m round bale). If a small square of plastic was removed from the side of the bale, 2 layers should be found.

Note the total number of revolutions on the controller and then multiply it by 2 for 4 layers, 3 for 6 layers etc.

Stop
At the end of the wrapping sequence, before the required number of revolutions is obtained, the speed of the wrapping arm is reduced the cut and start units open to catch and cut the film and the arms go back to the park position, the wrapping arm is then stopped. Rectangular bales are now rotated to a level position for offloading.
If the bale does not level automatically, the controller will give an error message Bale Not Level see chapter 7 for solution.
The bale is then offloaded onto the discharge conveyor. At this stage it is now possible to load the next bale if desired.

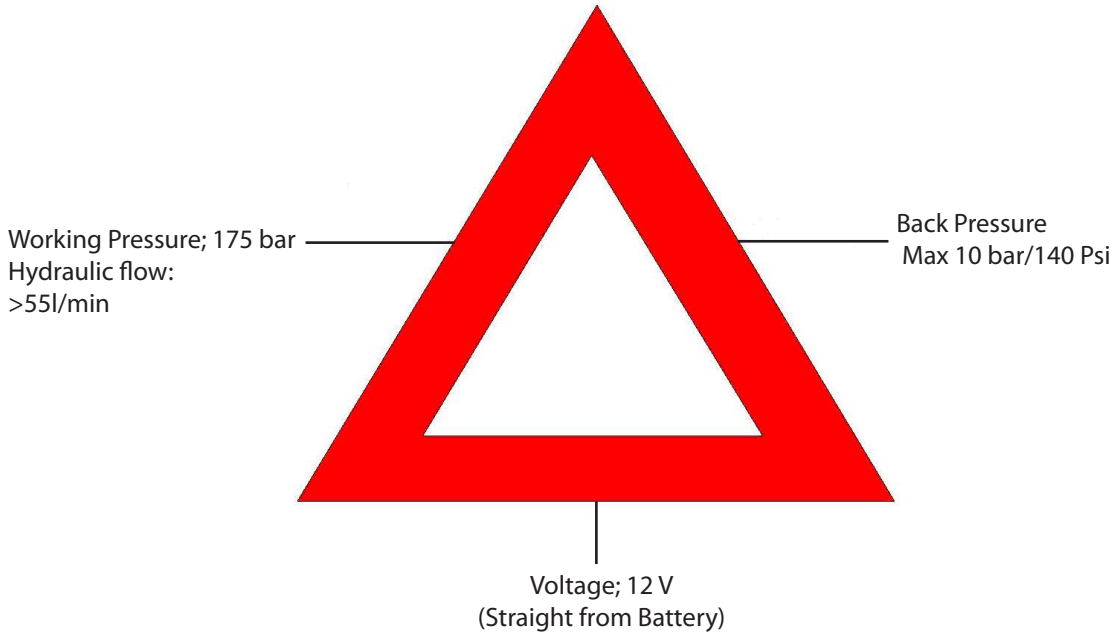
Unloading.
When you are in a suitable position to discharge the bale, press the Bale Unload (R5) button in automatic mode commences the unload sequence.
There should be sufficient space for the conveyor to rotate and ground conditions should also be suitable . A smooth flat area without stones or other sharp objects is necessary.
Note also that some grasses have tough stubble which can cause damage to the bales during unloading. Check this with great care. Also ensure that you have adequate room operate.

Transport/Working position. (LA Model only)
To fold the machine for road transport:
- With hand controller in N
- Close squeeze fully using had controller
- Change N to S (press ESC button)
- Raise conveyor fully
- Change N back to S, (ESC)
- Raise load arm fully
- Fit parking bracket on conveyor, see fig. 4.5.
- To unfold the machine for operation, reverse the above procedure.

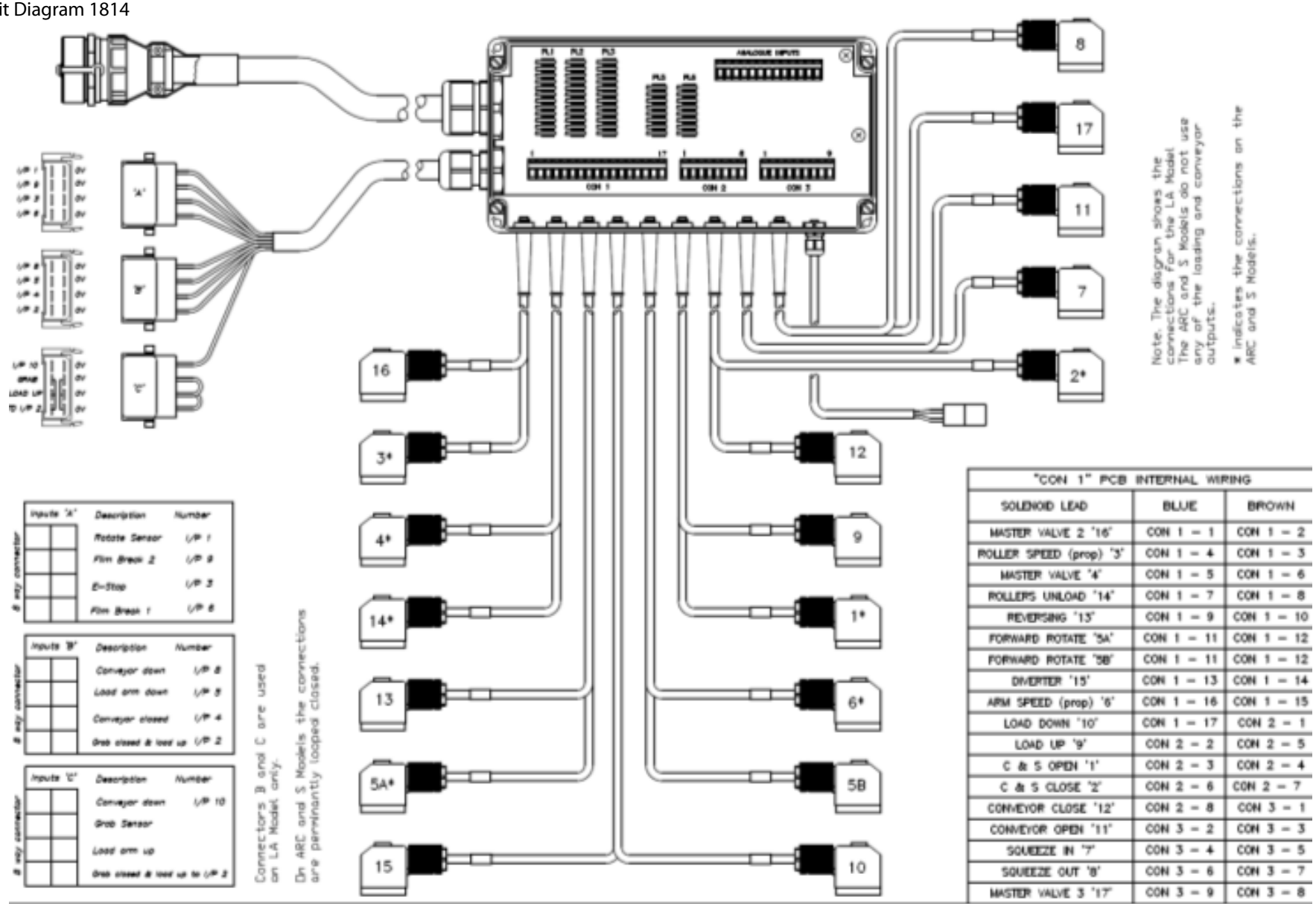
Continuous Operation (LA Model Only)
To maximize the output of the 1814 machine it should be operated in Continuous mode. This can be set on or off in the Operator Setup on the controller. When Continuous is On, the machine loads a new bale and discharges the wrapped bale simultaneously and wrapping commences immediately the load arm is down. This reduces cycle time so increasing output. Note in Continuous mode the machine has operations happening on both sides so take care that it is safe to do so.

Pre load (LA Model only)
It is possible while a bale is being wrapped to squeeze and raise the next bale clear of the ground and move to where the wrapped bale is to be discharged.
This pre loading can be done manually with the hand held controller or automatically by pressing R5 during wrapping. This will squeeze and raise the bale in one operation. The loading will stop at a height where the wrapping arm can pass over new bale. When wrapping has finished and the wrapped bale has been moved to the off load conveyor, pressing R5 will load the new bale on the table and discharge the wrapped bale to the ground.

Electro-Hydraulics
Note: There are 3 basics, which must ALWAYS be followed if the machine is to function correctly.

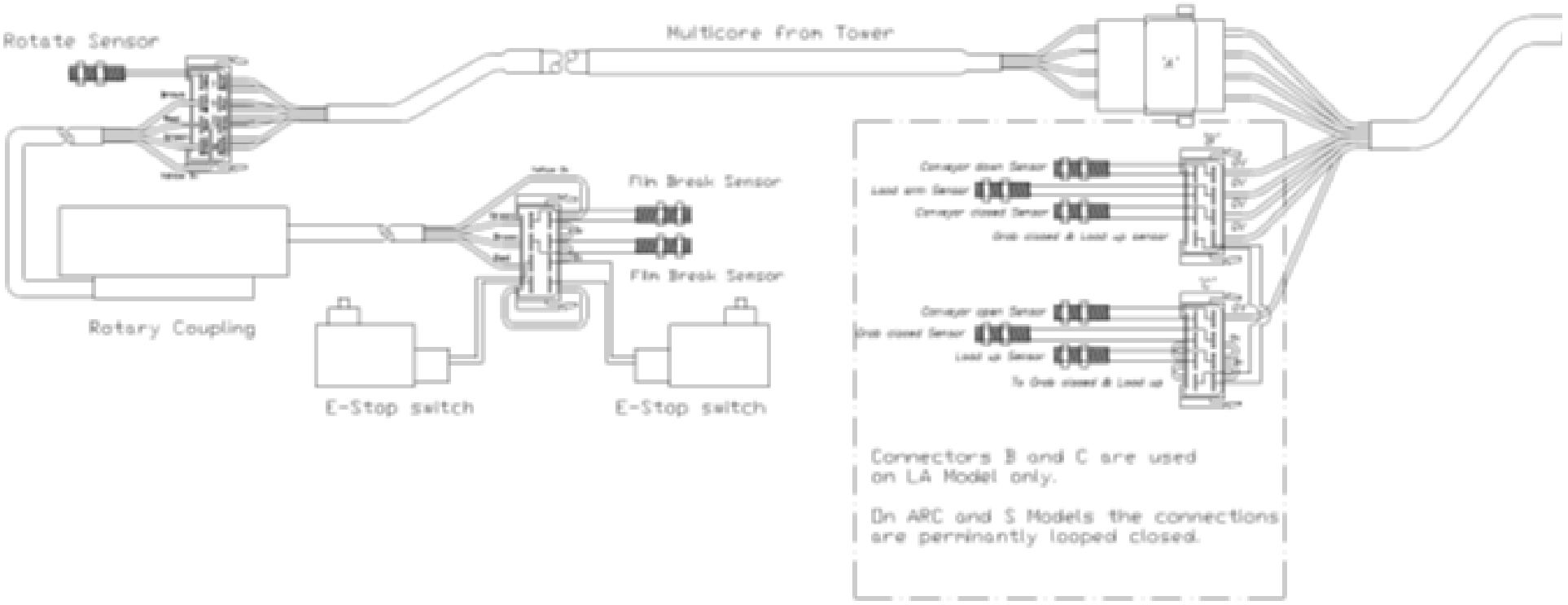


ElectricCircuit Diagram 1814



"CON 1" PCB INTERNAL WIRING		
SOLENOID LEAD	BLUE	BROWN
MASTER VALVE 2 '16'	CON 1 – 1	CON 1 – 2
ROLLER SPEED (prop) '3'	CON 1 – 4	CON 1 – 3
MASTER VALVE '4'	CON 1 – 5	CON 1 – 6
ROLLERS UNLOAD '14'	CON 1 – 7	CON 1 – 8
REVERSING '13'	CON 1 – 9	CON 1 – 10
FORWARD ROTATE '5A'	CON 1 – 11	CON 1 – 12
FORWARD ROTATE '5B'	CON 1 – 11	CON 1 – 12
DIVERTER '15'	CON 1 – 13	CON 1 – 14
ARM SPEED (prop) '6'	CON 1 – 16	CON 1 – 15
LOAD DOWN '10'	CON 1 – 17	CON 2 – 1
LOAD UP '9'	CON 2 – 2	CON 2 – 5
C & S OPEN '1'	CON 2 – 3	CON 2 – 4
C & S CLOSE '2'	CON 2 – 6	CON 2 – 7
CONVEYOR CLOSE '12'	CON 2 – 8	CON 3 – 1
CONVEYOR OPEN '11'	CON 3 – 2	CON 3 – 3
SQUEEZE IN '7'	CON 3 – 4	CON 3 – 5
SQUEEZE OUT '8'	CON 3 – 6	CON 3 – 7
MASTER VALVE 3 '17'	CON 3 – 9	CON 3 – 8

Sensor Connection Diagram 1814

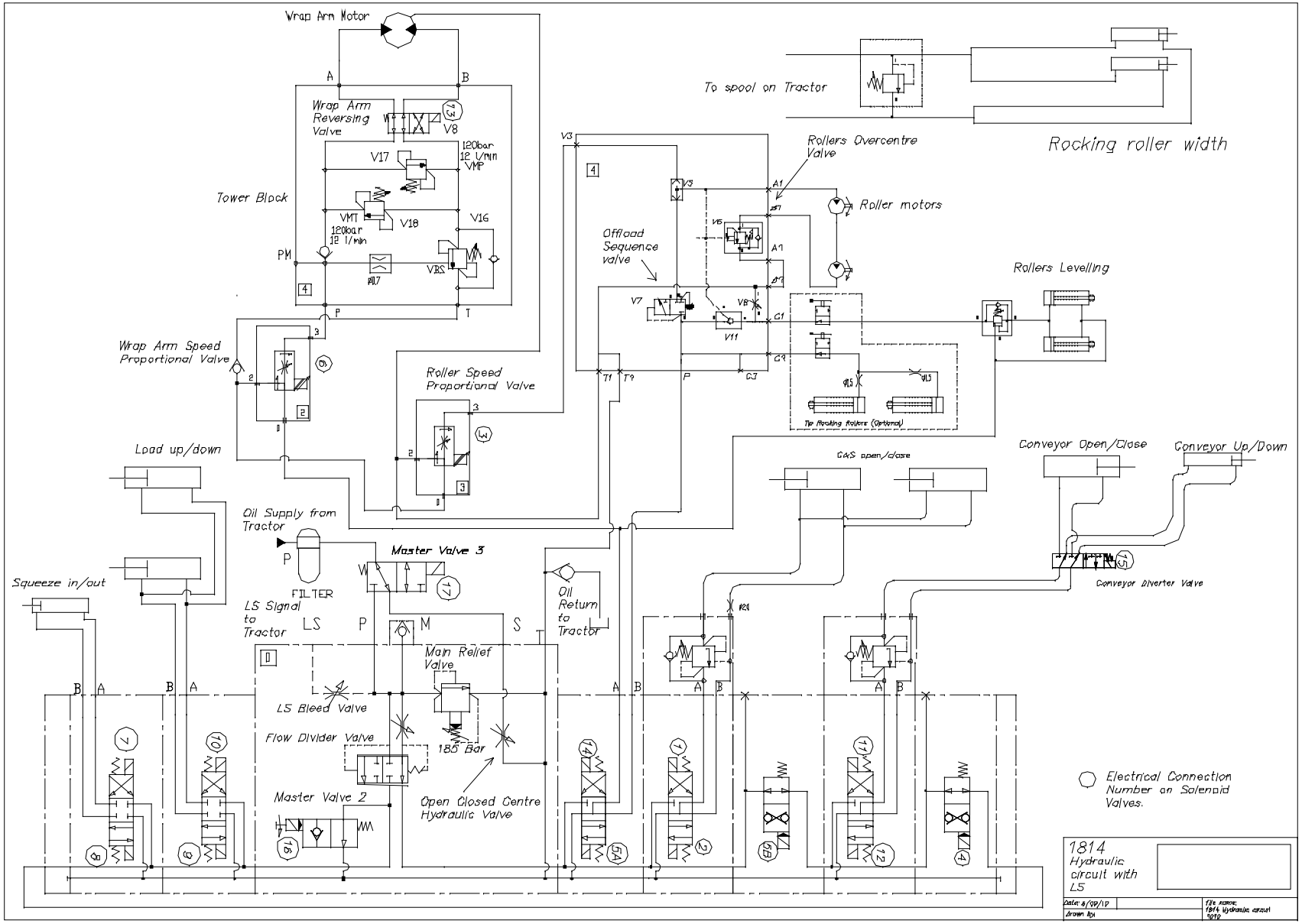


1814 Wiring Details

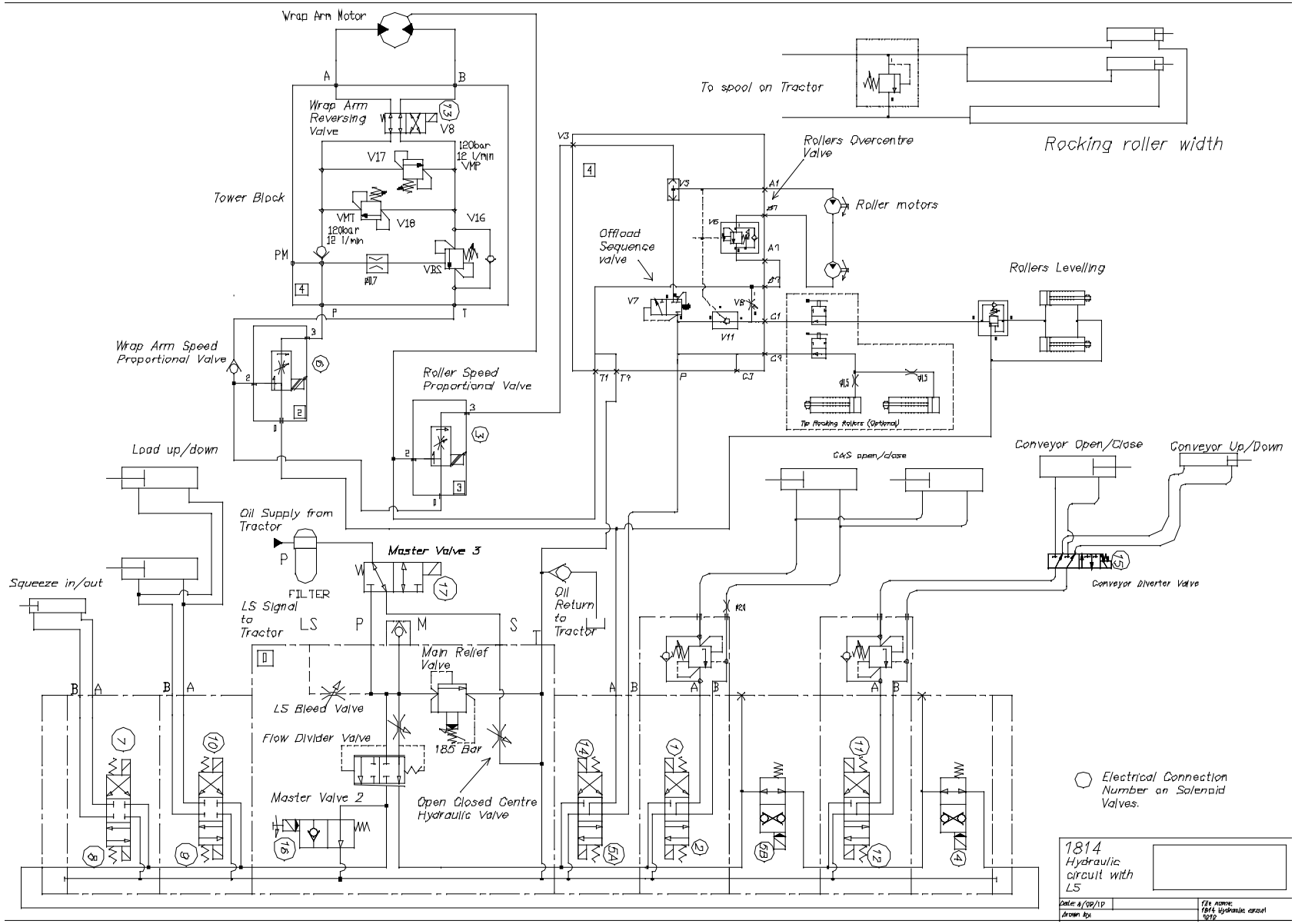
Tanco Solenoid	Generic Function	Cable Number	AMP Pin	1814 Function	1400 Function
1	OP6	18	24	C&S Open	C&S Open
2	OP7	15	6	C&S Close	C&S Close
3	OP1	14	7	Roller Speed (prop)	Roller Speed
4	OP2	3	14	Master Valve	Master Valve
5A	OP4	31	16	Forward Rotate A	Forward Rotate
5B				Forward Rotate B	
6	OP3	6	18	Arm Speed (prop)	Arm Speed (prop)
7	OP13	30	10	Squeeze In	Squeeze In
8	OP14	11	15	Squeeze Out	Drawbar Out
9	OP8	24	22	Load Up	Load Arm Up
10	OP9	27	2	Load Down	Squeeze Out
11	OP16	1	19	Conveyor Open	Tip Off
12	OP15	5	12	Conveyor Close	Tip Return
13	OP11	16	11	Reversing	Reversing
14	OP10	26	3	Rollers Unload	Drawbar In
15	OP5	4	13	Diverter	Load Arm Down
16	OP12	25	4	Master Valve2	12 volts

Tanco Solenoid	Generic Function	Cable Number	AMP Pin	1814 Function	1400 Function
17				Master Valve3	Not Used
	IP1	12	9	Rotate Sensor	Rotate Sensor
	IP2	2	20	Grab Sensor	Not Used
	IP3	20	31	Emergency Stop	Emergency Stop
	IP4	19	30	Conveyor Closed	Not Used
	IP5	22	33	Load Arm Down	Squeeze Out
	IP6	13	8	Film Break 1	Film Break 1
	IP8	29	5	Conveyor Position	Not Used
	IP9	28	1	Film Break 2	Film Break 2
	IP10	17	17	Conveyor Open	Not Used
	AnIP5	8	26	Right Roller Position	Not Used
	AnIP6	7	25	Left Roller Position	Not Used
	AnIP7	32	29	Not Used	Not Used
	0v	35	35	Common 0V	
	0v	34	34	Common 0V	
	0v	33	23	Common 0V	
	0v	9	27	Common 0V	
	0v	10	21	Common 0V	
	An0v	21	32	Common 0V	
	5v Supply	23	28	5v Supply (Analogue Inputs)	

1814 LA Hydraulic Circuit



1814 Arc and s Hydraulic Circuit



Description of Hydraulics
LA Model

The 1814LA Model can operate on tractors with Open or Closed Centre or Load Sensing hydraulics.

Setting ForTractors Hydraulic System
Open Center Hydraulics
Most tractors have an "Open Centre" Hydraulic System which delivers a continuous oil supply.
The 1814 machine is set as standard to suit this. The Open/Closed Centre valve is fully opened. See fig. 9.2.

Closed Centre Hydraulics
A tractor with a "Closed Centre" hydraulic system requires the machine to block the oil supply through the machine when no function is operating. This is done by fully closing the Open/Closed center valve. See fig 9.2.

Control Valve

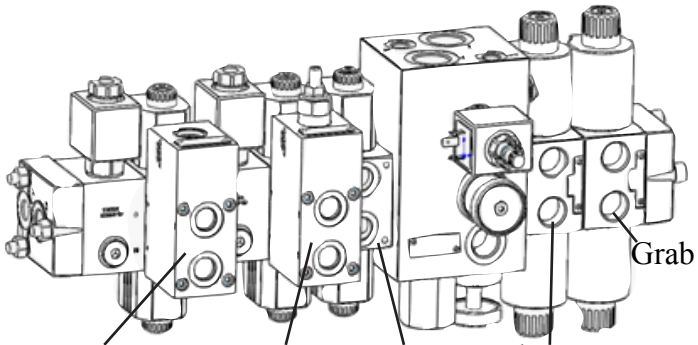


Fig.9.1

Load Sensing Hydraulics.
Many modern tractors have a "Load Sensing" (LS) hydraulic system. This is most efficient as the pump remains on standby, pumping no oil until it gets a signal from the machine.
This LS signal is sent to the tractor by a third (small) hydraulic hose.
For LS operation the Open/Closed valve is fully closed and the LS signal pipe is connected to the LS port on the tractor.

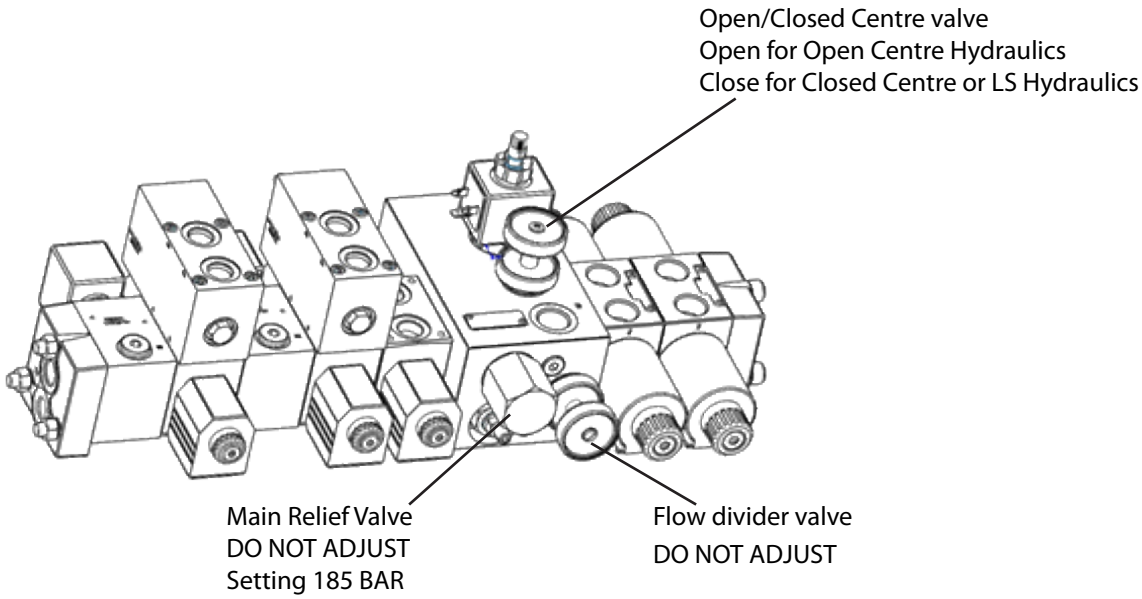


Fig. 9.2

ARC Model
The ARC Model can be changed from open centre to closed centre by locking the master valve on the control valve closed.
Push in and twist the knurled knob to lock it closed.
See fig. 9.3
The control valve is located behind the cover on the back bulkhead on the machine.

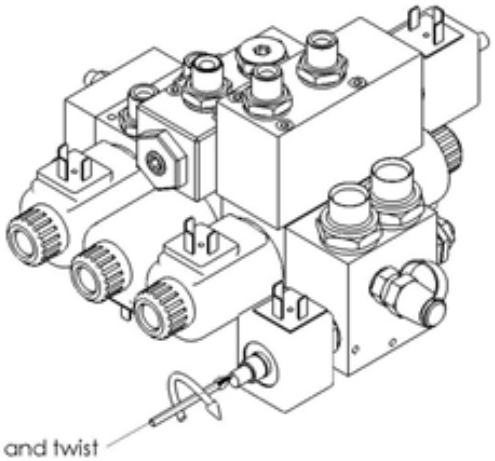


Fig. 9.3

Hydraulic valves on front of chassis (LA Model ONLY)
1. Oil Filter. Indicator shows filter condition when oil is flowing.
2. Master valve. This valve is energized with every function on the machine
3. Assembly block.
4. Sequence valve for leveling rocking rollers before off-loading bale. This is factory set fully out and then in two turns. For tipping rocking roller with optional round bale kit fitted, this valve must be screwed in at least 1 more turn. This is to give the tipping hydraulic cylinder sufficient pressure to tip.
5. Manual shut off valve. Open this if you want to relieve the pressure on the roller leveling cylinders. Must be closed during wrapping or the unloading sequence won't work (Rollers will not rotate!)
6. Over-center valve. Stops the bale toppling. Screw out fully and then in one turn. If this is set too high the operating pressure during wrapping will be increased..
7. Shut off tap to leveling cylinder. Close this with the rollers down (See 5 above) for wrapping round bales. This holds the rollers in the down position. (Valve in picture in closed position)
8. Shut off tap for Tipping rocking rollers. Close this if you do not want the rocking rollers to tip (if optional tipping kit is fitted).
9. Rollers leveling holding valve. This valve holds the rollers level for loading.

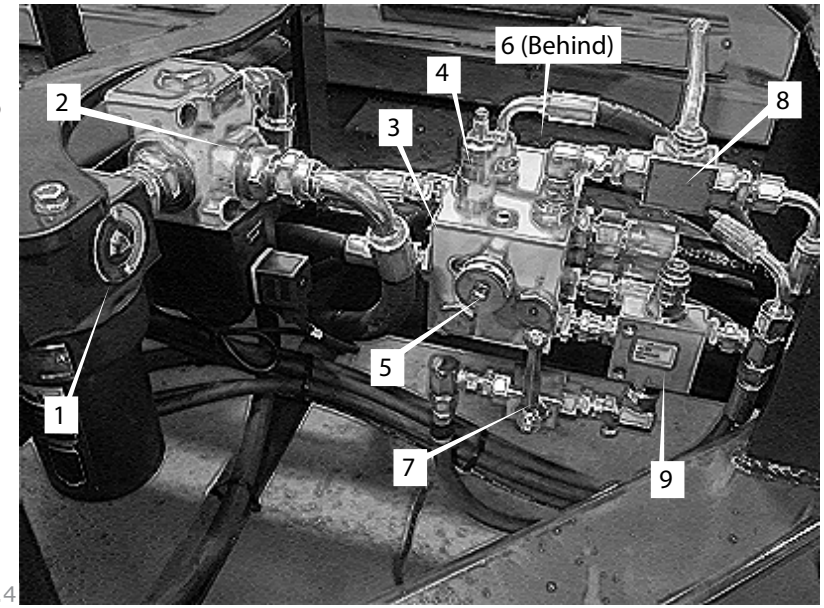


Fig. 13.4

Wrapping Arm Valve Block
The wrapping arm valve block is mounted inside the cover on the back bulkhead of the machine.
It holds 5 valves.
a) Non return valve.
The non-return valve is mounted internally in the block, inside the P port.
It stops the wrap from reversing when parked.

b) Safety valve on the plus side.
This cross line relief valve reduces the shock loading on the wrap arm drive motor when it stops suddenly.

c) Safety valve on the minus side.
This cross line relief valve limits the max. torque of the wrapping arm drive motor.
It is adjusted so that the pull force on the end of the arm is approx. 50 KG.

d) Holding valve.
This holding valve stops the wrap arm rotating forward when parked.
It also maintains a positive pressure on the motor outlet, this makes the wrap arm run smoother.

e) Wrap Arm Reversing Valve
This valve reverses the rotation direction of the wrapping arm.

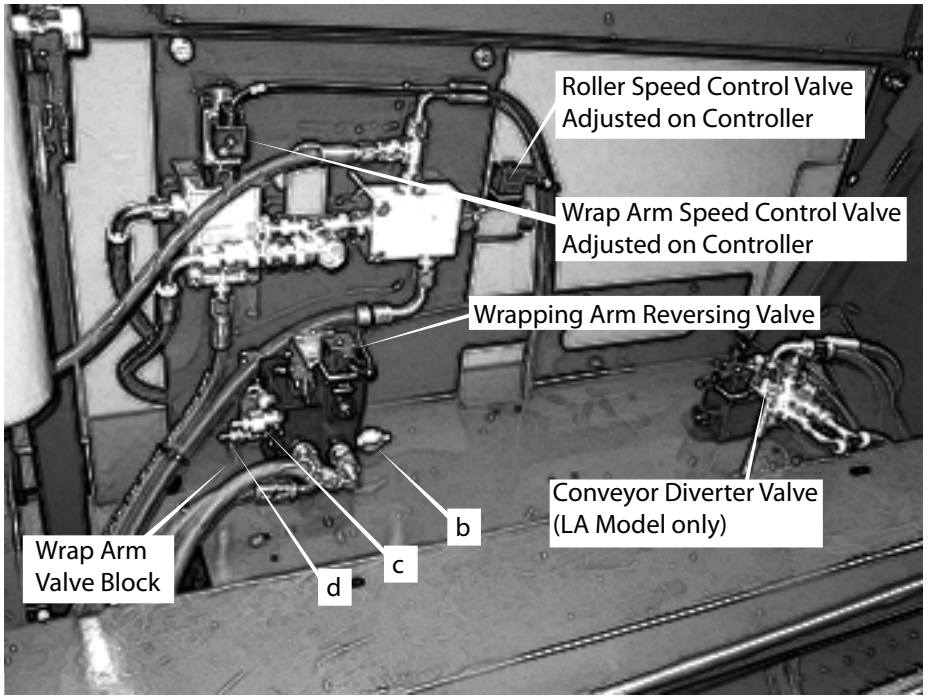


Fig. 9.5

IMPORTANT: All these valves have been carefully set in the factory. Incorrect adjustment of these may cause damage to the machine.
Always ensure that trained personnel only adjust the settings.

Check Points BeforeTrouble Shooting
In this chapter we have some general check points that have to be examined first if something is wrong with the machine.
There are three basic assumptions that have to be fulfilled if the machine shall function properly:

1. The oil pressure from the tractor should be 180 bar.
2. The return flow of oil has to be as free as possible, max. 10 bar counter pressure.
3. Enough electric power to all functions.

Oil Pressure
In order to check that the oil pressure into the machine is high enough, a gauge may be connected using the test pressure points on the both main valve blocks. When no function is operating the pressure will be the return line pressure. If the pressure is less than 150 bar, there will be less power for the functions. The build up the pressure manually close the master valve or select and hold a function on e.g. CUT& START CLOSE.

Oil Flow
The minimum oil flow for the LA Model is 50 liters/minute, but it is recommended that it is 60 liters/minute and max. of 70.
30 liters / minute is the recommended oil flow for the 1814 ARC Model.
REMEMBER! Large oil amount = Valves get hot. (Small oil tank = insufficient cooling).

Return Pressure
The return pressure can be too high. With high return pressure the machine's functions will get less power. High return pressure means also that you need more power to operate the valves.
MAX. ALLOWED RETURN PRESSURE IS 10 BAR.
We recommend "free return" directly to the tank.

Electric Power
It is important to check that all functions receive enough electric power.
If not, some, or all functions may fail.

Is the battery voltage high enough?
If the voltage falls below 9 volts the valves will not be able to open.

Are the cables correctly connected to the battery?
Follow directions in chapter 7

Is the connection between battery cable and control unit OK?
Clean off the poles and check the plug.

Is the connection between remote control unit and machine OK?
Change contacts if any doubt about the condition.

Is the fuse on the battery cable OK?

PLEASE CONTACT YOUR DEALER IF YOU ARE IN DOUBT ABOUT ANYTHING.
(Remember, always to give your dealer the serial number and production year of your machine when contacting them dealer and ordering spare parts).

Procedure of Trouble Shooting

Solenoid Valves
When checking if the Solenoid valves are receiving electric power, you do this in the following way with the tractor stopped:

1. Unscrew the nut that holds the solenoid.
2. The solenoid is easy to move without electric power.
3. Push the current function on the remote control. If the solenoid gets power, it will be difficult to move, it "sticks". This is the best and easiest way to check if the solenoid valve is receiving electric power. Another way is to hold a screwdriver up to the magnet. If it "sticks", the solenoid is receiving electric power.

The power supply to the valve can also be measured with a voltmeter, but then the contact must be connected to the solenoid, so it is using power.
To have reliable functions, the voltage should not be lower than 11.5 volts, even if the solenoid valve usually works with a little lower voltage.

Only for solenoid valves to the main functions.
If the electric supply is in order and one of the functions fails, the reason can be dirt that tightens or prevents the sliding shaft (spool) from moving.
Try to maneuver the function manually, by pressing the point of a screwdriver into the end of the valve housing. At the same time the corresponding switch on the control unit has to be operated to get electric power to the master valve. If the function is working again after this, the dirt may have been pushed out in the oil system and the machine can be operated normally again.


Take care so that the machines moving parts, do not cause damage to persons or objects.

Trouble Shooting
The Machine Does Not Function
a) Even if the gauge shows enough pressure and there is no reaction in the machine. The reason could be that one, (or both), of the quick-couplers does not open for the oil. Change quick couplers.

b) The counter pressure could be too high.
Max. allowed counter pressure is 10 bar.

c) Make sure that the master valves are functioning. These can be manually closed. Check that the pressure builds when either are closed. You will hear the tractor labour.

(Disturbances of this type, a, b or c, are most likely in the first days that the machine is in use).

The Cutter Will Not Hold the Film
The pressure is falling and the springs start to lift the cutter.

The Wrapping Arm Will Not Rotate
a) Check the wrap arm proportional flow valve. This gets a PWM signal and cannot be read with a voltmeter. However you can check the connections and if possible put 12 V directly onto it. This will give flow to the wrap arm (i.e full speed) so be careful! Just press the button briefly and if it moves there is the problem the PWM module in the junction box. Consult with your dealer.

b) Check cross line relief valve (S4). Screw in one turn and test. If it does not have an effect screw back to original postion.

c) The safety valve, can be leaking, so that the oil is passing by the wrapping arm motor. Dismantle and try out if the sliding shaft can move freely.

d) The control valve may be blocked. Dismantle and check if the valve works normally. Do not use sharp tools.

e) Check if the oil motor is working
Ask your dealer for advice BEFORE you make the problems bigger and repairing more difficult.

f) If the emergency stop* has been activated. To start the machine the control box must be reset.

The Rollers Do Not Rotate During Wrapping.

a). Check "Stop bale pulse" is set to 1 in operator set-up.

b) Check the Rollers proportional flow valve. This gets a PWM signal and cannot be read with a voltmeter. However you can check the connections and if possible put 12 V directly onto it. This will give flow to the rollers (i.e full speed) so be careful! Just press the button briefly and if it moves there is the problem the PWM module in the junction box.
Consult with your dealer.

The Load Arm Does Not Function

- Is there enough flow going to the machine.
Remember the load arm is receiving the excess from the flow divider. Try increasing the tractor engine speed. Check the flow. Adjust the main flow divider if necessary.

- Check the bypass valve
If this is receiving enough power and has free flow, the problem must lie in the solenoid valve.

- Is there enough electric power going to the valves.
When the power source is tapped by several users at ones, the voltage can fall so much that all the functions will cut out, or only the width regulating. Check the power source and measure the voltage.

Periodic Maintenance

Bearings
All pivot points are fitted with bushes and require regular greasing. Particularly those which are regularly articulating such as all pivot points are the load arm, rocking rollers, discharge conveyor and cut and starts. These should be grease daily. The ball-bearings on the rocking rollers and the dispensers are packed with grease, and do not need any more maintenance.

Film Dispenser
If the machine is in daily use, the Gears under the plastic cover on the dispenser should be greased when needed.

Cutter / Film Holder
The cutter / film holder is pre-adjusted from the factory and does not need further adjustments. When replacing spare parts, it is necessary to adjust it.
The springs for the U-shaped slot shall be adjusted so that there is 8 - 10mm of bolt exposed below the plate.

Cleaning
The machine should be cleaned and oiled regularly during and at the end of the wrapping season.
⚠ When using high pressure washing apparatus, care must be taken with the electrical installation.
Also make sure that water is not sprayed directly into the bearings, etc..
Keep the control box protected from rain and water. If necessary use compressed air to dry electrical components.

Hydraulic Cylinders
Make sure that all hydraulic cylinders are closed or the exposed cylinder rod is covered in grease when storing the machine.

Quick Couplers
Ensure that the quick couplers are kept clean and apply the dust caps after use.

Storage
The machine should be parked on a dry place during the closed season.

Oil Filter
The oil filter must be changed once a year.

GUARANTEE

Subject to hereunder provided, the sellers undertake to correct either by repair or at their election by replacement any defect of material or workmanship which occurs in any of its goods within twelve months after delivery of such goods to first user, with the exception of contractors or commercial users when warranty period is six months.
In respect of Autowraps the warranty period is for 12 months or 8000 bales, whichever occurs first.

The term goods when used in this document means the article or articles described in invoices as sold by the sellers but dose not include equipment or proprietary parts or accessories not manufactured by the sellers. The sellers, however, undertake to pass on so far as they legally can to the first user the benefit of any warranty given to the sellers by the suppliers of such equipment, parts or accessories.
This understanding shall not apply to:-

(a) Any goods that have been sold by the first user.
(b) Any goods which have been injured by unfair wear and tear, neglect or improper use.
(c) Any goods the identification marks of which have been altered or removed.
(d) Any goods that have not received the basic normal maintenance such as tightening of bolts, nuts, tines, hose connections and fittings and normal lubrication with the recommended lubricant.
(e) The use of any product on tractors exceeding the recommended horsepower.
(f) Any goods that have been altered or repaired other that on instruction or with the written approval of the seller or to which any part not manufactured or having written approval by the sellers have been fixed.
(g) Any second-hand goods or parts thereof.

Any allegedly defective part or parts returned to the seller must be sent carriage paid. No claim for repair or replacement will be entertained unless upon discovery of the alleged defect written notification is sent to the Sellers giving, at the same time, the name of the Buyer from whom the goods were purchased and the date of purchase, together with the full details of the alleged defect and the circumstances involved, also the serial number of the machine etc.

The sellers shall be under no liability to their Buyers and first or subsequent users of their goods or to any other person or persons for loss or damage howsoever arising in respect of either personal injuries or for arising out of, or in any other way connected with or arising from the manufactures sale, handling, repair, maintenance, replacement or use of its goods or the failure or malfunction of any of its goods.
Representation and/or warranties made by any persons (including Buyers and employees and other representatives of the Seller) which are inconsistent or conflicting with these conditions are not binding upon the sellers unless given in writing and signed by a director of sales.

CLAIMS

If you wish to make a claim under the guarantee:

1: Immediately, stop using the machine.

2: Consult with your Tanco dealer (supplier). He/She can download a warranty claim form on-line. This should be filled out and e-mailed to distributor and forwarded to relevant contact person in Tanco. Please ensure all relevant information is included on this form

3: Consult with your Tanco dealer (supplier) and have him forward your claim and the damaged item to Tanco.

EC DECLARATION OF CONFORMITY

ACCORDING TO DIRECTIVES 8 9/392/336 /EEC AS AMENDED

CE

Manufacturer:
TANCO ENGINEERING Co Ltd
BAGENALSTOWN
CO CARLOW
IRELAND

CERTIFIES THAT THE FOLLOWING PRODUCT:
TANCO AUTOWRAP
MODEL: 1814 Autowrap
SERIAL NO:

To which this declaration relates, corresponds to the essential requirements of the Directive 2006/42/EC.

To conform to these essential health and safety requirements, the provisions of the following harmonized standards were particularly considered:

ISO 12100, EN 294, prEN 703, EN ISO 13857, EN ISO 4254 - 1, prEN 982.

DATE 10.02.11

Singned: _____

Con Hourihane, Technical Manager

Tanco Autowrap -
Ersatzteilliste / Spare Parts Manual / Liste des pièces de rechange

1814 Ersatzteilliste

Wir empfehlen, nur Originalteile als Ersatzteile zu verwenden.
Befolgen Sie bei der Bestellung von Ersatzteilen bitte die folgenden Schritte:

1. Stellen Sie anhand der detaillierten Zeichnungen fest, welches Teil Sie benötigen.
2. Haben Sie das benötigte Teil identifiziert, geben Sie die Teilnummer auf dem Bestellschein an, mit dem Sie das/die Ersatzteil/e bestellen.
3. Geben Sie bei jeder Bestellung die Serien- und die Modellnummer Ihrer Maschine an.
4. Alle Bestellungen müssen über Ihren Tanco-Händler vor Ort erfolgen und müssen Tanco Autowrap als Fax oder E-Mail erreichen.

1814 Spare Parts List

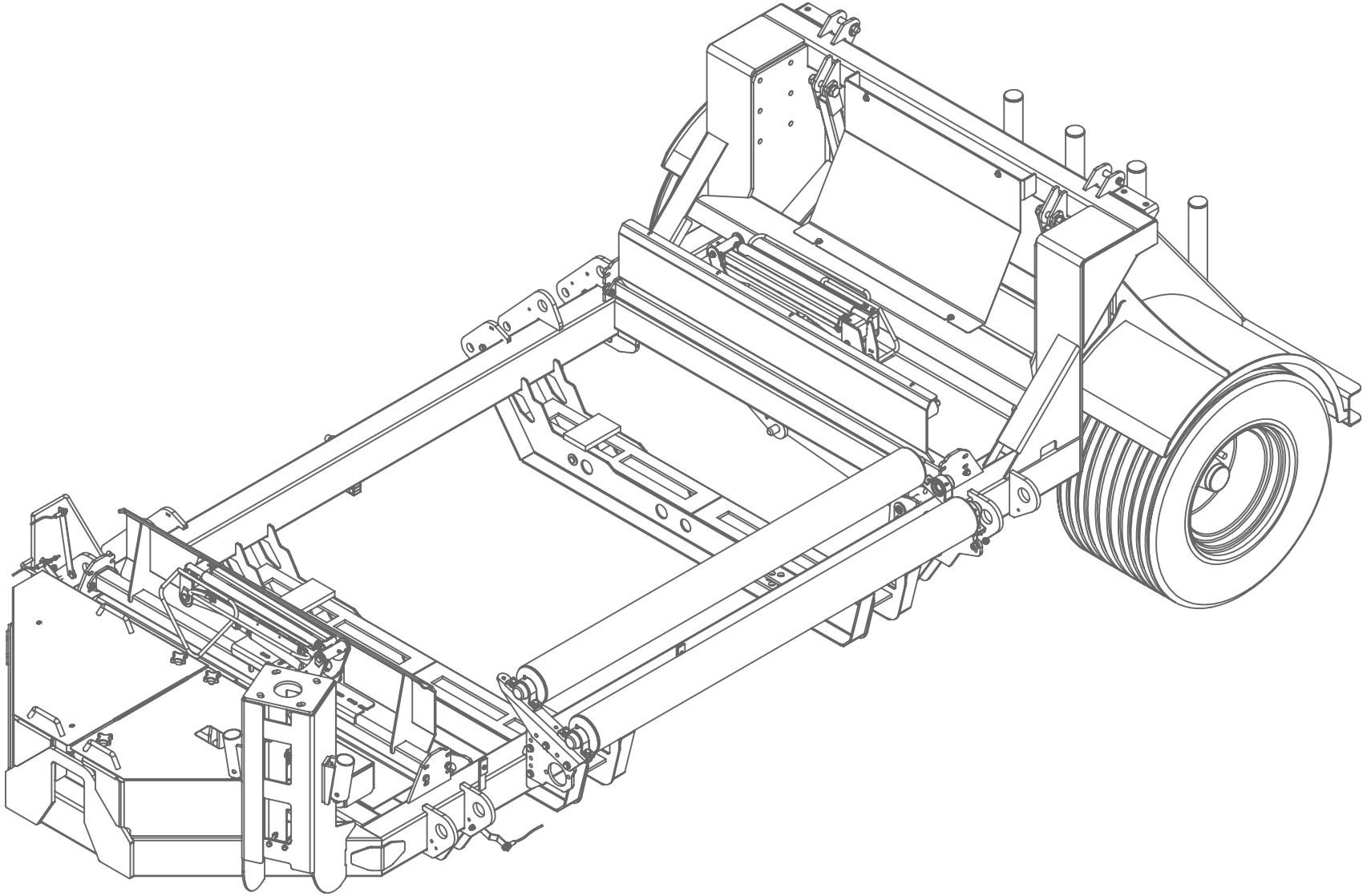
We recommend that when you require spare parts you use only original parts.
When ordering spare parts please follow the following steps;

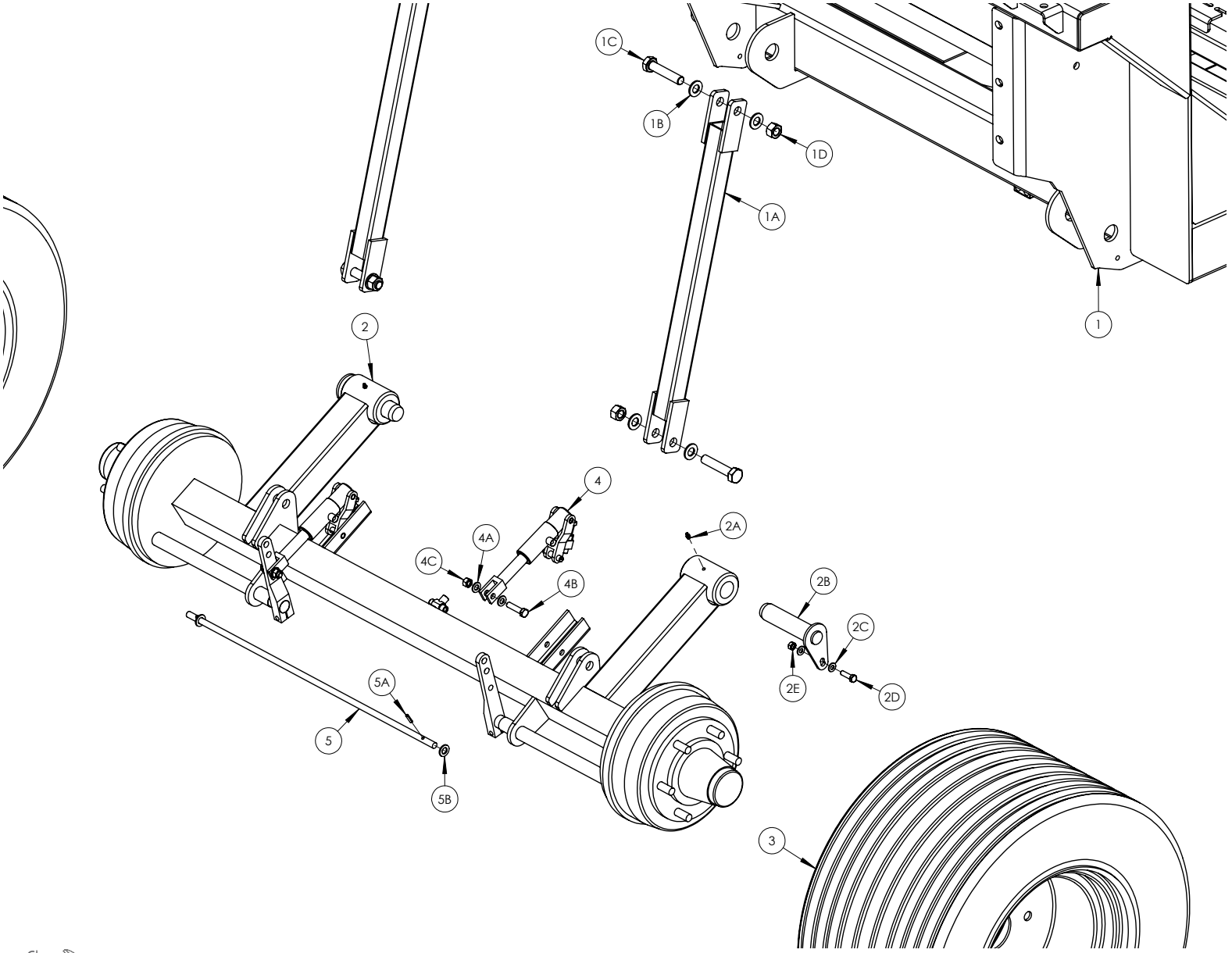
1. Identify the part you require using the detailed drawings.
2. Once you have identified the part you require reference the item number relating to the part on the item list where you will find the part number and description of the part you require. You will be require to give the complete part no and decription when ordering your part(s).
3. When ordering you must give the Serial Number and Model Number of the machine.
4. All orders must go through your local Tanco Dealer, and must be either faxed or e-mailed to Tanco Autowrap.

Liste des pièces de rechange 1814

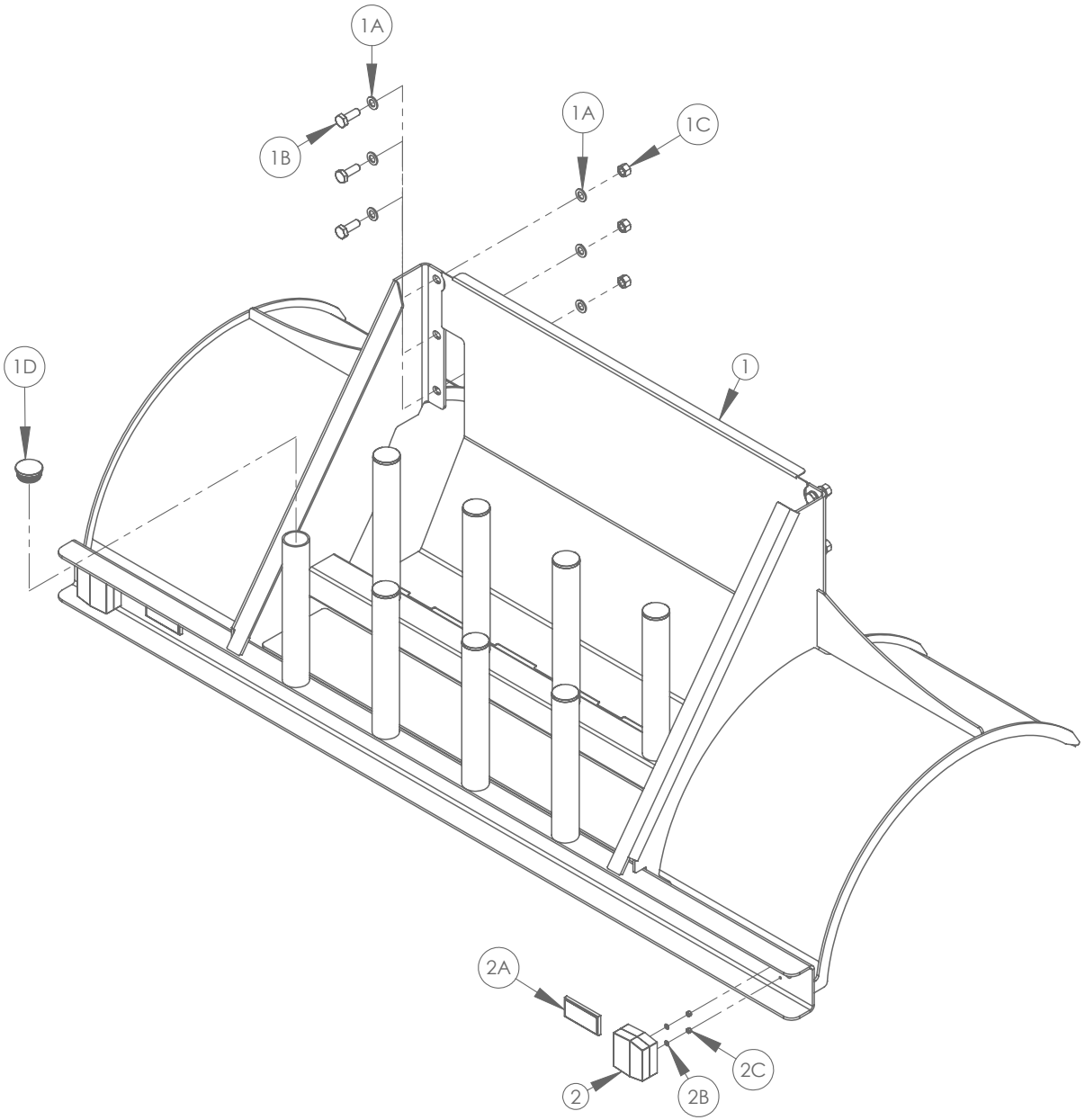
Si vous avez besoin de pièces de rechange, nous vous recommandons de n'utiliser que des pièces garanties d'origine.
Pour toute commande de pièces de rechange, veuillez suivre les étapes suivantes :

1. Identifiez la pièce dont vous avez besoin à l'aide des schémas détaillés.
2. Après avoir identifié la pièce dont vous avez besoin, relevez son numéro de référence dans la liste des pièces dans laquelle vous trouverez également la description de la pièce requise. Lors de la commande, vous devez indiquer la référence et la description complètes de la pièce.
3. Lors de la commande, vous devrez mentionner le numéro de série et le numéro de modčle de la machine.
4. Vous devez effectuer toutes les commandes auprès de votre revendeur Tanco local et les faxer ou les envoyer par e-mail à Tanco Autowrap.

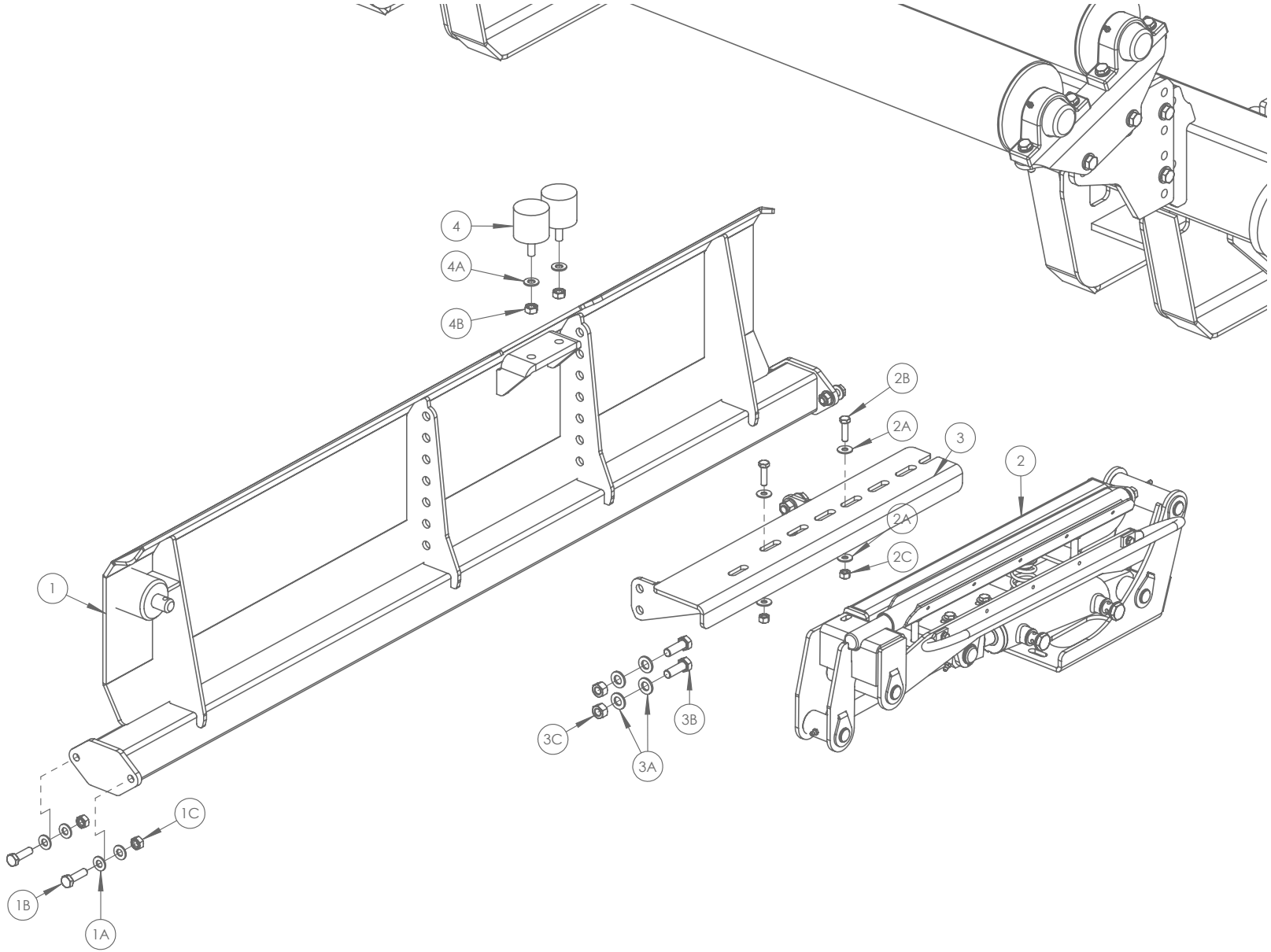




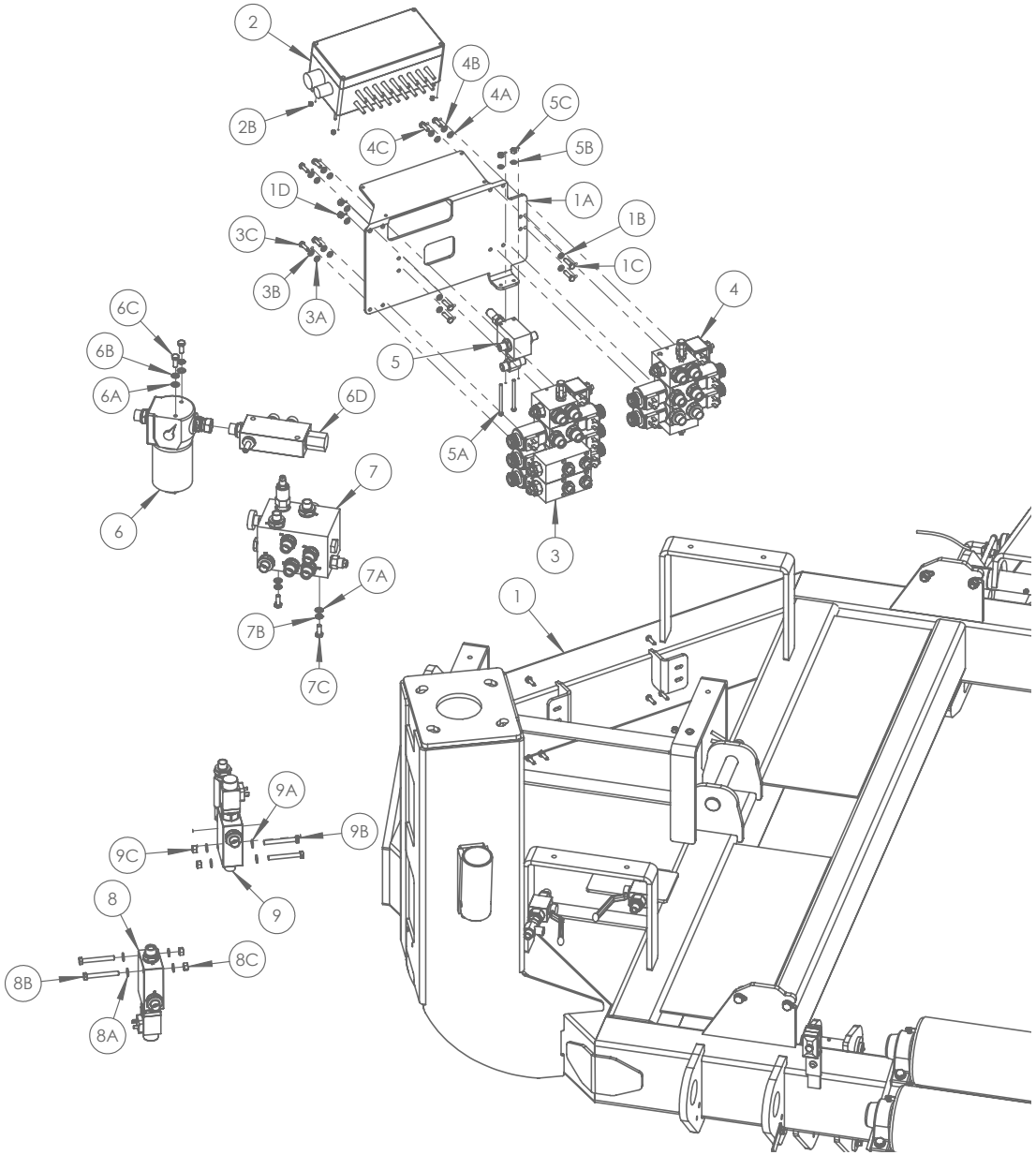
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1801500	1	German	Chassis	French	
1A	1801090	1		Axle Linkage Bracket		
1B	Z10-02-20	4		Flat Washer		20mm
1C	Z26-169B	2		Hex Set		M20 x 100mm
1D	Z23-20	2		Locknut		20mm
2	1801095	1		Axle Assembly		
2A	34060800	1		Grease Nipple		M8 x 1.25
2B	1801150	1		Axle Mounting Pin		
2C	Z10-02-10	2		Flat Washer		10mm
2D	Z26-063S	1		Hex Set		M10 x 35mm
2E	Z23-10	1		Locknut		10mm
3	Z04-04-2020	1		Road Wheel		
4	M2129	1		Brake Ram		
4A	Z10-02-12	2		Flat Washer		12mm
4B	Z26-086B	1		Hex Bolt		M12 x 50mm
4C	Z23-12	1		Locknut		12mm


1A
1B
1A
1C
1D
1
2A
2
2B
2C

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1809400	1		Bumper Frame		
1A	Z10-02-16	12		Flat Washer		16mm
1B	Z26-123S	6		Hex Set		M16 x 45mm
1C	Z23-16	6		Locknut		16mm
1D	Z32-081	8		Tube Internal Cap		2 3/8"
2	Z05-30	1		Lighting Set		
2A	Z04-621	4		Light Reflector		
2B	Z10-02-05	4		Flat Washer		5mm
2C	Z23-05	4		Locknut		5mm


4
4A
4B
2B
2A
3
2
2A
2C
1
3C
3A
3B
1C
1B
1A

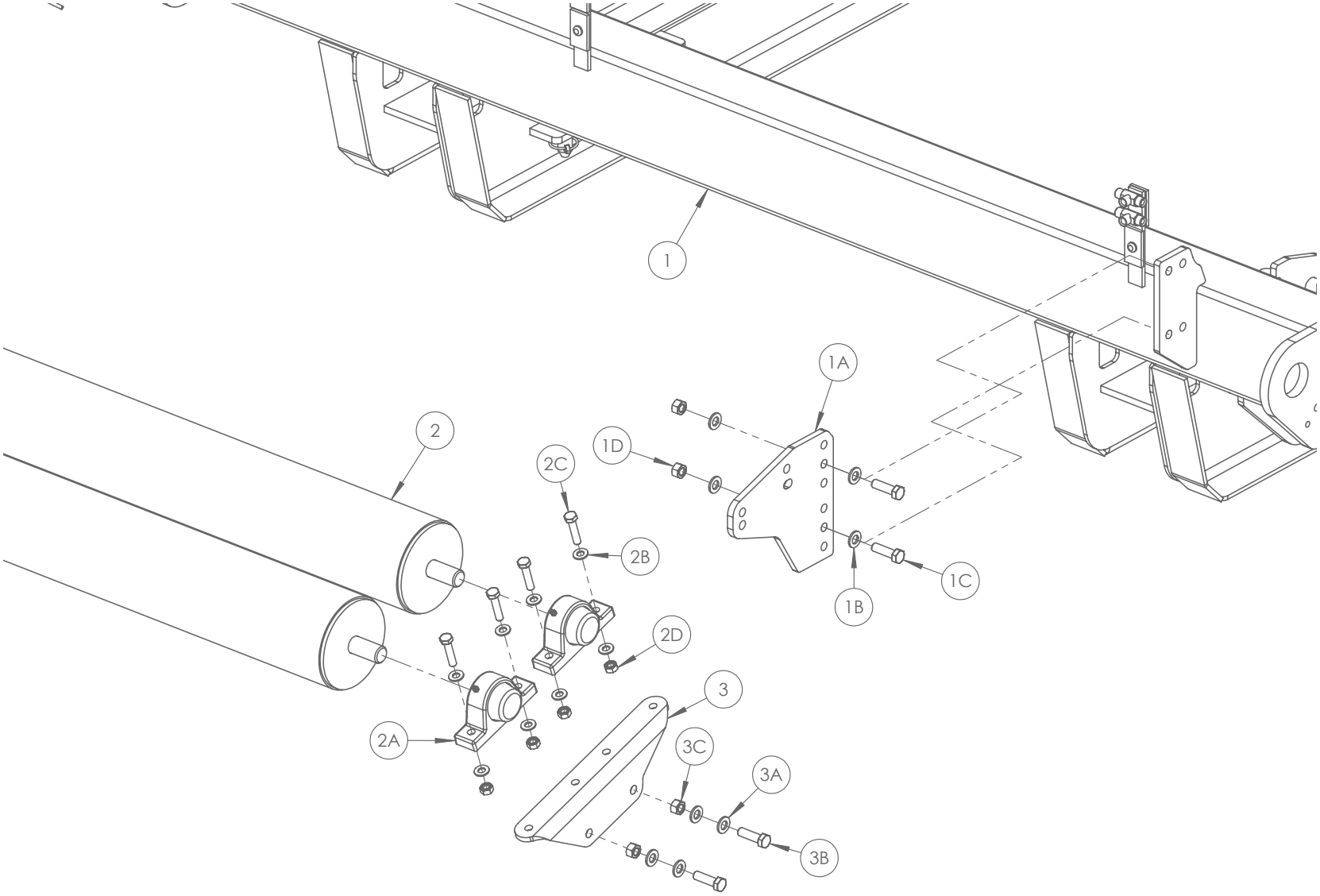
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1801600	1		Rear Bale Stop		
1A	Z10-02-10	8		Flat Washer		10mm
1B	Z26-063S	4		Hex Set		M10 x 35mm
1C	Z23-10	4		Locknut		10mm
2	1406100	2		Professional Cut & Start		
2A	Z11-02-081	4		Mud Washer		8mm
2B	Z26-041S	2		Hex Set		M8 x 30mm
2C	Z23-08	2		Locknut		8mm
3	34240102	1		Cut & Start Mounting		
3A	Z10-02-12	8		Flat Washer		12mm
3B	Z26-083S	4		Hex Set		M12 x 35mm
3C	Z23-12	4		Locknut		12mm
4	Z40-20	2		Rubber Buffer		Ø 50mm x 42
4A	Z10-02-10	2		Flat Washer		10mm
4B	Z23-10	2		Locknut		10mm


2
2B
4B
4A
5C
4C
5B
1D
1A
1B
3C
1C
3B
3A
4
6C
6B
5
6A
6D
5A
7
6
3
7A
1
7B
7C
9A
9B
9C
9
8
8C
8B
8A

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1801500	1		Chassis		
1A	1801544	1		Control Valve Mounting		
1B	Z10-02-06	8		Flat Washer		6mm
1C	Z26-021S	4		M6 x 25mm Hex Set		
1D	Z23-06	4		Locknut		6mm
2	180901..	1		Junction Box		
2A	Z10-02-04	4		Flat Washer		4mm
2B	Z23-04	4		Locknut		4mm
3	1808070	1		Control Valve 1		
3A	Z10-02-06	4		Flat Washer		6mm
3B	Z12-02-06	4		Spring Washer		6mm
3C	Z26-020S	4		Hex Set		M6 x 20mm

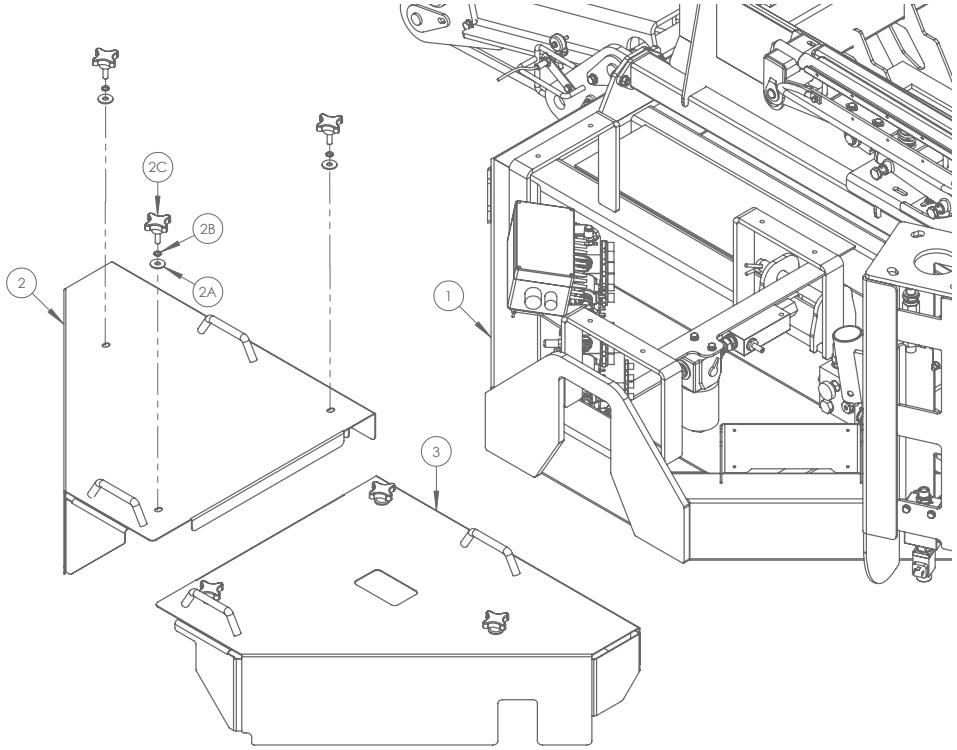
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
4	1808080	1		Control Valve 2		
4A	Z10-02-06	4		Flat Washer		6mm
4B	Z12-02-06	4		Spring Washer		6mm
4C	Z26-020S	4		Hex Set		M6 x 20mm
5	1808090	1		Pressure Releif Valve		
5A	Z26-0179S	2		Hex Set		M5 x 20mm
5B	Z10-02-05	2		Flat Washer		5mm
5C	Z23-05	2		Locknut		5mm
6	1308070	1		Pressure Filter		
6A	Z10-02-08	2		Flat Washer		8mm
6B	Z12-02-08	2		Spring Washer		8mm
6C	Z26-039S	2		Hex Set		M8 x 20mm
6D	Z01-03-10-A7W	1		Priority Flow Regulator		

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
7	1808150	1		Assembly Block		
7A	Z10-02-08	2		Flat Washer		8mm
7B	Z12-02-08	2		Spring Washer		8mm
7C	Z26-039S	2		Hex Set		M8 x 20mm
8	1408200	1		Proportional Valve		
8A	Z10-02-08	4		Flat Washer		8mm
8B	Z26-048B	2		Hex Bolt		M8 x 65mm
8C	Z23-08	2		Locknut		8mm
9	1408200	1		Proportional Valve		
9A	Z10-02-08	4		Flat Washer		8mm
9B	Z26-048B	2		Hex Bolt		M8 x 65mm
9C	Z23-08	2		Locknut		8mm

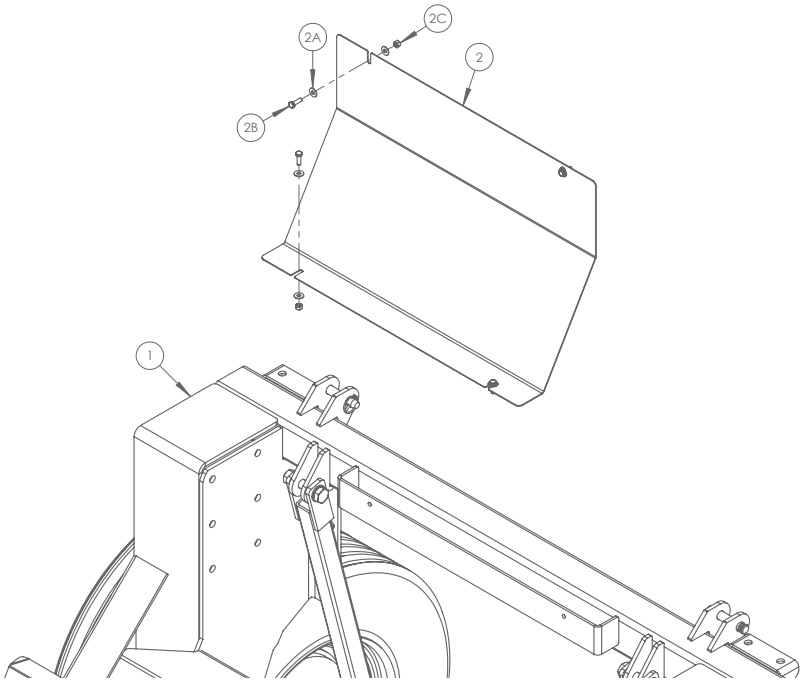

1
1A
1B
1C
1D
2
2A
2B
2C
2D
3
3A
3B
3C

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1801500	1		Chassis		
1A	1801516	1		Chassis Roller Mount (Vertical)		
1B	Z10-02-12	4		Flat Washer		12mm
1C	Z26-084S	2		Hex Set		M12 x 40mm
1D	Z23-12	2		Locknut		12mm
2	1807535	2		Idle Roller (Long)		
2A	Z06-47-25	2		Pillow Block Bearing		25mm
2B	Z10-02-10	8		Flat Washer		10mm
2C	Z26-065S	4		Hex Set		M10 x 45mm
2D	Z23-10	4		Locknut		10mm
3	1801523	1		Chassis Roller Mount (Horizontal)		
3A	Z10-02-12	4		Flat Washer		12mm
3B	Z26-084S	2		Hex Set		M12 x 40mm
3C	Z23-12	2		Locknut		12mm

Front Guards



Rear Guard

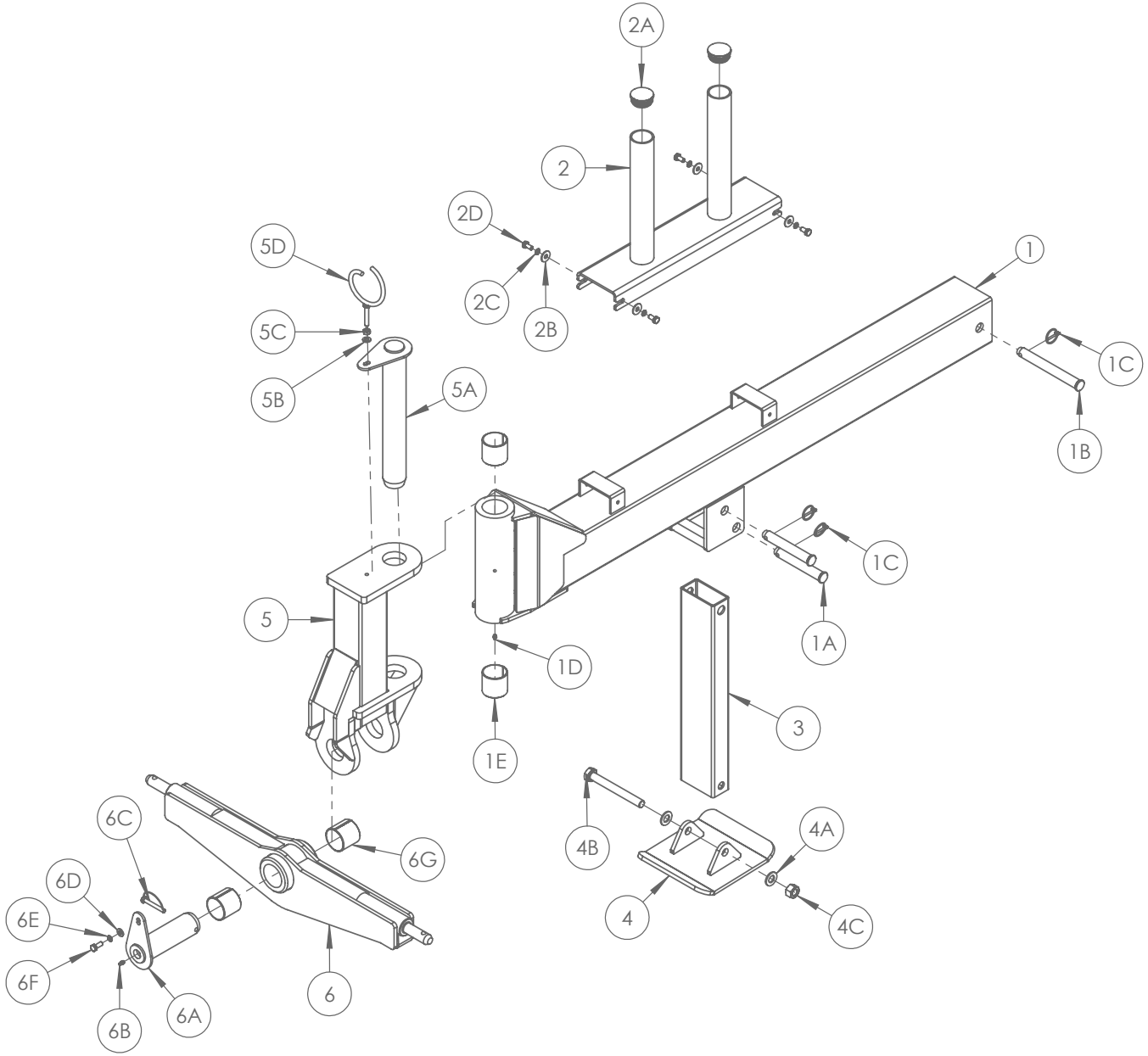


Front Guards

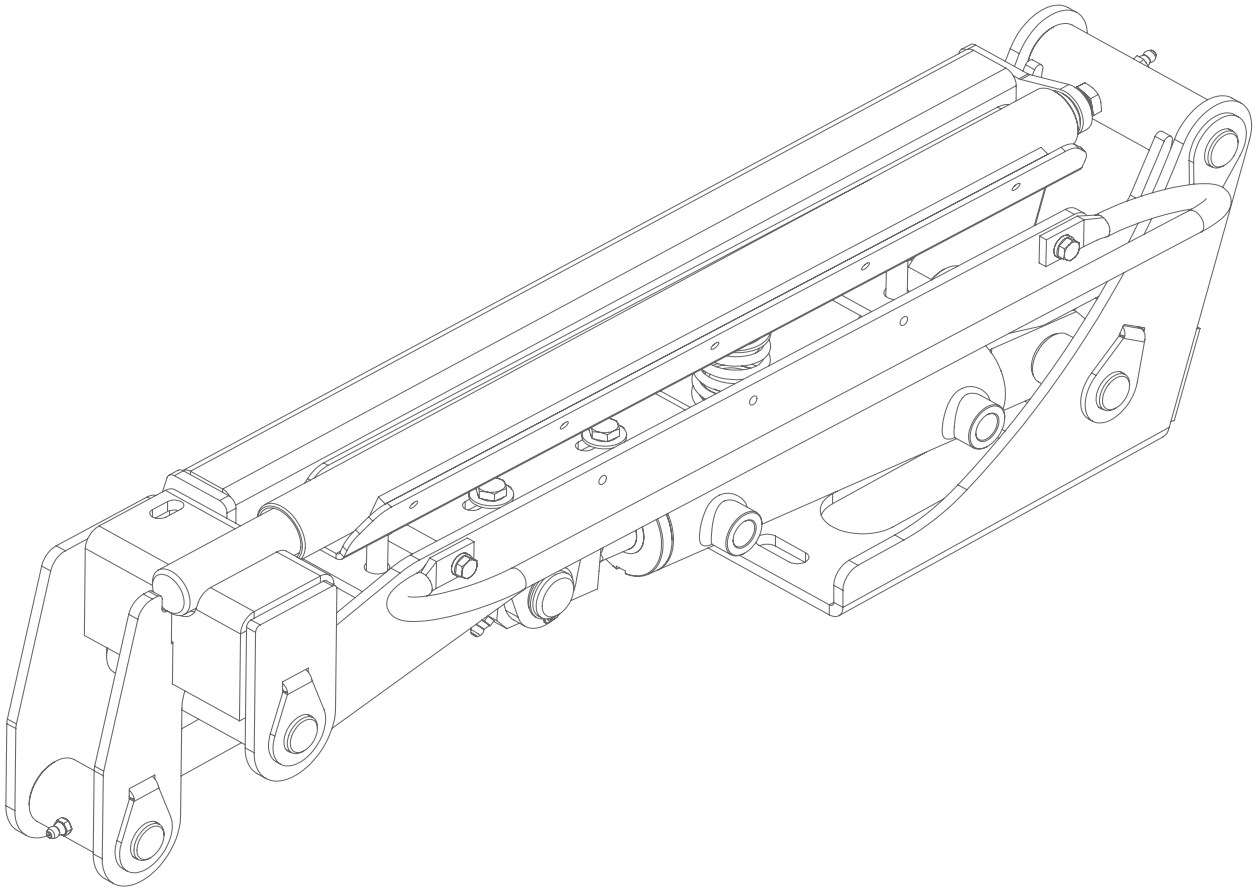
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1801500	1		Chassis		
2	1801820	1		Valve Cover (Left)		
2A	Z11-02-101	3		Mud Washer		10mm (1" O.D.)
2B	Z12-02-10	3		Spring Washer		10mm
2C	Z49-96	3		Knob		M10 x 50mm
3	1801825	1		Valve Cover (Right)		

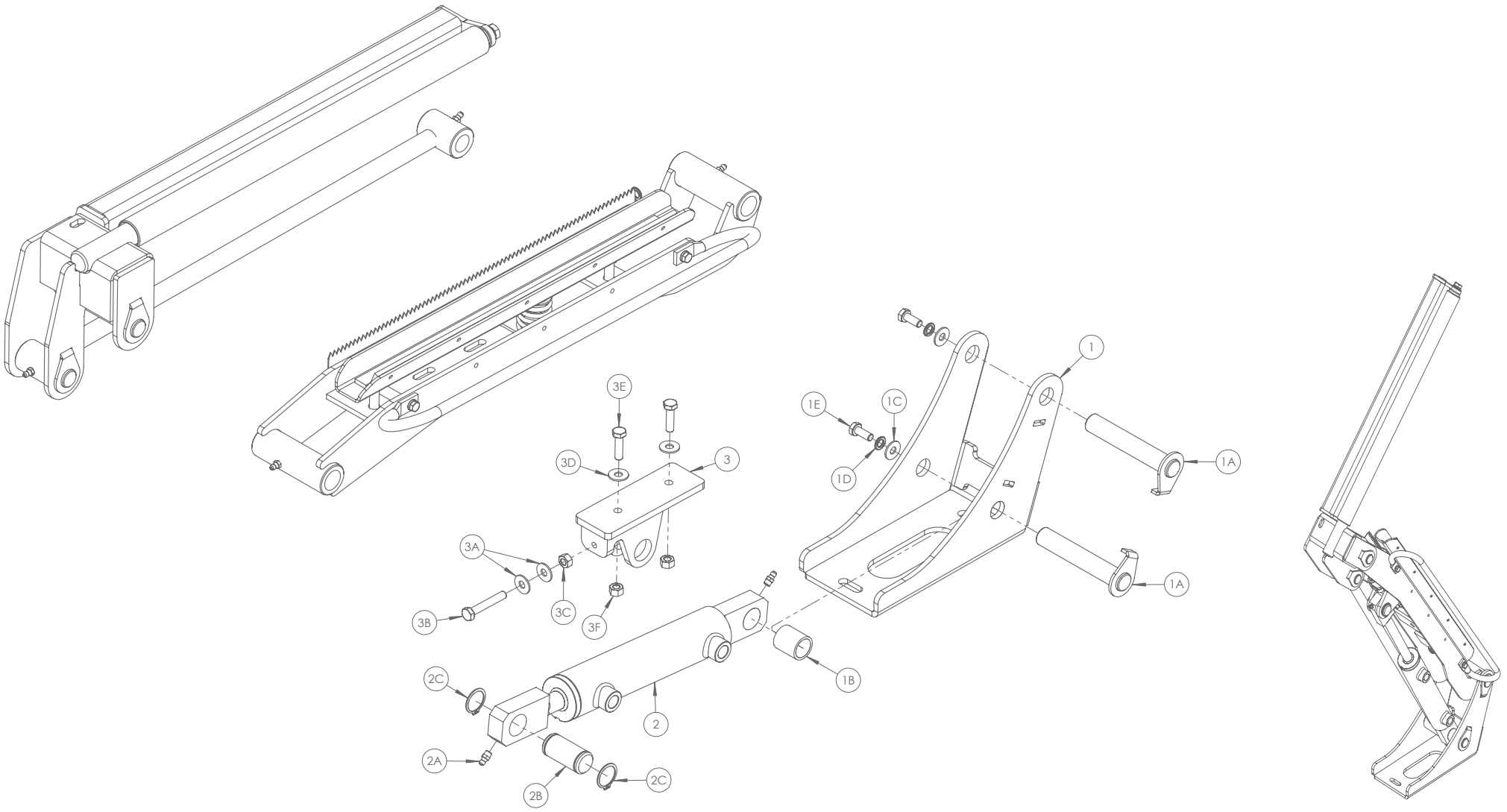
Rear Guard

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1801500	1		Chassis		
2	1801035	1		Chassis Rear Cover		
2A	Z11-02-081	8		Mud Washer		8mm (1" O.D.)
2B	Z26-040S	4		Hex Set		M8 x 25mm
2C	Z23-08	4		Locknut		8mm

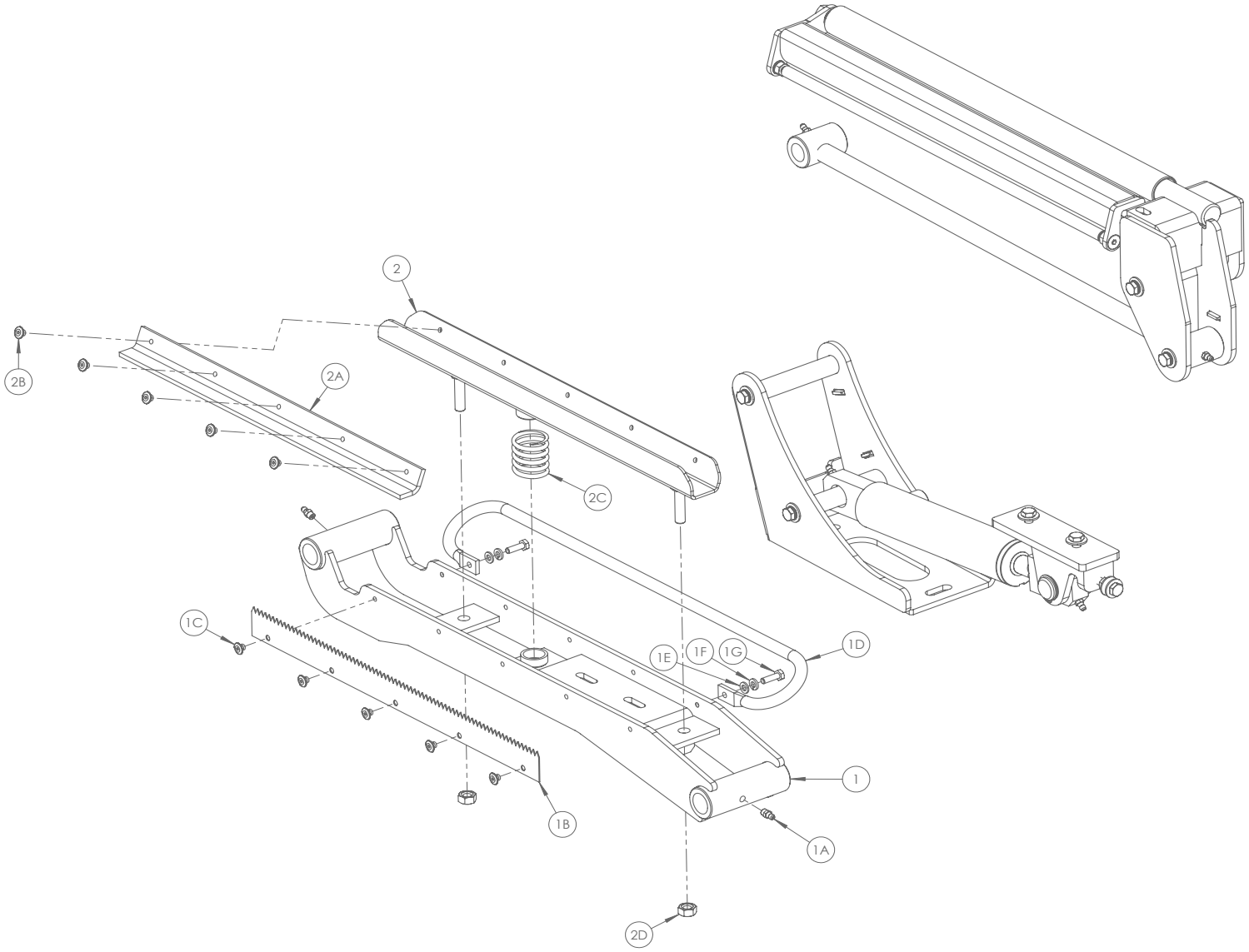

2A
2
2D
2C
2B
5D
5C
5B
5A
1
1C
1B
1C
1A
5
1D
1E
3
4B
4A
4
4C
6C
6D
6E
6F
6B
6A
6G
6

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1801970	1		Drawbar Section 1		
1A	1801171			Stabilizing Foot Pin		
1B	34101100	1		Drawbar Pin		
1C	Z03-22-06	3		Linch Pin		7/16" Dia
1D	34060800	3		Grease Nipple		M8 x 1.25
1E	Z03-20-29	3		DX Bush		60mm ID X 60mm Long
2	1801930	1		Film Holder		
2A	Z32-081			Tube Internal Cap		2 3/8"
2B	Z11-02-101			Mudwasher		M10
2C	Z12-02-10			Springwasher		M10
2D	Z26-060S			Hex Set		M10 x 20mm
3	1801974			Drawbar Stabilizing Leg		
4	34240023			Stabilizing Leg Plate		
4A	Z10-02-20			Flat Washer		M20
4B	Z26-171B			Hex Bolt		M20 x 180mm
4C	Z23-20			Locknut		20mm
5	1801980	1		Horizontal Linkage Bracket		
5A	1801163	1		Linkage Bracket Pivot Pin		
5B	Z10-02-10	1		Flat Washer		M10
5C	Z23-10	1		Locknut		10mm
5D	1801965	1		Hose & Cable Guide		
6	1801990	1		Vertical Linkage Bracket		
6A	1801167	1		Linkage Bracket Pivot Pin		
6B	34060800	1		Grease Nipple		M8 x 1.25
6C	Z03-22-07	1		Curved Linch Pin		3/8"
6D	Z10-02-10	1		Flat Washer		M10
6E	Z12-02-10	1		Spring Washer		M10
6F	Z26-0611S	1		Hex Set		M10 x 25mm
6G	Z03-20-29	2		DX Bush		60mm ID X 60mm Long

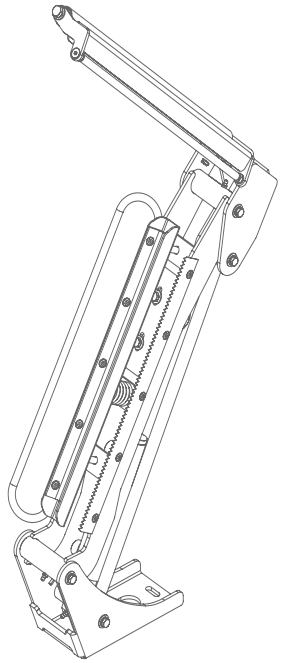


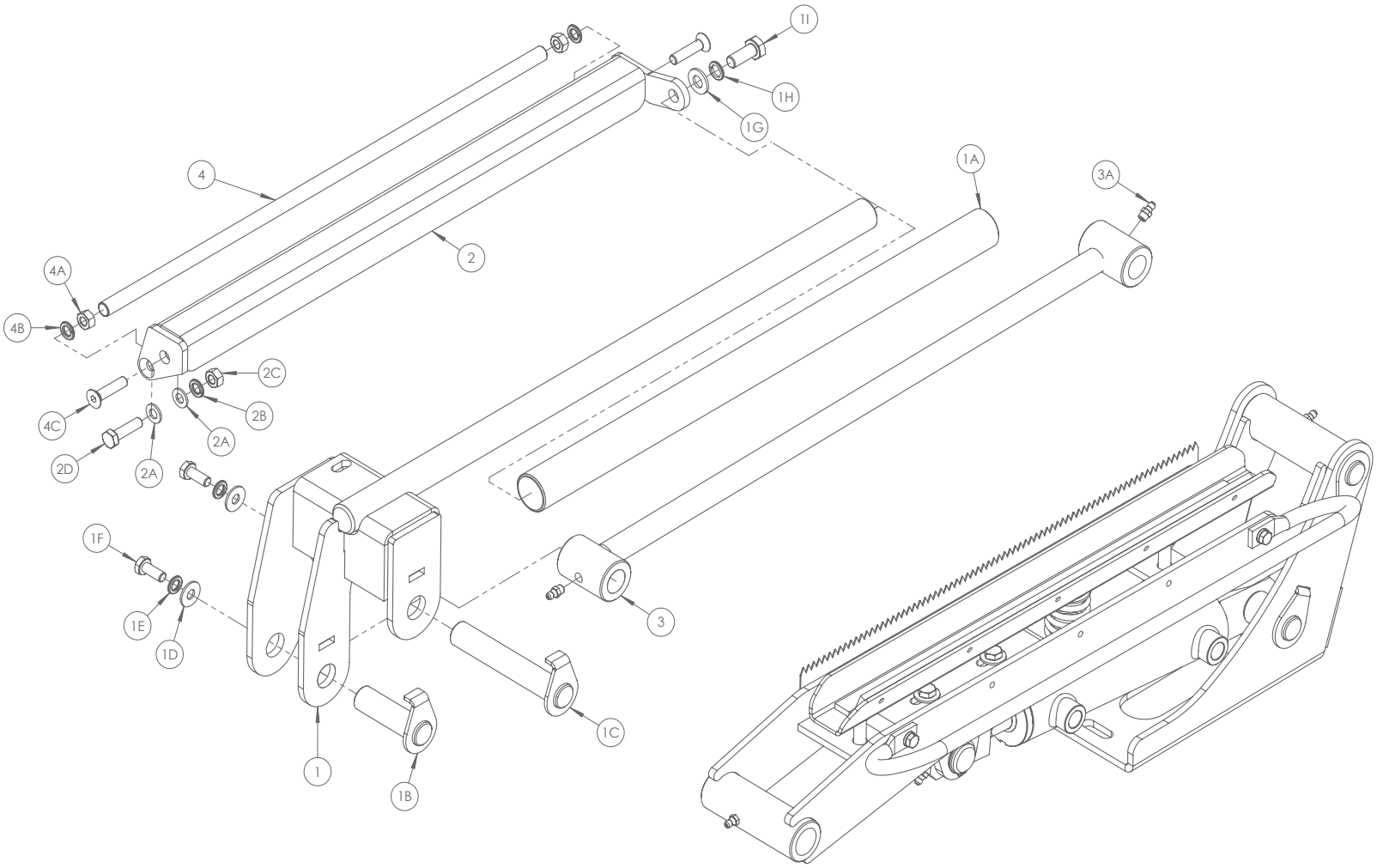

3E
3D
3
3A
3B
3C
3F
1E
1C
1D
1
1A
1A
1B
2C
2
2A
2B
2C

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1406060	1		Cut & Tie Base		
1A	1406080	2		Cut & Tie Pin (Long)		
1B	1406035	1		Ram Spacer		
1C	Z11-02-081	2		Mud Washer		8mm
1D	Z12-02-08	2		Spring Washer		8mm
1E	Z26-039S	2		Hex Set		M8 x 20mm
2	1308151	1		Cut & Tie Ram		
2A	34060800	2		Grease Nipple		M8 x 1.25
2B	34105631	1		Ram Mounting Pin		
2C	Z28-525	2		External Circlip		M25
3	34920525	1		Cut & Tie Casting		
3A	Z11-02-081	2		Mud Washer		8mm
3B	Z26-045S	1		Hex Set		M8 x 50mm
3C	Z18-08	1		Plain Hex Nut		8mm
3D	Z11-02-081	2		Mud Washer		8mm
3E	Z26-041S	2		Hex Set		M8 x 30mm
3F	Z23-08	2		Hex Nut		8mm

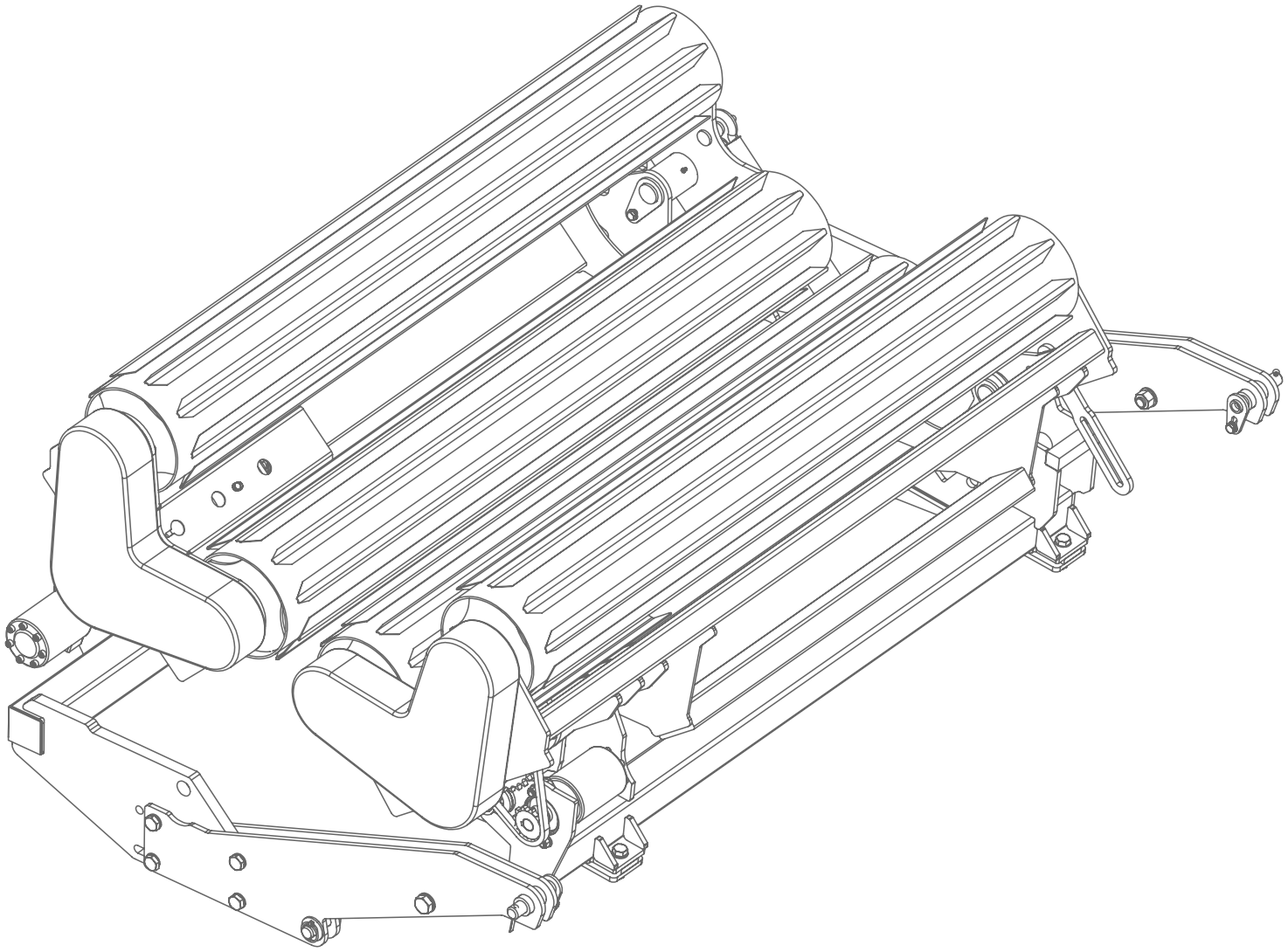

2
2B
2A
2C
1C
1E
1F
1G
1D
1
1B
1A
2D

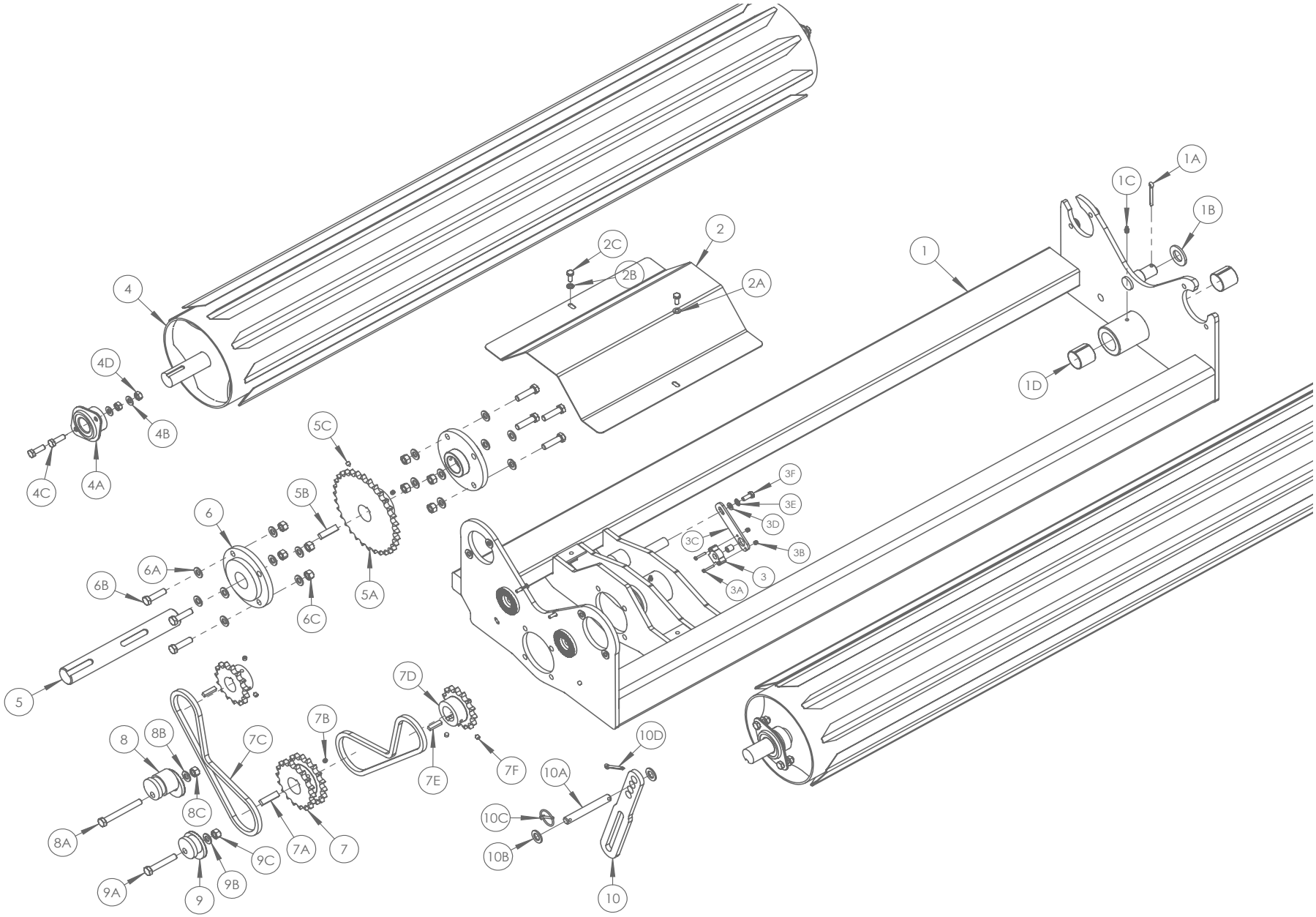
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1406112	1		Cut & Tie Lift Arm		
1A	34060800	2		Grease Nipple		M8 x 1.25
1B	1406074	1		Cut & Tie Balde		
1C	Z03-25-05	5		Pop Rivet		
1D	1406075	1		Film Gathering Bar		
1E	Z10-02-06	2		Flat Washer		6mm
1F	Z12-02-06	2		Spring Washer		6mm
1G	Z26-020S	2		Hex Set		M6 x 20mm
2	1406101	1		Pressure Plate		
2A	1406706	1		Rubber Strip		
2B	Z03-25-05	5		Pop Rivet		
2C	1406078	1		Pressure Spring		
2D	Z23-10	2		Locknut		10mm




1I
1H
1G
4
1A
3A
2
4A
4B
2C
2B
4C
2A
2D
2A
1F
1E
1D
3
1C
1
1B

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1406113	1		Pull Down Arm		
1A	1406077	1		Knurled Roller		
1B	1406085	1		Cut & Tie Pin (Short)		
1C	1406080	1		Cut & Tie Pin (Long)		
1D	Z11-02-081	2		Mud Washer		8mm
1E	Z12-02-08	2		Spring Washer		8mm
1F	Z26-039S	2		Hex Set		M8 x 20mm
1G	Z10-02-10	1		Flat Washer		10mm
1H	Z12-02-10	1		Spring Washer		10mm
1I	Z26-0611S	1		Hex Set		M10 x 25mm
2	1406065	1		Top Arm		
2A	Z10-02-08	2		Flat Washer		8mm
2B	Z12-02-08	2		Spring Washer		8mm
2C	Z18-08	1		Plain Hex Nut		8mm
2D	Z26-041S	1		Hex Set		M8 x 30mm
3	1406102	1		Connecting Arm		
3A	34060800	2		Grease Nipple		M8 x 1.25
4	1406068	1		Film Roller		
4A	Z18-08	2		Plain Hex Nut		8mm
4B	Z12-02-08	2		Spring Washer		8mm
4C	Z13-5-08X35	2		CSK AH Set		M8 x 35mm
5	1406122	1		Cut & Start Loop Bracket		
5A	Z10-02-06	2		Flat Washer		6mm
5B	Z12-02-06	2		Spring Washer		6mm
5C	Z26-020S	2		Hex Set		M6 x 20mm

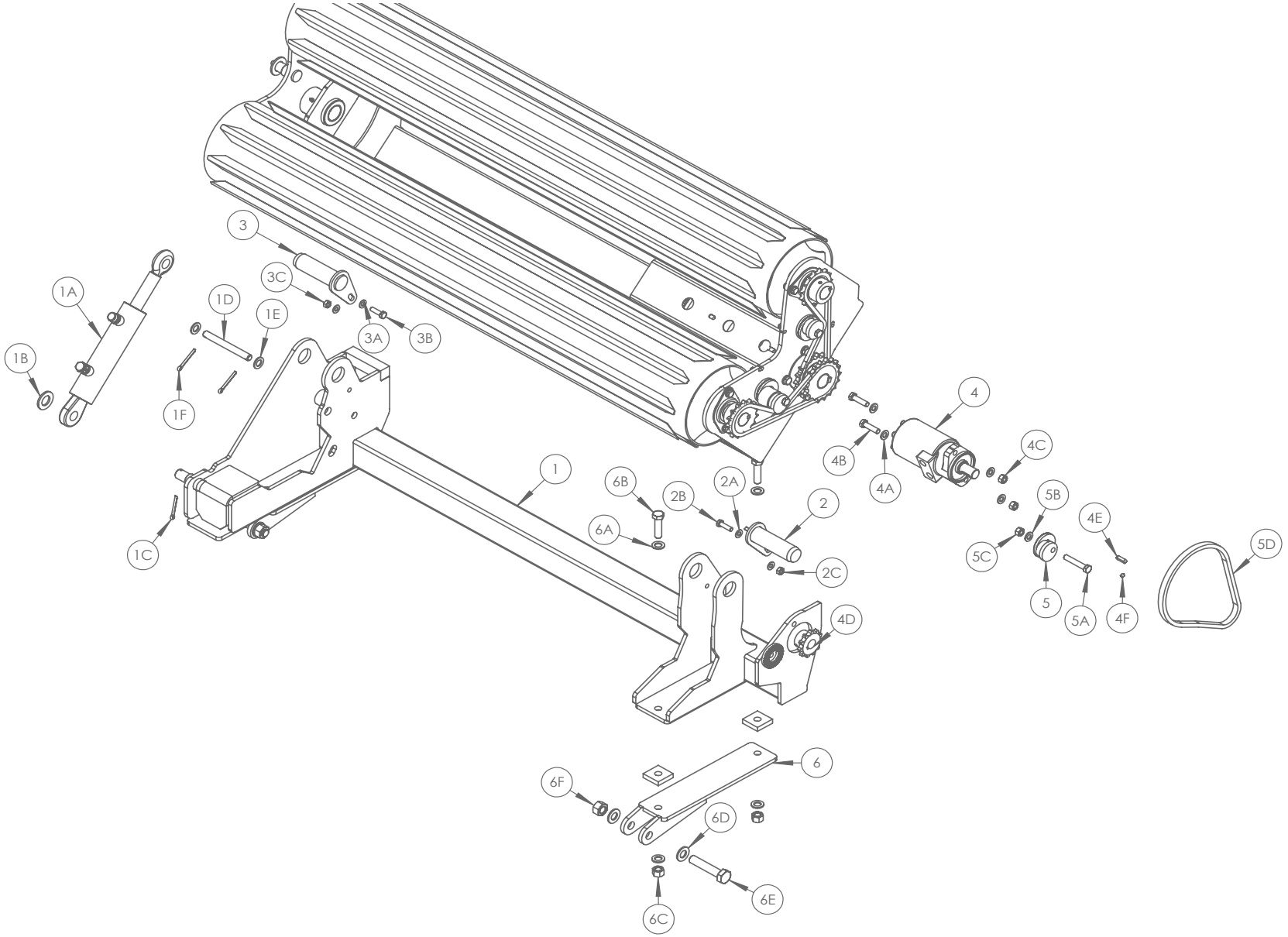



1
1A
1B
1C
1D
2
2A
2B
2C
3
3A
3B
3C
3D
3E
3F
4
4A
4B
4C
4D
5
5A
5B
5C
6
6A
6B
6C
7
7A
7B
7C
7D
7E
7F
8
8A
8B
8C
9
9A
9B
9C
10
10A
10B
10C
10D

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1804560	1		Rocking Roller Frame (Left)		
1A	Z03-21-29	1		Split Pin		1/4" Dia X 2"
1B	Z10-02-25	1		Flat Washer		25mm
1C	34060800	2		Grease Nipple		M8 x 1.25
1D	Z03-20-27	4		DX Bush		40mm ID x 40mm Long
2	1804316	1		Sprocket & Chain Guard		
2A	Z10-02-08	3		Flat Washer		8mm
2B	Z12-02-08	1		Spring Washer		8mm
2C	Z26-039S	2		Hex Set		M8 x 20mm
3	1804390	1		Loading Sensor		
3A	Z26-007S	2		Allen Head Set		M4 x 25
3B	Z23-04	2		Locknut		4mm
3C	1804393	1		Loading Sensor Mount		
3D	Z10-02-08	1		Flat Washer		8mm
3E	Z12-02-08	1		Spring Washer		8mm
3F	Z26-039S	1		Hex Set		M8 x 20mm
4	1804210	2		Gripped Roller		
4A	1804101	4		Bearing		35mm (SA207)
4B	Z10-02-10	16		Flat Washer		10mm
4C	Z26-062S	8		Hex Set		M10 x 30mm
4D	Z23-10	8		Locknut		10mm

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
5	1804314	1		Rocking Roller Shaft		
5A	1804315	1		Tooth Sprocket		3/4" x 32
5B	34270101	1		Key Steel		12mm x 8mm x 45
5C	Z28-008	2		Grub Screw		M8 x 10mm
6	1804327	2		Stepped Housing Bearing		40mm
6A	Z10-02-12	16		Flat Washer		12mm
6B	Z26-085S	8		Hex Set		M12 x 45
6C	Z23-12	8		Locknut		12mm
7	1804002	1		Double Sprocket		3/4" x 18T
7A	34270101	1		Key Steel		12mm x 8mm x 45
7B	Z28-008	1		Grub Screw		M8 x 10mm
7C	34810834	2		46 Link		3/4" ASA60H
7D	1804110	2		Simplex Sprocket		15 T 3/4"
7E	34270105	2		Key Steel		8mm x 7mm x 32
7F	Z28-008	4		Grub Screw		M8 x 10mm

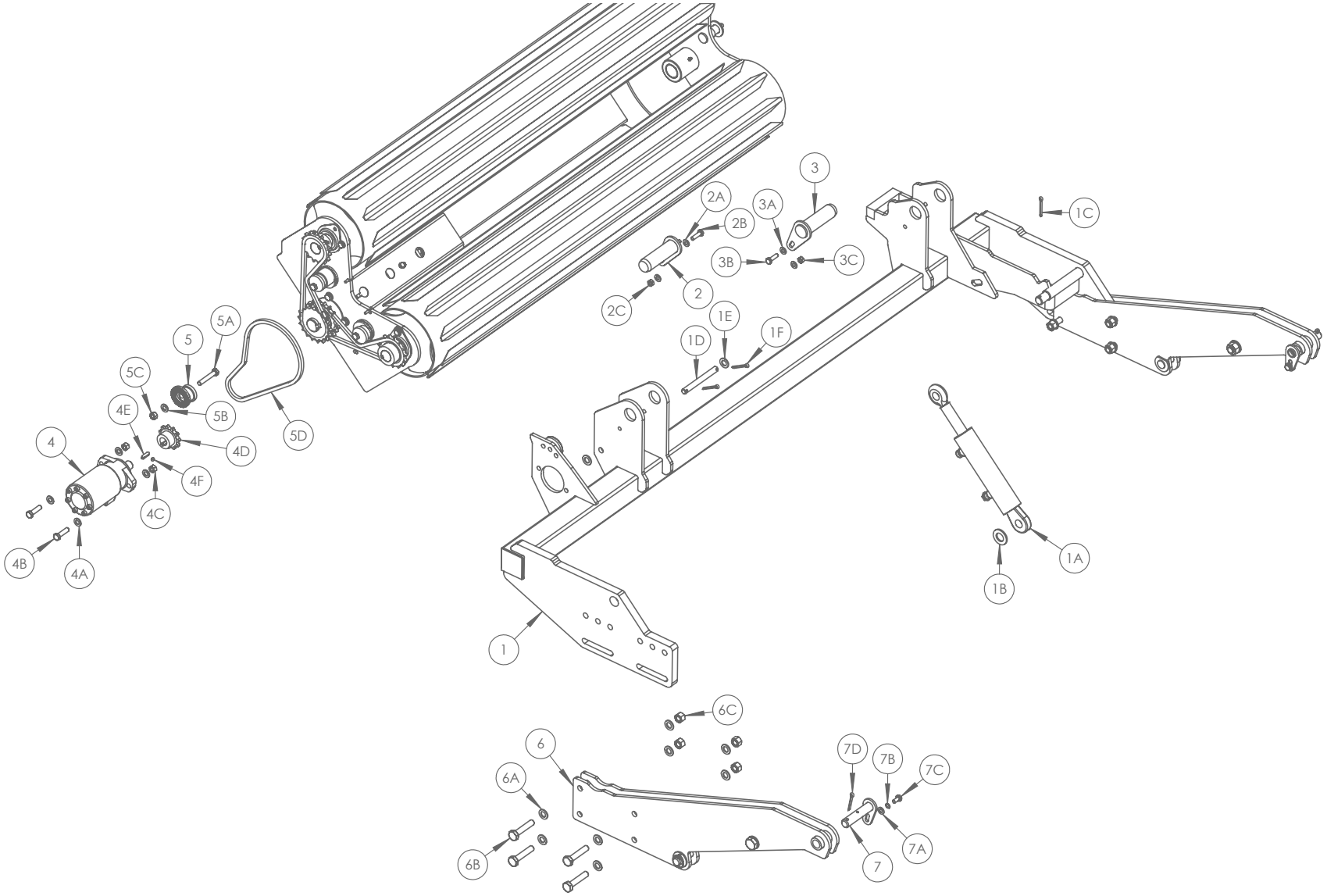
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
8	1504014	1		Chain Tensioner (High)		
8A	Z26-092B	1		Hex Bolt		M12 x 100mm
8B	Z10-02-12	1		Flat Washer		12mm
8C	Z23-12	1		Locknut		12mm
9	34810830	1		Chain Tensioner (Low)		
9A	Z26-089B	1		Hex Bolt		M12 X 70mm
9B	Z10-02-12	1		Flat Washer		12mm
9C	Z23-12	1		Locknut		12mm
10	34240032	1		Rocking Roller Stop Profile		
10A	34240073	1		Rocking Roller Stop Pin		
10B	Z10-02-16	2		Flat Washer		16mm
10C	Z03-22-03	1		Linch Pin		1/4" Dia
10D	Z03-21-29	1		Split Pin		1/4" Dia X 2"


3
3C
3A
3B
1A
1B
1D
1E
1F
1C
1
6B
6A
2B
2A
2
2C
4
4B
4A
4C
5B
5C
5
5A
4E
4F
5D
4D
6
6F
6D
6E
6C

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1804370	1		Rocking Roller Mount Frame		
1A	34240030	1		Roller Levelling Cylinder		
1B	Z10-02-25	1		Flat Washer		25mm
1C	Z03-21-29	1		Split Pin		1/4" Dia X 2"
1D	1804340	1		Rocking Roller Stay Pin		
1E	Z10-02-16	2		Flat Washer		16mm
1F	Z03-21-29	2		Split Pin		1/4" Dia X 2"
2	1804380	1		Rotation Sensor Pin		
2A	Z10-02-10	1		Flat Washer		10mm
2B	Z26-063S	1		Hex Set		M10 x 35mm
2C	Z23-10	1		Locknut		10mm
3	1804320	1		Rocking Roller Pivot Pin		
3A	Z10-02-10	1		Flat Washer		10mm
3B	Z26-063S	1		Hex Set		M10 x 35mm
3C	Z23-10	1		Locknut		10mm

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
4	1508800	1		Roller Drive Motor		
4A	Z10-02-12	4		Flat Washer		12mm
4B	Z26-085B	2		Hex Set		M12 x 45mm
4C	Z23-12	2		Locknut		12mm
4D	1502098	1		Sprocket		11 T 3/4"
4E	34270111	1		Key Steel		8mm x 7mm x 30mm
4F	Z28-008	1		Grub Screw		M8 x 10mm
5	34810831	1		Chain Tensioner (Low)		
5A	Z26-089B	1		Hex Set		M12 x 70mm
5B	Z10-02-12	1		Flat Washer		12mm
5C	Z23-12	1		Locknut		12mm
5D	Z09-AW-50	1		47 Link		3/4" (ASA60H)

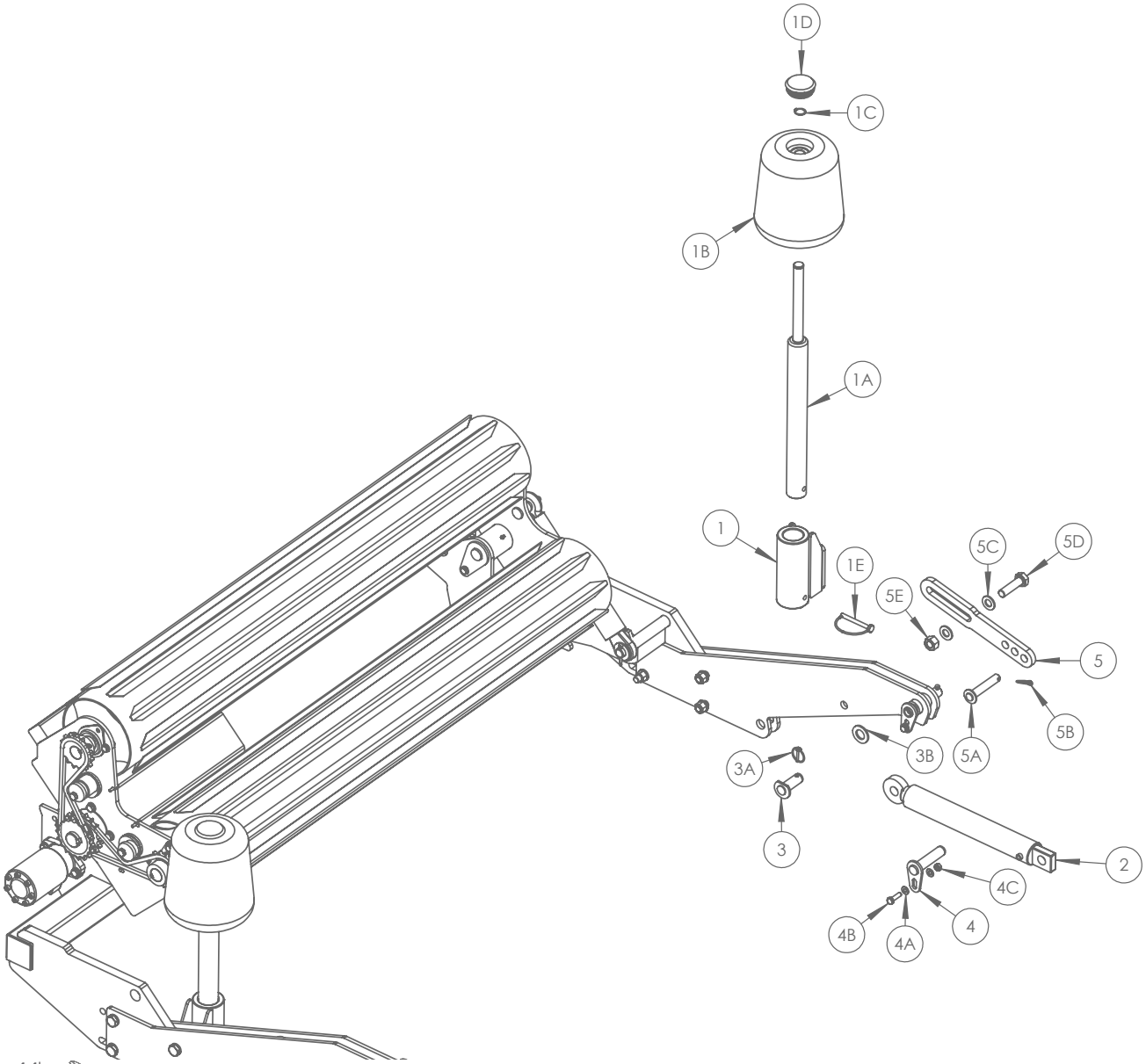
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
6	1804360	2		Roller Frame Bolting Bracket		
6A	Z10-02-16	8		Flat Washer		16mm
6B	Z26-126B	4		Hex Bolt		M16 x 60mm
6C	Z23-16	4		Locknut		16mm
6D	Z10-02-20	4		Flat Washer		20mm
6E	Z26-169B	2		Hex Set		M20 x 100mm
6F	Z23-20	2		Locknut		20mm


1
1A
1B
1C
1D
1E
1F
2
2A
2B
2C
3
3A
3B
3C
4
4A
4B
4C
4D
4E
4F
5
5A
5B
5C
5D
6
6A
6B
6C
7
7A
7B
7C
7D

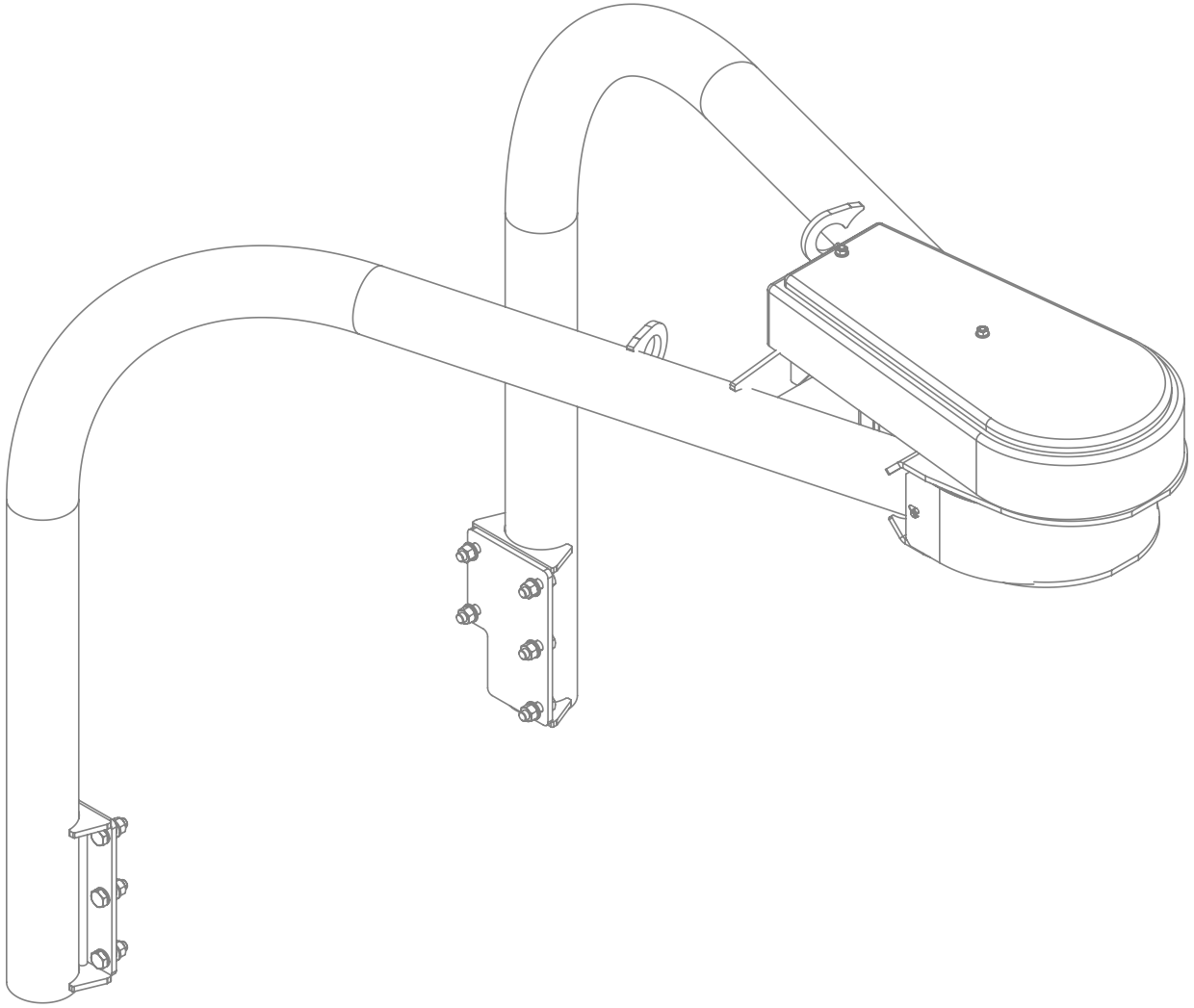
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1804350	1		Rocking Roller Tipping Frame		
1A	34240030	1		Roller Levelling Cylinder		
1B	Z10-02-25	1		Flat Washer		25mm
1C	Z03-21-29	1		Split Pin		1/4" Dia X 2"
1D	1804340	1		Rocking Roller Stay Pin		
1E	Z10-02-16	2		Flat Washer		16mm
1F	Z03-21-29	2		Split Pin		1/4" Dia X 2"
2	1804380	1		Rotation Sensor Pin		
2A	Z10-02-10	1		Flat Washer		10mm
2B	Z26-063S	1		Hex Set		M10 x 35mm
2C	Z23-10	1		Locknut		10mm
3	1804320	1		Rocking Roller Pivot Pin		
3A	Z10-02-10	1		Flat Washer		10mm
3B	Z26-063S	1		Hex Set		M10 x 35mm
3C	Z23-10	1		Locknut		10mm

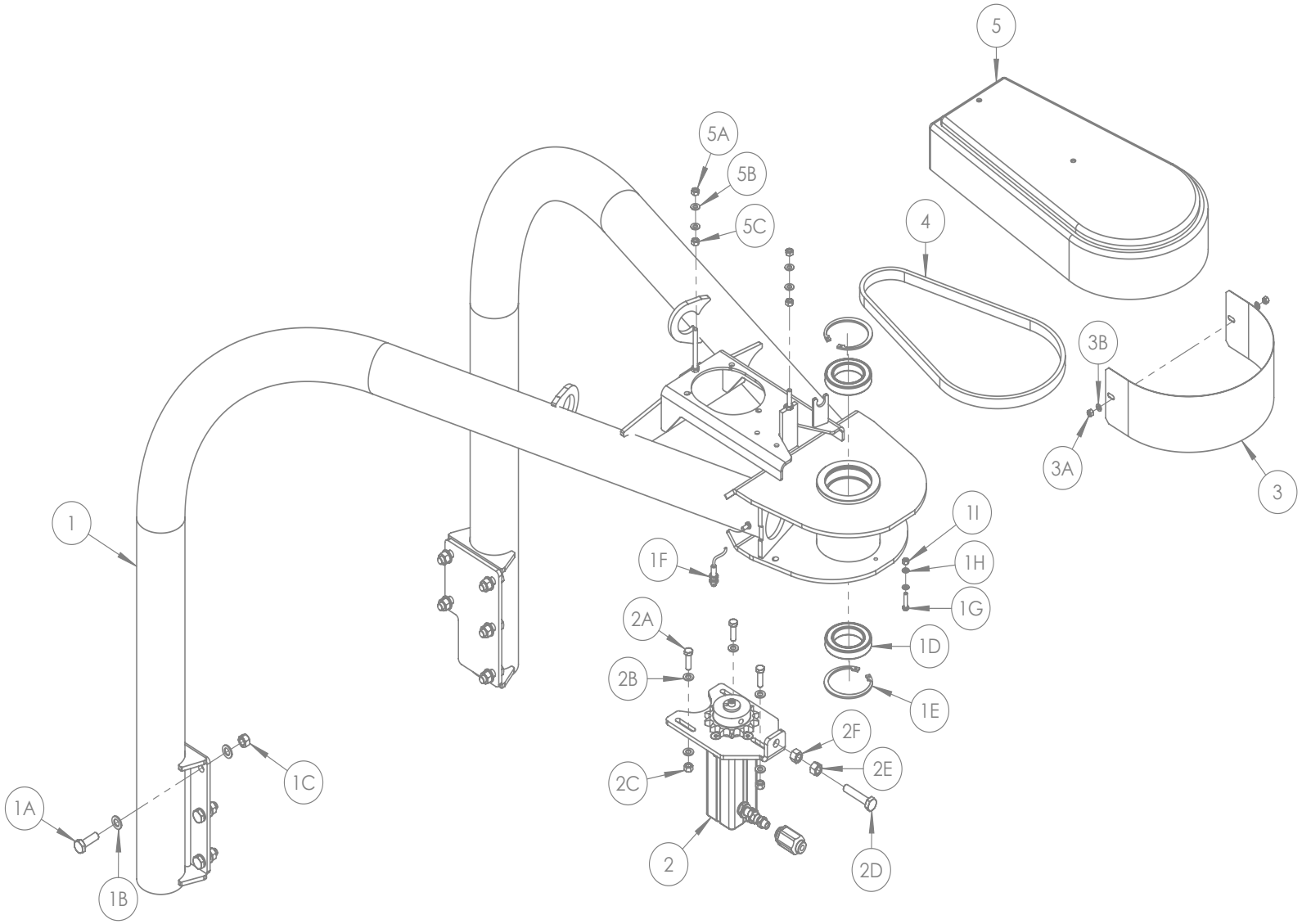
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
4	1508800	1		Roller Drive Motor		
4A	Z10-02-12	4		Flat Washer		12mm
4B	Z26-085B	2		Hex Set		M12 x 45mm
4C	Z23-12	1		Locknut		12mm
4D	1502098			Sprocket		11 T 3/4"
4E	34270111	1		Key Steel		8mm x 7mm x 30mm
4F	Z28-008	2		Grub Screw		M8 x 10mm
5	34810831			Chain Tensioner (Low)		
5A	Z26-089B	1		Hex Set		M12 x 70mm
5B	Z10-02-12	1		Flat Washer		12mm
5C	Z23-12	1		Locknut		12mm
5D	Z09-AW-50	1		47 Link		3/4" (ASA60H)

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
6	1804395	1		Tipping Frame Bracket		
6A	Z10-02-16	1		Flat Washer		16mm
6B	Z26-1291S	1		Hex Set		M16 x 80mm
6C	Z23-16	1		Locknut		16mm
7	Z03-01-798	2		Pivot Pin		798
7A	Z10-02-10	2		Flat Washer		10mm
7B	Z12-02-10	2		Spring Washer		10mm
7C	Z26-060S	2		Hex Set		M10 x 20mm

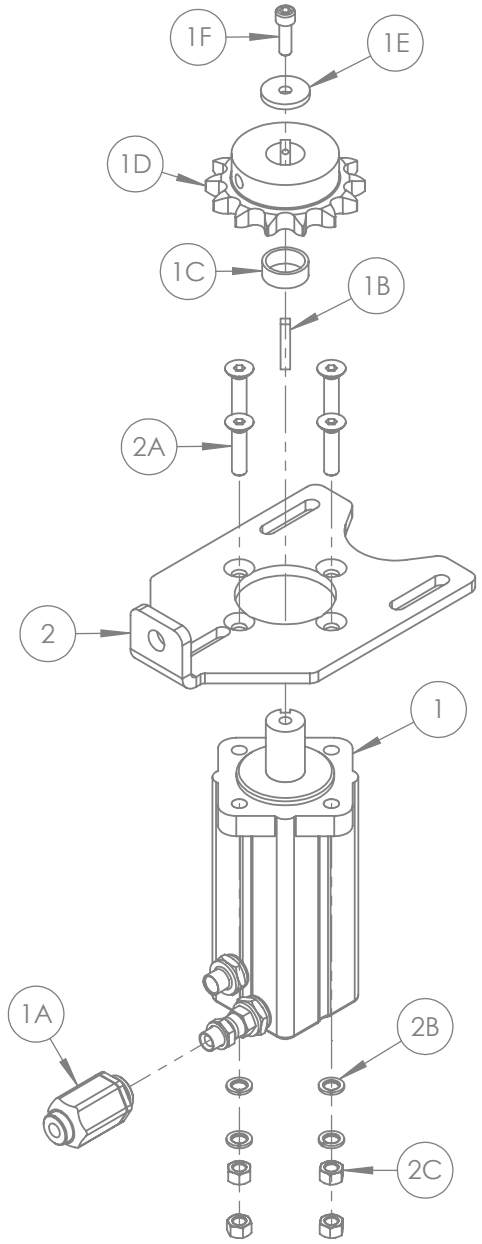

1D
1C
1B
1A
1
1E
5C
5D
5E
5
5B
5A
3B
3A
3
2
4C
4
4B
4A

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1804270	2		Cone Roller Bracket		
1A	1804261	2		Cone Roller Bracket Shaft		
1B	Z06-AWR	2		Plastic Cone Roller		
1C	Z28-525	2		External Circlip		M25
1D	Z06-AWRC65	2		Plastic Cone Roller Cap		
1E	Z03-22-09	2		Curved Linch Pin		3/8"
2	34001489	2		Roller Levelling Cylinder		
3	1001202	2		Tip Cylinder Pin		
3A	Z03-22-03	2		Linch Pin		1/4" Dia
3B	Z10-02-25	2		Flat Washer		25mm
4	1801175	2		Tipping Ram Pin		
4A	Z10-02-10	4		Flat Washer		10mm
4B	Z26-063S	2		Hex Set		M10 x 35mm
4C	Z23-10	2		Locknut		10mm
5	1804365	2		Roller Frame Stop Profile		
5A	1801173	2		Roller Frame Stop Pin		
5B	Z03-22-03	2		Linch Pin		1/4" Dia
5C	Z10-02-20	4		Flat Washer		20mm
5D	Z26-166B	2		Hex Set		M20 x 75mm
5E	Z23-20	2		Locknut		20mm

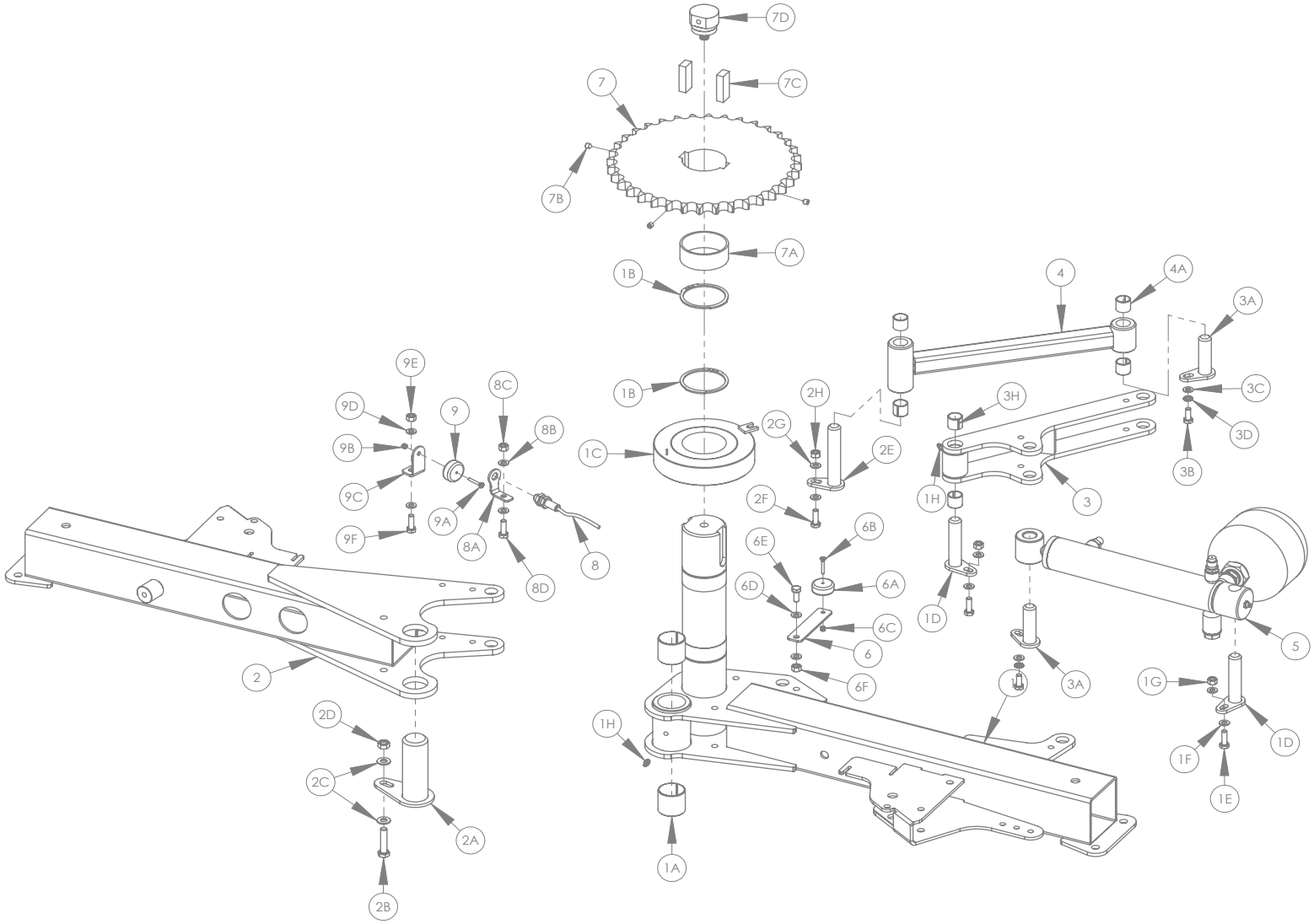



5
5A
5B
5C
4
3B
3A
3
1
1I
1H
1G
1F
2A
1D
2B
1E
2F
2E
2C
2
2D
1C
1A
1B

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1513000	1		Tower Frame		
1A	Z31B-064	8		Hex Set		M16 x 45mm
1B	Z10-02-16	16		Flat Washer		16mm
1C	Z20-10	8		Locknut		16mm
1D	1404052	2		Bearing		(6014 2RS)
1E	1404051	2		Int Circlip		110mm
1F	1309203	1		RDS Sensor		
1G	Z26-042S	1		Hex Set		M8 x 35mm
1H	Z10-02-08	2		Flat Washer		6mm
1I	Z23-08	1		Locknut		6mm
2	Z01-02-RF200	1		Tower Motor		
2A	Z26-084S	3		Hex Set		M12 x 35mm
2B	Z10-02-12	6		Flat Washer		12mm
2C	Z23-12	3		Locknut		12mm
2D	Z26-12915	1		Hex Set		M16 x 80
2E	Z18-16	1		Plain Hex Nut		16mm
2F	Z23-16	1		Locknut		16mm
3	1404076	1		Tower Front Cover		
3A	Z12-02-10	2		Spring Washer		8mm
3B	Z11-02-101	2		Flat Washer		8mm
4	Z09-AW9	1		Chain		1" BS (56 Links)
5	1404450	1		Chain Cover		
5A	Z23-10	2		Locknut		10mm
5B	Z10-02-10	4		Flat Washer		10mm
5C	Z18-10	2		Plain Hex Nut		10mm


1F
1E
1D
1C
1B
2A
2
1
1A
2B
2C

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	Z01-02-RF200	1		Tower Motor		
1A	Z01-03-1046	1		Speed Control Valve		3/8"
1B	WD64-053			Key Steel		5/16" x 5/16" x 45mm
IC	1503172	1		Motor Spacer		
1D	1315301	1		14 Tooth 1" Sprocket		
1E	WD623-071	1		Collar		1 1/2"
1F	Z13-4-32	1		Socket Cap Screw		1 1/4" x 3/8"UNC
2	1503247	1		Motor Mounting Plate		
2A	Z13-5-12X50	4		C.S.K. Allen Set		M12 x 50
2B	Z12-02-12	4		Spring Washer		12mm
2C	Z23-12	4		Locknut		12mm


7D
7
7C
7B
7A
1B
1B
1C
9E
9D
9
8C
8B
9B
9C
9A
8A
9F
8D
8
2
2D
2C
2A
2B
2H
2G
2E
2F
6B
6E
6A
6D
6C
6
6F
1H
1A
4
4A
3A
3C
3D
3B
3H
1H
3
1D
5
3A
1G
1D
1F
1E

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1514100	1		Main Wrap Arm Mounting		
1A	Z03-20-27	2		DX Bush		40mm ID x 40mm Long
1B	1404053	2		External Circlip		Dia 67mm
1C	1319100	1		Slew Ring		
1D	1315405	2		Ram Mounting Pin		
1E	Z26-040B	2		Hex Bolt		M8 x 25mm
1F	Z10-02-08	4		Flat Washer		8mm
1G	Z23-08	2		Locknut		8mm
1H	34060800	2		Grease Nipple		M8 x 1
2	1514200	1		Slave Wrap Arm Mounting		
2A	1315409	1		Main Pivot Pin		
2B	Z26-062B	1		Hex Bolt		M10 x 30mm
2C	1303004	2		Flat Washer		10mm
2D	Z23-10	1		Locknut		10mm
2E	1315403	1		Lnkage Pin		
2F	Z26-040B	1		Hex Bolt		M8 x 25mm
2G	Z10-02-08	2		Flat Washer		8mm
2H	Z23-08	1		Locknut		8mm

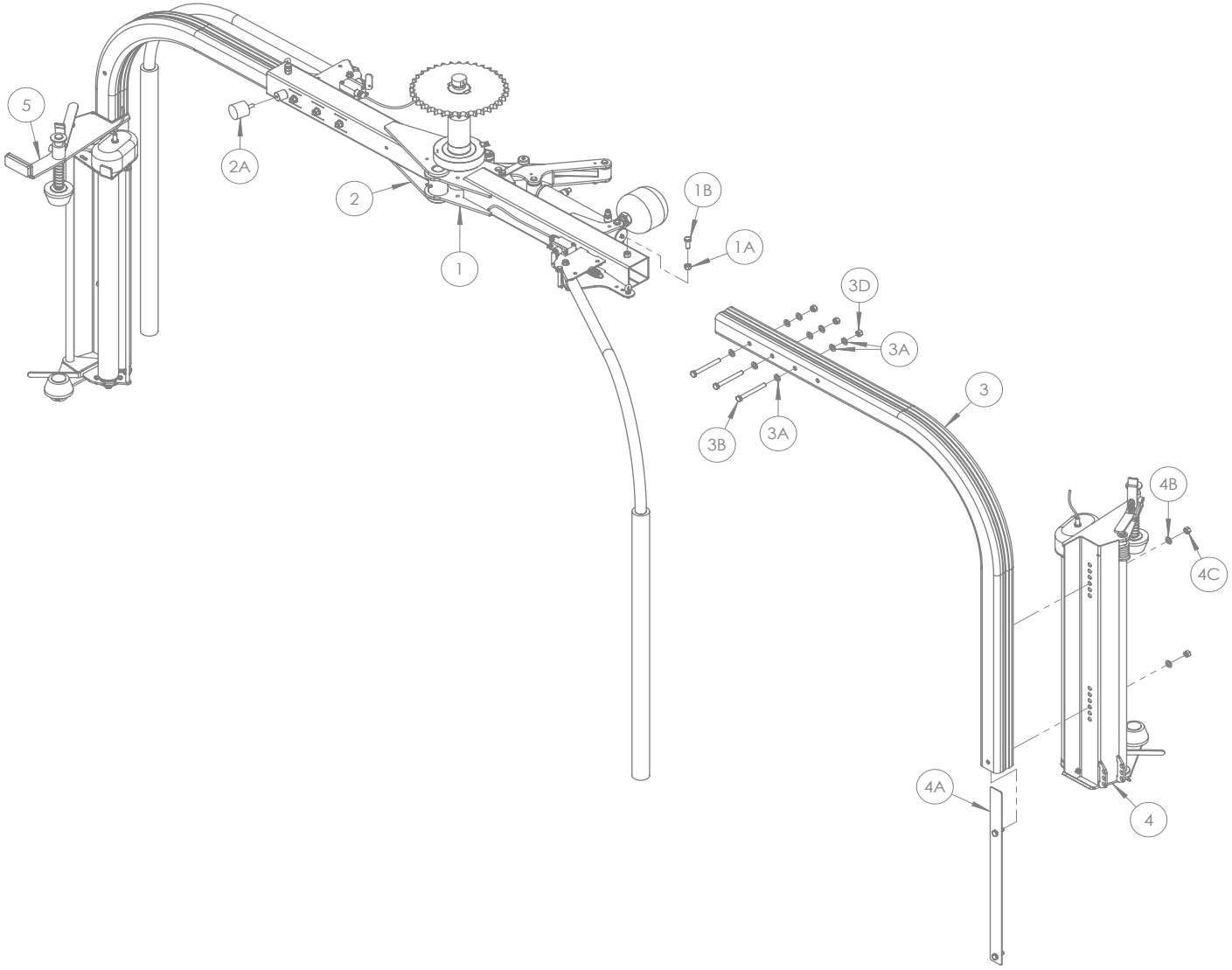
NB: Items 2, 3, 4, 5 & 6 including associated parts are required for 1520 & 1540 (Twin) models only

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
3	1314400	1		Fixed Linkage Assembly		
3A	1315407	2		Linkage / Ram Pin		
3B	Z26-039S	2		Hex Bolt		M8 x 20mm
3C	Z10-02-08	2		Flat Washer		8mm
3D	Z12-02-08	2		Spring Washer		8mm
3E	Z26-040B	1		Hex Bolt		M8 x 25mm
3F	Z10-02-08	2		Flat Washer		8mm
3G	Z23-08	1		Locknut		8mm
3H	z03-20-32	2		DX Bush		20mm ID x 20mm Long
4	1314300	1		Linkage Assembly		
4A	Z03-20-32	4		DX Bush		20mm ID x 20mm Long
4B	34060800	2		Grease Nipple		M8 x 1
5	1318171	1		Tower Ram		

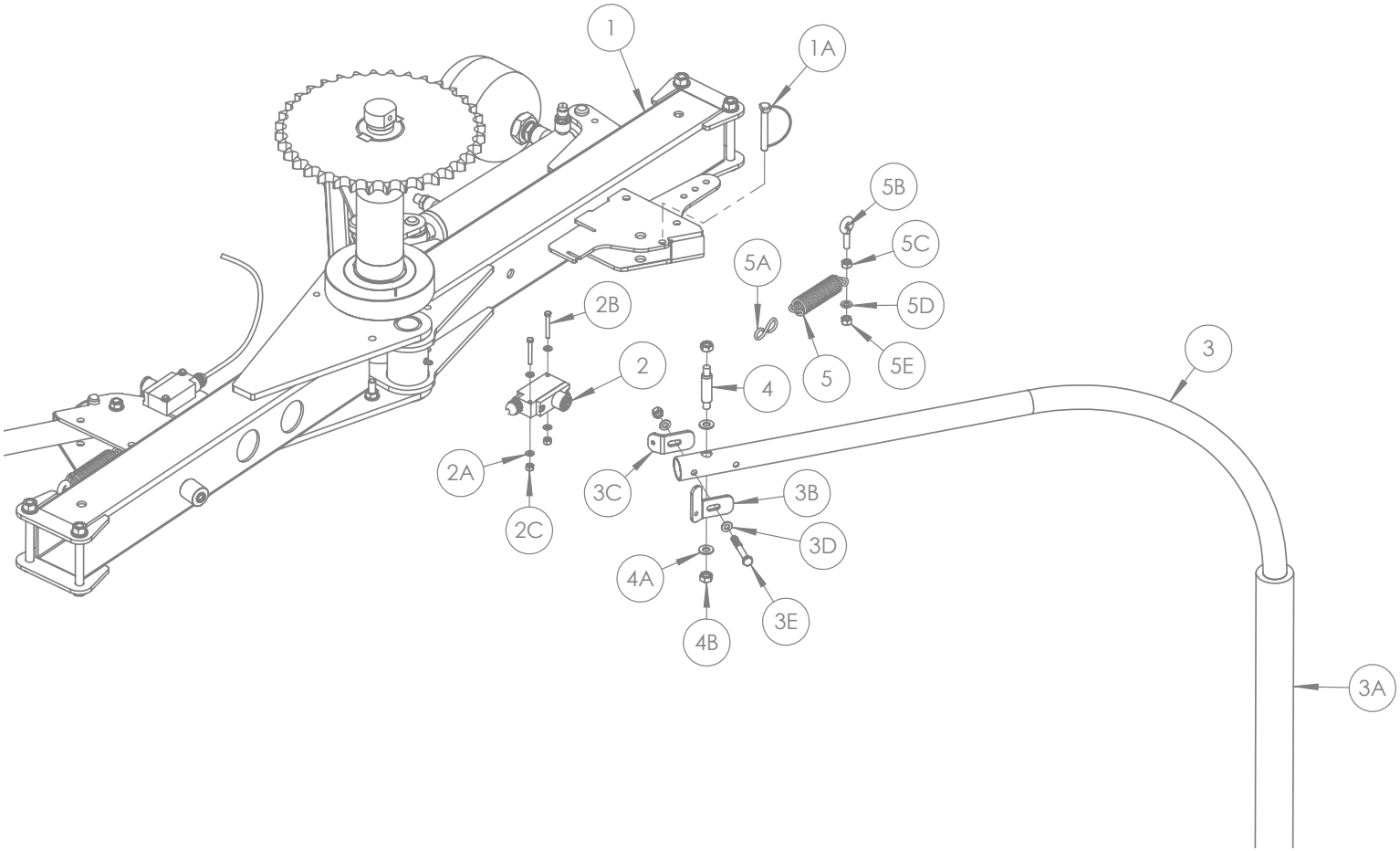
NB: Items 2, 3, 4, 5 & 6 including associated parts are required for 1520 & 1540 (Twin) models only

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
6	1315109	1		Magnet Mounting Bracket		
6A	1309201	1		RDS Magnet		
6B	Z13-5-04X30	1		CSK Allen Head Set		M4 x 30mm
6C	Z23-04	1		Locknut		4mm
6D	Z10-02-08	2		Flat Washer		8mm
6E	Z26-039S	1		Hex Set		M8 x 20mm
6F	Z23-08	1		Locknut		8mm
7	1404010	1		Drive Sprocket		1"x 36T
7A	1403075	1		Drive Shaft / Sprocket Spacer		
7B	Z18-008	3		Grub Screw		M8 x 10mm
7C	1404024	2		Key Steel		20 x 12 x 50
7D	1318176	1		Rotary Coupling		

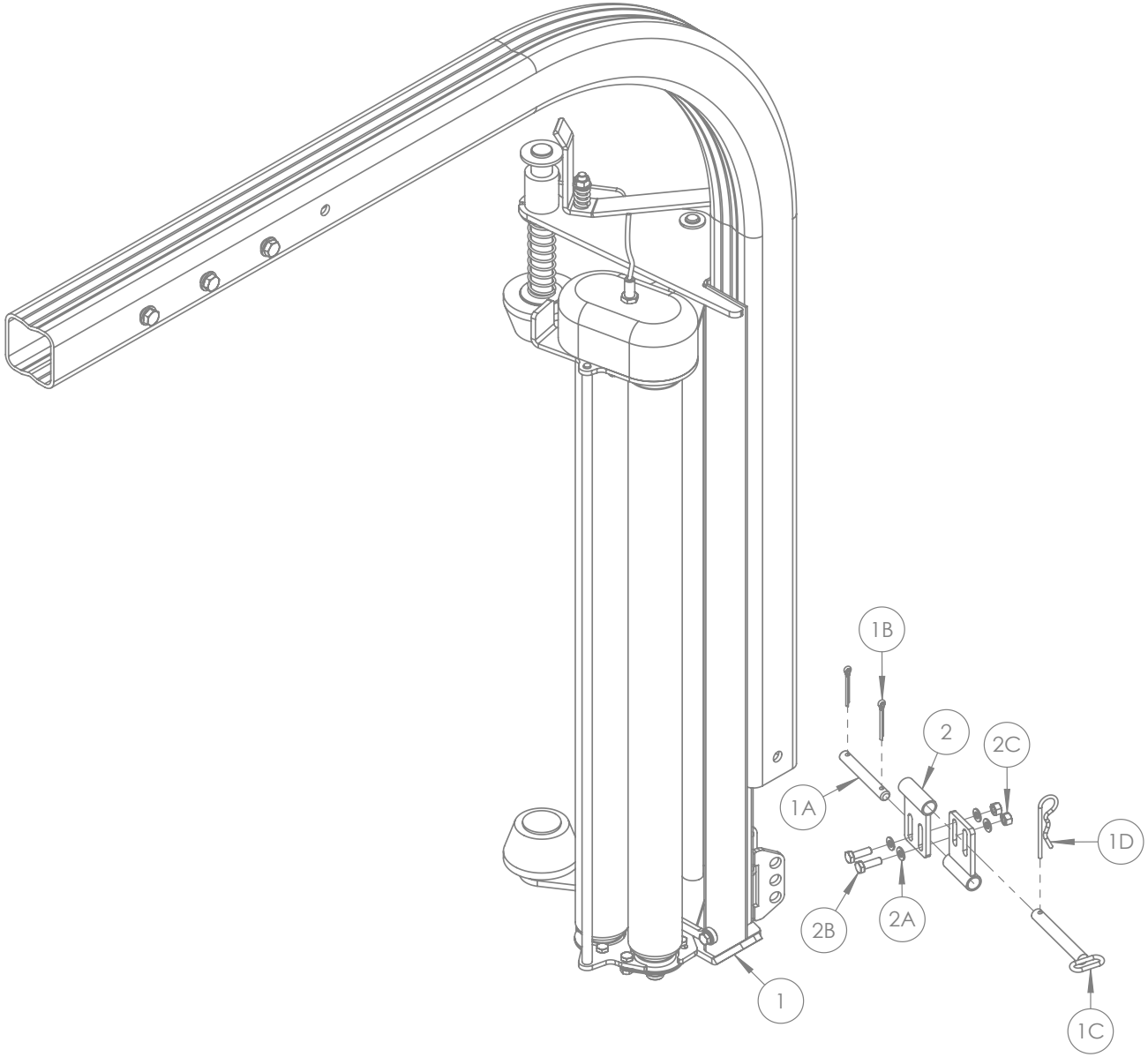
NB: Items 2, 3, 4, 5 & 6 including associated parts are required for 1520 & 1540 (Twin) models only


5
2A
2
1
1B
1A
3D
3A
3
3B
3A
4B
4C
4A
4

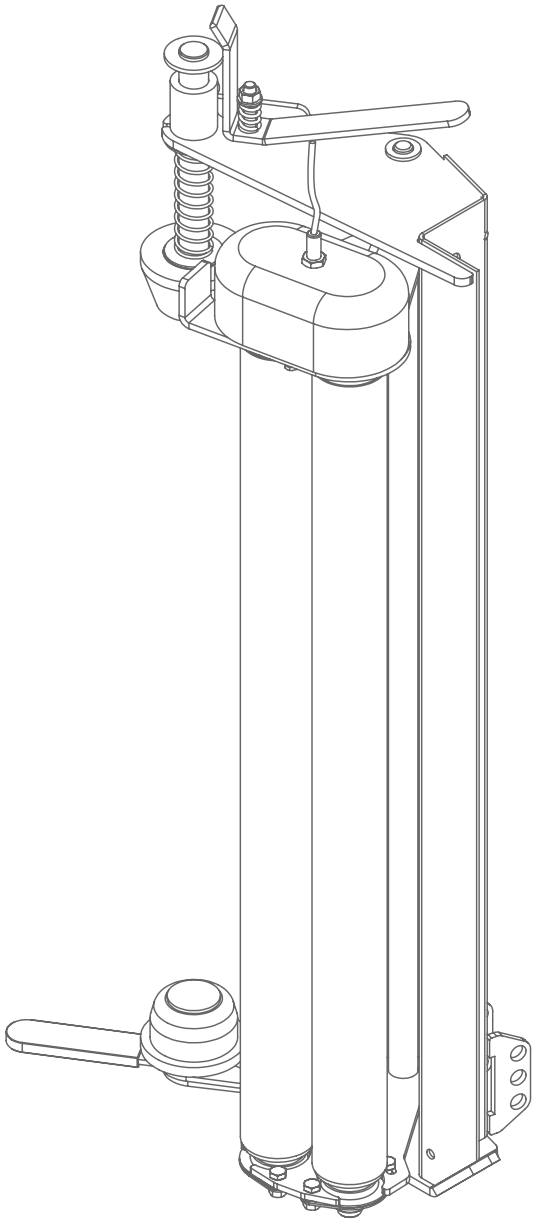
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1514100	1		Main Wrapping Arm		
1A	Z23-12	1		Locknut		12mm
1B	Z26-082S	1		Hex Set		M12 x 30mm
2	1514200	1		Slave Wrapping Arm		
2A	Z40-20	1		Rubber Buffer		50mm Dia x 42
3	1404009	2		Wrap Arm		
3A	Z10-02-12	26		Flat Washer		12mm
3B	Z26-0925	6		Hex Set		M12 x 100mm
3C	Z23-12	6		Locknut		12mm
4	1405150	1		Dispenser Assembly		
4A	1405015	2		Dispenser Mounting Bracket		
4B	Z10-02-12	2		Flat Washer		12mm
4C	Z23-12	2		Locknut		12mm
5	1505160	1		Twin Dispenser Assembly		

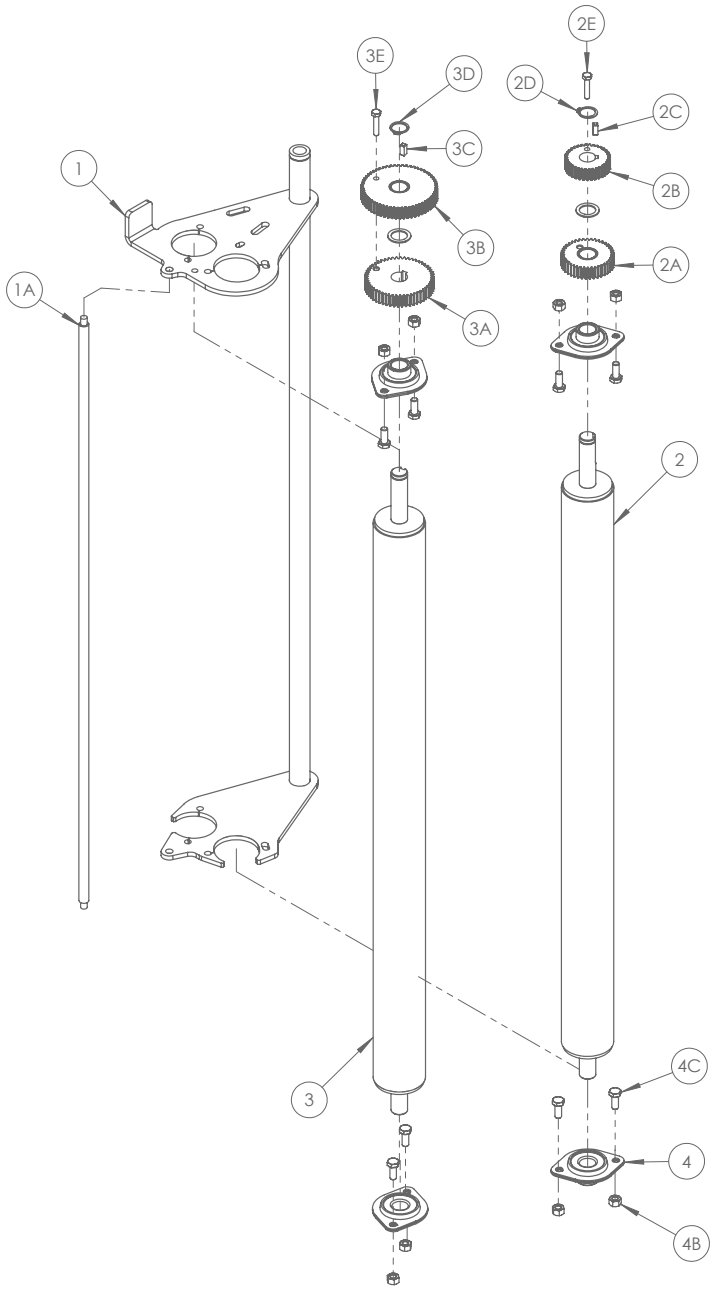

1
1A
5B
5C
5A
2B
5D
2
4
5
5E
3
2A
3C
3B
3D
2C
4A
3E
4B
3A

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1514100	1		Main Wrapping Arm		
2	34950179	1		Safey Switch		
2A	Z10-02-05	4		Flat Washer		5mm
2B	Z26-0137S	2		Set		M5 X 40
2C	Z23-05	2		Locknut		5mm
3	34611357	1		Emergency Stop Arm		
3A	34480020	1		Emergency Stop Arm Cover		
3B	1404013	1		Switch Activator		
3C	34670152	1		Emergency Stop Arm Bracket		
3D	Z10-02-08	2		Flat Washer		8mm
3E	Z26-047B	1		Hex Bolt		M8 x 60mm
3F	Z23-08	1		Locknut		8mm
4	34105651	1		Emergency Stop Arm Pivot Bolt		
4A	Z10-02-10	2		Flat Washer		10mm
4B	Z23-10	2		Locknut		10mm
5	34430300	1		Emergency Stop Arm Spring		
5A	34660111	1		Emergency Stop Arm S Hook		
5B	34119043	1		Eye Bolt		M8 x 25mm
5C	Z18-08	1		Plain Hex Nut		8mm
5D	Z10-02-08	1		Flat Washer		8mm
5E	Z23-08	1		Locknut		8mm

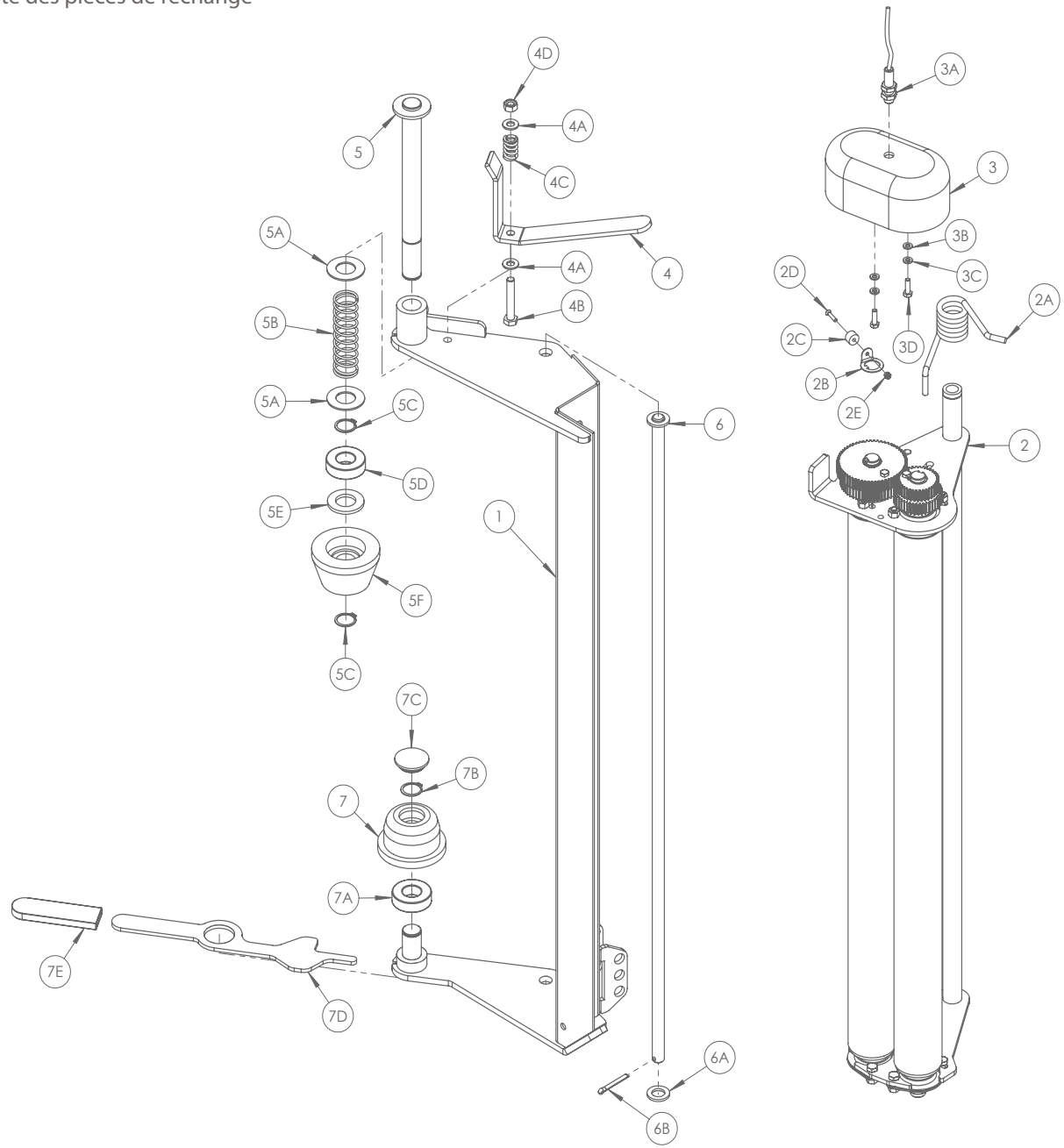


POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1405150	1		Dispenser Assembly		
1A	34105677	1		Retainer Hinge Pin		
1B	34220200	2		Split Pin		4mm x 36mm
1C	34105676	1		Wrap Arm Locking Pin		
1D	Z36-02	1		'R' Clip		4mm
2	1313015	2		Wrap Arm Lock		
2A	Z10-02-08	4		Flat Washer		8mm
2B	Z26-040S	2		Hex Set		M8 x 25
2C	Z23-08	2		Locknut		8mm




1
1A
3E
3D
3C
3B
3A
2E
2D
2C
2B
2A
2
3
4C
4
4B

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1505001	1		Roller Mounting Frame		
1A	1305035	1		Film Seperating Roller		
2	1305120	1		Inner Roller		
2A	1305104	1		37 Tooth Gear		
2B	1305102	1		35 Tooth Gear		
2C	1305123	1		Square Key Steel		6mm (15mm Long)
2D	Z28-520	1		External Cir-Clip		20mm
2E	Z26-022S	1		Hex Set		M6 x 30mm
3	1305121	1		Outer Roller		
3A	1305101	1		60 Tooth Gear		
3B	1305103	1		58 Tooth Gear		
3C	1305123	1		Square Key Steel		6mm (15mm Long)
3D	Z28-520	1		External Cir-Clip		20mm
3E	Z26-022S	1		Hex Set		M6 x 30mm
4	1305122	4		Roller Bearing		SLFL20A
4A	Z26-039S	8		Hex Set		M8 x 20mm
4B	Z23-08	8		Locknut		8mm

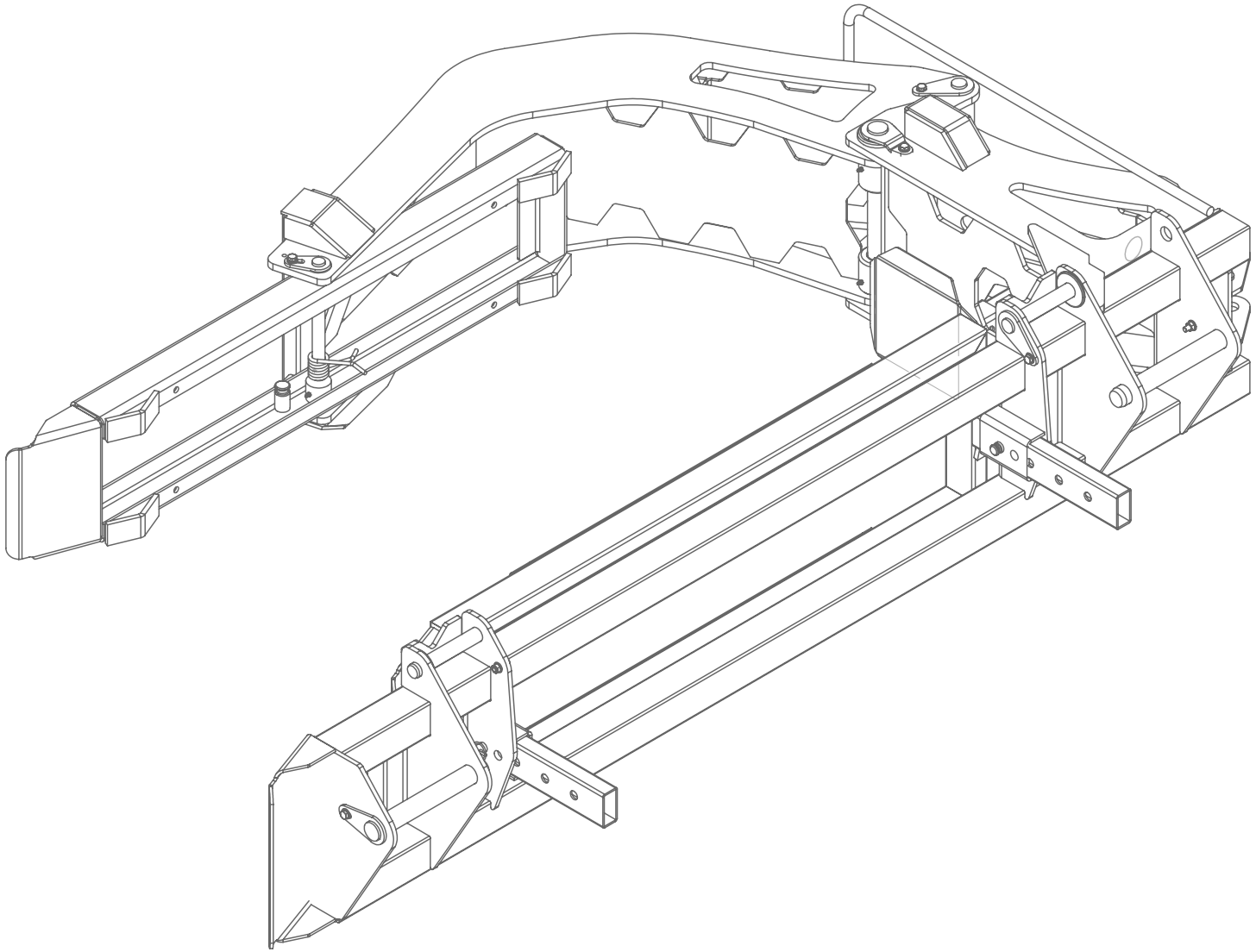

4D
4A
4C
5
5A
4A
4
4B
5B
5A
5C
6
5D
5E
1
5F
5C
7C
7B
7
7A
7E
7D
6A
6B
3A
3
3B
3C
2D
2A
2C
3D
2B
2E
2

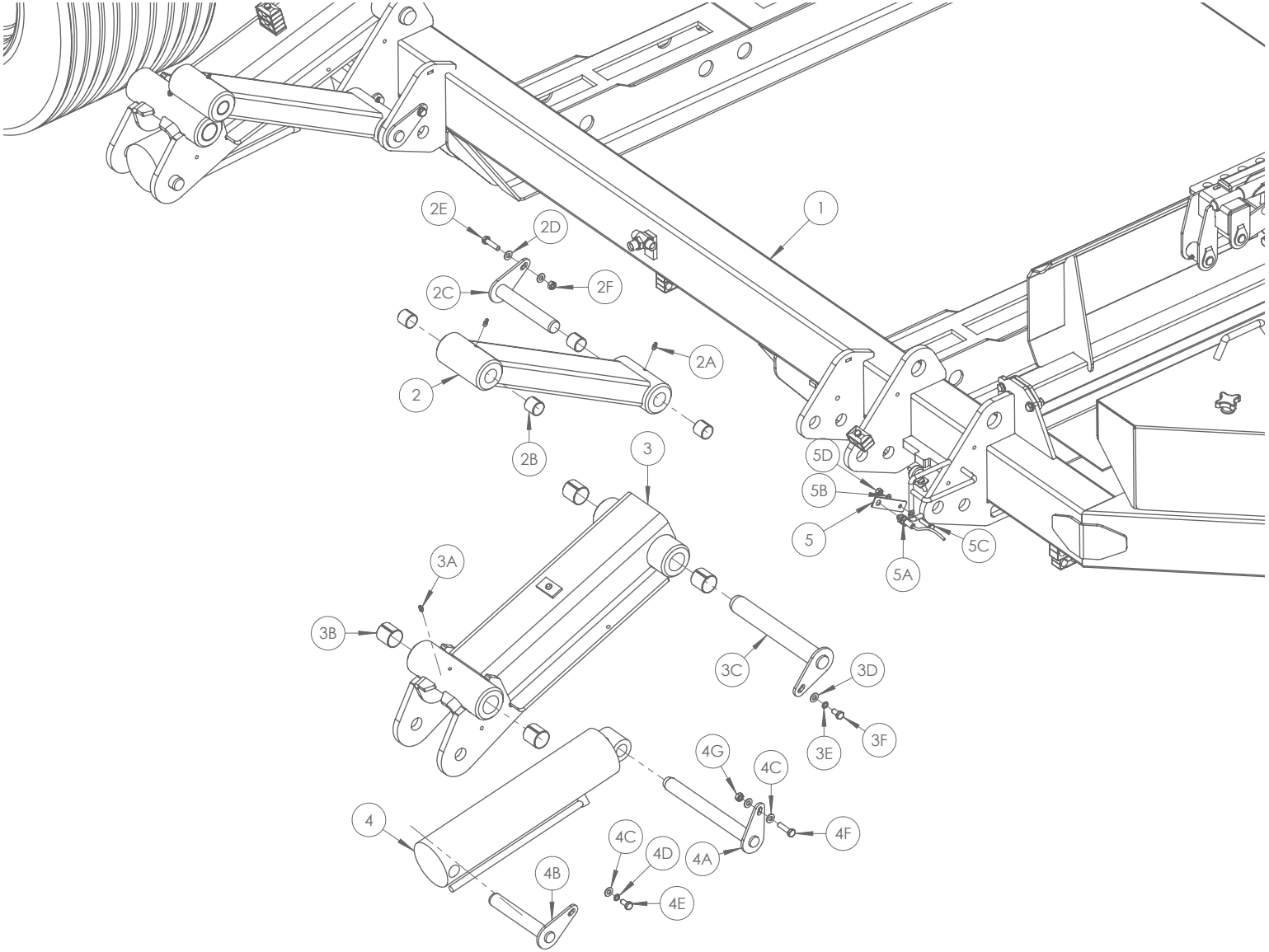
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1*	1405100	1		Dispenser Frame		
2	1305100B	1		Dispenser Insert		70/55%
2A	1305034	1		Torsion Spring		
2B	WD404-052	1		Magnet Mounting Bracket		
2C	D606C-M	1		Sensot Magnet		
2D	Z13-5-04X20	1		CSK Set		M4 x 20mm
2E	Z23-04	1		Locknut		4mm
3	1305125	1		Dispenser Gearbox Cover		
3A	1309203	1		RDS Sensor		4m Cable
3B	Z10-02-06	2		Flat Washer		6mm
3C	Z12-02-06	2		Spring Washer		6mm
3D	Z26-020S	2		Hex Set		M6 x 20mm

* Twin Arm Dispenser Frame Part No: 1514600

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
4	1305026	1		Dispenser Top Latch		
4A	Z10-02-10	2		Flat Washer		10mm
4B	Z26-067B	1		Hex Bolt		M10 x 60mm
4C	1305027	1		Top Latch Compression Spring		
4D	Z23-10	1		Locknut		10mm
5	1305022	1		Dispenser Top Shaft		
5A	Z11-02-25	2		Flat Washer (Light Duty)		25mm
5B	1305021	1		Compression Spring		
5C	Z28-525	2		External Circlip		25mm
5D	Z06-AWRB	1		Ball Bearing		6205-ZZ LDK
5E	Z10-02-25	1		Flat Washer (Heavy Duty)		25mm
5F	1305019	1		Top Nylon Cone		
6	1405007	1		Insert Mounting Pin		
6A	Z10-02-16	1		Flat Washer		16mm
6B	Z03-21-14	1		Split Pin		3/16" (1 1/2" Long)

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
7	1405151	1		Dispenser Bottom Latch		
7A	Z10-02-08	2		Flat Washer		8mm
7B	Z26-040B	1		Hex Bolt		M8 x 25mm
7C	Z23-08	1		Locknut		8mm
8	1405006	1		Bottom Nylon Cone		
8A	Z06-AWRB	1		Ball Bearing		6205-ZZ LDK
8B	Z28-525	1		External Circlip		25mm
8C	Z32-15F	1		NB Tube Insert		1 1/4" (37mm)

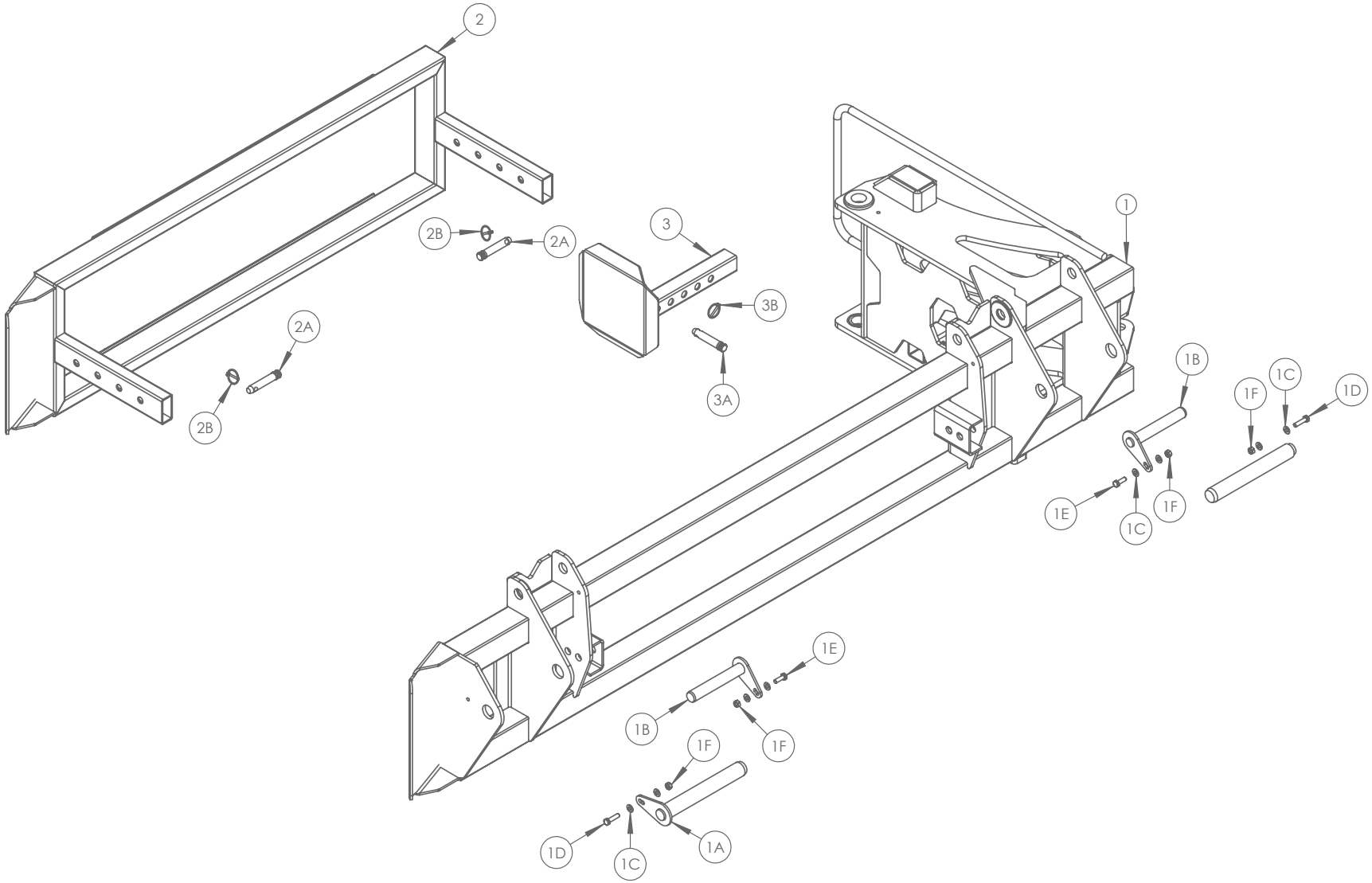



1
2
2A
2B
2C
2D
2E
2F
3
3A
3B
3C
3D
3E
3F
4
4A
4B
4C
4D
4E
4F
4G
5
5A
5B
5C
5D

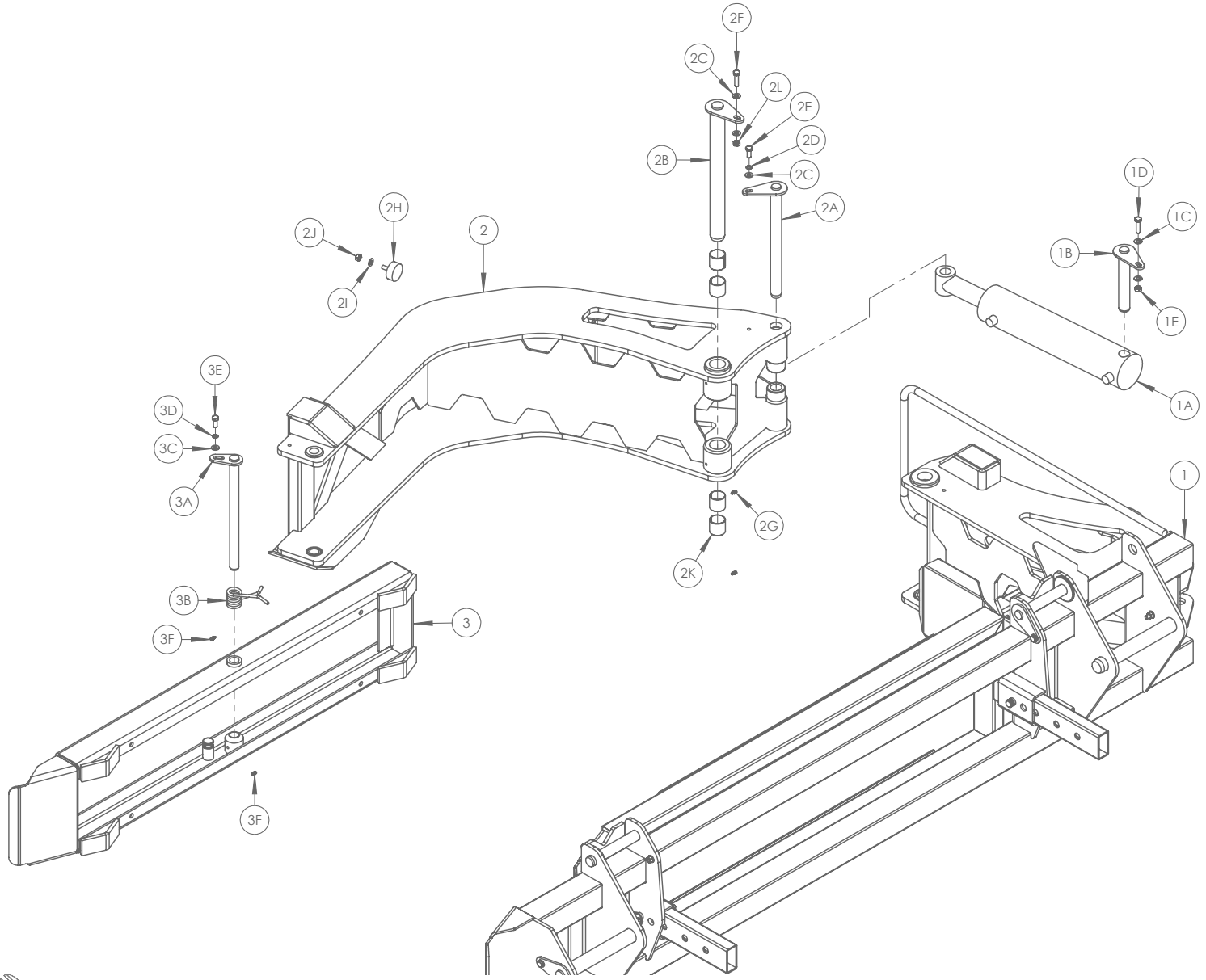
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1801500	1		Chassis		
2	1802150	1		Loading Arm Linkage Bracket		
2A	Z39-60	2		Grease Nipple		M8 x 1.25
2B	Z03-20-31	4		DX Bush		30mm ID X 30mm Long
2C	1801153	1		Linkage Bracket Pivot Pin		
2D	Z10-02-10	2		Flat Washer		10mm
2E	Z26-064S	1		Hex Set		M10 x 40mm
2F	Z23-10	1		Locknut		10mm
3	1802100	1		Loading Arm Linkage Bracket		
3A	34060800	2		Grease Nipple		M8 x 1.25
3B	Z03-20-27	4		DX Bush		40mm ID x 40mm Long
3C	1801151	1		Linkage Bracket Pivot Pin		
3D	Z10-02-10	1		Flat Washer		10mm
3E	Z12-02-10	1		Spring Washer		10mm
3F	Z26-060S	1		Hex Set		M10 x 20mm

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
4	1808400	1		Loading Arm Ram		
4A	1801152	1		Ram Mounting Pin		
4B	1801153	1		Ram Mounting Pin		
4C	Z10-02-10	3		Flat Washer		10mm
4D	Z12-02-10	1		Spring Washer		10mm
4E	Z26-060S	1		Hex Set		M10 x 20mm
4F	Z26-064S	1		Hex Set		M10 x 40mm
4G	Z23-10	1		Locknut		10mm
5	1801832	1		Sensor Mounting Bracket		
5A	1309202	1		RDS Sensor		
5B	Z10-02-08	2		Flat Washer		8mm
5C	Z26-042S	1		Hex Set		M8 x 35mm
5D	Z23-08	1		Locknut		8mm
5A	1309202	1		RDS Sensor		
5B	Z10-02-08	2		Flat Washer		8mm
5C	Z26-042S	1		Hex Set		M8 x 35mm

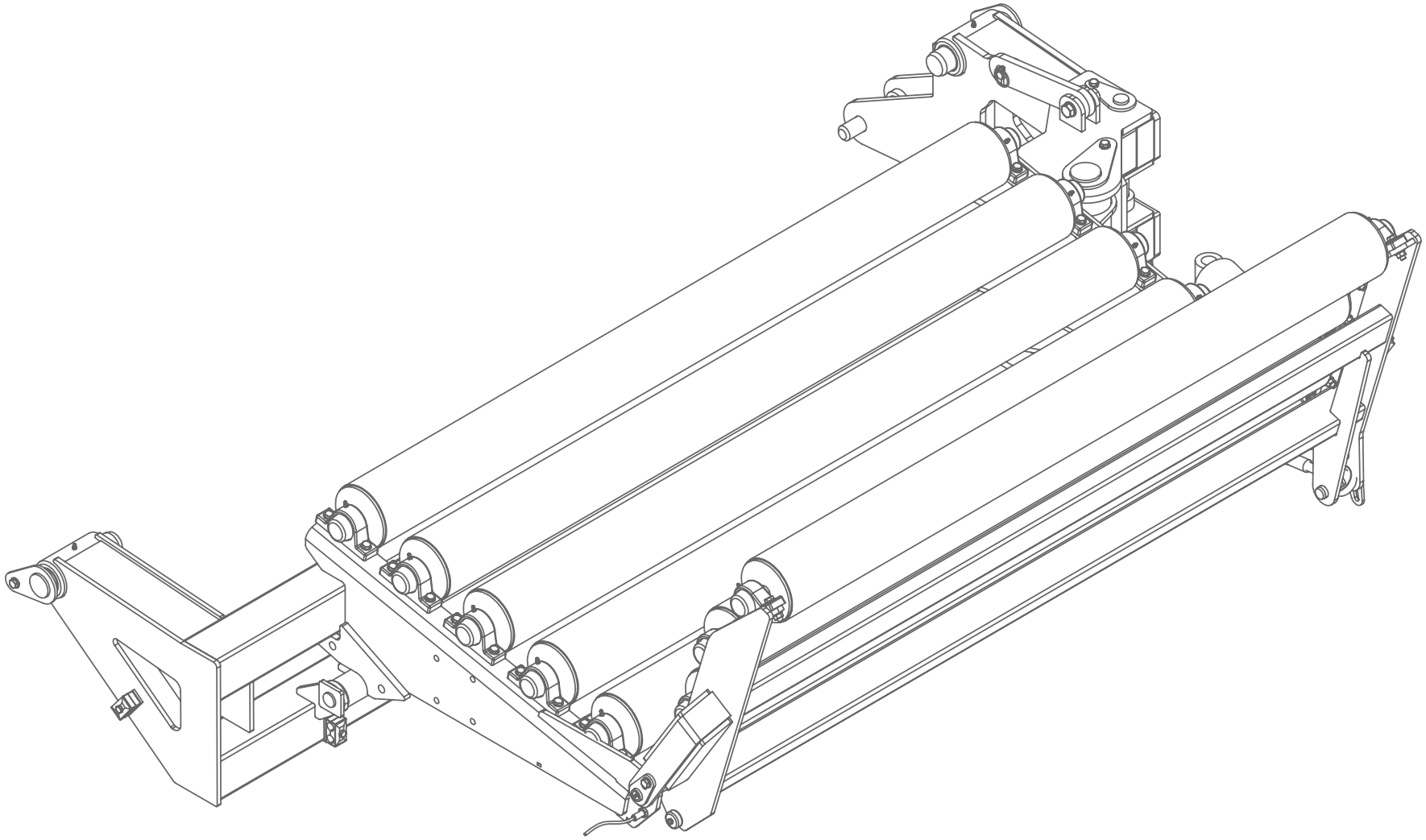
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
6	1801831	1		Magnet Mounting Bracket		
6A	Z10-02-08	2		Flat Washer		8mm
6B	Z26-041S	1		Hex Set		M8 x 30mm
6C	Z23-08	1		Locknut		8mm
7	1309201	1		Sensor Magnet		
7A	Z26-023S	1		Hex Set		M6 x 35mm
7B	Z10-02-06	1		Flat Washer		6mm
7C	Z23-06	1		Locknut		6mm

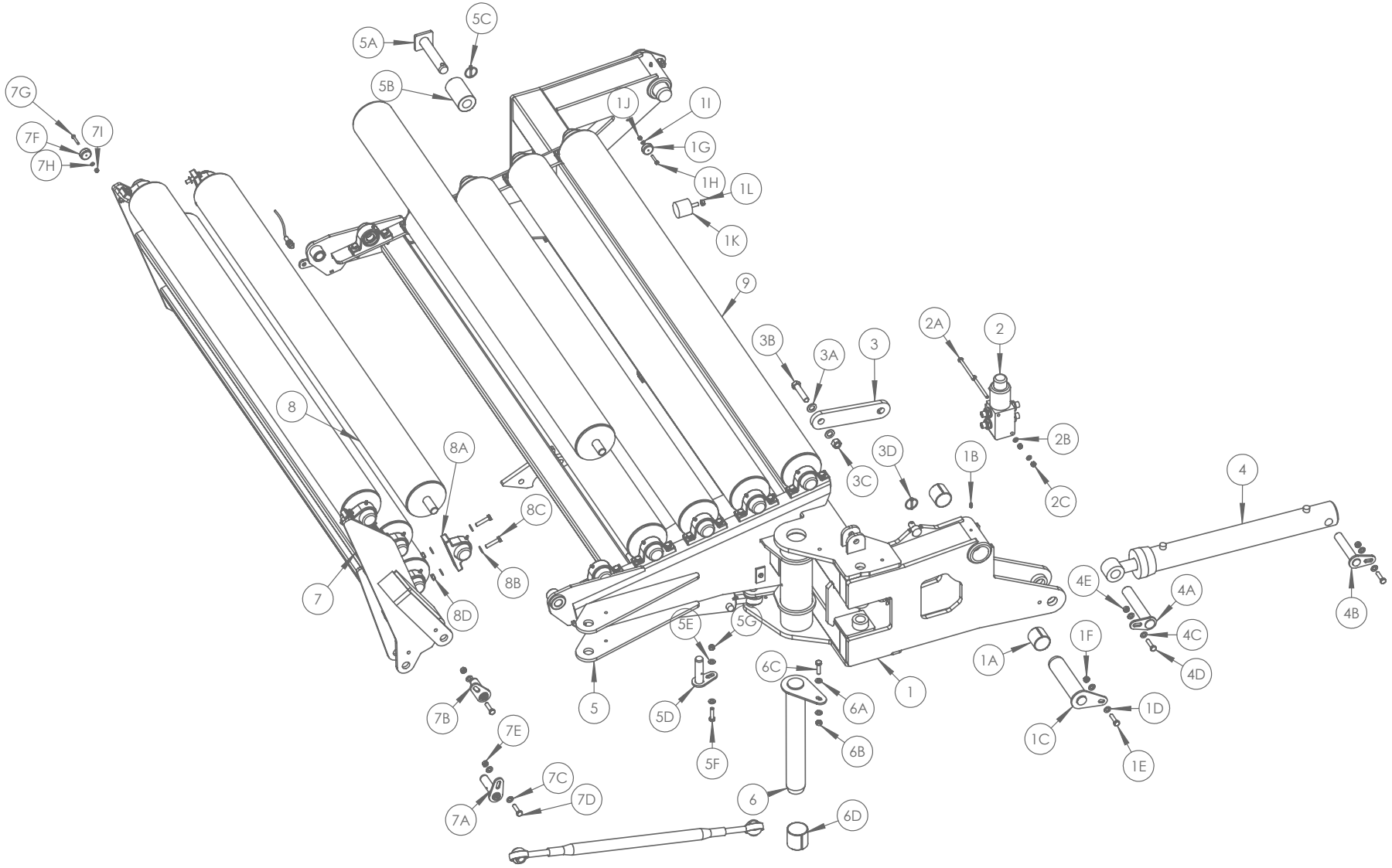

2
2B
2A
3
3B
3A
2A
2B
1
1B
1C
1D
1F
1E
1C
1F
1E
1B
1F
1D
1C
1A

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1802300	1		Loading Arm Main Frame		
1A	1801151	2		Loading Arm Pivot Pin A		
1B	1801153	2		Loading Arm Pivot Pin B		
1C	Z10-02-10	8		Flat Washer		10mm
1D	Z26-064S	2		Hex Set		M10 x 40mm
1E	Z26-062S	2		Hex Set		M10 x 30mm
1F	Z23-10	4		Locknut		10mm
2	1802550	1		Side Bale Stop		
2A	Z03-04-73	2		Top Link Pin		
2B	Z03-22-06	2		Linch Pin		7/16″ Dia
3	1802500	1		Rear Bale Stop		
3A	Z03-04-73	1		Top Link Pin		
3B	Z03-22-06	1		Linch Pin		7/16″ Dia
4C	Z10-02-10	3		Flat Washer		10mm


2F
2C
2L
2E
2D
2B
2C
2A
2H
2J
2
2I
1D
1C
1B
1E
1A
3E
3D
3C
3A
1
2G
2K
3B
3
3F
3F

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1802300	1		Loading Arm Main Frame		
1A	1808450	1		Loading Arm Squeeze Ram		
1B	1801153	1		Inner Arm Link Pin		
1C	Z10-02-10	2		Flat Washer		10mm
1D	Z26-064S	1		Hex Set		M10 x 40mm
1E	Z23-10	1		Locknut		10mm
2	1802400	1		Loading Arm Outer Frame		
2A	1801155	1		Sqeeze Ram Pin		
2B	1801154	1		Outer Frame Pivot Pin		
2C	Z10-02-10	3		Flat Washer		10mm
2D	Z12-02-10	1		Spring Washer		10mm
2E	Z26-0611S	1		Hex Set		M10 x 25mm
2F	Z26-064S	1		Hex Set		M10 x 40mm
2G	34060800	2		Grease Nipple		M8 x 1.25
2H	Z40-28	1		Rubber Buffer		Ø 50mm x 22mm
2I	Z10-02-10	1		Flat Washer		10mm
2J	Z23-10	1		Locknut		10mm
2K	Z03-20-27	4		DX Bush		40mm ID x 40mm Long
2L	Z23-10	1		Locknut		10mm

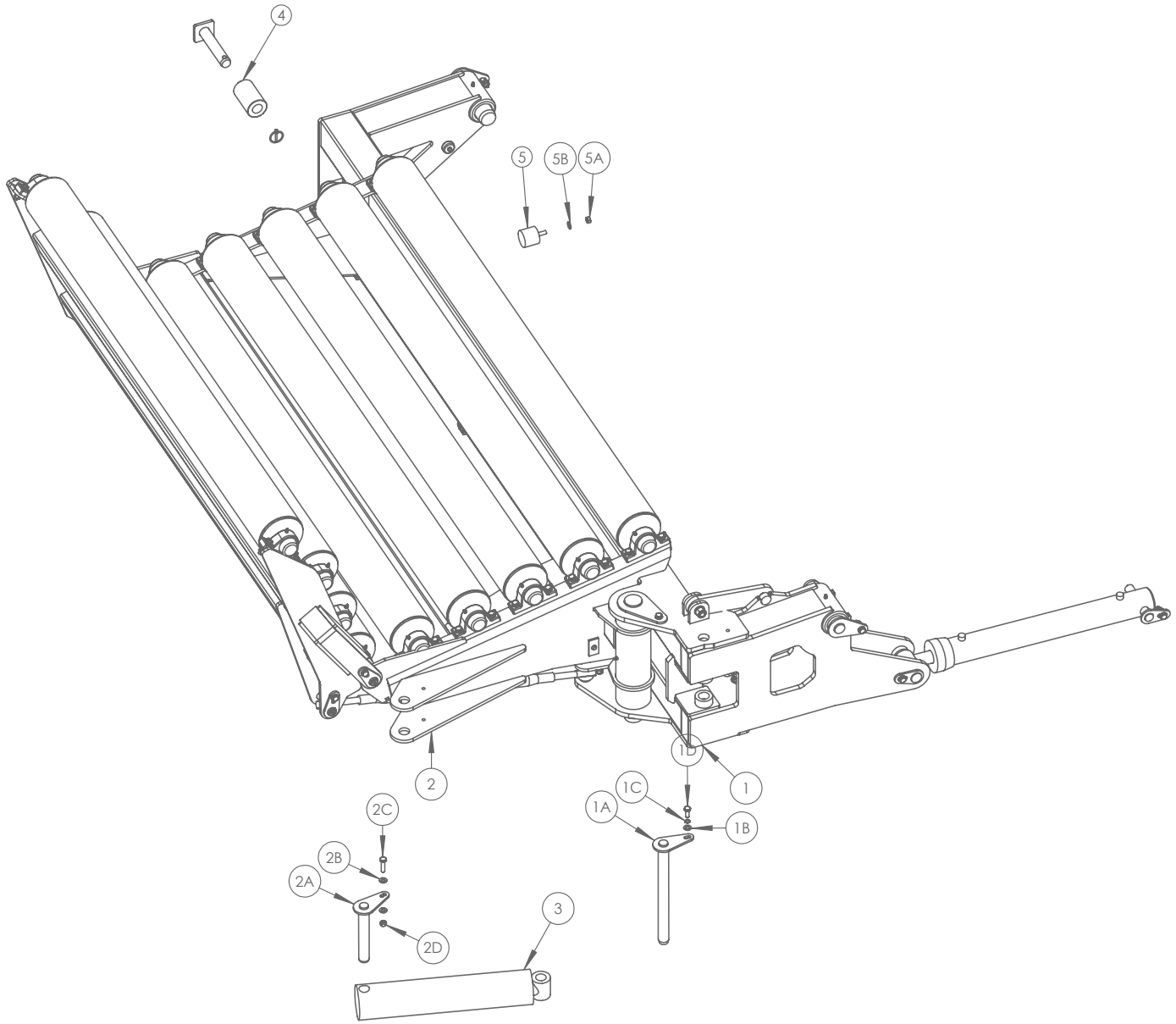



5C
5A
5B
1J
1I
1G
1H
1L
1K
9
7G
7F
7I
7H
3B
3A
3
2A
2
2B
2C
3C
3D
1B
4
8
8A
8C
8B
8D
7
5
5E
5G
5D
5F
6C
6A
6B
6
6D
7B
7E
7C
7D
7A
1
1A
1F
1D
1C
1E
4E
4A
4C
4D
4B

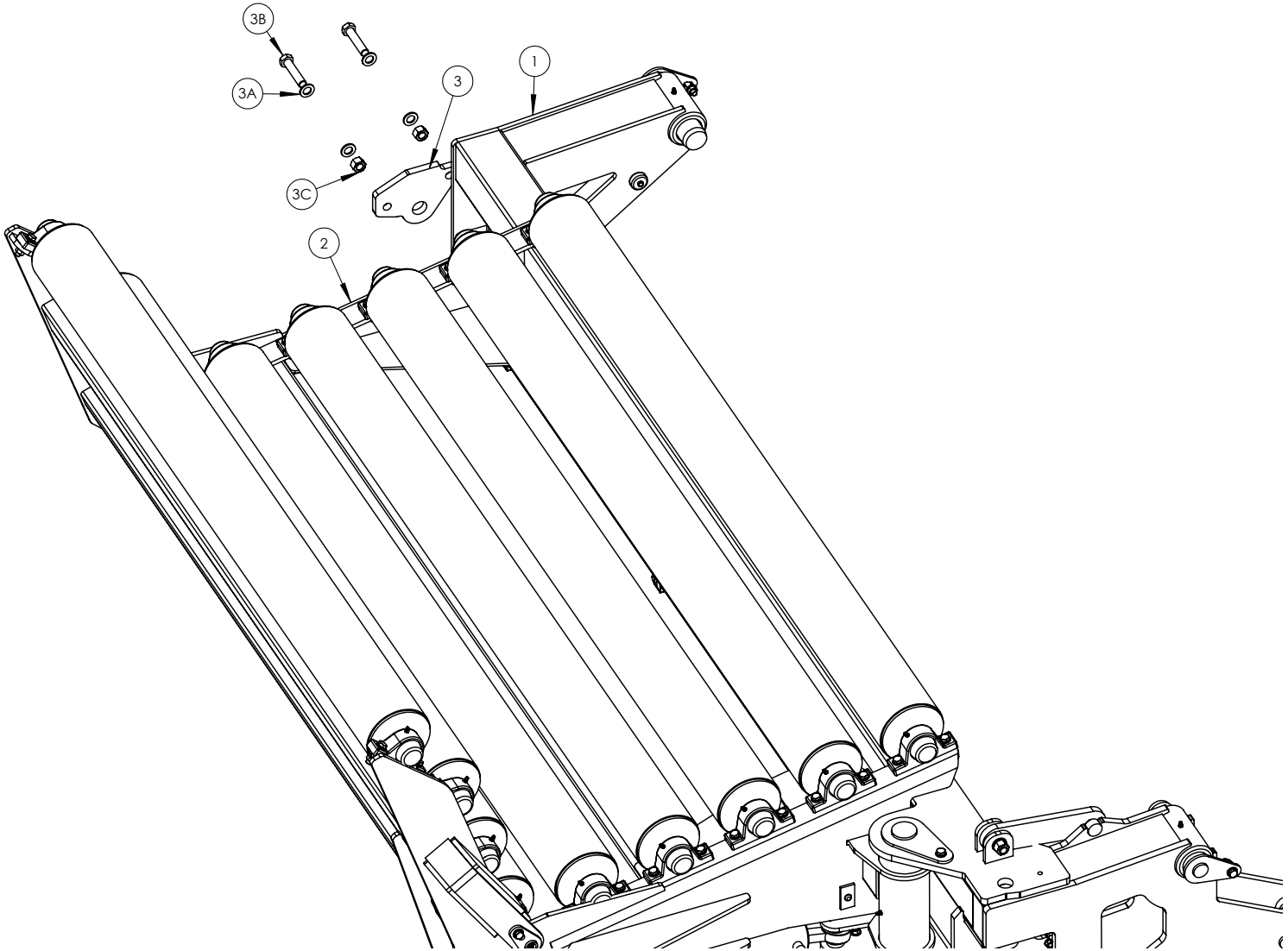
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1807050	1		Conveyor Mounting Frame		
1A	Z03-20-28	4		DX Bush		50mm ID x 50mm Long
1B	34060800	3		Grease Nipple		M8
1C	1801162	2		Conveyor Pivot Pin (Vertical)		
1D	Z10-02-10	4		Flat Washer		10mm
1E	Z26-064S	2		Hex Set		M10 x 40
1F	Z23-10	2		Locknut		10mm
1G	1309201	1		Sensor Magnet		
1H	Z26-023S	1		Hex Set		M6 x 35mm
1I	Z10-02-06	1		Flat Washer		6mm
1J	Z23-06	1		Locknut		6mm
2	1808065	1		6 Port Diverter Valve		
2A	Z26-057S	2		Hex Set		M8 X 100mm
2B	Z10-02-08	2		Flat Washer		8mm
2C	Z23-08	2		Locknut		8mm
3	1804366	1		Conveyor Stay Bracket		
3A	Z10-02-16	2		Flat Washer		16mm
3B	Z26-129B	1		Hex Bolt		M16 x 75mm
3C	Z23-16	1		Locknut		16mm
3D	Z03-22-03	1		Linch Pin		1/4" Dia
4	Z01-01-AW-1070	1		Conveyor Squeeze Cylinder		
4A	Z03-12-139	1		Pin		139/988
4B	Z03-12-151	1		Pivot Pin		151/988
4C	Z10-02-10	4		Flat Washer		10mm
4D	Z26-064S	2		Hex Set		M10 x 40
4E	Z23-10	2		Locknut		10mm

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
4	Z01-01-AW-1070	1		Conveyor Squeeze Cylinder		
4A	Z03-12-139	1		Pin		139/988
4B	Z03-12-151	1		Pivot Pin		151/988
4C	Z10-02-10	4		Flat Washer		10mm
4D	Z26-064S	2		Hex Set		M10 x 40
4E	Z23-10	2		Locknut		10mm
5	1807080	1		Conveyor Horiz'tl Pivot Frame		
5A	34105719	1		Support Roller Pin		
5B	34730054	1		Support Roller		
5C	Z03-22-03	1		Linch Pin		1/4" Dia
5D	1801170	2		Cylinder / Top Link Pin		
5E	Z10-02-10	1		Flat Washer		10mm
5F	Z26-064S	1		Hex Set		M10 x 40
5G	Z23-10			Locknut		10mm
6	1801163	1		Drawbar / Conveyor Pivot Pin		
6A	Z10-02-10	2		Flat Washer		10mm
6B	Z23-10	1		Locknut		10mm
6C	Z26-064S	1		Hex Set		M10 x 40
6D	Z03-20-29	2		DX Bush		60mm ID x 60mm Long

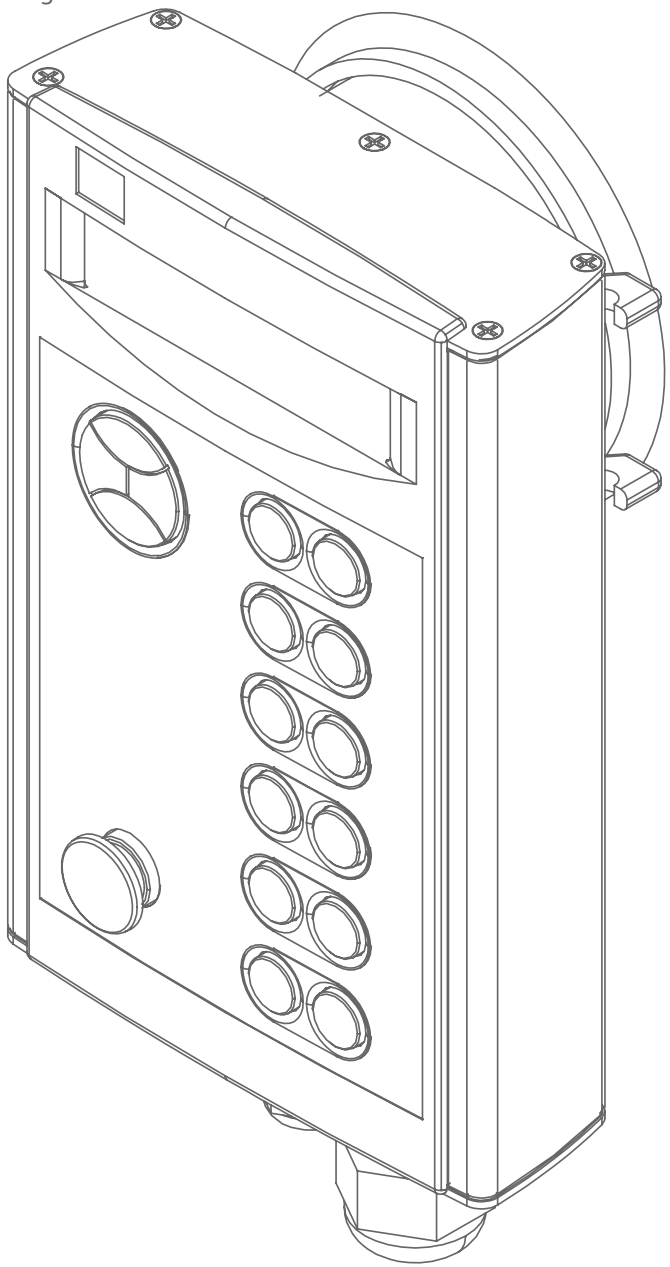
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
7	1807090	1		Conveyor Vertical Pivot Frame		
7A	1801170	1		Cylinder / Top Link Pin		
7B	1801165	2		Conveyor Pivot Pin		
7C	Z10-02-10	6		Flat Washer		10mm
7D	Z26-064S	3		Hex Set		M10 x 40
7E	Z23-10	3		Locknut		10mm
7F	1309201	1		Sensor Magnet		
7G	Z26-023S	1		Hex Set		M6 x 35mm
7H	Z10-02-06	1		Flat Washer		6mm
7I	Z23-06	1		Locknut		6mm
8	1807530	4		Idle Roller (Short)		
8A	Z06-47-25	18		Pillow Block Bearing		25mm
8B	Z10-02-10	72		Flat Washer		10mm
8C	Z26-065S	36		Hex Set		M10 x 45mm
8D	Z23-10	36		Locknut		10mm
9	1807535	5		Idle Roller (Long)		

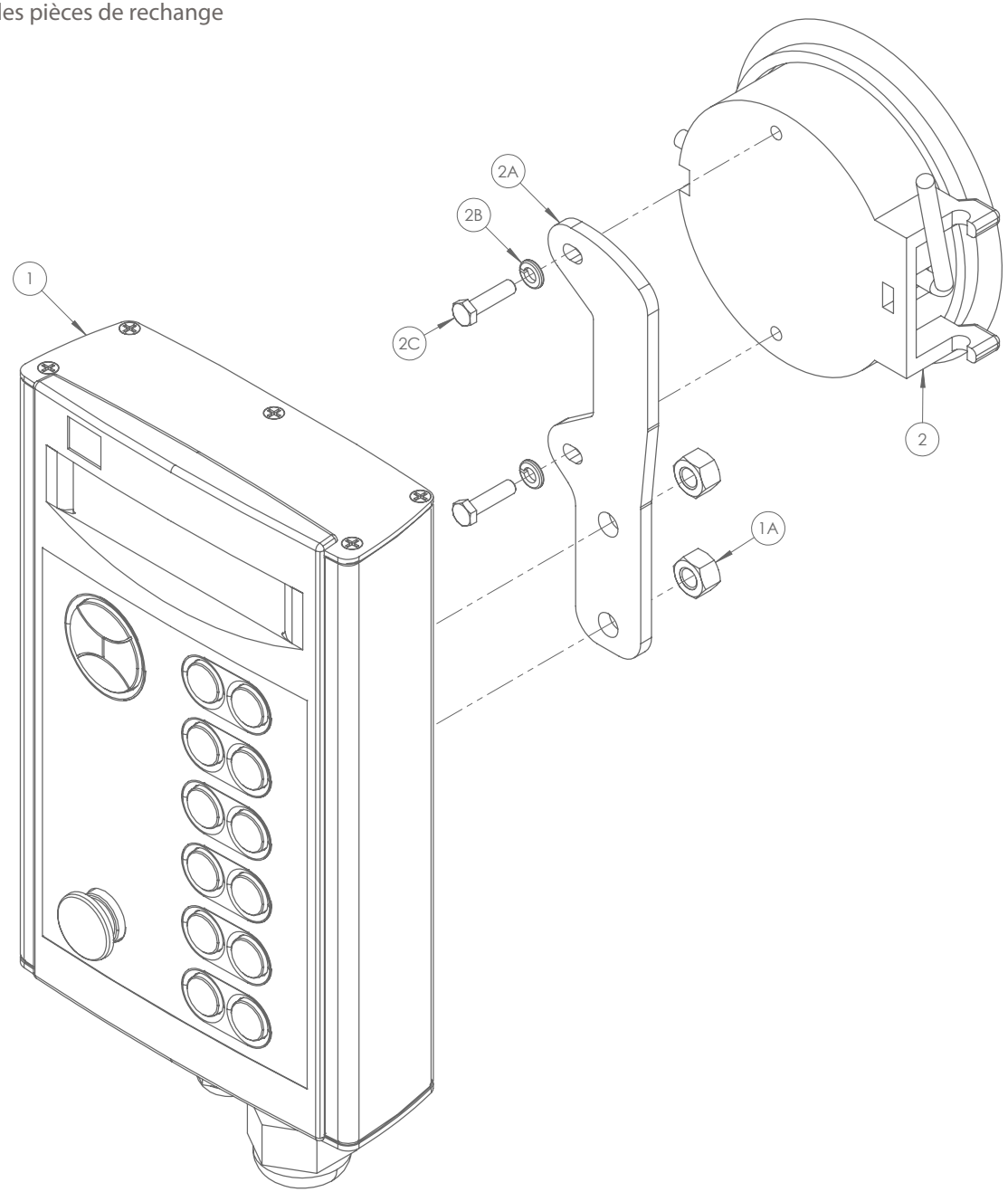

4
5
5B
5A
2
1D
1
1C
1A
1B
2C
2B
2A
2D
3

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1807050	1		Conveyor Mounting Frame		
1A	1801155	1		Sqeeze Ram Pin		
1B	Z10-02-10	1		Flat Washer		10mm
1C	Z12-02-10	1		Spring Washer		10mm
1D	Z26-0611S	1		Hex Set		M10 x 25mm
2	1807080	1		Conveyor Horiz'tl Pivot Frame		
2A	1801153	1		Sqeeze Ram Pin		
2B	Z10-02-10	2		Flat Washer		10mm
2C	Z26-064S	1		Hex Set		M10 x 40
2D	Z23-10	1		Locknut		10mm
3	Z01-01-SG55	1		Conveyor Rotate Ram		
4	34730054	1		Support Roller		
5	Z40-20	1		Rubber Buffer		Ø 50mm x 42
5A	Z23-10	1		Locknut		10mm
5B	Z10-02-10	1		Flat Washer		10mm


3B
3A
3C
3
1
2

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1807050	1		Conveyor Mounting Frame		
2	1807080	1		Conveyor Horiz'tl Pivot Frame		
3	1807092	1		Conveyor Bolt on Bracket		
3A	Z10-02-16	4		Flat Washer		16mm
3B	Z26-129B	2		Hex Set		M16 x 50mm
3C	Z23-16	2		Locknut		16mm




1
2A
2B
2C
2
1A

POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1309006*	1		RA Control Unit		
*	1319000	-		1500 Control Kit Complete		
1A	Z23-08	2		Locknut		8mm
2	1309012	1		Controller Suction Cup		
2A	1309011	1		Sucntion Cup Mounting Bracket		
2B	Z12-02-05	2		Spring Washer		5mm
2C	Z26-017S	2		Hex Set		M5 x 20mm