VariWrapS 200/300

Innovation in Agricultural Machinery

OPERATOR'S handbook

Model Shown: VariWrap
VariWrap/V.02-16-ENG

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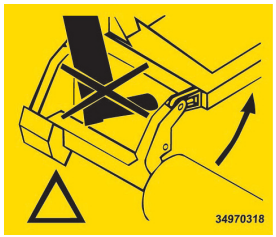
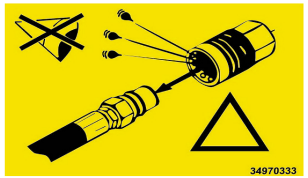
Read Operators Manual
Prior to using machine



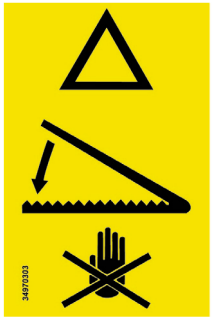
Warning, do not place your
feet between roller arms
and chassis

Ensure all nuts & bolts have
been tightened prior to
operating the machine

Danger stay at a safe distance
whilst machine is in operation

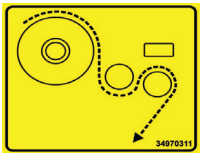


Warning, all hoses
are constantly under
pressure



Danger keep hands
clear of sharp blades

Do not climb in or on the
machine



Prestretcher Mounting

(70% stretch Gears)

Danger from rotating
Prestretcher

Tanco Autowrap Ltd congratulates you on your choice of the TANCO AUTOWRAP VariWrapS 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.

The TANCO AUTOWRAP bale wrapping machine has more features than any other bale wrapping machine available.

This machine is hydraulically driven by the tractor's hydraulic system and is controlled from the tractor cab by an automatic control unit. The machine can either be mounted to three point linkage, front mounted with quick-couplers to the tractors front loader or on a wheel loader. Then it's possible to stack the bales upon each other. The wrapped bale can be either dropped conventionally to the ground or with the fitting of an optional 'End Tip' the bale can be dropped on its end.

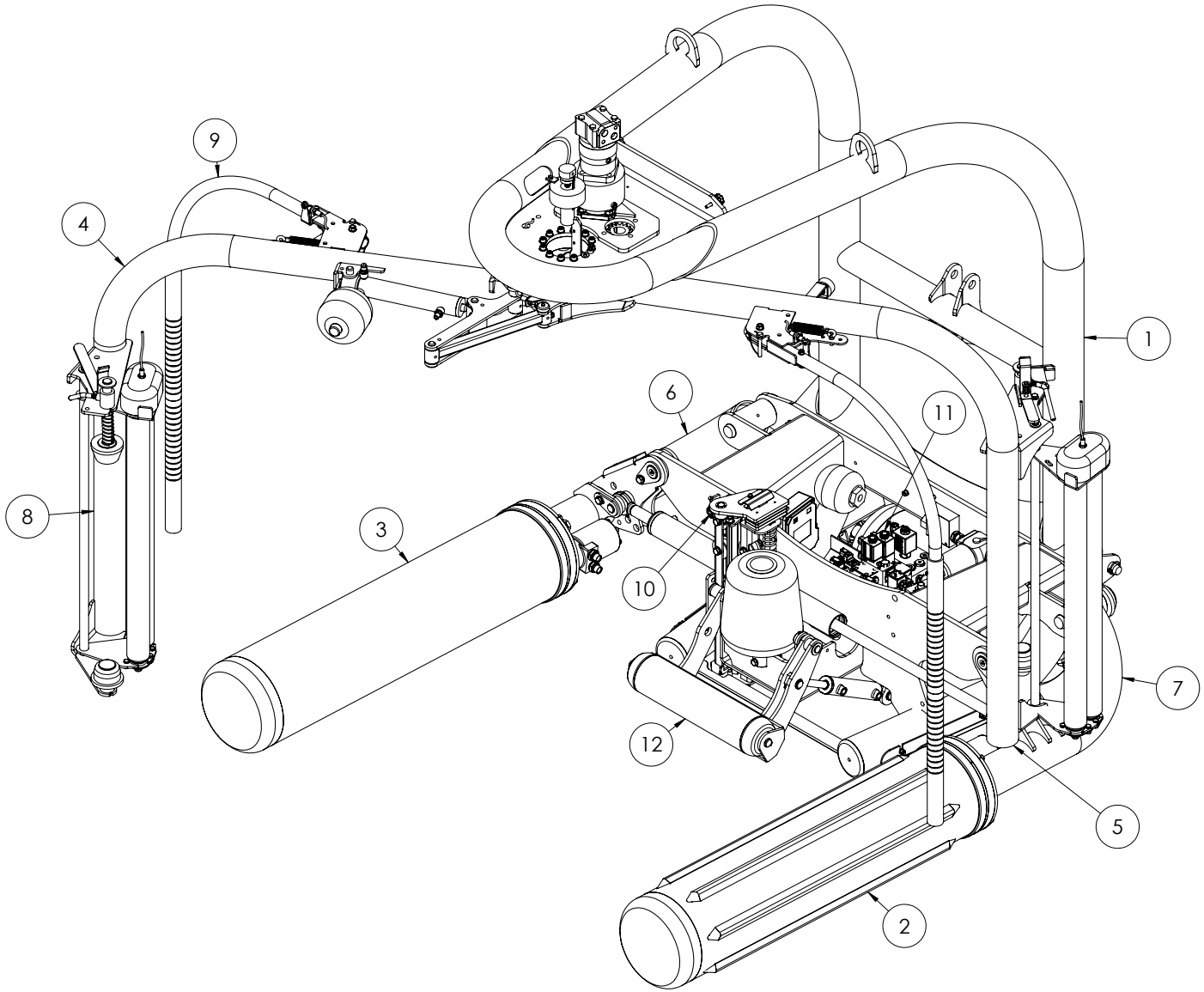
TANCO VariWrap is designed to wrap bales of grass, hay or straw, with nominal diameter of 1.1 - 1.5m, and weights up to (1200kg).

This manual explains how TANCO AUTOWRAP VariWrap S is setup, attached to tractor, used and how it works, and shall together 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 especially the safety instructions, before starting the machine. Follow the instructions thoroughly, if problems should occur, check the troubleshooting guide to try to establish the problem. Ask your dealer for advice before you attempt anything that may make the problem worse.

2. Introduction

VS200



Item No.	Description
1	Main Frame/Tower
2	Gripped Roller
3	Smooth Roller
4	Fixed Wrapping Arm
5	Twin Wrapping Arm
6	Load Arm RHS
7	Load Arm LHS
8	Dispenser Assembly
9	Emergency Stop Arm
10	Cut & Start Assembly
11	Hydraulic Assembly
12	Optional End Tip

Fig. 2. VariWrapS 200

VS300

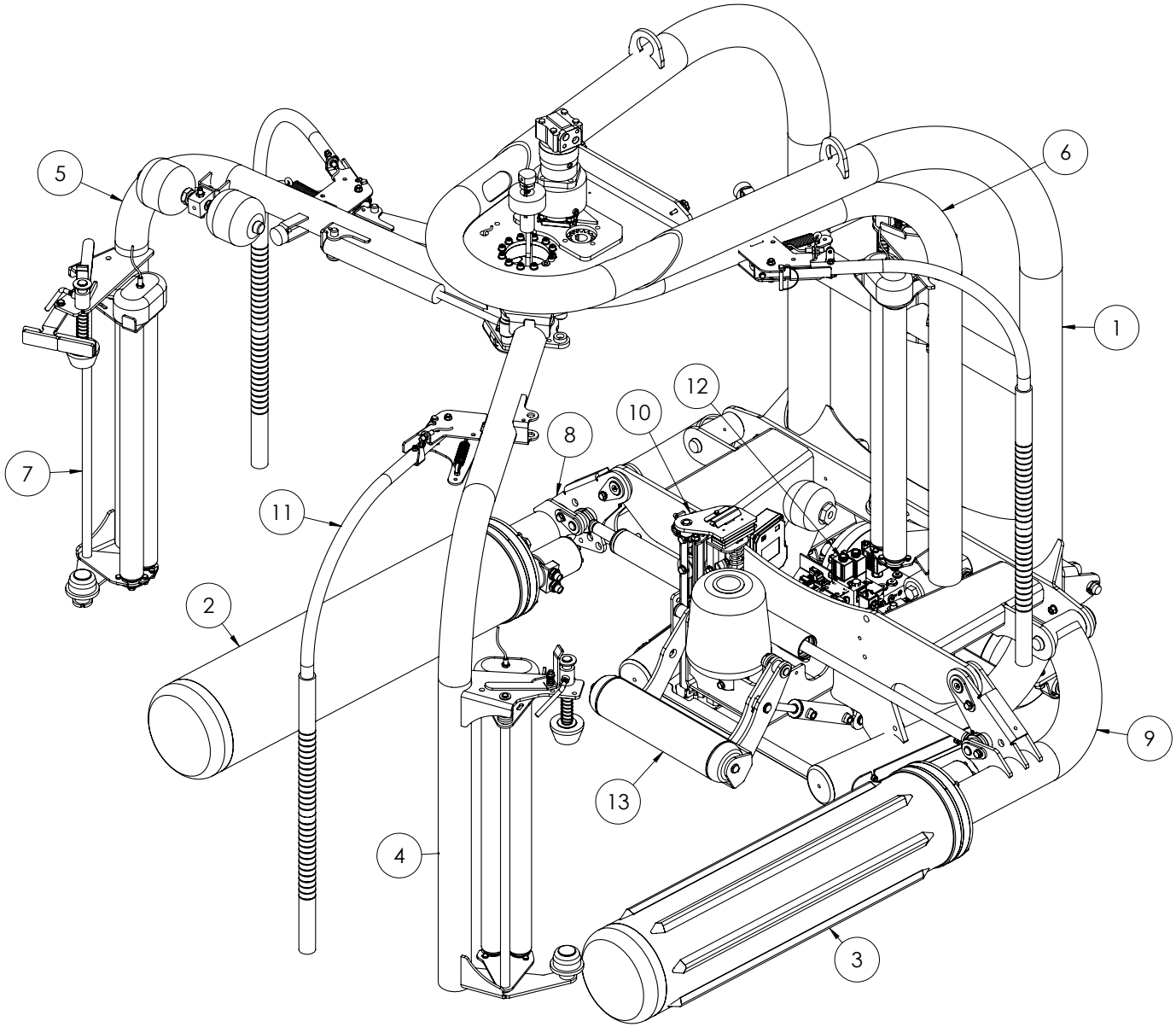


Fig. 2.1 VariWrapS 300

Item No.	Description
1	Main Frame/Tower
2	Smooth Roller
3	Gripped Roller
4	Fixed Wrapping Arm
5	Straight Slave Wrapping Arm
6	Curved Slave Wrapping Arm
7	Dispenser Assembly
8	Load Arm RHS
9	Load Arm LHS
10	Cut & Start Assembly
11	Emergency Stop Arm
12	Hydraulic Assembly
13	Optional End Tip

3. Technical Specifications

3.1. Technical Specifications VariWrap S200/300

Technical Specifications	VariWrapS 200- Twin Wrap Arms	VariWrapS 300- Three Wrap Arms
Height	2360mm	2360mm
Width	1400mm	1550mm
Length	2230mm	2230mm
Weight	835kgs	905kgs
Wrapping Arm Speed (Recommended)	28 R.P.M	28 R.P.M
Wrapping Arm Speed (max)	32 R.P.M.	32 R.P.M.
Maximum Bale Diameter	1.500mm	1.500mm
Maximum Bale Weight	1200 kg	1200 kg
Pre-Stretcher(s)	1 x 750mm Width; 55 & 70% Stretch	1 x 750mm Width; 55 & 70% Stretch
Hydraulic Connection	Single Working + Free Return	Single Working + Free Return
Oil Pressure	180 bar	180 bar
Maximum Counter Pressure	10 bar	10 bar
Electrical 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.

4. Safety Precautions

Tanco Autowrap Ltd does not take responsibility for damages that may occur to 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.

4.1. Safety Arm Stop
The Tanco Autowrap VariWrap Range is equipped with a safety arm stop on the wrapping arm. This device stops all functions momentarily, but is per definition not an emergency stop, because it does not shut down the inputs.

4.2. 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.

4.3. 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.

4.4. Adjustments / Maintenance
Turn off the tractor and discharge the oil pressure before performing any adjustment or maintenance on the machine. Remember that a well maintained machine is a safe machine.

 **IMPORTANT!**
Always make sure nobody is in the hazard area of the wrapping arm when the machine is in-use.

The machine must not be operated by persons who does not know how to safely operate the machine, or by any person under the age of 16 years.

4.5. Dangerous Areas
Tanco Autowrap Ltd. has given the safety of the operator the highest priority, but it is still impossible to secure oneself of every danger area on the machine. Therefore we have highlighted below some of the dangers that can occur when using the VariWrap Tanco Autowrap Bale Wrapper.

- Impact of the Wrapping Arm
During the wrapping process the arm rotates with a speed of 30-32 revolutions per minute around the bale. A film dispenser unit with plastic roll is mounted on the wrap arm of the machine. The speed of this can seriously injure a person if one enters the working area of the wrapping arm. To reduce this danger we have mounted an emergency stop device on the wrapping arm; this stops all 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.

- Squeeze Danger Between the Main Frame & Wrapping Arm
As earlier explained, we have a wrapping arm with a Dispenser and a plastic roll. During every revolution the wrapping arm passes the main frame. Here there may occur a squeeze danger 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 place for a person. There can also be a squeeze danger between the prestretcher and the bottom of the frame.

- Squeeze Danger Between the Stationary Arm & Wrapping Arm
During the main wrapping process the wrapping arm moves around a stationary arm. Every time the wrapping arm passes the stationary arm there is a squeeze danger that can be dangerous for the fingers. The distance between the stationary and the wrapping arm is between 25-40 mm. (See Fig. 4.).

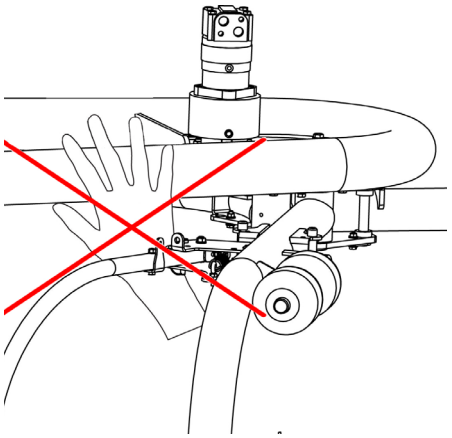


Fig. 4.

- Squeeze Danger between the Rollers and the Main Frame
During the wrapping process the bale rotates on two rollers. When the rollers are in motion there is a danger of being squeezed.

- Squeeze Danger between Roller Arms and Main Frame (Inwards)
When loading a new bale, the roller arms move towards the main frame, Beware of the danger. Keep clear of this area.

- Squeeze Danger between Roller Arms and Main Frame (Outwards)
When loading or unloading a new bale, the roller arms move outwards. Beware of the danger. Keep clear of this area.

- Squeeze Danger Caused by Plastic Automation
At the end of the wrapping process the plastic is cut and held tight until the start of the next wrapping process. When the cutter arm moves down to lock the plastic, there can occur a squeeze danger between the cutter arm and the cutter holder. The cutter blade that cuts the plastic is very sharp; ensure to keep hands away from the cutter. Fig. 4.1

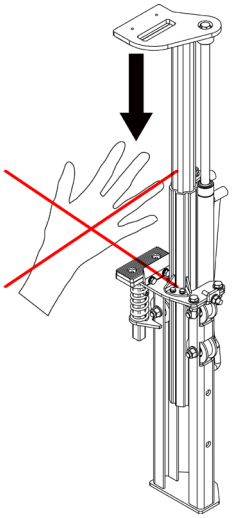


Fig. 4.1.

4.6. Three Point Linkage
When the machine is mounted on the three point linkage, make sure that the lifting arms are tightened up so there is no sideways movement.

4.7. Front Mounting
If the machine is mounted on a front loader there must be a counterweight fitted to the three point linkage. It must be large enough to give the tractor good stability. Connecting heavy working implements often has an overall negative effect on the tractor's driving and braking capacity.

4.8. Transporting
When transporting on a public road there are certain safety measures that must be taken:
- Ensure the machine is in the transport position.
- Ensure the squeeze arm is fully closed.
- Ensure that the wrapping arm is not parked overhanging the sides of the machine.
- Ensure that the lights are connected and functioning correctly.
- The machine is wide even in transport position, be aware of this especially on narrow roads.

5. Bale Wrapping

5.1. 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.

5.2. 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.

5.3. 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 the sharp end should be pointed at the tractor. This will prevent the bale moving backwards on the rollers during wrapping. 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.

5.4. 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 absorbs less heat, and this tends to improve feed quality.

5.5. 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 if possible. This reduces the danger of air leakage in the bales. A bale which is stored in sunlight will undergo fluctuating temperatures and therefore "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.

5.6. Stacking / Protection

If bales are hard and well formed, they can be stacked vertically, but loose and misshapen bales with low dry matter 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 ends. The plastic coverage 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.

5.7. 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 soil 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 after.

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.

6. Machine Setup

6.1. Mounting of the Machine

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

6.1.1. Three Point Linkage

The VariWrap range is intended for mounting to the three point linkage,
Category 2. Offset to tractors right hand side. Tighten up and lock the lifting arms so there is no sideways movement.

6.1.2. Hydraulic Top Link

The optional adjustable Hydraulic Top Link is recommended for attaching the machine to the tractor allowing for levelling during loading and offloading of bales. It can also be used to change the working angle of the machine so it can be tilted upwards at the back for wrapping in hilly areas or when wrapping conical shaped bales.

6.1.3. Front Mounting

This machine can be equipped with attachment brackets for front loader or wheel loader mounting.
(Talk to your dealer for information regarding the mounting brackets available).

When front-mounted there must be a large enough counterweight fitted to the three point linkage, this is to secure the tractors stability.

6.2. Expert Plus Control Unit

The expert plus control unit can activate the automatic functions of the machine and also enable manual operation. This unit should be mounted in the tractor cab within reach and where it can be conveniently viewed by the operator. A suction pad is supplied with the controller, this should be used for mounting (usually to the side window of the cab). The controller's 12v electrical supply is connected with a 3 pin euro plug which is compatible with the socket found on most modern tractors. If the tractor does not have a 3 pin euro socket then one should be fitted with the power cables going straight to the battery. The controller is protected from electrical overload with two 15amp fuses in an enclosure on the power cable. The controller is connected to the communication cable from the machine with a 37 pin connector. Take care when connecting this cable and also ensure that the cables are not under strain and will not be damaged by sharp edges or the movement of the machine.

The controller is not waterproof so it should be protected from rain and stored indoors when not in use.

Fig. 6. Expert Plus Control Unit

6.3. VariWrap Hydraulic Connection

The hydraulic hoses between machine and tractor are equipped with 1/2" ISO Male Quick-Couplers. Ensure the oil pressure has been discharged before you connect the oil hoses using the tractor's hydraulic lever.

To make sure that the bale wrapper works properly, the tractors' oil pressure has to be at least 180 bar. The oil flow should be 30-60 liters per minute. The return pressure on the return must be as low as possible, so the return coupling must be connected to a free return point on the tractor.

If you are unsure of what oil pressure the tractor gives, or what oil pressure the bale wrapper receives, please contact your machinery dealer.
Note:
The Hose with the Red Cap shall be connected to pressure 'P' and Hose with Blue Cap to the return 'T'.

⚠ The Hydraulic free return is important to ensure that the parking brake on the wrapping arms is not released during transport by pressure building up in the return line. When the return coupling is connected to a free return this pressure is released. If it is connected through the tractor spool valve the oil cannot escape.

6.3.1. Discharging the Accumulator Pressure

The control valve on the machine stores oil under pressure in an accumulator while the machine is operating. This pressure should be discharged before the machine is dismounted from the tractor. If this pressure is not discharged then the hydraulsic quick couplings will be under pressure and they will be difficult to engage when the machine is being reattached to the tractor.

To discharge the accumulator pressure: discharge the hydraulic supply to the wrapper with the tractors hydraulic lever, then Manually open and close the Cut and Start using the S1 and S2 buttons on the controller. This allows the pressure stored in the accumulator back to the tractor. Note, as previously stated the return coupling must be connected to a free return point on the tractor.

6.3.2. Open & Closed Center Hydraulics

The VariWrap hydraulic system can be set up for tractors with Open Closed Center or Load Sensing (LS) Hydraulic Systems.

6.3.3. Open Centre Hydraulics

Most tractors have a hydraulic system that gives a continuous output which flows through the valve on the machine and back to the tractor when no function is operating (Open center).
Note:
The TANCO VARIWRAP Models are set-up for open centre on leaving the factory.

6.3.4. Close Centre Hydraulics

Some tractors (John Deere) have a hydraulic system that require the valve on the machine to allow no flow when no function is operating (Closed Center).
Fully closing the valve (Valve 2) on the side of the block changes it to Closed Centre.
(See Fig. 6.1)

6.3.5. Load Sensing Hydraulics

Many modern tractors have highly efficient Load Sensing Hydraulic Systems. This system supplies only the volume of oil required by the machine for each function. When the machine is idle, it goes into a stand by mode, where no oil is pumped. A third hose (1/4") must be connected from the LS Port on the valve to the LS Port on the tractor. This supplies the signal from the valve to the tractor signaling the volume of oil required.

For LS Operation the valve on the side of the block is fully closed.

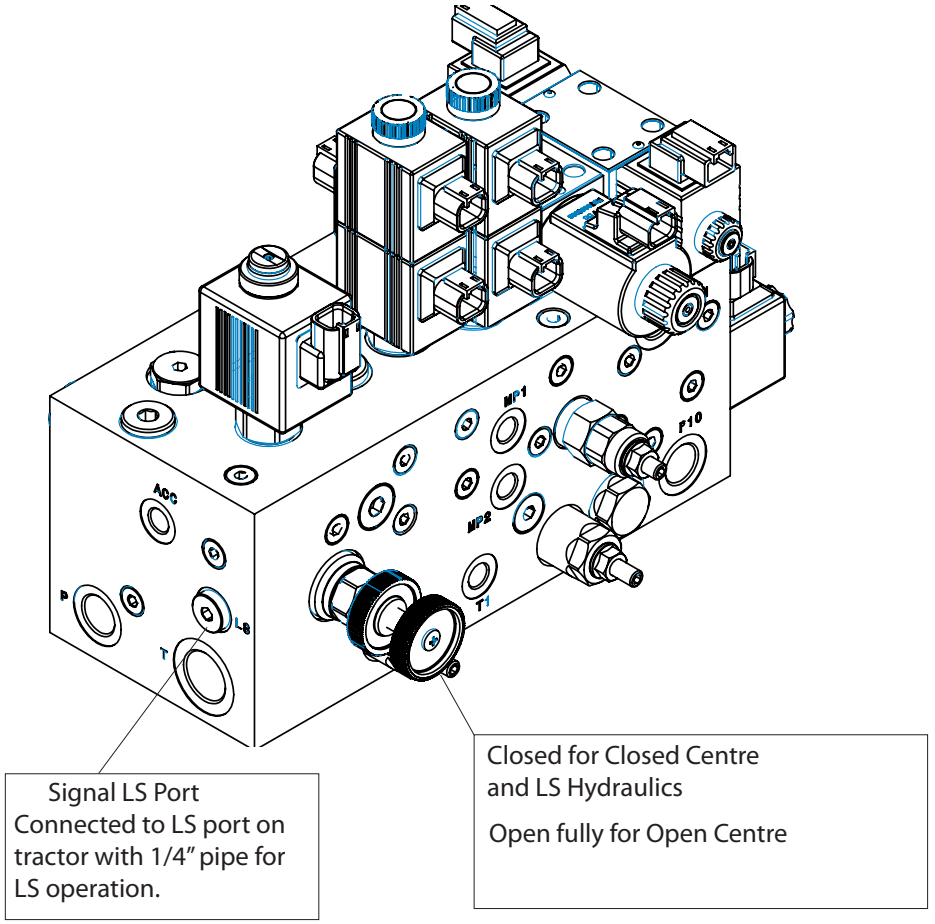


Fig. 6.1. Integrated Hydraulic Block

6.4. Emergency Stop

This machine is equipped with a safety guards on the Wrapping Arms, and its operation must be tested before work itself is started.

The Emergency Stop is to prevent the Wrapping Arm from damaging people and objects, when the machine is started and during the wrapping process. It consists of safety arms that run in front of the film dispensers. When tripped they activate an electric switch, which gives a signal to the control box to activate the emergency stop.

When testing this function, start the Wrapping Arm, hold out an arm or any obstacle. The wrapping arm shall now stop before it hits the arm. Great care must be taken when testing this function.

To restart the machine the obstacle must be removed and the arm must be returned to its original position. The Auto Switch on the control box must be activated again. The wrapping may start again.

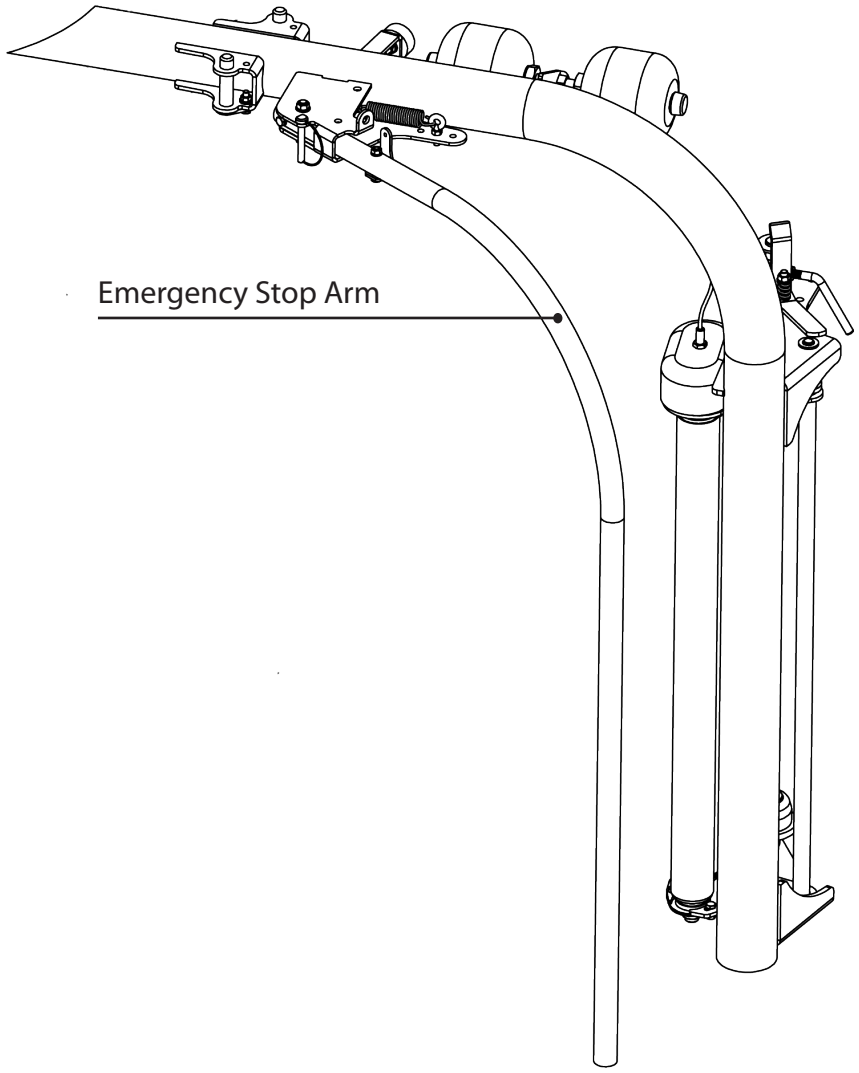


Fig. 6.2. Saftey Arm

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.

6.5. Mounting the Plastic Film (See Fig. 6.3 & 6.4)
When loading a plastic roll;

1. Ensure the Top Cone is pushed up to the latched position.

2. Push back the Dispenser Insert until held in position by the Bottom Latch.

3. Place the Roll on the Bottom Cone and release the Top Latch.

⚠ BEWARE OF FINGERS!

4. 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).

5. Release the Bottom Latch and allow the rollers to lie against the roll of film.

6. Pull the film from the roll and tie it to the bale.

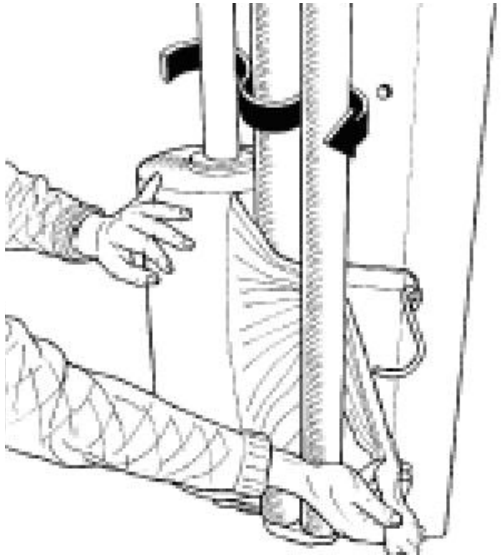


Fig. 6.3. Loading Film Dispenser

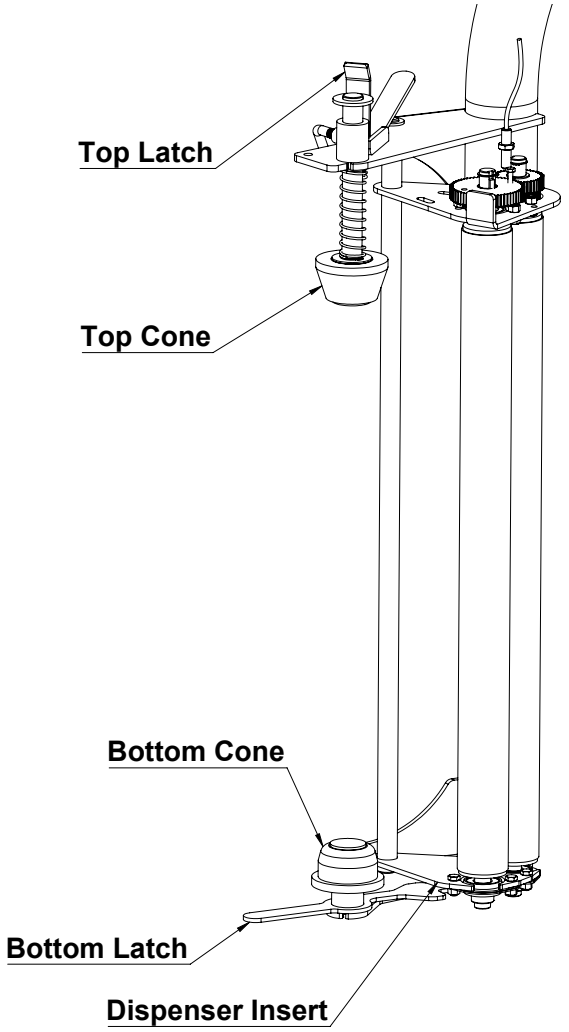


Fig. 6.4. Dispenser Components

6.6. 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. 6.5), 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 with stretch provided @ 55% (suitable for hotter climates).

6.6.1. Tanco Dispenser Gear Combination

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

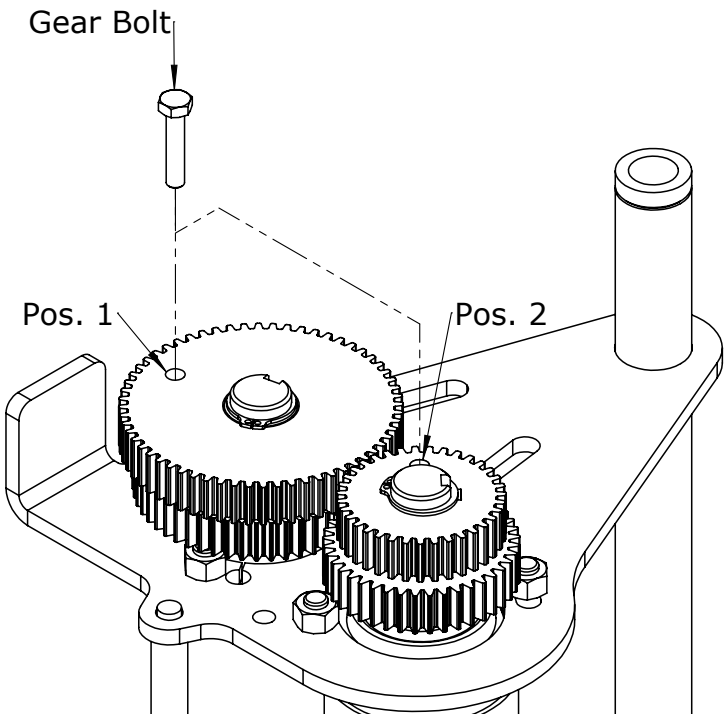


Fig. 6.5. Tanco Dispenser Gear Combination

7. Expert PLUS Controller Information

7.1. VariWrap Expert Plus Control Unit

The Tanco Autowrap Bale Wrap Expert Plus 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 specifically for the VariWrap machine.

As part of quality assurance procedure all machines are run before dispatch from the factory. The controller parameters are set to suit the hydraulics and electrics of most tractors and the most common operating conditions. When machines are being set up for customers some settings will need to be altered in order to suit individual tractors and conditions.

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. In manual mode individual buttons on the controller must be pressed by the operator to activate functions on the machine. Bale counts are automatically logged in any one of 10 selectable memory stores, in addition to a grand total memory store.

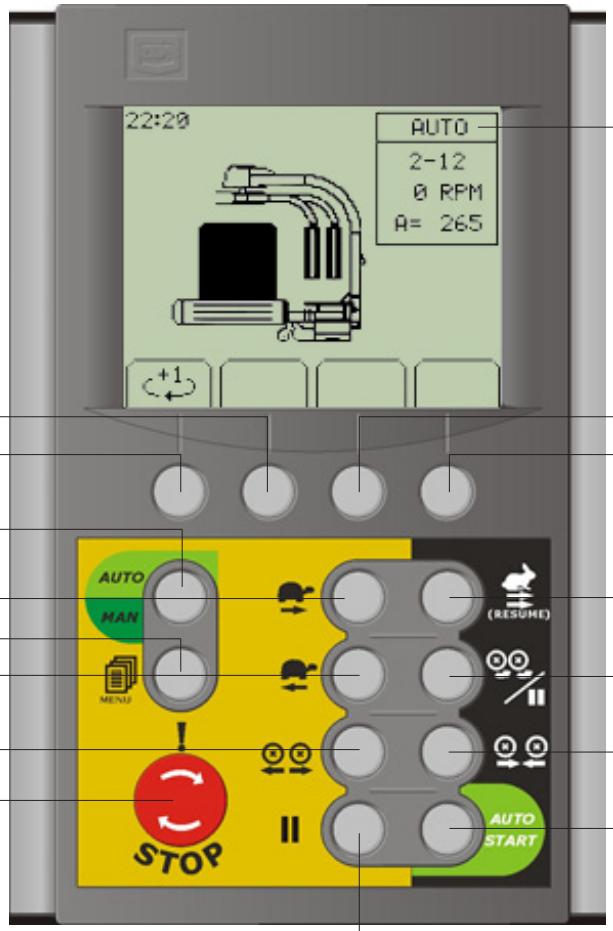
IMPORTANT SAFETY INFORMATION!

Please read and understand the instructions for using this controller before operating the machine.

This controller is fitted with a push-button 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's Manual for this machine.

7.1.1. Controller Main Operating Functions & Display

The principal instrument features and operating functions of the Controller are shown in Fig. 7. overleaf.



Display; Shows in normal working mode:
- Current No. of Wraps
- Target No. of Wraps
- Wrapping Speed (R.P.M)
- Bale Total (10 Separate Stores)
- Grand Total No. of Bales
- Mode: M (Manual) / A (Automatic)

S2 - Cut & Grip Film (SPARE in Automatic Mode)

S1 - Release Film Grip (+1 Rotation in Automatic Mode)

S3 - Arm Fold and (Sequence Reset in Automatic Mode)

S4 - Arm Unfold and (Clear Warning)

F1 - Select Operating Mode: 'M' or 'A'

L1 - Slow Wrap

F2 - Menu Structure

L2 - Reverse Wrap Arm

L3 - Bale Unload

Power On/Off / Emergency Stop

R1 - Fast Wrap / Resume Wrap (After Manually Pausing)

R2 - Rolls Rotate
(Pause Bale Rotation in Automatic Mode)

R3 - Bale Load

R4 - Start Automatic Wrapping Cycle; press STOP switch to stop cycle

L4 - Pause Wrapping in Automatic Mode

Fig. 7. Expert Plus Control Unit Layout

7.2. Operation

The controller has two operating modes Manual and Auto. The mode is changed by pressing the (F1) Auto/Manual button. The mode setting is displayed in the top right corner as Manual or Auto. The controller is usually operated in Auto mode with one touch of a button the machine will run through complete loading, wrapping and unloading sequences. Some manual functions are possible in Auto mode (by pressing individual buttons). In Manual mode all functions are activated by pressing individual buttons on the controller.

7.3. Operation in Auto mode

-Auto Start (R4) button activates the automatic wrapping cycle.
-The wrap arms will unfold to the wrapping position.
-The wrapping arms will start rotating at slow speed and accelerate to full speed.
-The Cut and Start will pop open and close to release the film.
-On the last revolution the wrap arm will slow in the speed, they will fold together and the cut and start will open fully.
-The wrapping arms come to a stop, the cut and start closes to cut the film.
-The wrap arm reverse to the parking position.

7.3.1. Manually interrupting an Auto Cycle

-Pressing the red Emergency Stop button will cut the power to the controller and bring the machine to an immediate stop.
This is recommended to be used in an emergency only as it puts high stress on the wrapping arms if they are brought to a sudden stop from full speed.
-Pressing (L4) button will bring the machine to a controlled stop.
-Pressing (R1) button will get the controller to resume the interrupted cycle from where it stopped.

7.3.2. Loading and Unloading

Pressing (R3) button will move the roller arms inwards for loading a bale. There is a setting ROLLERS IN in the Operator Setup on the controller which sets a time for loading. When this is set to 0.0 (seconds) then the button must be held down for loading. If a time is set here eg. 5.0, then then one touch of the (R3) button will get the arms to move in for that amount of time.

Pressing (L3) button will move the rollers outwards for unloading. As with loading ROLLERS OUT will set a time for automatic unloading.

7.3.3. Auto Wrap

When automatic loading is complete it is possible to set the controller to automatically start wrapping without having to push the (R4) AUTOSTART button. To do this go to Operator Setup in the controller and set Auto wrap to: ON. If the controller is powered off and switched back on it will ask to confirm that Auto Wrap is still required. Pressing the (L3) arrow button will confirm this.

For safety reasons; if it is necessary to carry out 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 (R1) 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.

7.3.4. Manual Operations in Automatic mode

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

- Slow Wrap (L1): This button will rotate the wrap arm at slow speed (not during an automatic wrapping sequence).

- Fast Wrap (R1): This button will rotate the wrap arm at normal fast speed. This button will also resume an automatic wrapping cycle if interrupted.

- Reverse Wrap Arm (L2): This button will rotate the wrap arm in reverse at slow speed (not during an automatic wrapping sequence).

- Pause Bale Rotation: Holding down this button during an automatic wrapping sequence will stop the bale rotating and so will add more film to a particular part of the bale. Release the button when sufficient additional film has been applied.

- Rollers Out/Rollers In: See Section 7.3.2.

7.4. Operation in Manual mode

'M' on the display indicates that the controller is set in manual mode. If not, press (F1) to select.
In manual mode you have total control of every stage of the wrapping cycle.

7.5. Controller Outputs

The following are the electric solenoid valves powered for each machine function. The valve numbering corresponds to the numbers on the electric cables to the valves.
Note: Valve 3 is a proportional flow Control valve that regulates the volume of oil to each function. The controller sends this valve a variable signal to alter the flow.

The Control setting in the Controller can only be changed by an experienced Technician.

Operation	Powered Solenoids		
Loading	3*	1	7 5**
Wrapping:	3*	4	
Unloading:	3*	2	
Reverse:	3*	4	11
Arm Unfold:	3*	8	
Arm Fold:	3*	10	
Cutter Open:	3*	6	
Cutter Close:	3*	7	

* Proportional Valve
** If load freewheel set ON

Fig. 7.1. Electric Solenoid Valves

7.6. Controller Screen

The controller has two operating modes Manual and Auto, this had been explained in the preceding section (7.1) of this manual. When the controller is powered up by rotating the red emergency stop button it is in manual mode and the display below is on the screen.

In manual mode the buttons for opening and closing the cutter and folding and unfolding the arm are available, see below. Pushing the (F1) AutoManual button changes the controller to Auto mode and the display changes. When the machine is being operating in Auto the function active at the time is displayed graphically on the screen. These graphics are displayed on the following page.

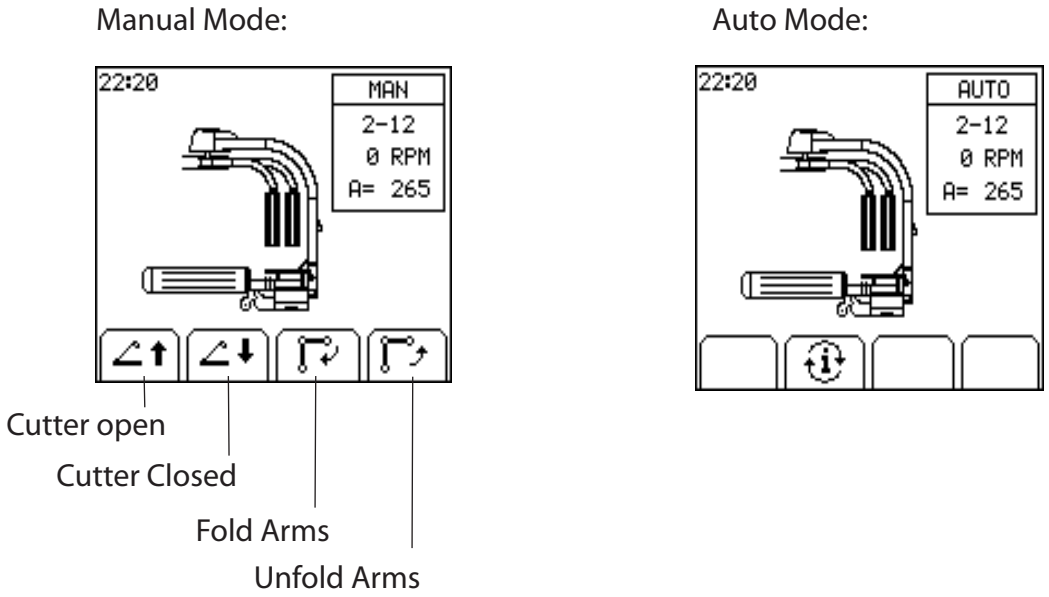


Fig. 7.2. Manual and Automatic Control Unit Display

Auto Mode:

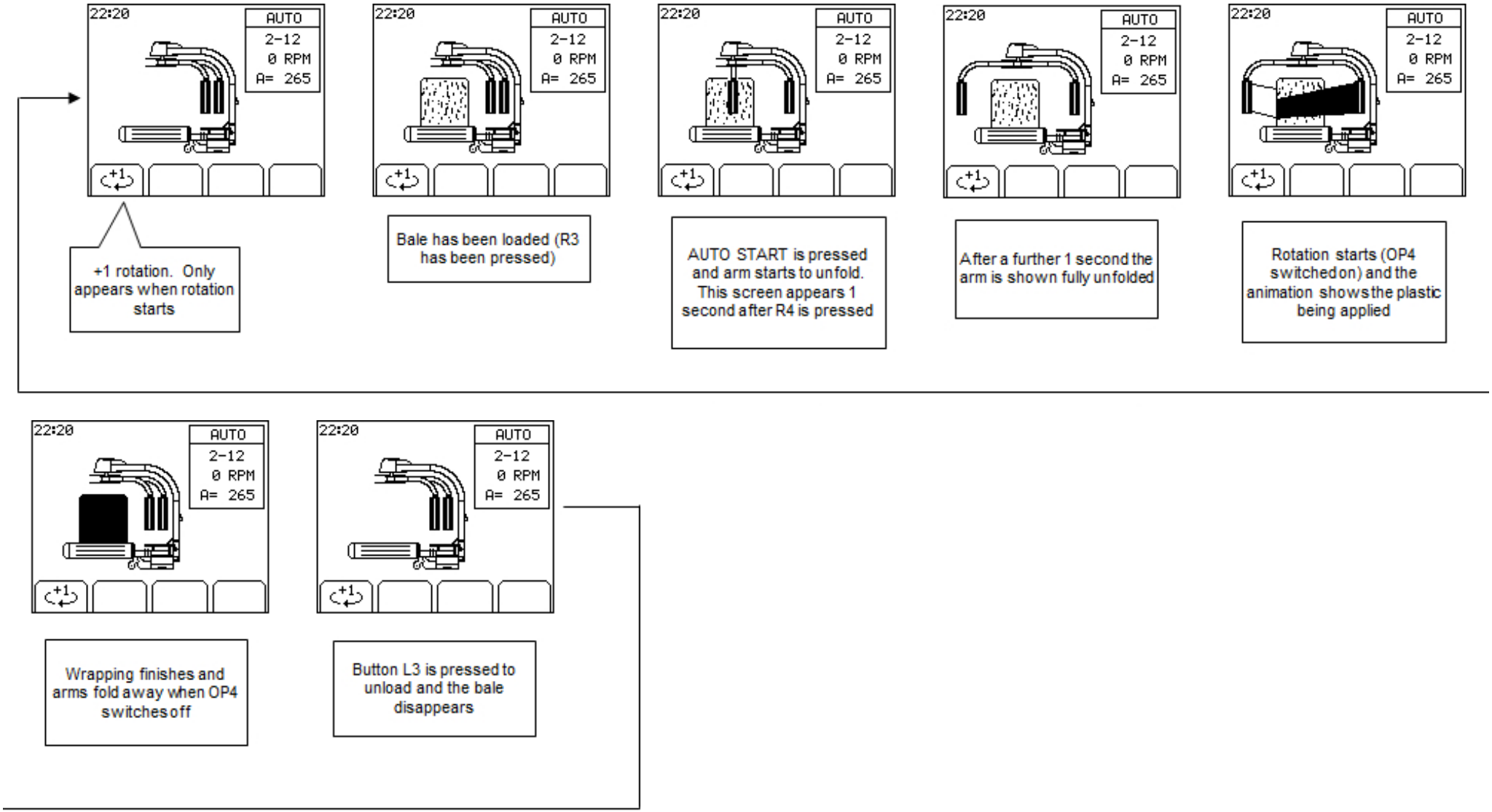


Fig. 7.3. Automatic Control Unit Display

7.6.1. Automatic Display Screen

The box on the top right hand side of the screen can display additional operating and diagnostic information. It has three different displays by Pressing the (S2) 'i' button, see below.

The first box displayed is the most relevant to the operator, it shows the wrap count, the wrap arm speed and the bale count.
The second and third box show technical diagnostic information, supply voltage, active sensors and the signal to the flow control valve.

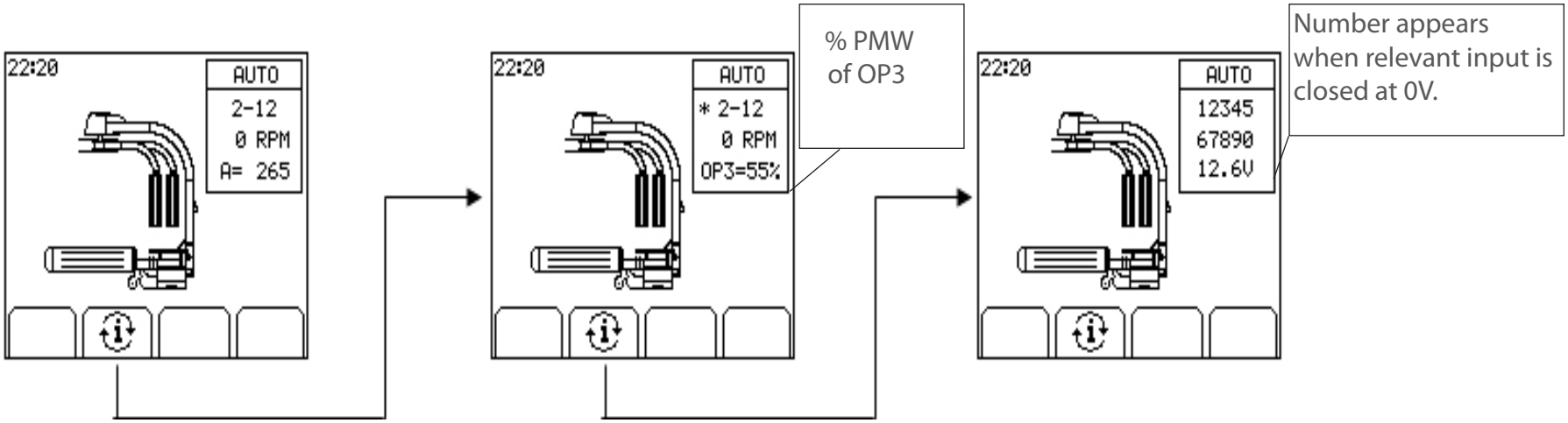


Fig. 7.4. Automatic Display

7.6.2. Machine Menu

Changes can be made to the some of the operating parameters on the Variwrap controller in the Machine Menu. This is accessed by pressing the (F2) Menu button.

There are three sub menus in the Machine Menu:

1. Operators Setup

2. Bale Count

3. Technician Setup

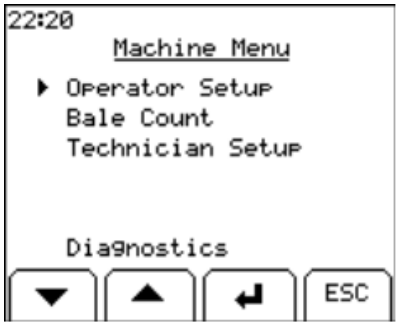


Fig. 7.5. Machine Menu Display

7.6.2.1. (1) Operator setup

The operator setup has parameters commonly requiring change by the operator. The arrows button moves the indicator from one parameter to the next, the + and – buttons make changes to the setting. ESC exits the setup when the change is made. There are 2 pages to the setup.

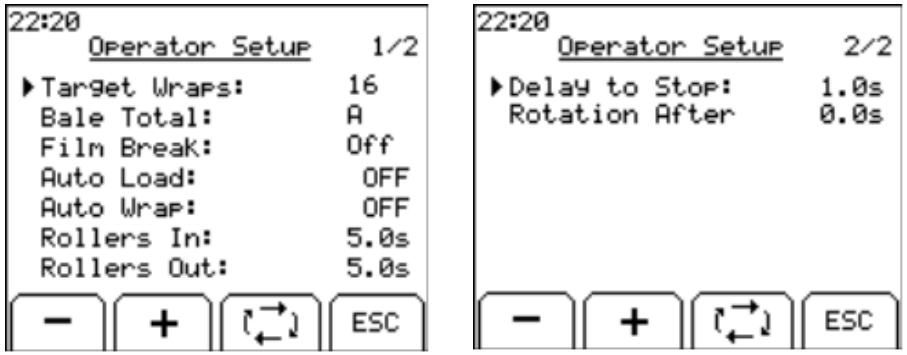


Fig. 7.6. Operator Setup Display

Operator Setup Screen

Function	Default		Description
Page 1/2			
Target Wraps	18		This sets the number of film wraps to be applied to the bale. Note: that the controller counts in steps of 2 or 3 depending on the number of wrapping arms.
Bale Total	A		This selects the counter to be used to count the wrapped bales. The number of bales in the counter is displayed in the top level display (see section 7.6.2.2 for resetting)
Film Break	Off		Switch On/Off film break sensors.
Auto Load	Off		Enable/Disable optional Auto Load sensor.
Auto Wrap	Off		Enable automatic wrapping after loading without having to press (R4) Autostart Button (see section 7.3.3).
Roller In	5.0s		Set time duration for one touch loading. If set to 0.0 the (R3) button must be held down for loading (see section 7.2.).
Rollers Out	5.0s		Set time duration for one touch unloading.
Page 2/2			
Delay to Stop	1.0		Set time duration for the wrapping arms to move past the open Cut and Start after wrapping. Increase this time for arms to move further past the Cut and Start.
Rotation After	0.0		After wrapping the wrapped bale can be rotated on the rollers, this helps to place loose ends of the film under the bale when it is unloaded (Prevent film unravelling).

7.6.2.2. (2) Bale Count Menu

There are 10 counters (A to J) on the 'Bale Totals' screen. An individual counter can be selected using the arrow buttons. To reset the counter press the RESET button this will reset that counter to 0.

'Grand Total' is the total bale count for the machine. This cannot be reset.

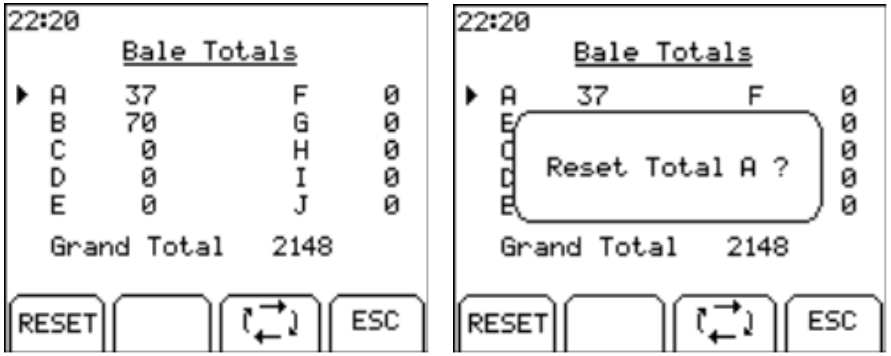
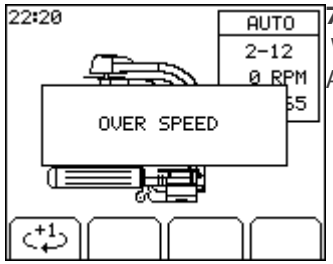


Fig. 7.7. Bale Count Menu Display

7.6.2.3. (3) Technician Setup

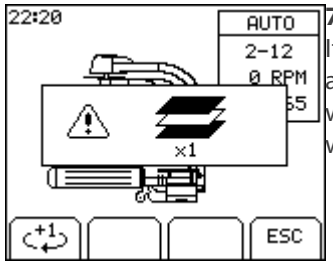
The parameters in the Technician Setup should only be changed by an experienced technician. It is protected with a pin code. It is not dealt with in this manual.

7.7. Controller Warning Signals



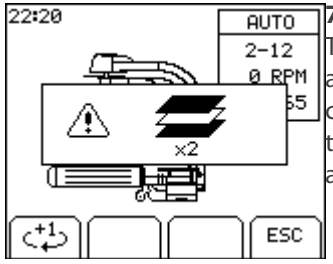
7.7.1. Overspeed

Warning appears if wrapper's RPM exceeds 'RPM Alarm' setting.



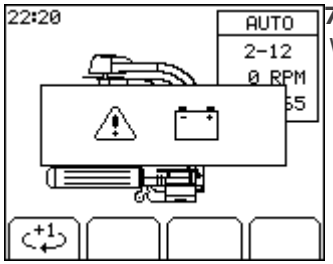
7.7.2. 1- Dispenser

If the software detects that only 1-dispenser is applying film this warning will appear. Pressing S4 will cancel the warning but wrapping sequence will continue in 1-dispenser mode.



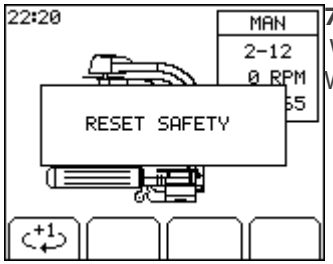
7.7.3. Film Break

This warning appears if the software detects that all film dispensers have broken. The wrapper comes to a controlled stop. Pressing S4 cancels the warning but the wrapper should still come to a controlled stop.



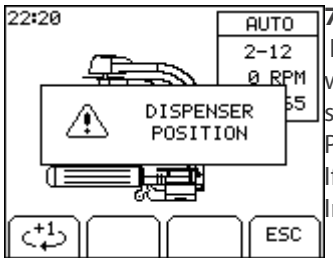
7.7.4. Low Battery

Warning appears if the supply voltage is low.



7.7.5. Safety Reset

Warning appears if Safety Arm during wrapping. Wrapping Stops immediately.



7.7.6.Dispenser Position

It is possible to set the controller to reverse the wrapping arm to a definite park position at a sensor. This setting is in the Technician Setup 'Park Posn. Check'.
If the wrap arm is not in this position when Rollers In/Rollers Out is selected this warning will appear.

Fig. 7.8. Controller Warning Signals

8. Operational Features

8.1. Operating Instructions

We shall now go through a complete wrapping process, from loading to storage place, and explain the practical use of Tanco VariWrap Range of wrappers.

8.2. Fitting Rolls of Film

Remember that the plastic film ends have to be locked in the Cutter/Film holder before starting the wrapping. Take care when doing this (see page 21).

8.3. Bale Height Adjustment

The dispensers should apply the film to the center of the bale. If bales are smaller than 1200mm diameter it is recommended to use 500mm film, a film adaptor (Part . WD60-FA) is equipped to fit 500mm film onto the dispenser.

The VariWrapS is set up as standard to do this on 1200mm diameter bales with the roller arms fully closed (fig. 8 , Pin Position A). For larger bales up to 1500mm the arm stop pin should be used to limit the closed height of the roller arms (Pin Position B/ C/ D), this lowers the height of the bale on the machine. This gives clearance between the top of the bale and the rotating arm and also allows for the film to be applied to the center of the bale.

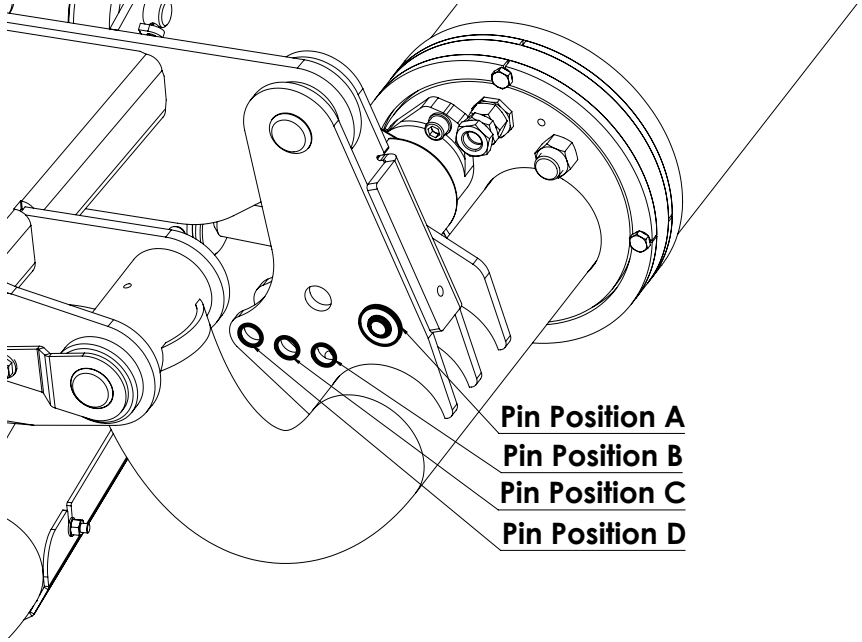


Fig. 8. VariWrapS Bale Height Adjustment

8.4. Setting the Speed of the Wrapping Arm

The wrapping arm speed can be adjusted in the technician setup in the controller and should be only carried out by and experienced Technician.

NOTE: For Safety the Max. allowed wrapping arm speed is 30 revolutions per minute.

REMEMBER!

Increased speed of tractor engine does not increase the wrapping speed, it only increases the oil flow into the system, this may increase the temperature in the hydraulic system.

Overlap - VariWrap x2 or VariWrap x3

The wrap arm and roller speeds are synchronised so the roller speed will automatically change with the arm speed to maintain correct overlapping. When the controller is powered up 'x2' or 'x3' will appear briefly in the bottom of the display screen.

x2 - two wrap arms.
x3 - three wrap arms.

8.5. How Many Layers of Plastic Film?

When the bale is completely covered with film, read the counter that displays the number of revolutions done by the wrapping arm. Add 1 to this number and multiply by 2 or 3, depending on how many layers of film you want to have.

* 4 layers - multiply by 2.
* 6 layers - multiply by 3.

As long as you wrap bales with the same diameter, you can stop at the same number every time.

Badly or misshapen bales may not turn correctly on the rollers and may require extra wrap to achieve full coverage. This extra coverage can be applied by pressing the +1 button during wrapping. The wrap set count will return to the set value for the next bale.

Approximate Wrap Count Settings		
Bale Diameter	No. of Layers	No. of Wraps
120	4	18
120	6	26/27
120	8	34
150	4	23/24
150	6	32/33
150	8	42

Fig. 8.1. Approximate Wrap Count Settings

8.6. VariWrap S Loading

Lower the Variwrap with the tractor lift arms until the chassis is within 100mm of the ground, if the optional ground roller is fitted then set this on the ground. The rollers should be running parallel to the ground. Fully open the loading arms and back until the bale comes in contact with the front of the chassis. If the optional bale end tip attachment is fitted it will retract as the rollers are closing for loading. Close the loading arm fully to lift the bale up on to the machine, see page 25 for controller information for setting controller for one touch loading. Lift the machine clear of the ground to incline the rollers towards the tractor to ensure that the bale does not creep off the rollers during loading.

NOTE:
When loading misshapen of conical bales the smaller end of the bale should be faced towards the tractor to prevent the bale moving on the rollers during wrapping.

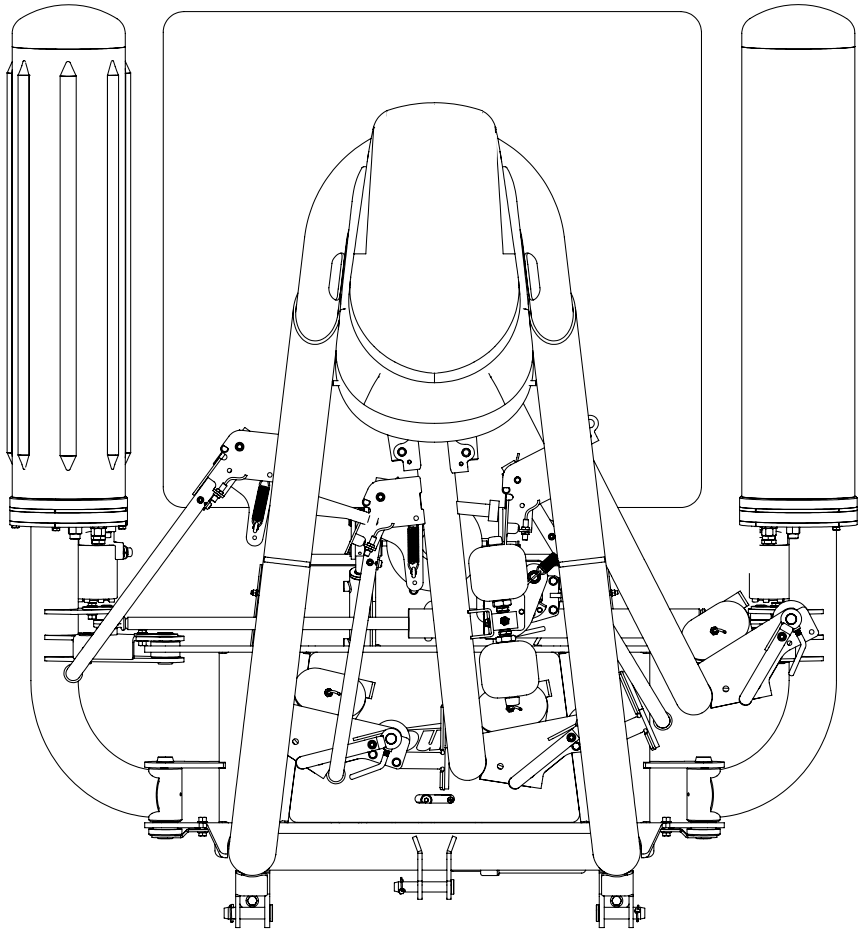


Fig. 8.2. VariWrapS Loading

8.7. Start Wrapping

The wrapping process on the Variwrap requires the activation of a number of functions so it is best carried out in Auto mode.

-Auto Start (R4) button activates the automatic wrapping cycle.
-The wrap arms will unfold the wrapping position.
-The wrapping arms will start rotating at slow speed and accelerate to full speed.
-The Cut and Start will pop open and close to release the film.
-On the last revolution the wrap arm will slow in the speed, they will fold together and the cut and start will open fully.
-The wrapping arms come to a stop and the cut and start closes to cut the film.
-The wrap arm reverse to the parking position.

The bale is now ready for unloading.

8.8.VariWrap S Unloading

Note: Great care must be taken when unloading round bales especially in hilly conditions as the bale can roll downhill this can be extremely dangerous. The operator must also check that there is sufficient room for the load arms to open fully.

Lower the machine to about 100mm off the ground or on to the ground roller if fitted. Open the loading arms by pushing the (L3) button and allow the bale to drop to the ground. See page 25 for controller information on setting controller for one touch unloading.

8.8.1. VariWrap S Unloading - With End Tip

It is recommended that unloading is activated manually rather than one touch unloading as this gives the operator more control.

The bale should be at the front of the machine near the plastic roller. Lower the machine to approximately 300mm from the ground and press the (L3) button to move out the loading arm. The end tip frame automatically pivots up under the front of the bale and holds it while the back of the bale drops to the ground. Reverse the tractor a little to stand the bale on its end.

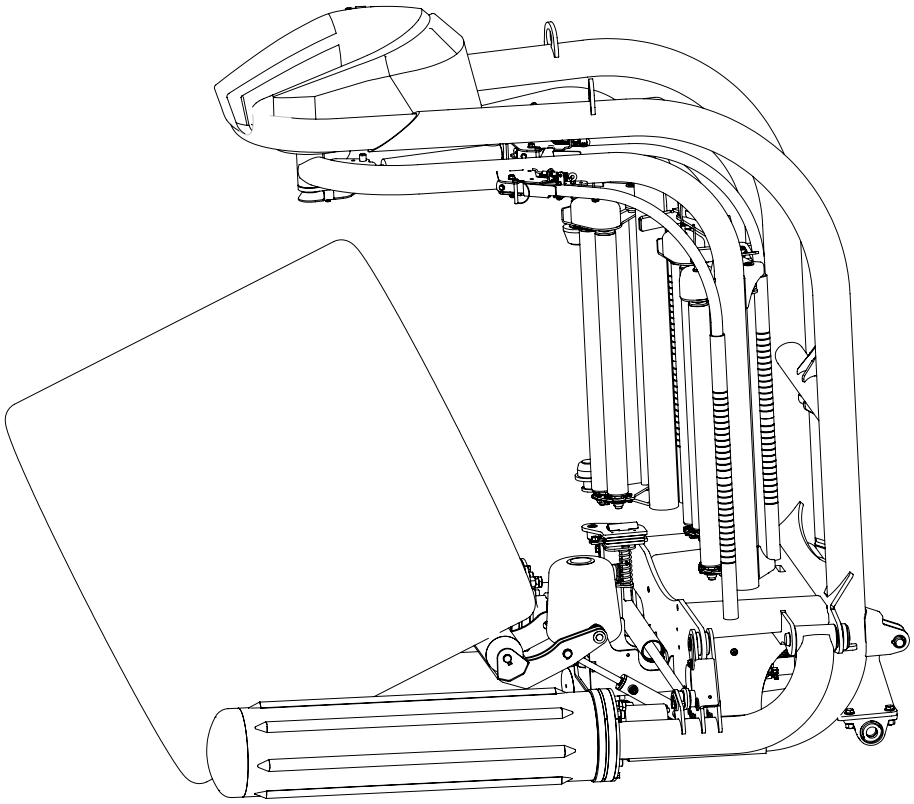


Fig. 8.3. VariWrap S Unload with End Tip

8.9. Storage Place

At the storage place the bales should be placed systematically. Start at the right-hand side, and stack to the left. The machine is lowered, but not all the way down to the ground. The rollers must not hit the ground. Push the "rollers out" button to open the rollers and drop the bale to the ground. Drive the tractor carefully away from the bale. Try to avoid touching the bale with the rollers. Place the next bale to the left of the first one so that the loose film end on the last bale will be locked. To be sure we recommend that you check that the film ends are securely fastened, and eventually fasten them a little bit better when you have stacked the bales.
If the machine is front mounted, the bales can be stacked upon each other.

9. Electro - Hydraulics

9.1. Electro-Hydraulic Requirements

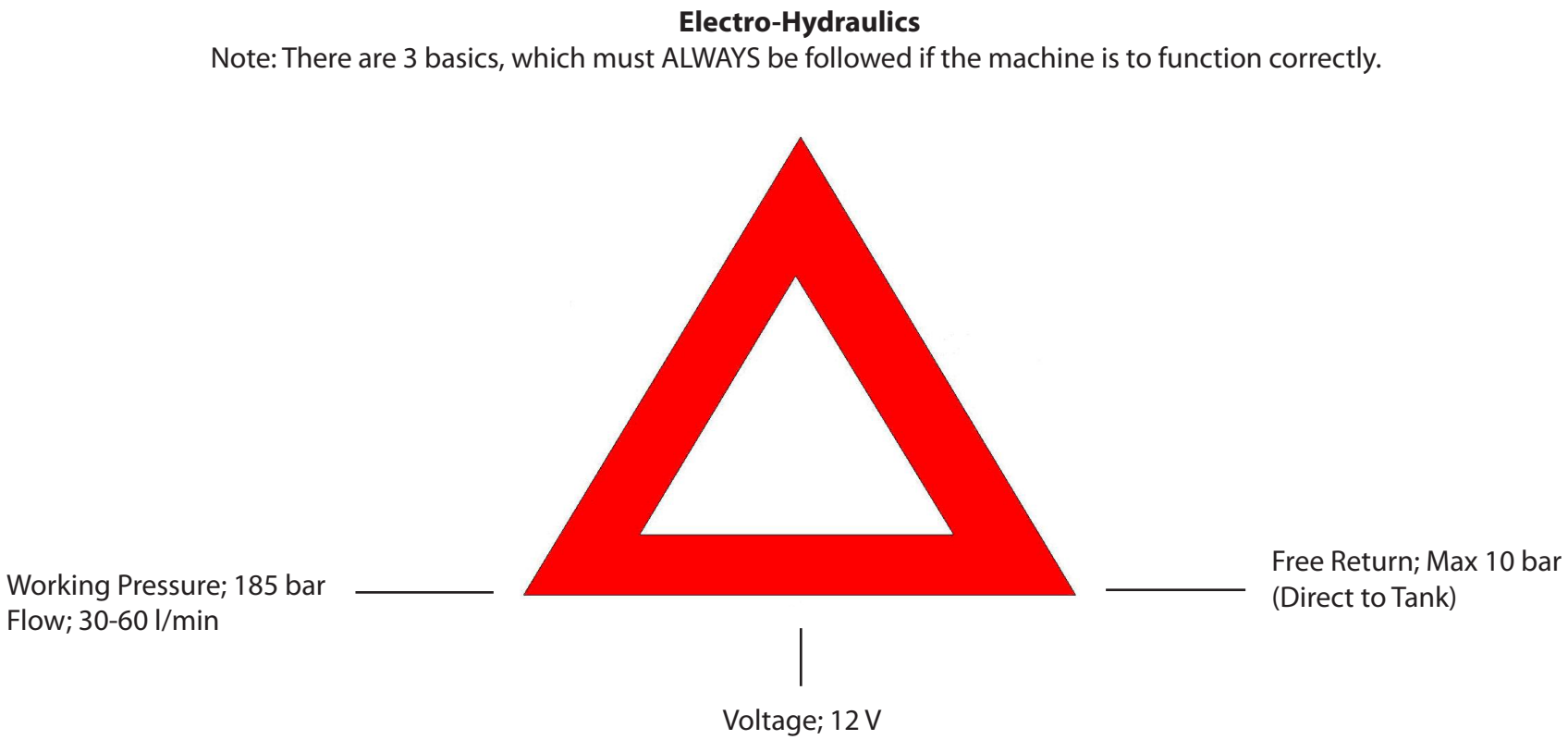


Fig. 9. Electro-Hydraulic Requirements

9.2. Electric Circuit Overview

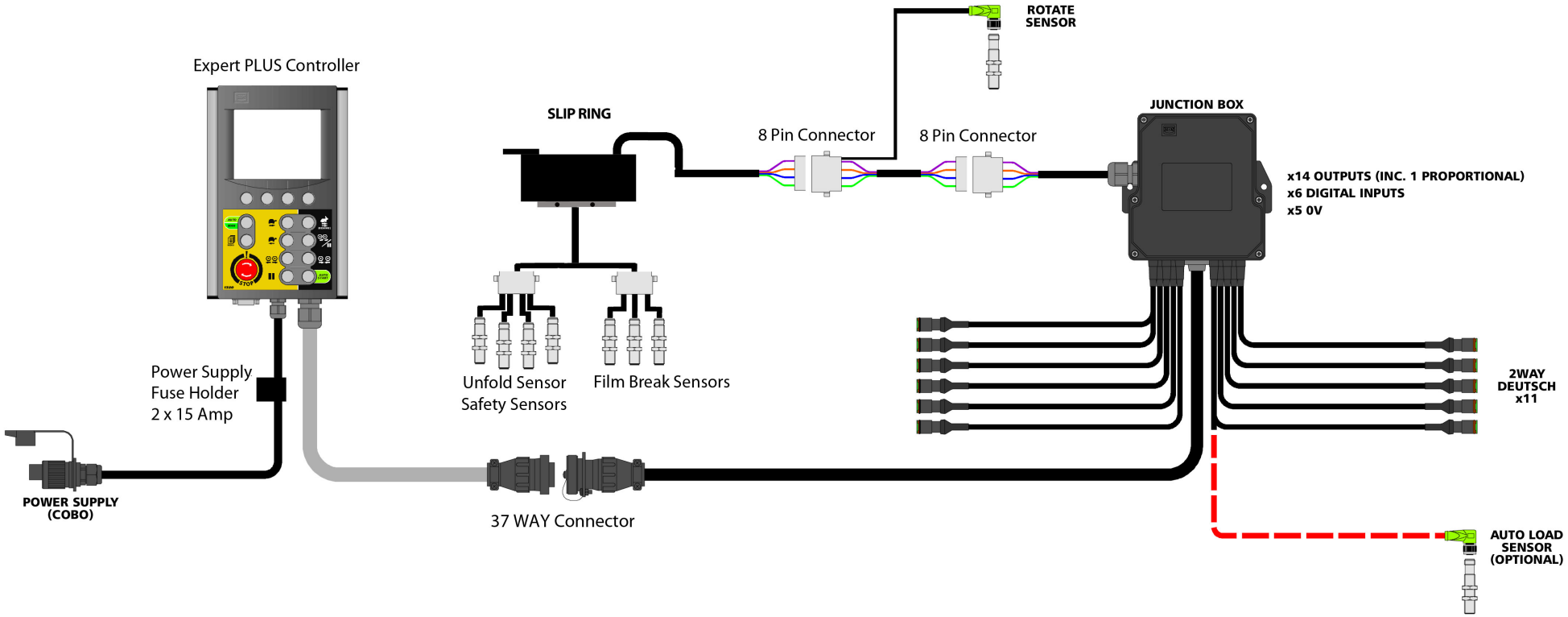


Fig. 9.1 Electric Circuit Overview

9.3. Tanco 'Proportional' Junction Box Wiring

Pin Number	Cable Colour 25 Core	Machine Function 1320 TWIN	Cable Identifier	Circuit Board Identifier	Sensor Lead Wire Colours	Input Check
4	White/Blue	LOADING VALVE	12	D		
28	Brown	REVERSING	11	C		
22	Yellow	ARM UNFOLD	8	M		
6	Black	C&S CLOSE	7	K		
7	White	ROLLERS IN	1	G		
14	Green	ROLLERS OUT	2	J		
20	Green/Red	FILM SENSOR 1		CON4-4	GREEN	2
33	Red/Blue	FILM SENSOR 2		CON4-1	BROWN	5
19	Green/Blue(*)	FILM SENSOR 3		0+	WHITE	6
36	Grey/Blue(**)	ROTATE SENSOR		CON4-3	BLACK	1
3	Red/Black	ARM FOLD	10	E		
2	Pink	12 VOLTS		N (CON4-5)	VIOLET	
24	Red	C&S OPEN	6	L		
13	Grey	ROTATE AFTER WRAP	5	A		
15	Turquoise	END TIP		F		
10	Violet	HALF SPEED VALVE	13	B		
30	Red/Brown	AUTO LOAD SENSOR		CON6-V+		
31	Yellow/Blue	E-STOP/ ARM UNFOLD		CON4-2	RED	3
18	Blue	PROPORTIONAL VALVE	3	OP3 PROP		
25	Orange	FWD ROTATE	4	H		
27	Yellow/Red	0 VOLTS		CON5-4	BLUE	
11	Yellow/Green	0 VOLTS		CON5-3	YELLOW	
23	Blue/Black	0 VOLTS		CON5-5		
32	White/Red	0 VOLTS				
21	Orange/Blue	0 VOLTS				

NOTE: Solenoid leads must be conneted BROWN to +, BLUE to -

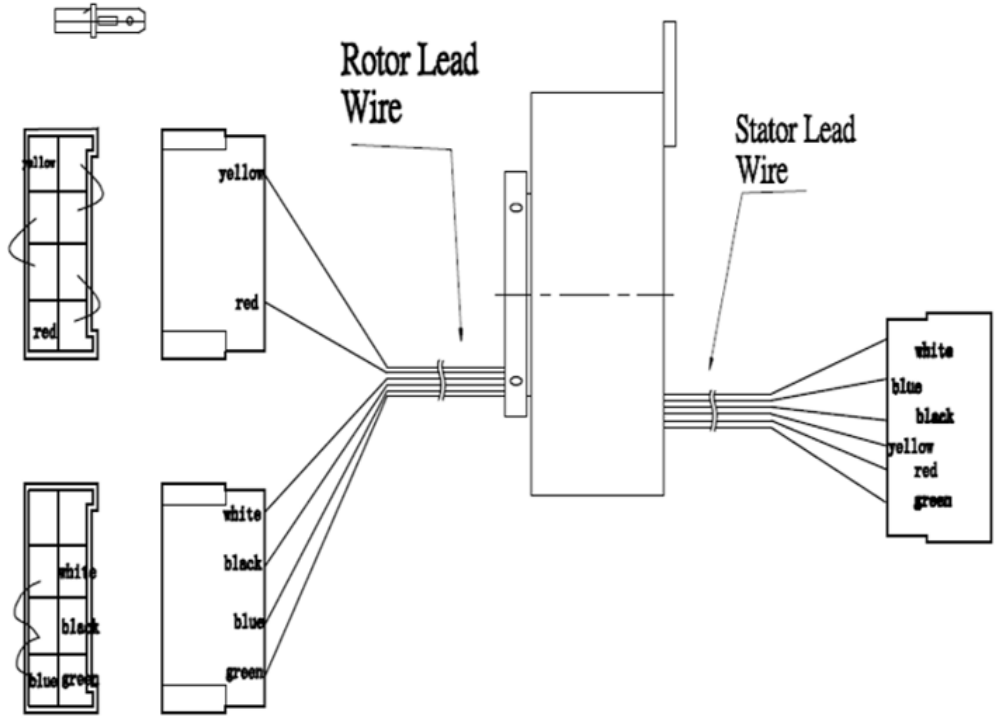
* Non- RoHS cable = Orange/Green
** Non-RoHS cable = White/Green

9.4. Electric Slip Ring

6 Way Electrical Slip Ring
2 x 0V
4 x Inputs

3 E-Stop +Arm Unfold all connected in series.
1 Input, No 3

3 Film sensors all connected in parallel.
1 Input No 2,5,6



NOTE: Like Colours connected except Brown on Junction Box to Black on Slip Ring.

Fig. 9.2 Electric Slip Ring

9.4.1. Input Connector Wiring

Pin	Wire Colour	Function	IP
1	Green	Film Sensor 1	2
2	Red	E-Stop / Arm unfold	3
3	Brown	Film Sensor 2	5
4	White	Film Sensor 3	6
5	Violet	12 volts	
6	Yellow	0 volts	
7	Blue	0 volts	
8	Black	Rotation Sensor	1

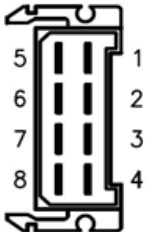


Fig. 9.3 Input Connector

9.5. VariWrap Integrated Hydraulic Block - Valves and Leads

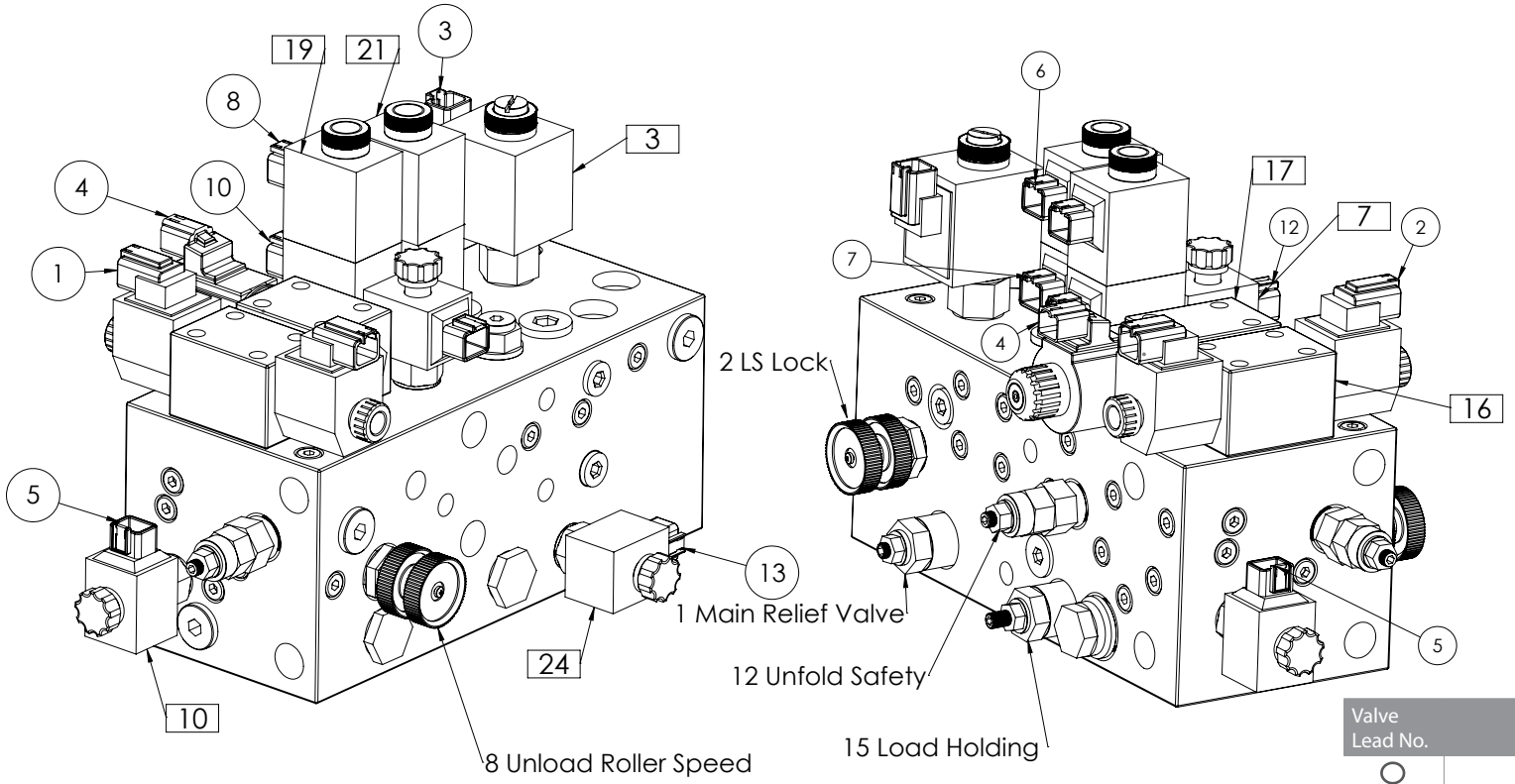


Fig. 9.4 Integrated Hydraulic Block

Valve Lead No.	Function	Valve No.
○		□
1	Rollers In (Loading)	16
2	Roller Out (Unloading)	16
3	Proportional Flow Control	3
4	Wrap Arm Forward Rotate	17
5	Rotate After Wrap	10
6	Cut and Start Open	21
7	Cut & Start Close	21
8	Wrap Arm Unfold	19
10	Wrap Arm Fold	19
11	Wrap Arm Reversing	V8(Tower Block)
12	One Roller Loading	7
13	Rollers half Speed (for film break)	24

Description Of Models Hydraulics
The VariWrap is driven from the hydraulic system of the tractor. The hydraulics of the machine are set as standard for open center hydraulics, but they can easily be changed from "Open Center" to "Closed Center" or "Loading Sensing" hydraulic systems (see page 19).

Valve Lead (6) - Valve 21
Cut & Start Open.

Valve Lead (7) - Valve 21
Cut & Start Close.
To prevent the Cut and Start creeping open, there is a load holding valve 20 fitted in the block beside valve 21.

Valve Lead (1) - Valve 16
Rollers In.
This valve operates rollers in for loading.

Valve Lead (2) - Valve 16
Rollers Out.
This valve operate rollers out for unloading.

Valve Lead (4) - Valve17
Arm Rotate.
This valve powers the wrap arm and rollers.

Valve Lead (11) - V8 Tower Block
Reversing Valve.
This valve is mounted on the tower block, it reverses the direction of rotation of the wrap arm.

Valve Lead (10) - Valve 19
Wrap arm Fold
This valve folds the wrapping arm from the straight position to the position where both dispensers come together.

Valve Lead (8) - Valve 19
Wrap Arm Unfold
This valve unfolds the wrapping arm to the straight position.

Valve Lead (13) - Valve 24
Roller Half Speed
This valve stops the rollers turning during an automatic wrapping sequence if (R2) is pressed.
It is automatically pulsed on and off to reduce the roller speed when the film break sensors detect
that one film has broken.

Valve Lead (12) - Valve 16
One Roller Loading
This valve is powered during loading. It lets the oil bypass the smooth roller so it does not turn for loading.

Valve Lead (3) - Valve 3
Proportional Flow Control Valve
This regulates the oil flow rate to all the functions. It gets a variable (PWM) signal from the controller to change its settings.

Valve Lead (5) - Valve 10
Rotate After Wrap
This valve is powered (with valves 3 and 16) to rotate the bale after wrapping has finished.

9.6. VS200/300 Hydraulic Circuit

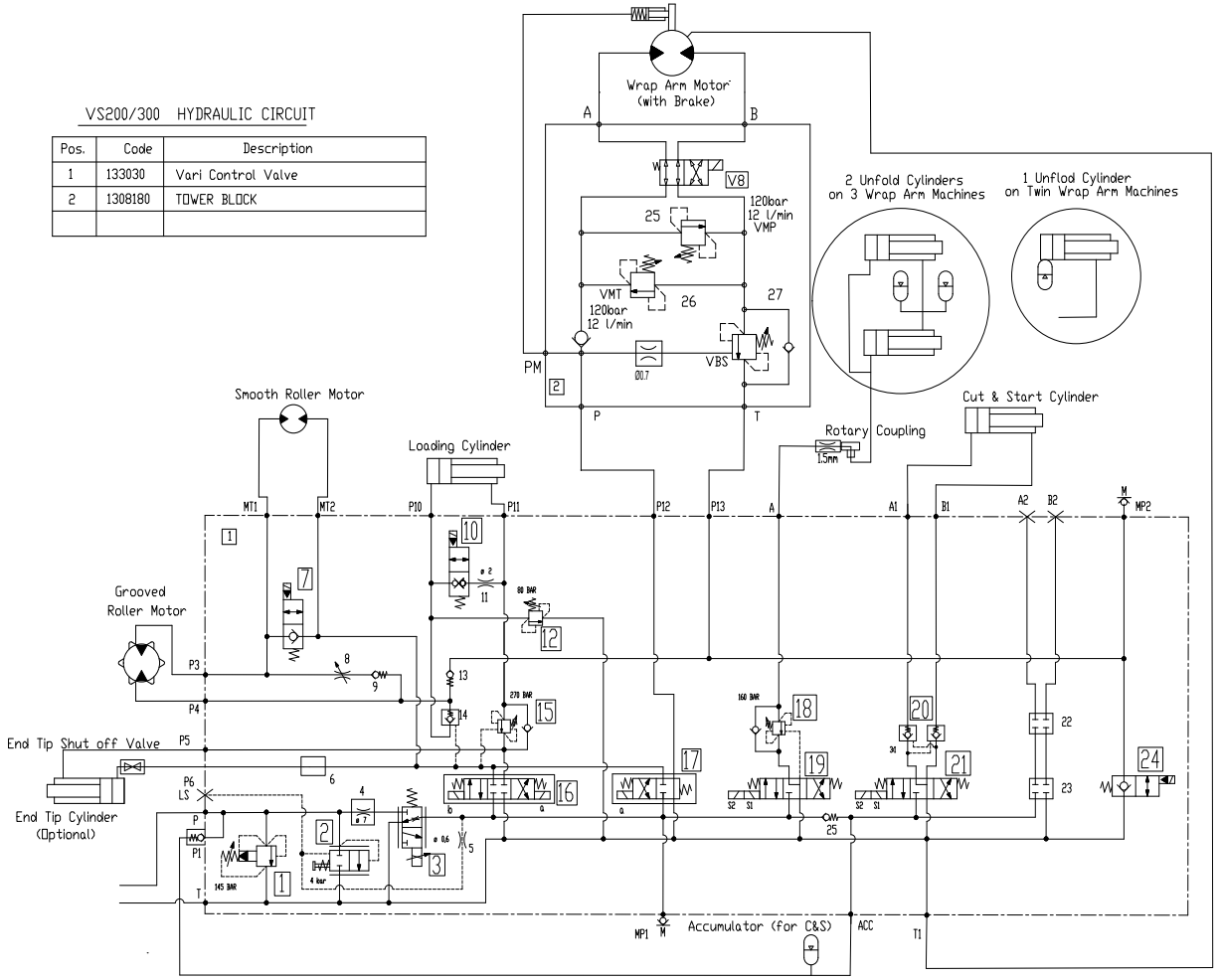


Fig. 9.5. VS200/300 Hydraulic Circuit

9.7. Tower Block

Valves 25,26,27 are on the Tower Block

Valve (25)
(VMP) Cross Line Relief Valve Forward
This valve limits the max. torque of the wrapping arm. If the inlet pressure exceeds the set value, it relieves the oil across to the outlet side of the motor. It is adjusted so that the pull force on the far end of the arm is approx. 35 KG. If it is set too high acceleration at the beginning of wrapping will be very sharp.

Valve (26)
(VMT) Cross Line Relief Valve Reverse
This valve ensures a gradual stop for the wrap arm by limiting the pressure on the outlet side of the motor. If the pressure exceeds the set value, it relieves the oil across to the inlet side of the motor.

Valve (27)
(VBS) Brake valve
This is a pilot operated (8:1 Ratio) load holding valve. It makes the wrap arm run smoother in hilly conditions and holds the wrap arm in place when parked.

⚠ IMPORTANT:
Valves 25,26,27 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 of these settings.

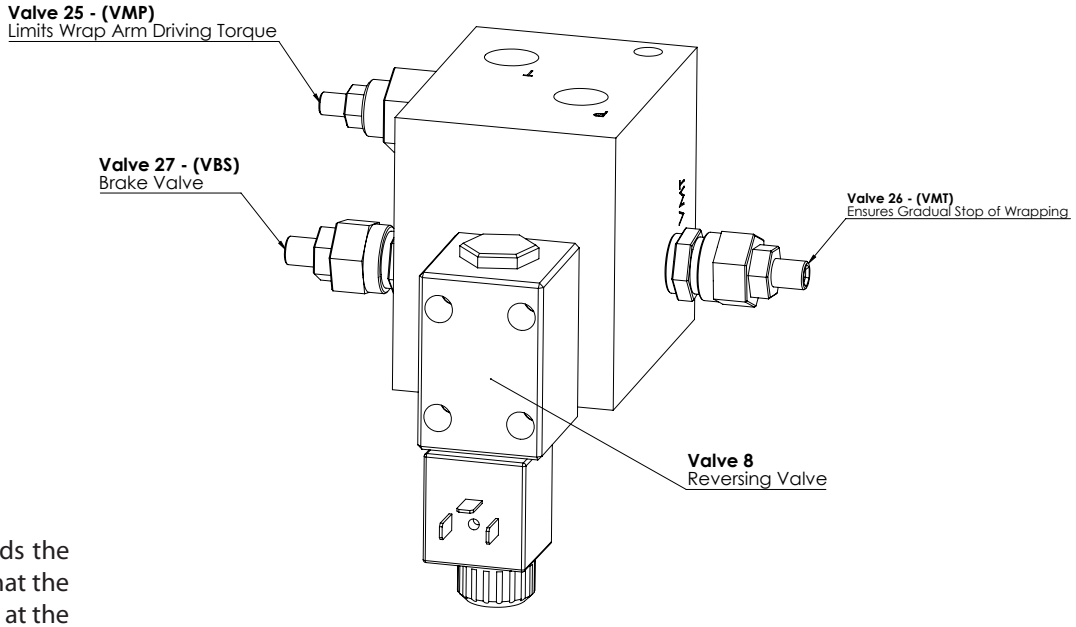


Fig. 9.6. Tower Block

10. Troubleshooting

10.1. Check Points Prior to Troubleshooting

There are 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 for the machine to function properly;

1. The oil pressure from tractor should be 180 bar.
2. The return flow of oil has to be as free as possible, max. 10 bar counter pressure. The return coupling must be connected to a free return point on the tractor.
3. Good electric power to all functions. If the voltage drops below 12V the performance of the machine will be affected.

10.1.1. Oil Pressure

In order to check that the oil pressure into the machine is high enough, a gauge may be applied to the oil pressure hose, for example on the quick coupler.
The pressure of the oil circulating through the machine when it is sitting idle should be especially 30 Bar. When a cylinder, for example the Cut & Start is powered to the end of stroke the oil pressure should rise to the relief valve pressure of 180 bar.

10.1.2. Oil Flow

The amount of oil that the tractor delivers should be minimum 30 liters/minute for satisfactory operation of the machine, but it is recommended that it is 40 liters/minute.

Note: (Max. allowed oil amount is 80 liters/minute). Ensure that oil level in tractor's hydraulic system is correct and tractor's oil filter is changed regularly. REMEMBER! Large oil amount will mean that the Valves get hot.

10.1.3. 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 and the parking brake on the wrapping arms will be less effective. MAX. ALLOWED RETURN PRESSURE IS 10 BAR. A "free return" directly to the tank should be used.

10.1.4. Electric Power

The controller requires 12-13.5V to operate at optimal performance. A poor battery or bad wiring will result in the voltage dropping when the machine is working. The controller displays a battery warning when voltage is low.

If the Voltage drops:
1. Check that the contacts are clean in the 3 pin power supply plug and socket in the cab. This socket should have a minimum 15A fuse. There are two 15amp fuses on the controller power cable near the plug.
2. If the voltage only drops on some function there may be damage on multicore cable from the controller to the junction box.

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 dealer and when ordering spare parts).

10.2. Procedure of Troubleshooting

If the machine fails to operate correctly it must be determined if the problem is Hydraulic, Mechanical or Electrical.

10.2.1. Check Solenoid Valves

For Safety. The tractor should not be running when checking the solenoid valves.
NOTE: The Cut & Start can still activate when the tractor engine is not running, as it can use the oil stored in the hydraulic accumulators attached to the Central Valve.

To check if the Solenoid valves are receiving electric power:

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 controller. If the solenoid gets power, it will be difficult to move, it "sticks" to the case of the valve.

The power supply to the valve can also be measured with a voltmeter across the terminals in the junction box. 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.

10.2.2. 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 manoeuvre the function manually, by pressing the point of a screwdriver into the end of the valve housing. 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.

10.3. The Machine does not Function

- 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, in this situation you should change the quick-couplers.

- The counter pressure may be too high.
Max. allowed counter pressure is 10 bar.

Make sure that the open / closed valve is correctly positioned.

11. Maintenance

11.1. Periodic Maintenance

Bearings
All ball-bearings are packed with grease, and do not need any more maintenance.

11.2. Pre-Stretchers

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

11.3. Cutters / Film Holders

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.

11.4. Cleaning

The machine should be cleaned and oiled regularly 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.

11.5. Hydraulic Cylinders

Make sure that all hydraulic cylinders are closed when storing the machine.

11.6. Quick Couplers

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

11.7. Storage

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

11.8. Oil Filter

The oil filter must be changed once a year.

12. Optional Extras

12. 1. Hydraulic End Tip

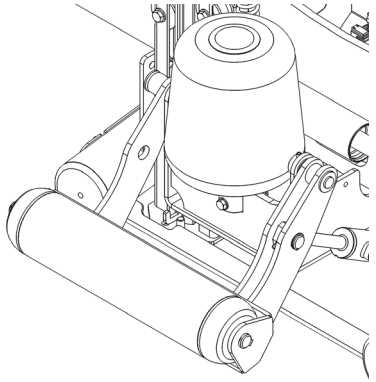


Fig. 12. Hydraulic End Tip

12. 2. Ground Roller

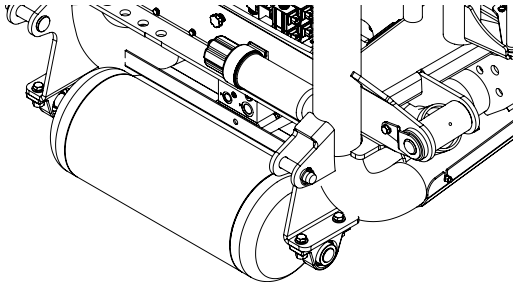


Fig. 12.2. Ground Roller

12. 3. Film Holder Attachment

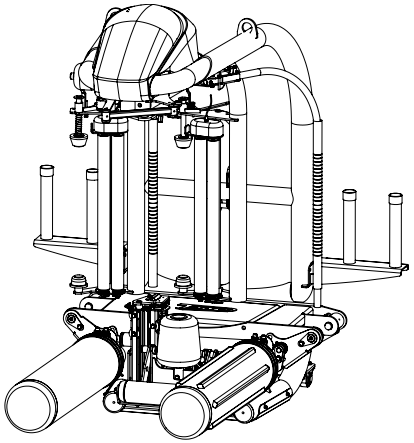


Fig. 12.3. Film Holder Attachment

13.1. 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 does 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.

13.2. 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 emailed 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.

14. EC DECLARATION OF CONFORMITY

ACCORDING TO DIRECTIVES 2006/42/EC

CE

Manufacturer:
Tanco Autowrap Ltd
Bagenalstown
Co. Carlow
IRELAND

CERTIFIES THAT THE FOLLOWING PRODUCT:
TANCO AUTOWRAP
MODEL: VariWrapS
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: 23/11/2015

Signed: _____

Con Hourihane, Technical Manager

VariWrap 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.

VariWrap 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;

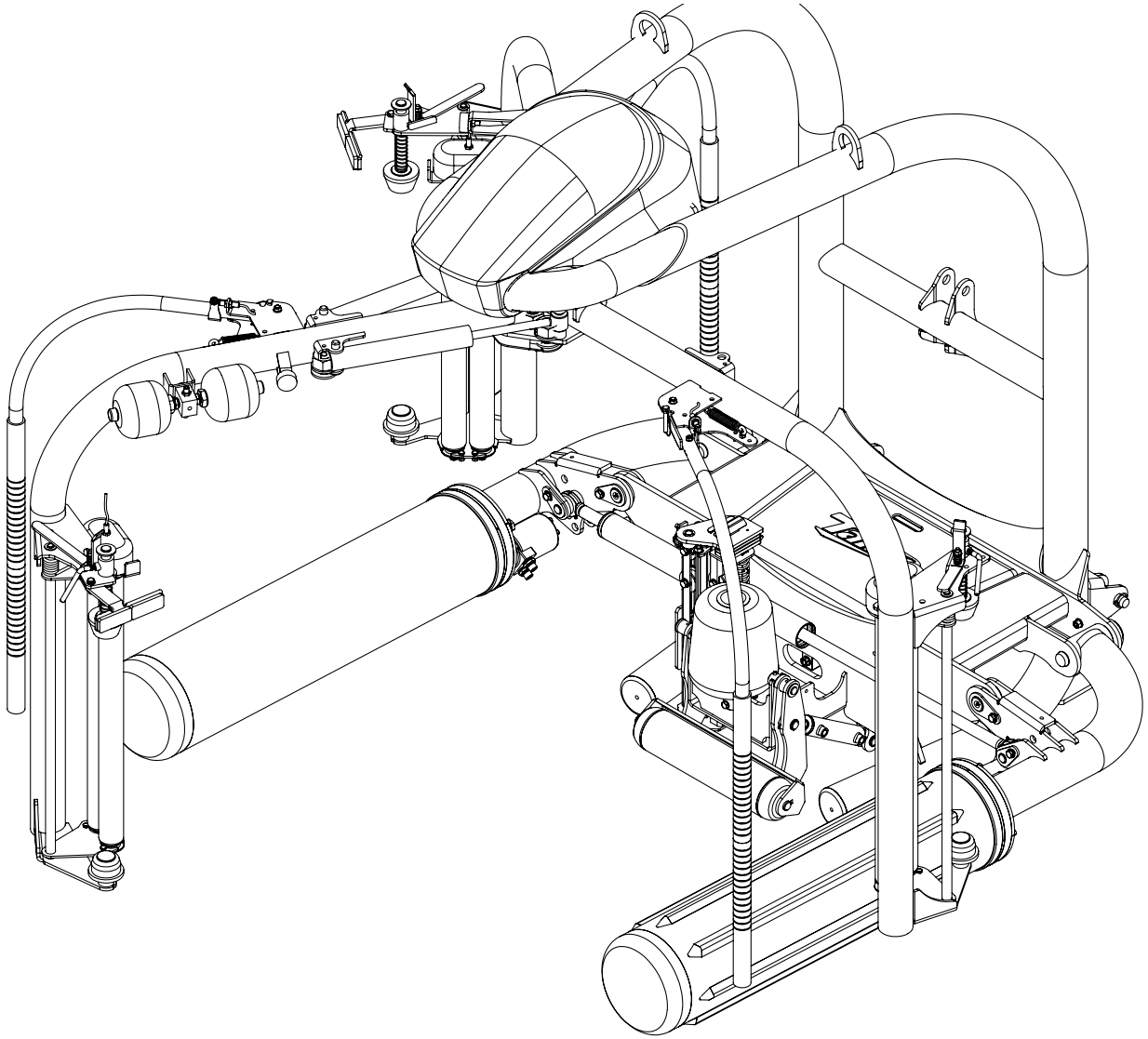
1. Identify the part you require using the detailed drawings.
2. Once you have identified the part you require reference the item number relating to the part on the item list where you will find the part number and description of the part you require. You will be require to give the complete part no 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.

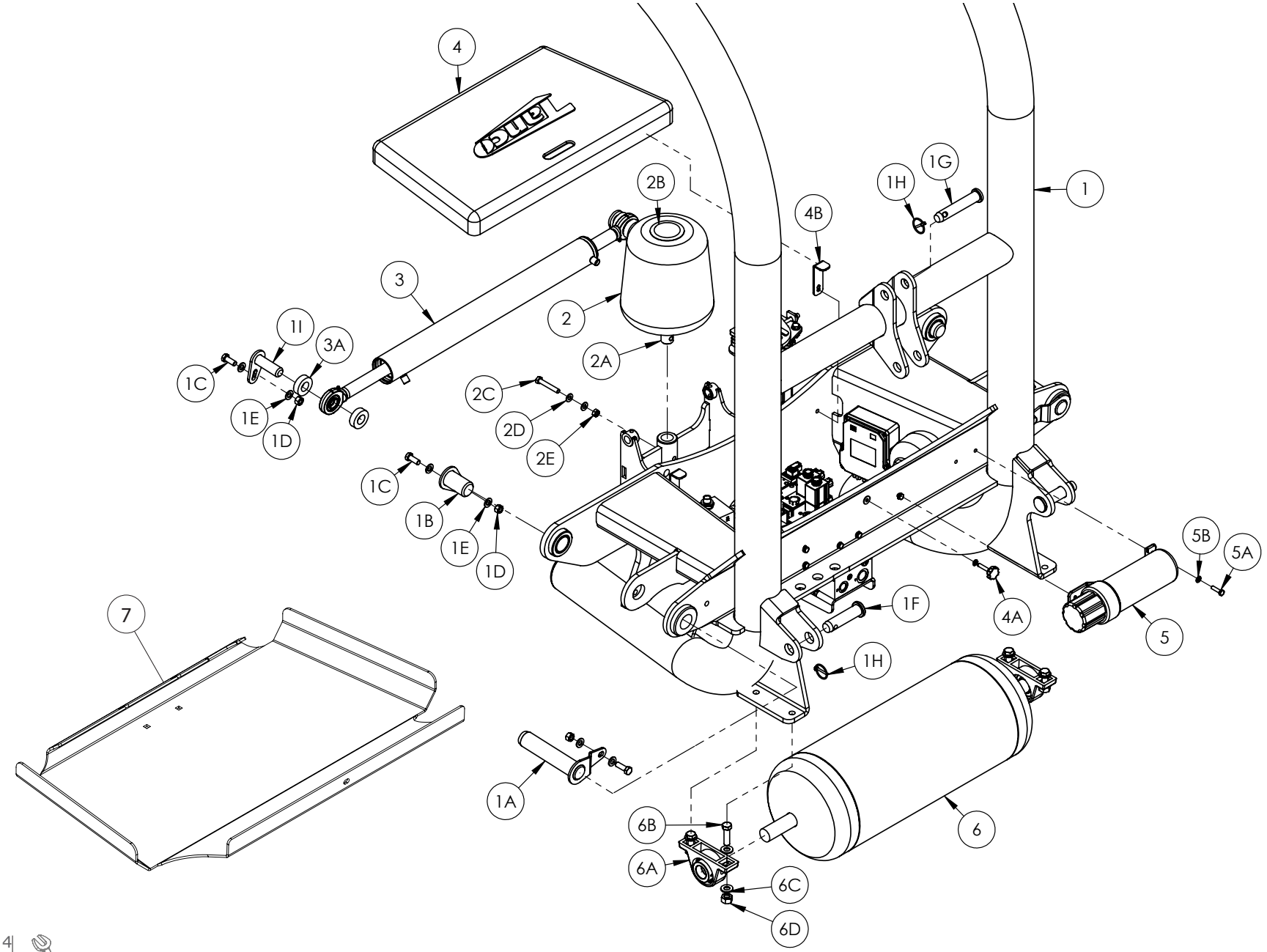
Liste des pièces de rechange VariWrap

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.

1. VariWrap S200/300

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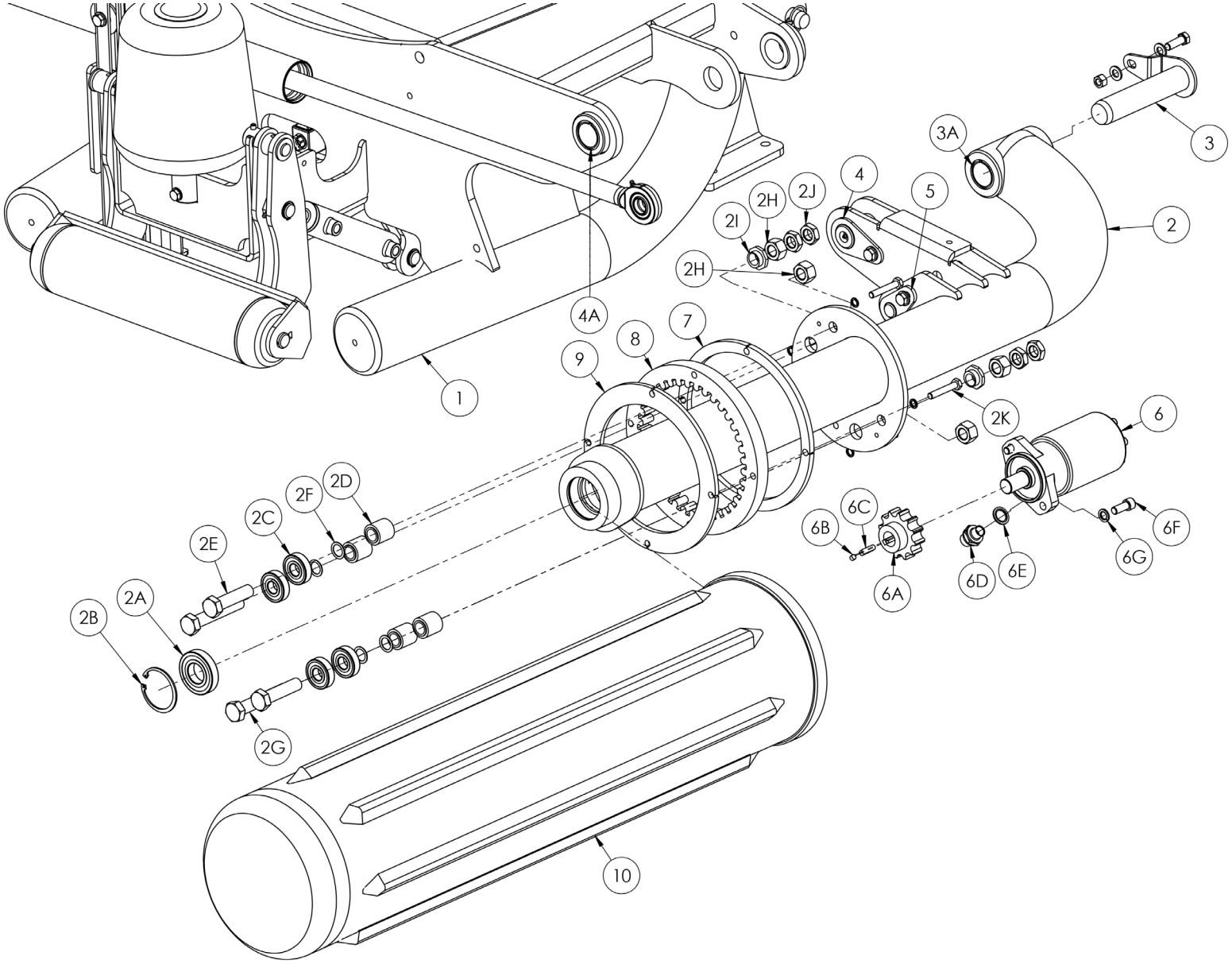
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
			German		French	
1	1330700	1	VariWrap S Rahmen	VariWrapS Chassis	Châssis	
1A	1340050	2	Vari/Auto Walzen Bolzen - Lang	Vari/Auto Roller Arm Long Pin	Axe	1 1/8"
1B	1315102	2	Drehzapfen	Roller Arm Pivot Pin	Axe d'articulation	
1C	Z26-082S	2	Sechskant-Set	Hex Set	Vis de régl. Hex	M12 x 30
1D	Z23-12	4	Sicherungsmutter	Locknut	Contre-écrou	12mm
1E	Z10-02-12	8	Unterlegscheibe, flach	Flat Washer	Rondelle plate	12mm
1F	34105638	2	Unterlenker Bolzen	Lower Link Pin	Axe de relevage	
1G	34105635	1	Scharnierstift, oben	Top Link Pin	Goupille de barre de poussée	
1H	Z03-22-06	3	Klappsplint	Linch Pin	Clavette d'essieu	7/16" Dia
1I	1315110	2	Breiter erweiterter Bolzen	Width Extension Pin	Axe regl. largeur	
2	34340141	1	Kegelwalze	Roller Support Cone 4000 BWB9	Rouleau conique	
2A	1315108	1	Stützwalzenwelle	Plastic Roller Shaft	Arbre du rouleau de support	
2B	34450447	1	Kunststoffkappe	Plastic Cap (460675-M)	Capuchon plastique	M8 X 50 H/T
2C	Z26-067B	1	Sechskantschraube	Hex Bolt	Vis Hex	M10 X 60
2D	Z10-02-10	2	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	10mm
2E	Z23-10	1	Sicherungsmutter	Locknut	Ecrou frein	10mm
3	1318170	1	Breitenzylinder	Width Cylinder TAN170	Vérin transversal	10mm
	1318177	1	Zylinder Dichtung	Width Cylinder Seal Kit	Kit joint pour vérin transversal	10mm
3 A	1315105	4	Breitenabstandhalter	Width Ram Spacer	Entretoise	
4	1330098	1	Vari/Auto Rahmen Abdeckung	Vari/Auto Box Chassis Cover	Capôt	
4A	1340087	1	Handschraube	Handwheel	Ecrou de fermeture	Scallop Male M8 x 40mm
4B	1340088	1	Vari/Auto Abdeckungshalter-ung	VariAuto Chassis Cover Bracket	Support capot	10mm
5	1330648	1	Plastik Handbuch Halterung	Plastic Manual Tube	Rangement	10mm
5A	Z26-041S	1	Sechskant-Set	Hex Set	Vis de régl. Hex	M8 X 30
5B	Z10-02-08	1	Unterlegscheibe, flach	Flat Washer	Rondelle plate	8mm
6	1340085	1	Vari/Auto Bodenstützrolle	Vari/Auto Ground Roller	Rouleau De Support Au Sol	
6A	Z06-485-35	2	Bodenstützrolle Lager	Pillow Block Bearing	Roulement	35mm
6B	Z26-104S	4	Bodenstützrolle Schraubenset	H/T Hex Set	Vis de régl. Hex	M14 X 50
6C	Z10-02-14	8	Unterlegscheibe, flach	Flat Washer	Rondelle plate	14mm
6D	Z23-14	4	Sicherungsmutter	Locknut	Ecrou frein	14mm
7	1340097	1	Gleitplatte	Skidplate	Carter inférieur	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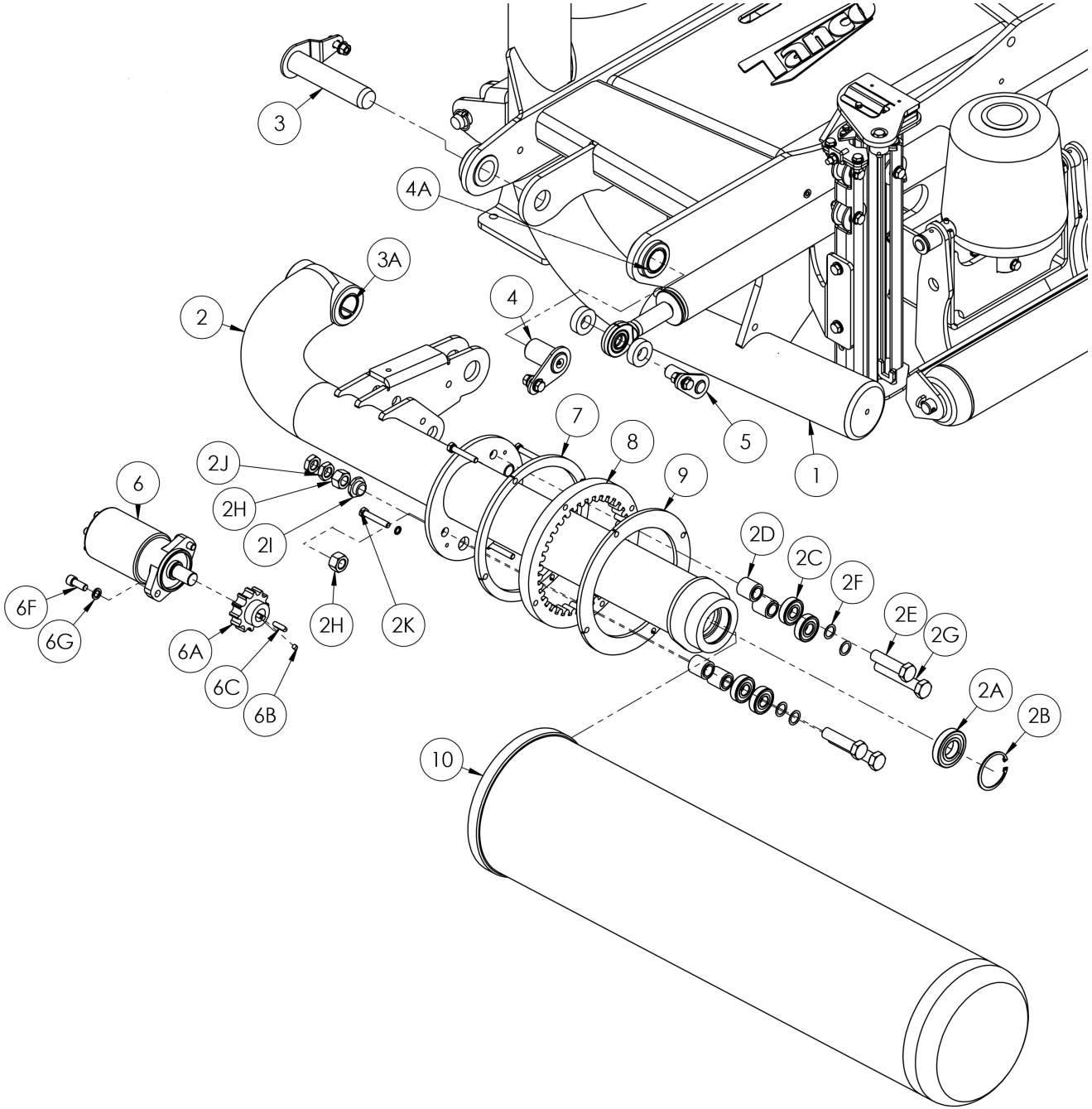
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
			German		French	
1	1340000	1	Vari/Auto Rahmen	Vari/Auto Chassis	Châssis	
2	1340035	1	Vari/Auto Walzen Arm LHS	Vari/Auto Roller Arm LHS	Rouleau côt" droit	
2A	34321521	1	Kugellager	Ball Bearing	Roulement à billes	1726207 2RS1
2B	34240100	1	Seegerring	Internal Cir Clip	Circlips interne	DIN 472
2C	34321529	4	Lager	Ball Bearing	Roulement à billes	361204 KSF
2D	34105718	4	Buckelnabenlager (Boss Bearing)	Boss Bearing	Roulement entretoise	
2E	Z26-167B	2	Sechskantschraube	Hex Bolt	Vis Hex	M20 x 80mm
2F		4	Unterlegscheibe, flach	Washer	Rondelle	20 x 28 x 1
2G	Z26-1691B	2	Sechskantschraube	Hex Bolt	Vis Hex	M20 x 110mm
2H	Z23-20	4	Sicherungsmutter	Locknut	Contre-écrou	M20
2I	34351006	2	Excenternabenbuckel	Eccentric Boss	Moyeu excentrique	
2J	34232901	4	Mutterbacke	Half Nut	Demi-écrou	M20 DIN 439b
2K	Z26-067B	4	Sechskantschraube	Hex Bolt	Boulon Hex	M10 x 60mm
3	1340050	1	Walzenarm Befestigungs Bolzen	Axle Mounting Pin	Axe	
3A	Z03-20-12	2	LG Hülse	LG Tension Bush	Entretoise de tension	50 X 40 Bore X 40mm
4	1315102	1	Drehzapfen	Roller Arm Pivot Pin	Axe d'articulation	
4A	Z03-20-12	1	LG Hülse	LG Tension Bush	Entretoise de tension	50 X 40 Bore X 40mm
5	1315104	1	Zylinderstift	Ram Mounting Pin	Axe du vérin	
6	1330075	1	1330 Walzen Ölmotor	1330 Roller Motor	Moteur de rouleau 1330	
6A	34810042	1	Zahnkranz	Sprocket	Pignon	12 Tooth (3/4")
6B	Z28-008	1	Gewindestift	Grub Screw	Vis sans tête	M8 x 10mm
6C	34270111	1	Keilstahl	Key Steel	Clavette acier	8mm x 7mm 30mm
6D	Z01-06-06-08	2	MM Adapter	BSP MM Adaptor	Adaptateur MM	
6E	Z01-04-03	2	Profildichtring (Dowty Washer)	Dowty Washer	Rondelle Dowty	1/2""
6F	Z13-6-12X35	2	Inbusschraube	Allen Head Bolt	Vis BTR	M12 x 35
6G	Z12-02-12	2	Federring	Spring Washer	Rondelle à ressort	12mm (1/2") DIN1
7	34360523	1	Ringwalzenabdeckung	Ring Roller Shield	Protection du rouleau annelé	
8	34810044	1	Walzenzahnkranz	Roller Sprocket	Pignon des rouleaux	
9	34360519	1	Mittlere Ringwalze	Ring Roller Middle	Centre de rouleau annelé	
10	34911049	1	Greifer-Tragwalze	Gripped Roller	Rouleau à dents	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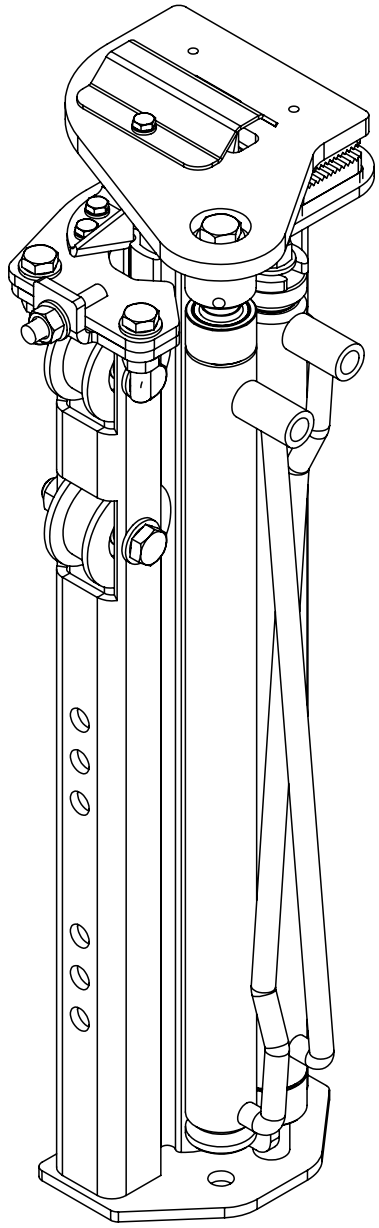
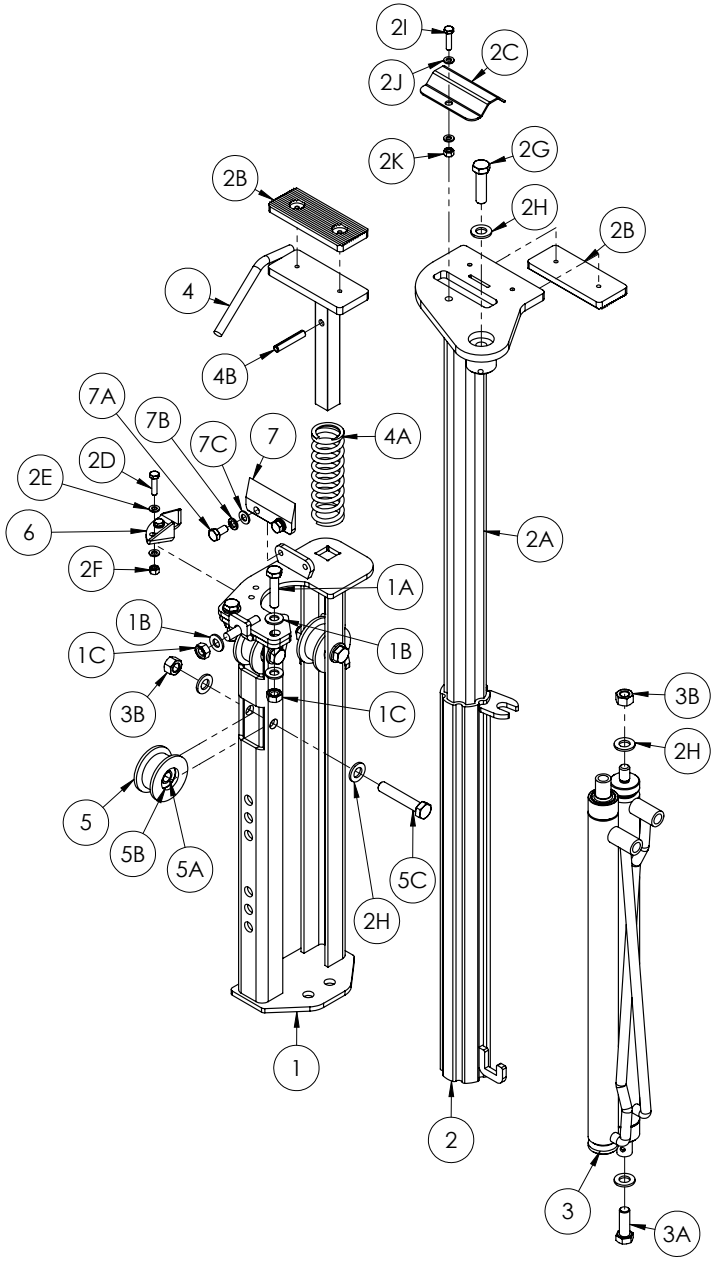
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
			German		French	
1	1340000	1	Vari/Auto Rahmen	Vari/Auto Chassis	Châssis	
2	1340030	1	Vari/Auto Walzen Arm RHS	Vari/Auto Roller Arm RHS	Bras Droit	
2A	34321521	1	Kugellager	Ball Bearing	Roulement à billes	1726207 2RS1
2B	34240100	1	Seegerring	Internal Cir Clip	Circlip	DIN 472
2C	34321529	4	Lager	Ball Bearing	Roulement à billes	361204 KSF
2D	34105718	4	Buckelnabenlager (Boss Bearing)	Boss Bearing	Roulement Boss	
2E	Z26-167B	2	Sechskantschraube	Hex Bolt	Boulon Hex	M20 x 80mm
2F		4	Unterlegscheibe, flach	Washer	Rondelle	20 x 28 x 1
2G	Z26-1691B	2	Sechskantschraube	Hex Bolt	Boulon Hex	M20 x 110mm
2H	Z23-20	4	Sicherungsmutter	Locknut	Contre-écrou	M20
2I	34351006	2	Excenternabenbuckel	Eccentric Boss	Moyeu excentrique	
2J	34232901	4	Mutterbacke	Half Nut	Demi-écrou	M20 DIN 439b
2K	Z26-067B	4	Sechskantschraube	Hex Bolt	Boulon Hex	M10 x 60mm
3	1340050	1	Walzenarm Befestigungs Bolzen	Axle Mounting Pin	Axe	
3A	Z03-20-12	2	LG Hülse	LG Tension Bush	Entretoise de tension	50 X 40 Bore X 40mm
4	1315102	1	Drehzapfen	Roller Arm Pivot Pin	Axe d'articulation	
4A	Z03-20-12	1	LG Hülse	LG Tension Bush	Entretoise de tension	50 X 40 Bore X 40mm
5	1315104	1	Zylinderstift	Ram Mounting Pin	Axe du vérin	
6	1330075	1	1330 Walzen Ölmotor	1330 Roller Motor	Moteur de rouleau 1330	
6A	34810042	1	Zahnkranz	Sprocket	Pignon	12 Tooth (3/4")
6B	Z28-008	1	Gewindestift	Grub Screw	Vis sans tête	M8 x 10mm
6C	34270111	1	Keilstahl	Key Steel	Clavette acier	8mm x 7mm 30mm
6D	Z01-06-06-08	2	MM Adapter	BSP MM Adaptor	Adaptateur MM	
6E	Z01-04-03	2	Profildichtring (Dowty Washer)	Dowty Washer	Rondelle Dowty	1/2""
6F	Z13-6-12X35	2	Inbusschraube	Allen Head Bolt	Vis BTR	M12 x 35
6G	Z12-02-12	2	Federring	Spring Washer	Rondelle à ressort	12mm (1/2") DIN1
7	34360523	1	Ringwalzenabdeckung	Ring Roller Shield	Protection du rouleau annelé	
8	34810044	1	Walzenzahnkranz	Roller Sprocket	Pignon des rouleaux	
9	34360519	1	Mittlere Ringwalze	Ring Roller Middle	Centre de rouleau annelé	
10	1330890	1	Glatte Walze	Smooth Roller	Rouleau lisse	

2. Cut & Start

2.1. Cut & Start Assembly

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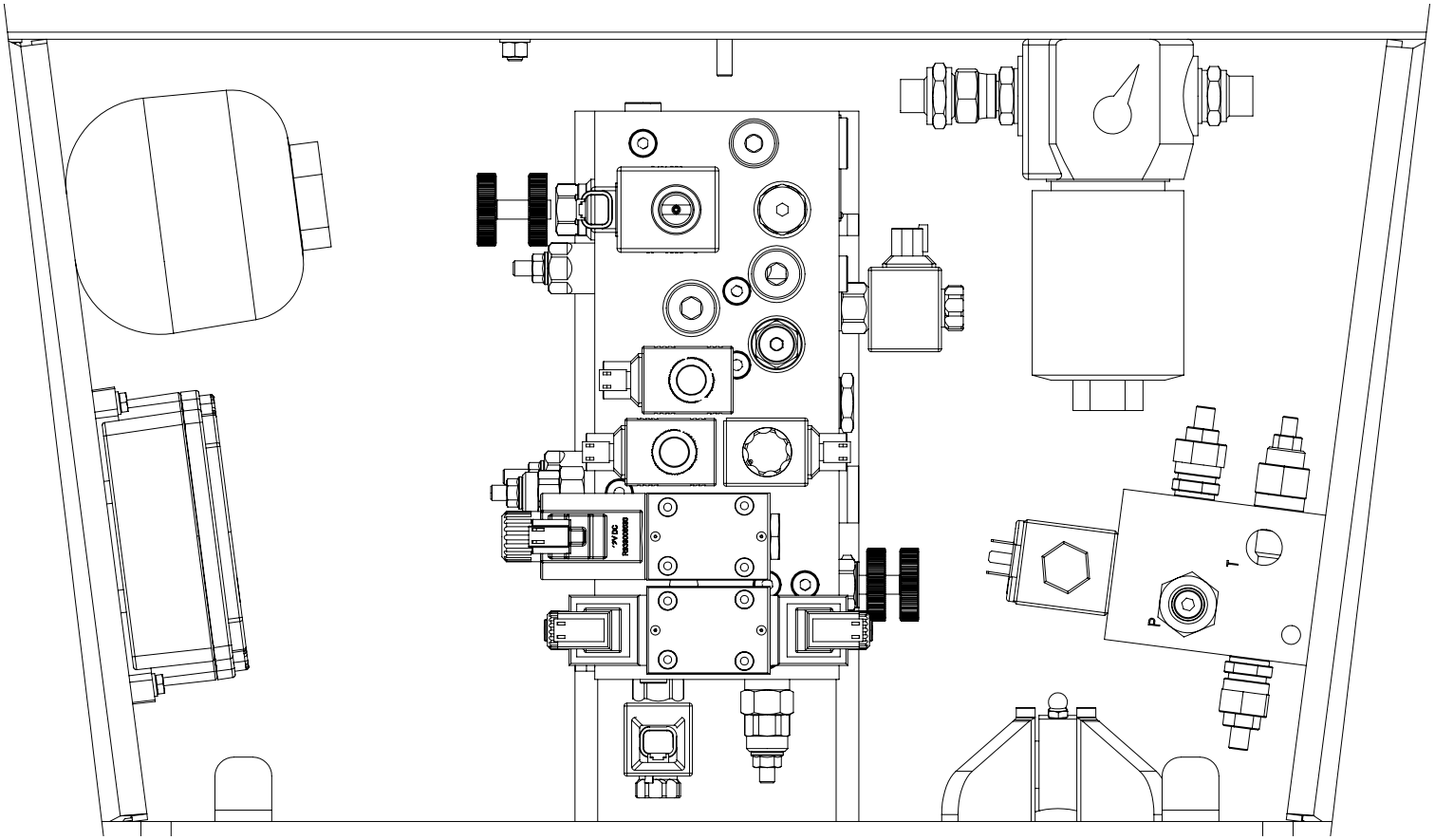
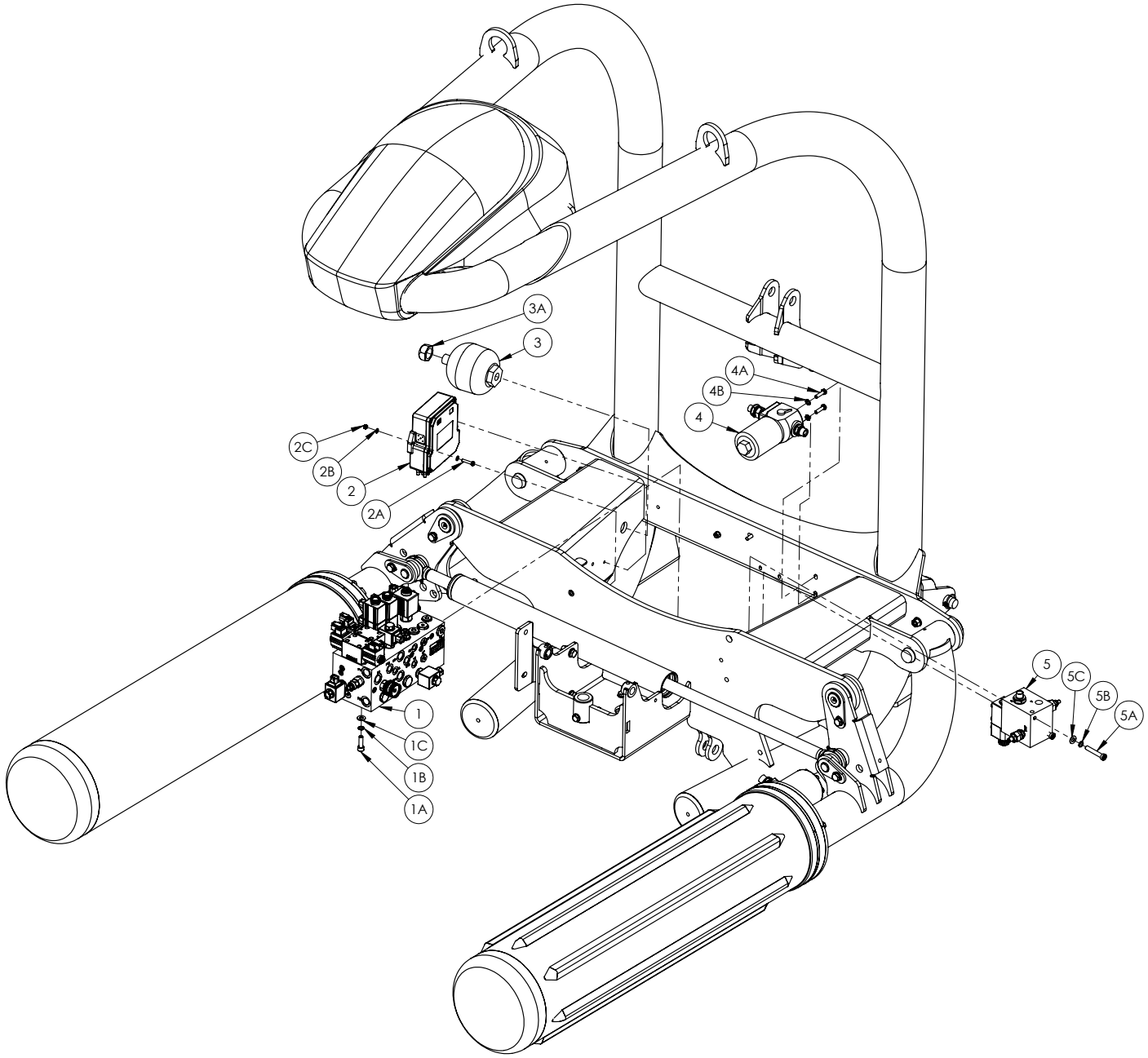
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1330310	1	Messer & Start Hauptrahmen	Cut & Start Main Frame	Châssis de couteau	
1A	Z26-062S	2	Schraube	Hex Set	Vis de régl. Hex	M10 x 30mm
1B	Z10-02-10	5	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	10mm(3/8"")Flat H/D Washer DIN1
1C	Z23-10	3	Sicherungsmutter	Locknut	Contre-écrou	10mm Locknut
2	1330340	1	Messer & Start mitte	Cut & Start Middle Stage	Milieu couteau	
2A	1330320	1	Messer & Start oben	Cut & Start Top Stage	Dessus couteau	
2B	1330305	2	Gummiplatte	Rubber Buffer	Tampon Caoutchouc	120x48mm
2C	1330319	1	Messer & Start Klingenschützer	C&S Blade Protector	Protection de lame	
2D	Z26-021S	2	Schraube	Hex Set	Vis de régl. Hex	M6 X 25 H/T Hex Set
2E	Z10-02-06	4	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	"6mm (1/4"")Flat H/D Washer DIN1"
2F	Z23-06	2	Sicherungsmutter	Locknut	Contre-écrou	6mm
2G	Z26-083S	1	Sechskant-Set	Hex Set	Vis de régl. Hex	M12 x 35
2H	Z10-02-12	9	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	12mm(1/2"")Flat H/D Washer DIN1
2I	Z26-040S	1	Sechskant-Set	Hex Set	Vis de regl. Hex	M8 X 25 H/T
2J	Z10-02-08	2	Unterlegscheibe, flach	Flat Washer	Rondelle plate	8mm
2K	Z23-08	1	Sicherungsmutter	locknut	Contre-écrou	8mm
3	1330015	1	Messer & Start Doppel Zylinder	C&S Double Cylinder	Double vérin couteau	
	1330016	1	Messer & Start Doppel Zylinder Dichtungs	C&S Double Cylinder Seal Kit	Kit joint double vérin	
3A	Z26-083S	1	Sechskant-Set	Hex Set	Vis de régl. Hex	M12 x 35
3B	Z23-12	4	Sicherungsmutter	Locknut	Contre-écrou	12mm
4	1330304	1	Messer & Start Bolzen	Cut & Start Square Plunger Pin	Axe	
4A	Z07-49	1	Feder	Compression Spring Plated	Plaque de compression ressort	120mm
4B	1330309	1	Bolzen	Roll Pin	Axe	8 x 45mm Roll Pin
4C	Z03-25-05	4	Blindniete	Pop rivet	Rivet Pop	4.8 x 16 (VLA4816) Pop Rivet L
5	1330303	3	Messer & Start Rad	Cut & Start Wheel	Roue de couteau	
5A	1330331	6	Messer & Start Lager	Cut & Start Wheel Bearing	Roulement roue couteau	6201 2RS
5B	1330326	3	Verschlussclip	Cir Clip	Circlips	
5C	Z26-0882B	3	Schraube	Hex Bolt	Vis Hex	M12x65
6	1330345	1	Aluminium Folien Entferner	Aluminium Plastic Remover	Plaque Alu	
7	1330307	1	1330 Messer & Start Klinge	1330 Cut & Start Blade	Lame de couteau	
7A	Z26-038S	2	Schraube	Hes Set	Vis Hex	M8 x 16
7B	Z10-02-08	4	Unterlegscheibe, flach	Flat Washer	Rondelle plate	8mm
7C	Z12-02-08	2	Federring	Spring Washer	Rondelle à ressort	8mm (5/16"") DIN1

3. Hydraulic Assembly

3.1. Hydraulic Assembly

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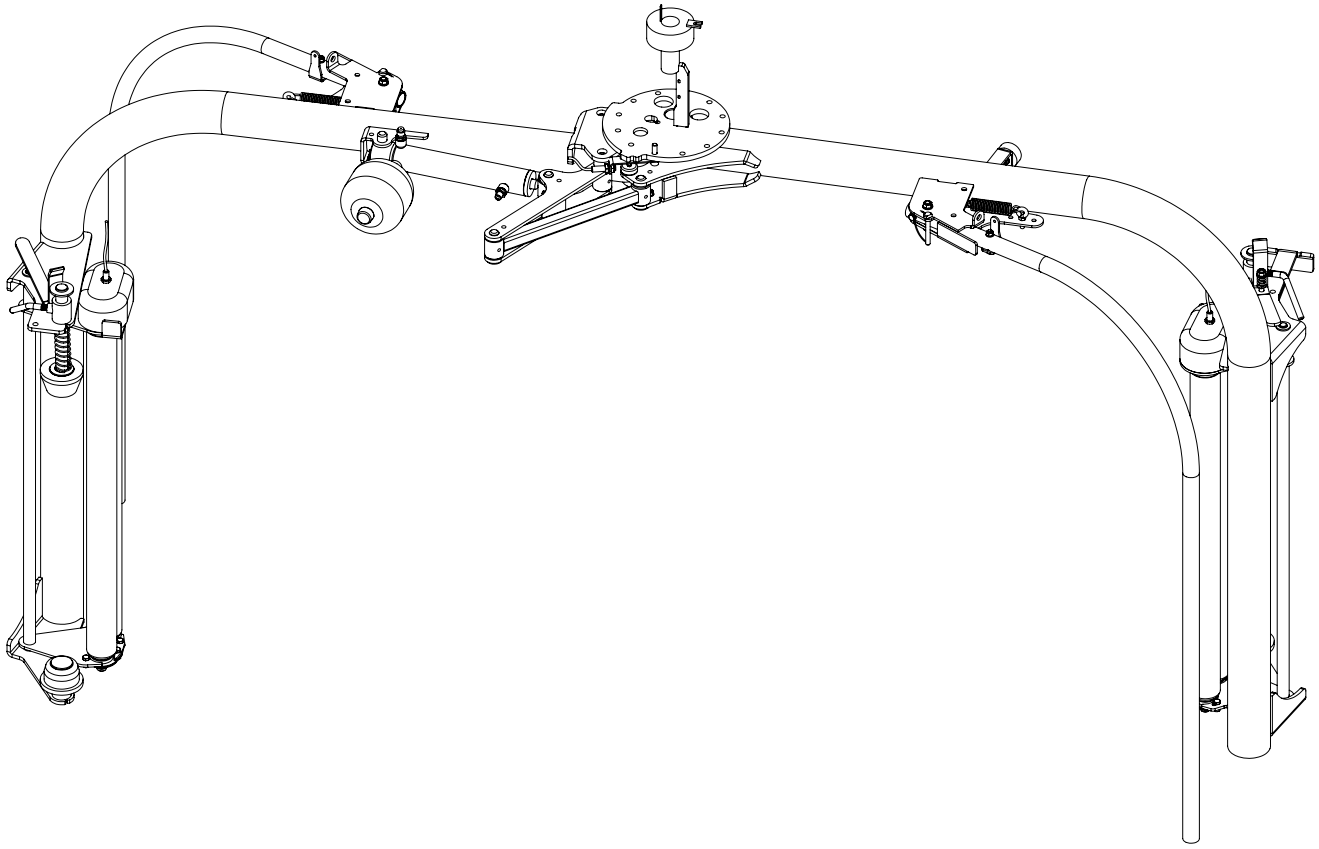
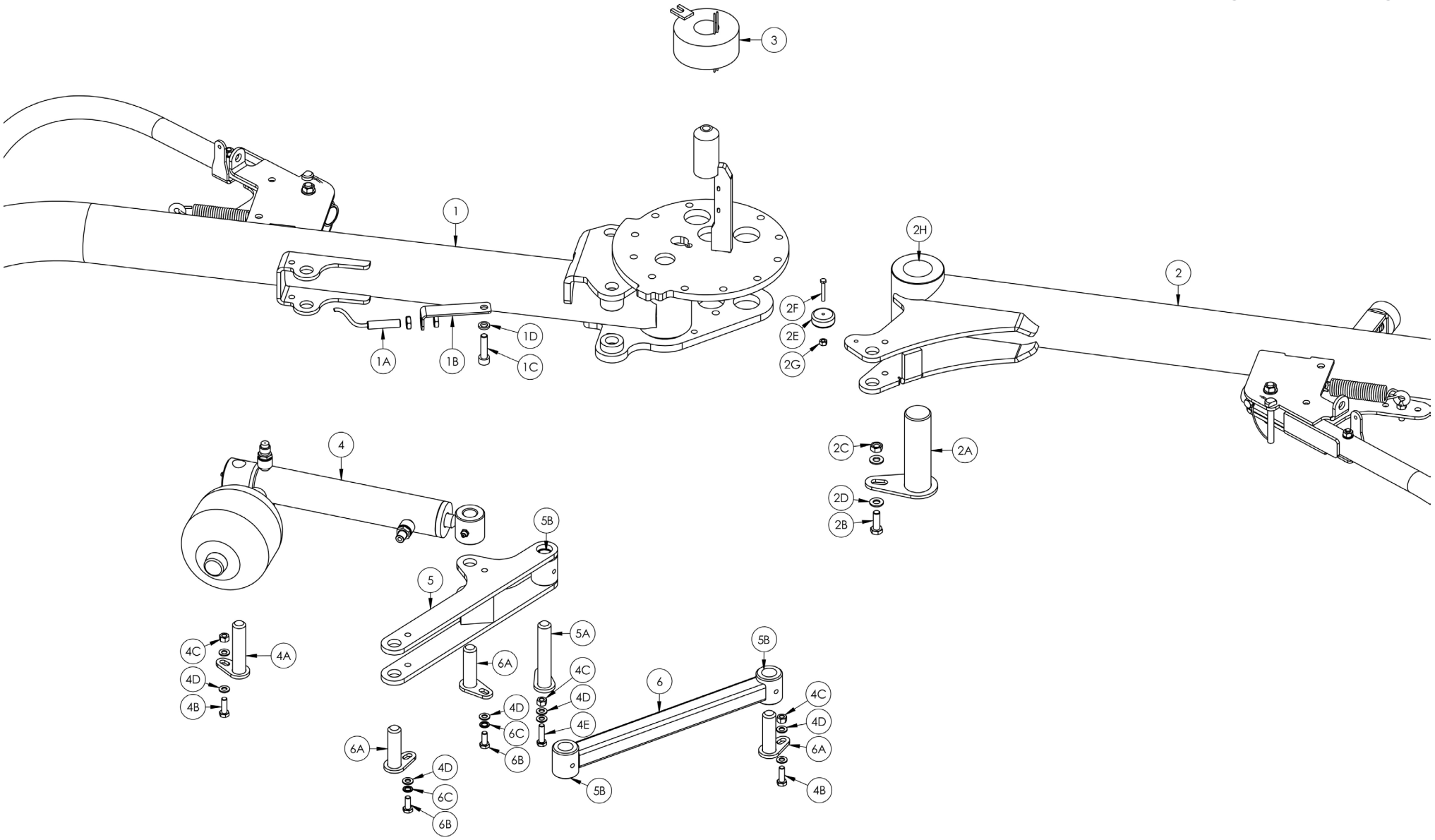
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1330030	1	Integrierter Hydraulikblock	Integrated Hydraulic Block	Bloc Hydraulique	
1A	Z13-4-32	4	UNC Zylinderkopfschraube	UNC Socket Cap SC	Vis six pans creux UNC	1 1/4"" x 3/8"
1B	Z12-02-10	4	Federring	Spring Washer DIN1	Rondelle à ressort	10mm (3/8"")
1C	Z10-02-10	4	Unterlegscheibe, flach	Flat H/D Washer DIN1	Rondelle plate	10mm(3/8"")
2	1330033	1	VariWrap Elektronikbox	VariWrap Junction Box	Boite de jonction Variwrap	
2A	Z26-022S	2	Sechskant-Set	H/T Hex Set	Vis de régl. Hex	M6 X 30
2B	Z10-02-06	4	Unterlegscheibe, flach	Flat H/D Washer DIN1	Rondelle plate	6mm (1/4"")
2C	Z18-06	2	Flachschraube	Plain Hex Nut	Ecrou	6mm
3	Z01-01-AWDA	1	30 Bar Akkumulator	30 Bar Accumulator	Accumulateur 30 bar	
3A	Z001-243	1	Mutter	Tine Nut	Ecrou	
4	1308075	1	Öldruckfilter DFM90S2T-10BG	Pressure Filter DFM90S2T-10BG	Filtre pression DFM90S2T-10BG	
3C	Z26-041S	2	Sechskant-Set	Hex Set	Vis de régl. Hex	M8 x 30
4	Z12-02-08	2	Federring	Spring Washer DIN1	Rondelle à ressort	8mm (5/16"")
5	1308180	1	Turm-Block	Tower Block L9314820024AA00	#N/A	
5A	Z13-6-10x25	2	Inbusschraube	Allen Head Sets	Vis BTR	M10 x 25
5B	Z12-02-10	6	Federring	Spring Washer	Rondelle à ressort	10mm
5C	Z10-02-10	6	Unterlegscheibe, flach	Flat Washer	Rondelle plate	10mm
5	1308180	1	Turm-Block L9314820024AA00	Tower Block L9314820024AA00	Bloc Tour	
5A	Z26-022S	2	Sechskant-Set	H/T Hex Set	Vis de régl. Hex	M6 X 30
5B	Z10-02-06	4	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	6mm
5C	Z23-06	2	Sicherungsmutter	Locknut	Contre-écrou	6mm

4. 200 Wrap Arm

4.1. 200 Wrap Arm Assembly

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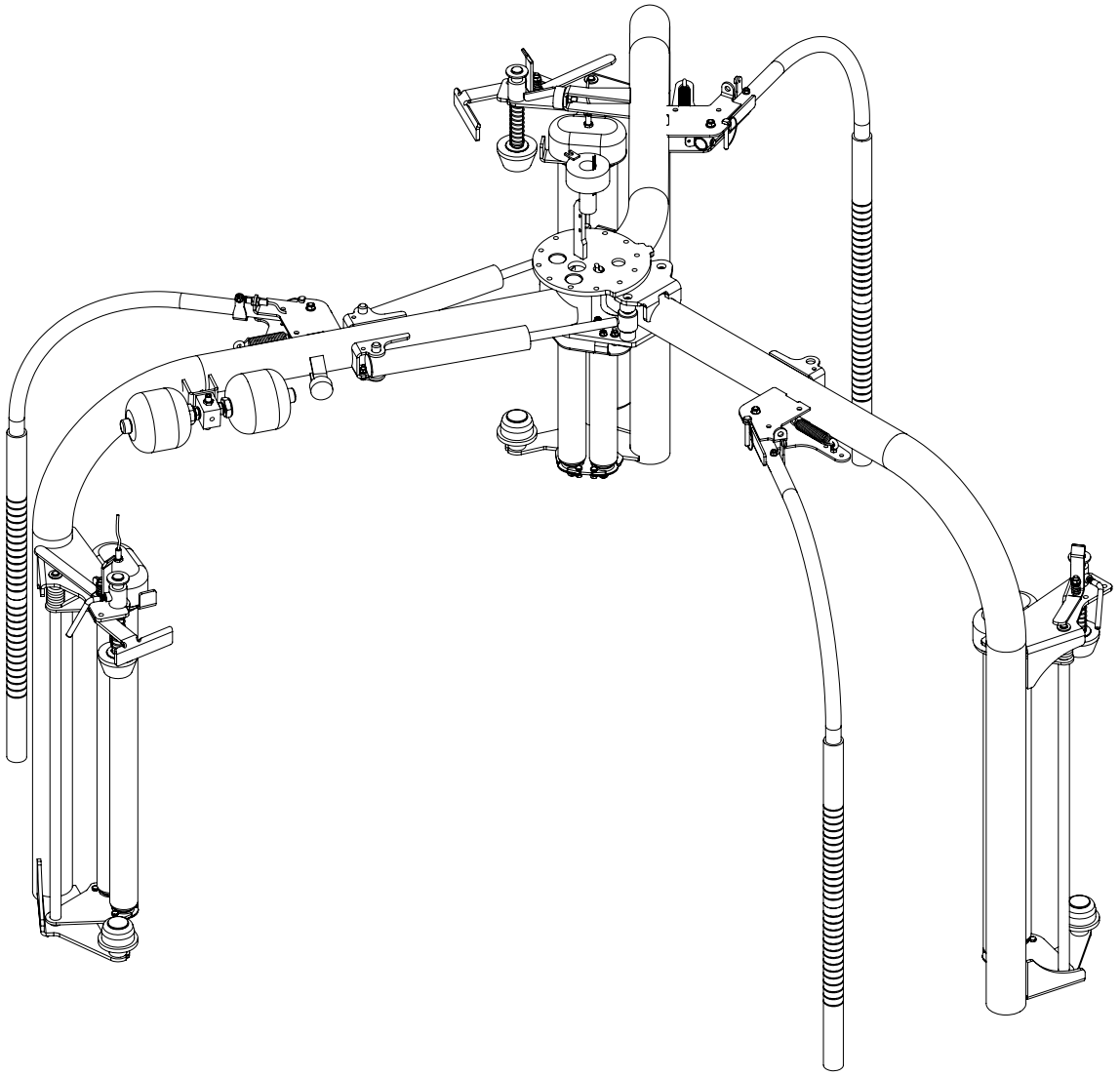
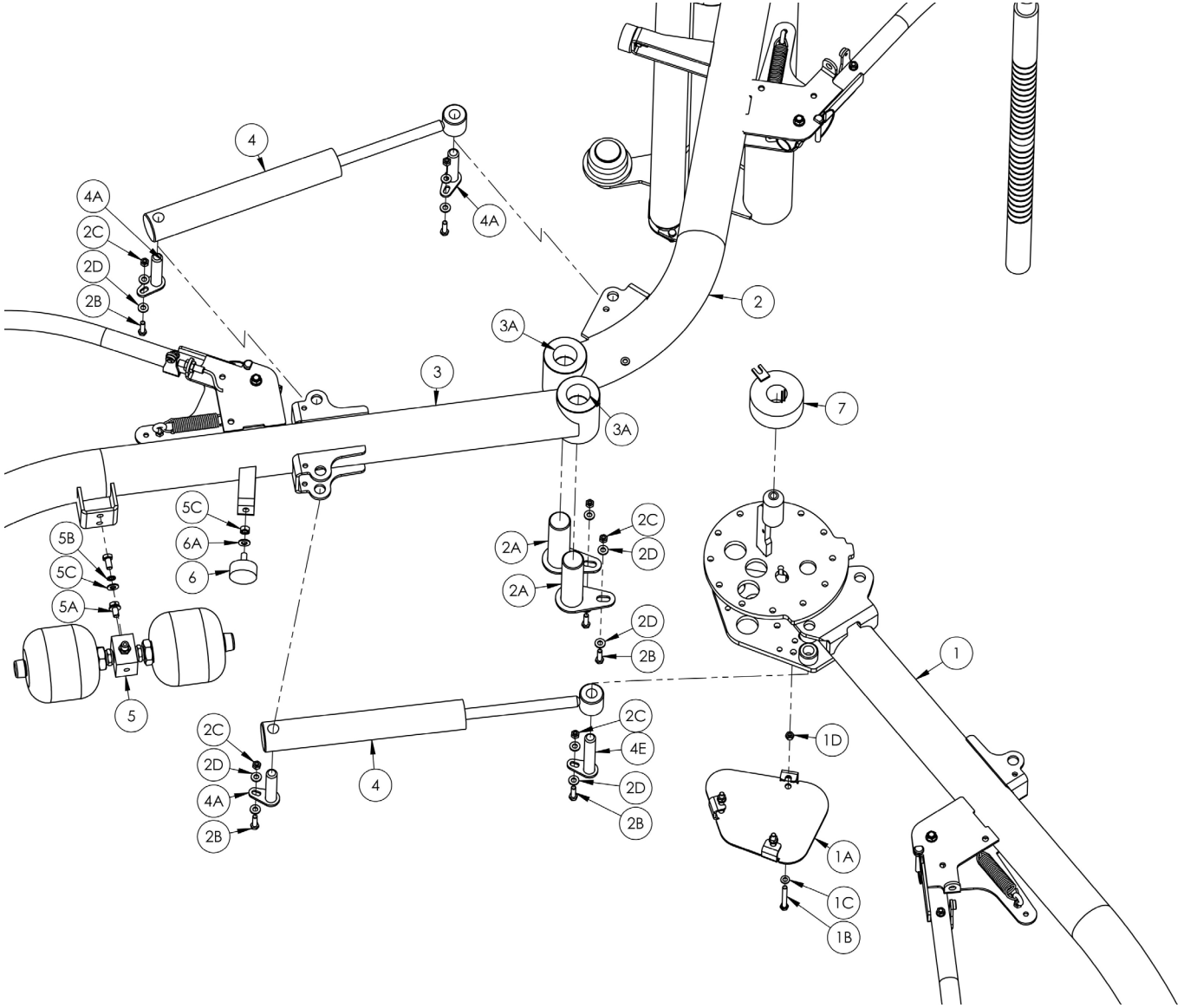
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1330400	1	Starrer Wickelarm	Fixed Wrap Arm	Bras d'enrubannage fixe	
1A	1309207	1	RDS Entfaltungssensor	RDS Unfold Sensor	Capteur depliage	1.1m cable
1B	1330638	1	Entfaltungssensor Bremse	Unfold Sensor Bracket	Support Capteur dépliage	
1C	Z13-6-10x35	1	Sockelschraube	Socket Head	Prise	M10x35
1D	1303004	1	Unterlegscheibe	Nordlock Washer	Rondelle	M10
2	1330620	1	Zweiter Wickelarm	Twin Wrap Arm	Bras d'enrubannage double	
2A	1330420	1	Hauptbolzen	Main Pin	Axe principal	
2B	Z26-062SB	1	Sechskant-Set	Hex Set	Vis de régl. Hex	M10 x 30
2C	Z23-10	1	Sicherungsmutter	Locknut	Contre-écrou	10mm
2D	Z10-02-10	2	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	10mm(3/8"")
2E	1309201	1	RDS-Magnet	RDS Sensor Magnet	Aimant RDS	
2F	Z26-0171S	1	Schraube	Hex Set	Vis Hex	M5 X 30
2G	Z23-05	1	Sicherungsmutter	Locknut	Contre-écrou	5mm
2H	Z03-20-27	2	DX Buchse	DX Bush	Douille DX	40mm ID x 40mm Long
3	1330055	1	Aufsteckring	Slip Ring	Couronne electrique	BTH3899-0605
4	1318171	1	Faltzylinder	Arm Folding Ram	Vérin de repliage	TAN171
	1318173	1	171 Zylinder Dichtungssatz	171 Cylinder Seal Kit	Kit joint 171	
4A	1315405	1	Zylinderstift	Linkage / Ram Pin	Axe du vérin	
4B	Z26-040B	1	Sechskantschraube	H/T Hex Bolt	Boulon Hex	M8 X 25
4C	Z23-08	1	Sechskantmutter	Locknut	Écrou hexagonal	8mm
4D	Z10-02-08	2	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	8mm(5/16"")
4E	Z26-041B	1	Schraube	Hex Bolt	Vis Hex	M8 x 30mm
5	1314400	1	Stationäre Gestängebaugruppe	Fixed Linkage Assembly	Attelage fixe	
5A	1315403	1	Gestängestift	Main Arm Linkage Pin	Goupille de barre	
5B	Z03-20-27	6	DX Buchse	DX Bush	Douille DX	20mm ID X 20mm Long
6	1330440	1	VariWrap Faltverbindung	Variwrap Folding Linkage	Accrochage Repliage Variwrap	
6A	1315407	3	Zylinderstift	Linkage / Ram Pin	Axe du vérin	
6B	Z26-039S	2	Sechskant-Set	H/T Hex Set	Vis de régl. Hex	M8 X 20
6C	Z12-02-08	2	Federring	Spring Washer	Rondelle à ressort	8mm (5/16"")

5. 300 Wrap Arm

5.1. 300 Wrap Arm Assembly

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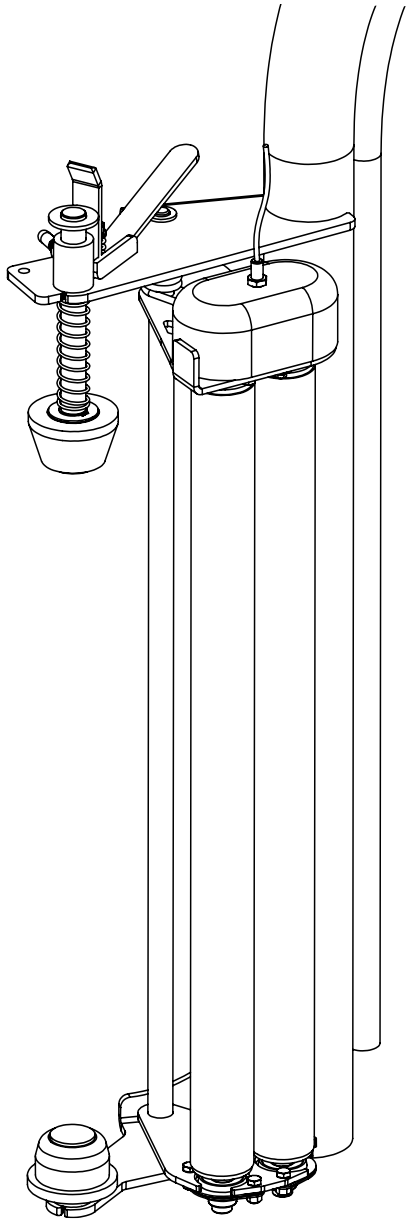
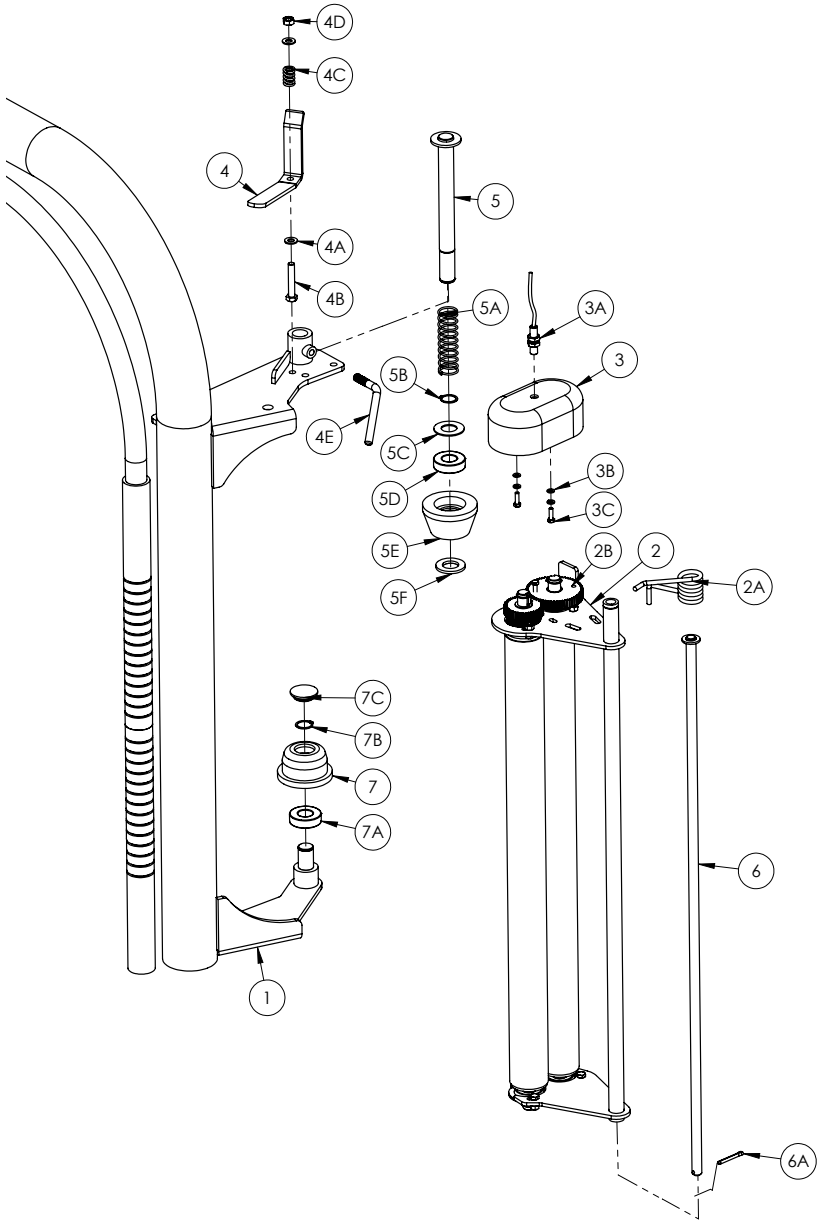
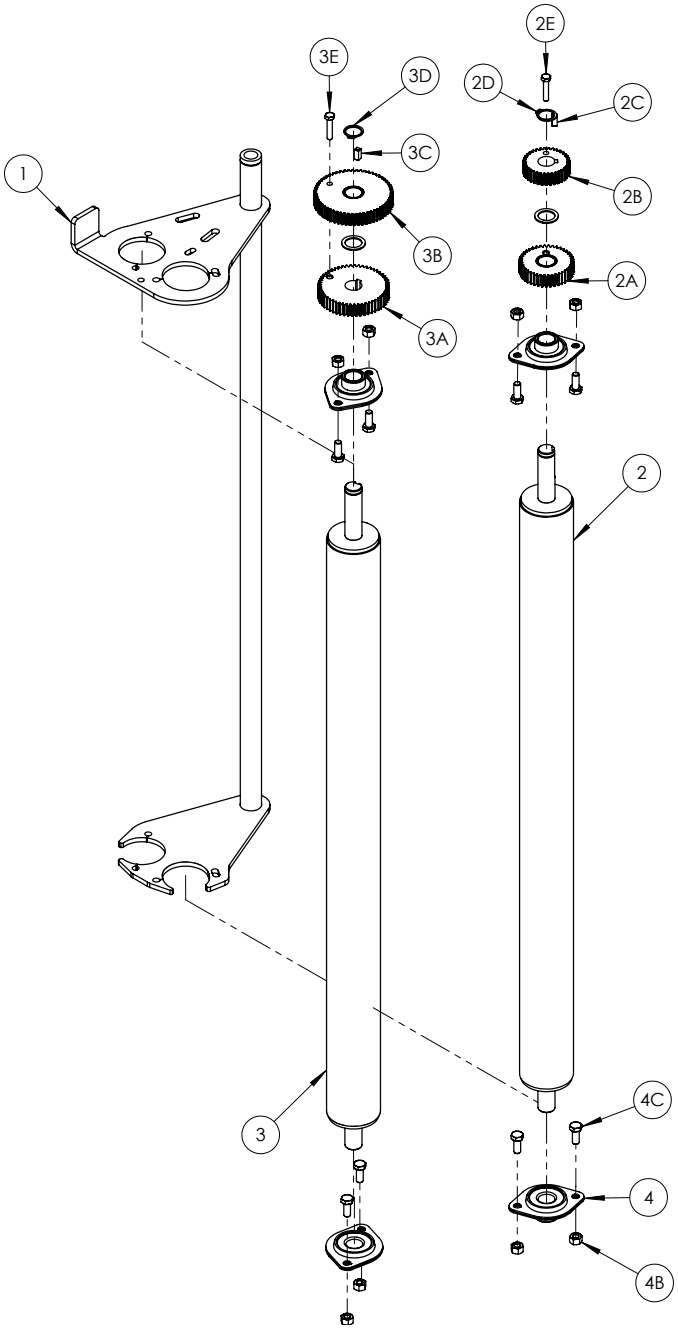
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1330400	1	1330 Starrer Wickelarm	1330 Fixed Wrap Arm	Bras d'enrubannage fixe	
1A	1330630	1	Kabelschutz	Cable Protector	Protection cable	
1B	Z26-048S	3	Schraube	Hex Set	Vis Hex	M8 x 65
1C	Z10-02-08	6	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	8mm(5/16"")
1D	Z18-08	3	Sechskantmutter, glatt	Plain Hex Nut	Écrou plein Hex	M8
2	1330500	1	1330 gebogener Folgearm	1330 Curved Slave Arm	Bras esclave coubé	
2A	1330420	2	Wickelarm Bolzen	Wrap Arm Pivot Pin	Axe d'articulation	
2B	Z26-041S	6	Sechskant-Set	H/T Hex Set	Vis de régl. Hex	M8 X 30
2C	Z10-02-08	12	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	8mm(5/16"")
2D	Z18-08	6	Sechskantmutter, glatt	Plain Hex Nut	Écrou plein Hex	M8
3	1330450	1	1330 gerader Folgearm	1330 Straight Slave Arm	Bras esclave droit	
3A	Z03-20-27	4	DX Buchse	DX Bush	Douille DX	20mm ID X 20mm Long
4	1330020	2	Dreiarm Entfaltungszylinder	Tri Arm Unfold Cylinder	Vérin dépliage trois bras	
	1330022	2	Dreiarm Entfaltungszylinder Dichtung	Tri Arm Unfold Cylinder Seal Kit	Kit joint vérin dépliage trois bras	
4A	1315405	3	Zylinderstift	Linkage / Ram Pin	Axe du vérin	
5	1330021	1	Akkumulator Kit	Accumulator Kit	Kit Accumulateur	
5A	Z26-060S	2	Sechskant-Set	H/T Hex Set	Vis de régl. Hex	M10 X 20
5B	Z12-02-10	2	Federring	Spring Washer	Rondelle à ressort	10mm (3/8"")
5C	Z10-02-10	5	Unterlegscheibe, flach	Flat Washer	Rondelle plate	10mm
6	Z40-28	2	Gummistoßdämpfer	Rubber Buffer	Tampon caoutchouc	50mm Dia x 22mm
6A	Z18-10	2	Sechskantmutter, glatt	Hex Nut	Écrou plein Hex	M10
6B	Z10-02-10	2	Unterlegscheibe, flach	Flat Washer	Rondelle plate	10mm
7	1330055	1	Aufsteckring	Slip RIng	Couronne electrique	
8	1330635	2	Sicherheitsarm Drücker	Safety Arm Pusher Wide	Pression Bras de sécurité	

6. Dispenser





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	1330400	1	Fixer Wickelarm	Fixed Wrap Arm	Bras d'enrubannage fixe	
2	1305100	1	Vorstrecker Halterung	Dispenser Insert	Insert dévidoir	
2A	1305034	1	Torsionsfeder	Torsion Spring	Ressort de torsion	
2B	1330644	1	Filmrissmagnet	Film Break Magnet Bracket	Support aimant capteur de rupture	
3	1305125	1	Zahnraddeckel	Dispenser Gear Box Cover	Carter d'engrenage	
3A	1309203	1	RDS-Sensor	Sensor Cable	Capteur RDS	4Mtr
3B	Z10-02-06	2	Unterlegscheibe, flach	Flat Washer	Rondelle plate	M6
3C	Z12-02-06	2	Federring	Spring Washer	Rondelle à ressort	M6
4	1305026	1	Arretierung, oben	Dispenser Top Latch	Loquet supérieur	
4A	Z10-02-10	2	Unterlegscheibe, flach	Flat Washer	Rondelle plate	M10 Flat Washer
4B	Z26-067B	1	Sechskantschraube	Hex Bolt	Boulon Hex	M10 x 60mm
4C	1305027	1	Druckfeder	Top Latch Compression Spring	Ressort à compression	
4D	Z23-10	1	Sicherungsmutter	Locknut	Contre-écrou	10mm
4E	1005003	1	Vorstrecker Sicherungsbolzen	Dispenser Locking Handle	Poignée de verrouillage dévidoir	
5	1305022	1	Obere Welle	Top Shaft	Arbre supérieur	
5A	1305021	1	Druckfeder	Compression Spring	Ressort à compression	
5B	Z28-525	2	Seegerring	Circlip	Circlip	Ext. M25
5C	Z11-02-25	2	Unterlegscheibe, flach (niedrige Beanspruchung)	Flat Washer (Light Duty)	Rondelle plate (travail léger)	M25 L.D.
5D	Z06-AWRB	1	Lager	Bearing	Roulement	6205-ZZ LDK
5E	1305019	1	Nylonkonus	Nylon Cone	Cône en nylon	
5F	Z10-02-25	1	25 mm Unterlegscheibe, flach (hohe Beanspruchung)	Flat Washer (Heavy Duty)	Rondelle plate 25 mm (travail lourd)	25mm
6	1405007	1	Einsatz, Montagestift	Insert Mounting Pin	Goupille de fixation de l'insert	
6A	Z03-21-14	1	Sicherungssplint	Split Pin	Goupille fendue	3/16" x 1 1/2"
7	1405006	1	Nylonkonus, unten	Bottom Nylon Cone	Cône en nylon inférieur	
7A	Z06-AWRB	1	Lager	Bearing	Roulement	6205-ZZ LDK
7B	Z28-525	1	Seegerring	External Circlip	Circlip	25mm
7C	Z32-15F	1	Kunststoffkappe	Plastic Cap	Capuchon plastique	37mm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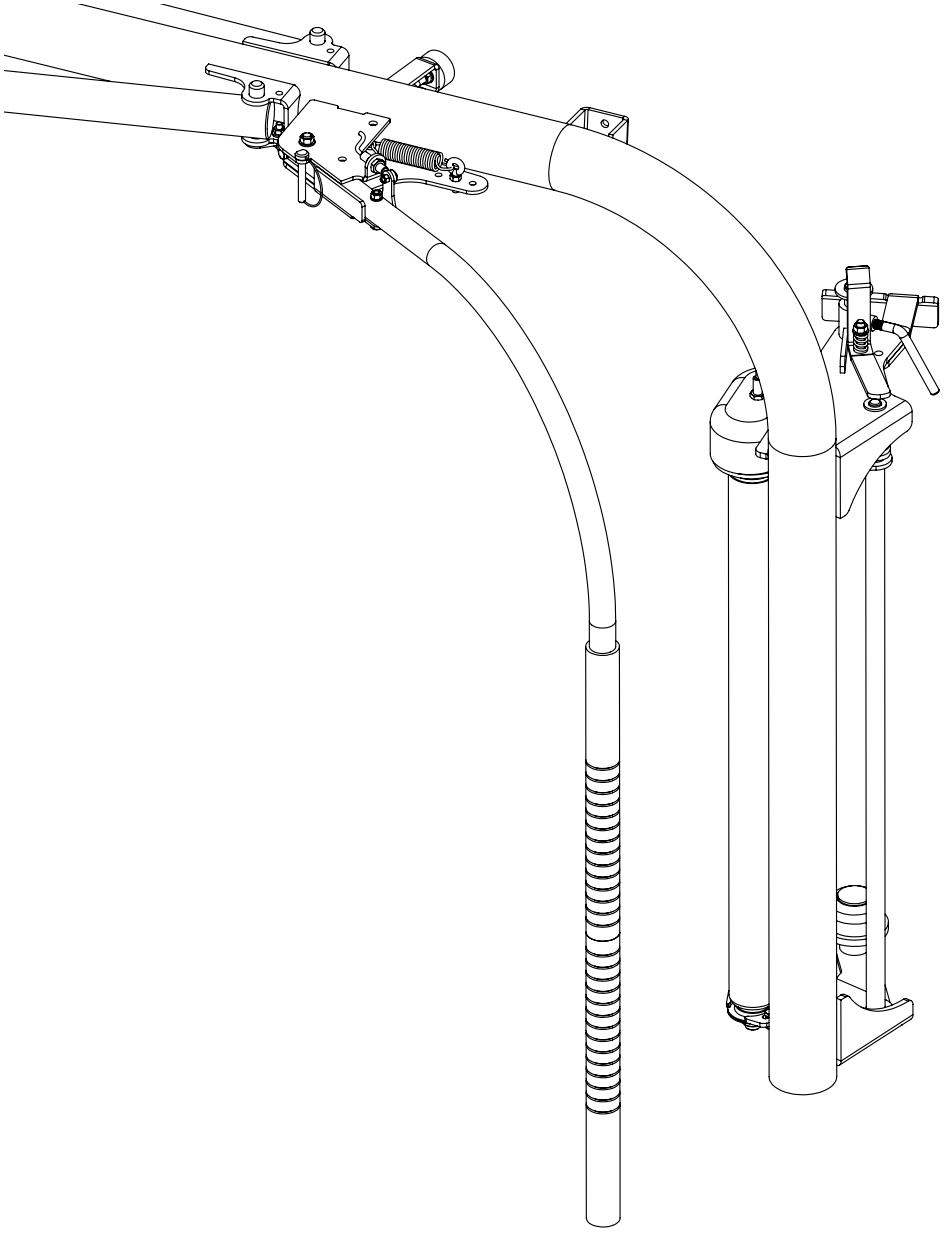
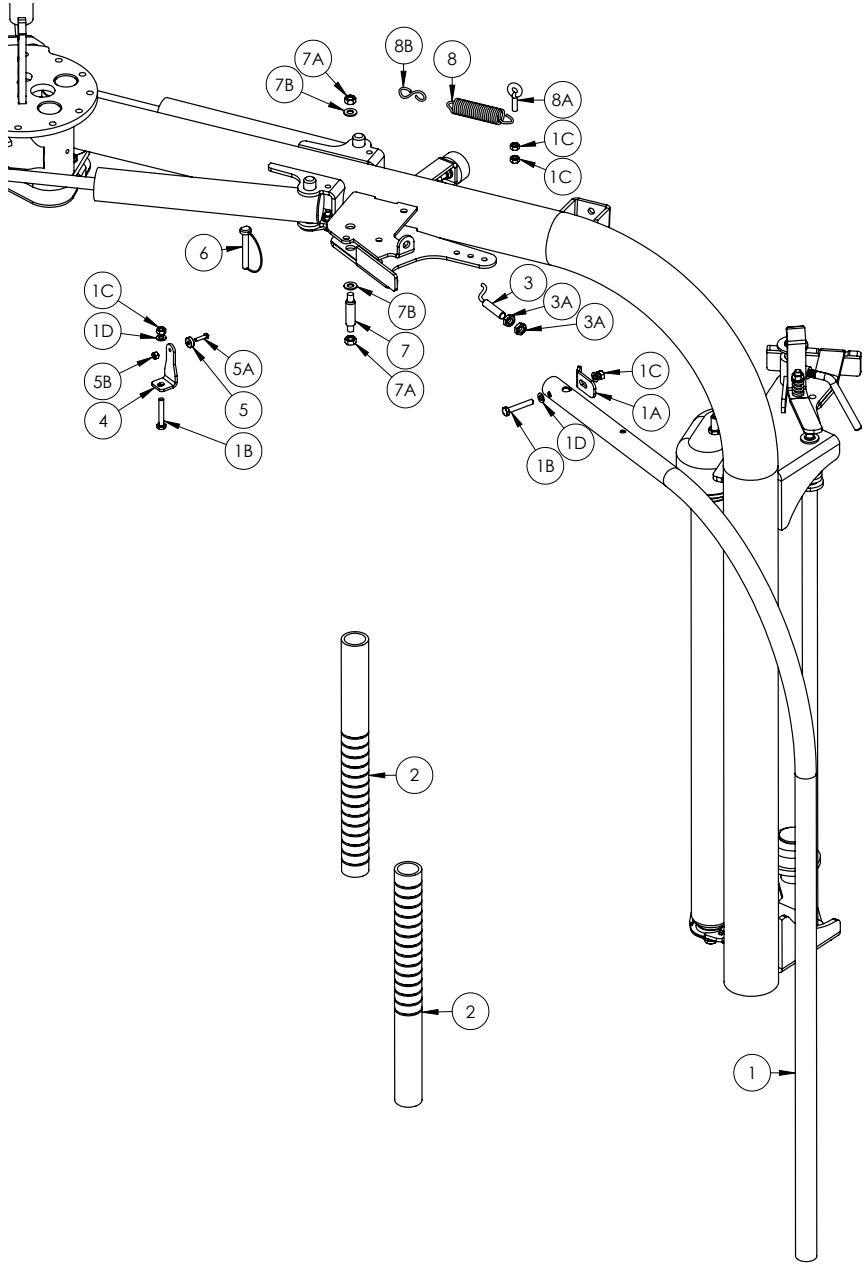
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1505001	1	RA Walzenanbaurahmen	RA Roller Mounting Frame	Cadre de fixation des rouleaux RA	
2	1305120	1	Walze, innen	Inner Roller	Rouleau intérieur	
2A	1305104	1	Zahnrad	Gear	Engrenage	37 T
2B	1305102	1	Zahnrad	Gear	Engrenage	35 T
2C	1305123	1	Keilstahl	Key Steel	Clavette acier	6 x 6 x 15mm
2D	Z28-520	1	Seegerring	Cir Clip	Circlip	A20
2E	Z26-022S	1	Sechskant-Set	Hex Set	Vis de régl. Hex	M6 x 30mm
3	1305121	1	Außenwalze	Outer Roller	Rouleau extérieur	
3A	1305101	1	Zahnrad	Gear	Engrenage	60 T
3B	1305103	1	Zahnrad	Gear	Engrenage	58 T
3C	1305123	1	Keilstahl	Key Steel	Clavette acier	6 x 6 x 15mm
3D	Z28-520	1	Seegerring	Cir Clip	Circlip	A20
3E	Z26-022S	1	Sechskant-Set	Hex Set	Vis de régl. Hex	M6 x 30mm
4	1305122	4	Lager	Bearing	Roulement	SLFL 20A
4A	Z26-039S	8	Sechskant-Set	Hex Set	Vis de régl. Hex	M8 x 20mm
4B	Z23-08	8	Sicherungsmutter	Locknut	Contre-écrou	M8

7. Safety Arm

7.1. Safety Arm Assembly

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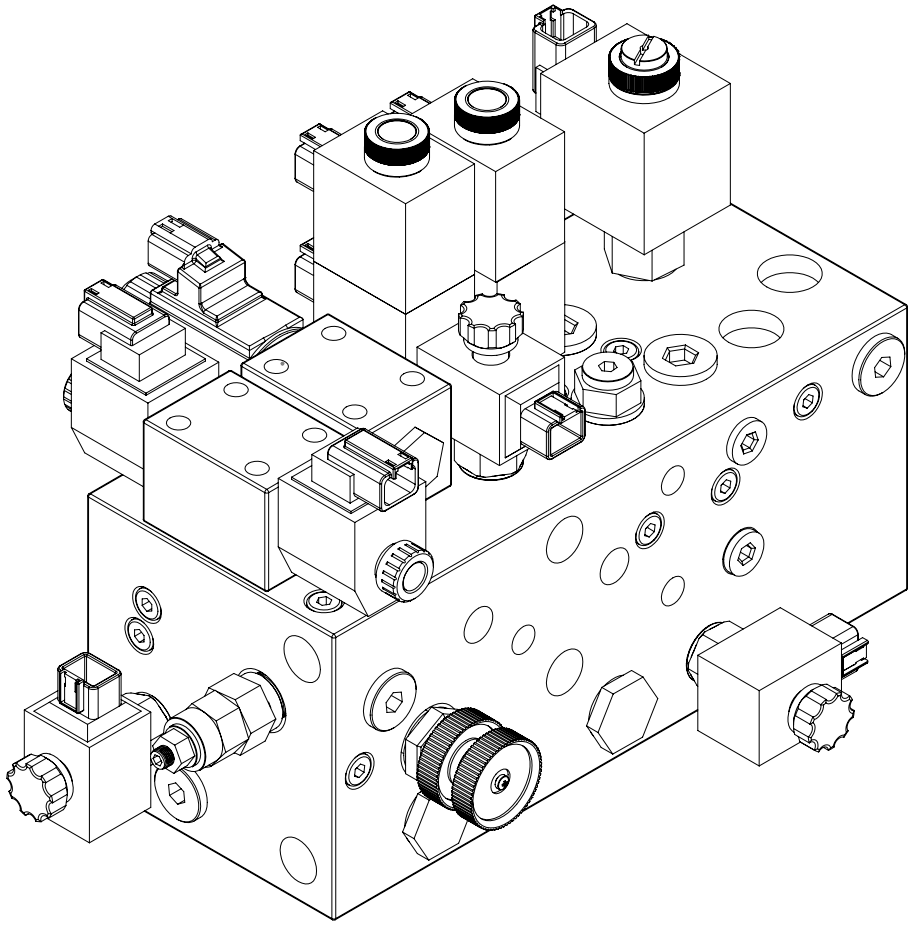
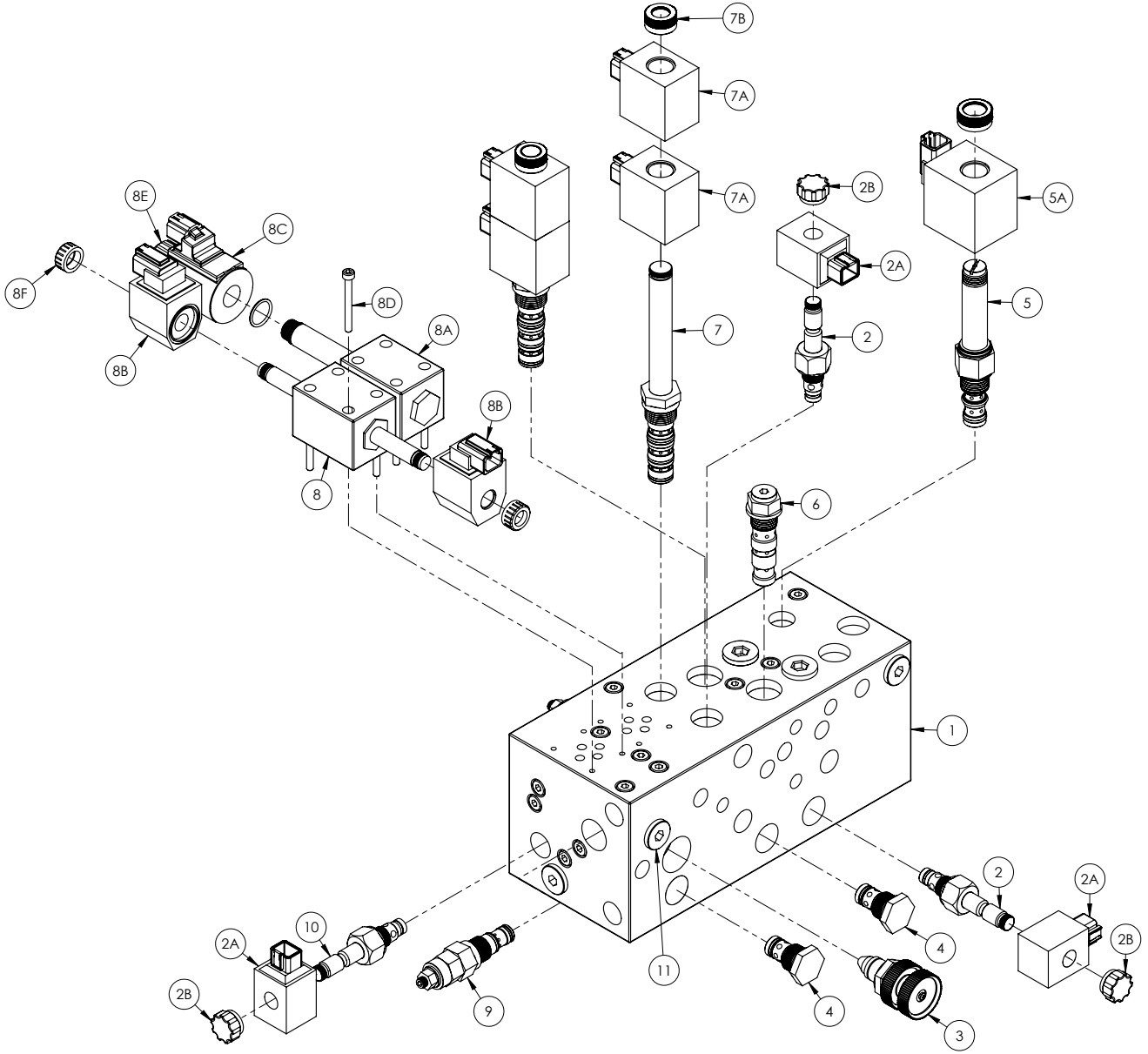
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1330040	1	Not-Aus Armhebel, Bügel	VariWra Safety Arm	Support du bras d'arrêt d'urgence	
1A	34670152	1	Sechskant-Set	E-Stop Arm Mounting Bracket	Vis de régl. Hex	
1B	Z26-045S	2	Sechskantmutter, glatt	Hex Set	Écrou plein Hex	M8 X 50 H/T
1C	Z18-08	4	Unterlegscheibe, flach	Plain Hex Nut	Rondelle plate	M8
1D	Z10-02-08	2	Sicherheitsarm Schaumprotektor	Flat H/D Washer	Mousse de protection	8mm
2	1330043	2	RDS Entfaltungssenor	Safety Arm Foam Cover	Capteur de sécurité repliage	
3	1309207	1	Sicherheitsarm Magnethalterung	RDS Unfold Safety Sencor	Aimant securité bras	
4	1330045	1	Roter Magnet	Safety Arm Magnet Mount Aluminium	Aimant securité bras	
5	1309206	1	Inbusschraube	Red Magnet	Vis BTR	
5A	Z13-5-04x20	1	Sicherungsmutter	CSK Allen Head Set	Contre-écrou	M4 x 20
5B	Z23-04	1	Gebogener Klappsplint	Locknut	Clavette	4mm
6	Z03-22-07	1	Drehzapfen	Curved Linch Pin	Vis d'articulation	3/8""
7	34105651	1	Sicherungsmutter	Hinge Bolt	Ecrou frein	
7A	Z23-10	2	Unterlegscheibe, flach	Locknut	Rondelle plate	10mm
7B	Z10-02-10	2	Feder	Flat H/D Washer	Ressort	10mm(3/8"")
8	34430300	1	Augenschraube/Einschrauböse	Pull Spring	Vis	¯ 26 x 3.25 x 12
8A	34119043	1	S-Haken	Eye Bolt	Crochet S	M8 x 25mm
8B	34660111	1		S Hook		4mm x 35mm

8. Integrated Hydraulic Block

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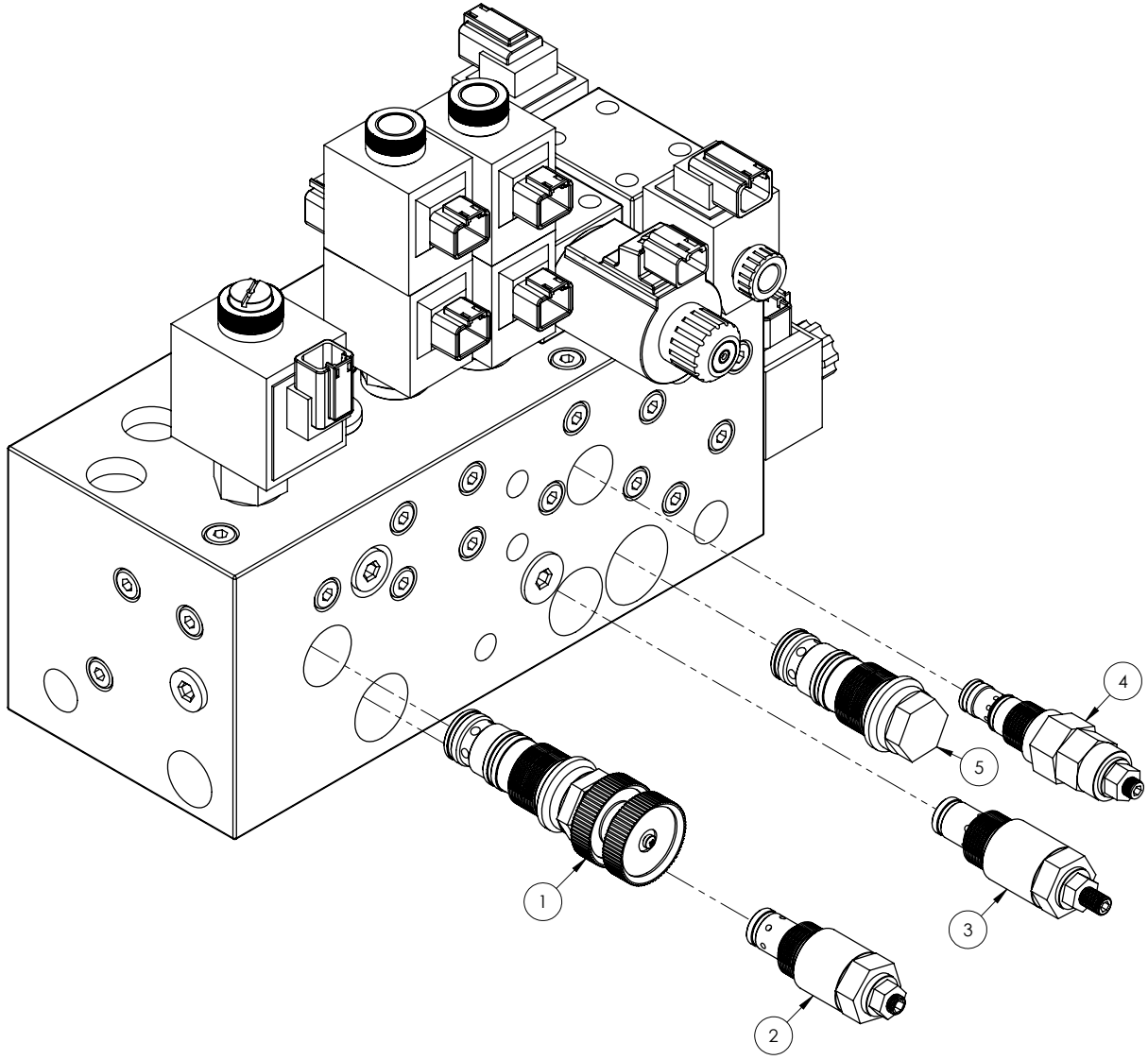
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1330131	1	Integrierter Hydraulikblock	Integrated Block Empty	Bloc intégré vide	
2	1330150	2	Tellerventil	Poppet Valve	Soupape	
2A	1330132	3	Spule	Coil Deutsch Poppet	Bobine soupape	
2B	1308205	3	Plastiknuss	Plastic Nut	Ecrou plastique	
3	1330133	1	Walzen Entladen Geschwindigkeitskompensator	Unload Roller Speed Compensator	Compensateur vitesse déchargement rouleau	
4	1330134	2	Checkventil	Check Valve	Clapet A/R	
5	1330135	1	Proportionales Durchflussventil	Proportional Flow Valve	Vanne proportionnelle	
5A	1330136	1	Spule	Coil Deutsche Proportional	Bobine vanne prop	
6	1330137	1	PO Check Doppelventil	PO Check Valve Double	Clapet A/R double	
7	1330138	2	Patronen DA Ventil	Cartridge DA Valve	Cartouche	
7A	1330139	4	Spule	Coil Deutsche Push/Pull	Bobine	
8	1330140	1	Walzen ein/aus Ctop3 Ventil	Rollers In/Out CTop3 Valve	Vanne ouv / ferm rouleau	
8A	1330141	1	Wickelarm drehen Ctop 3 Ventil	Wrap Arm Rotate CTop3 Valve	Vanne rotation bras enrub	
8B	1330142	2	Spule klein CTop 3	Coil Deutsch Small CTop3	Bobine Deutsch Ctop3	
8C	2008201	1	Spule Ctop 3	Coil Deutsch CTop3	Bobine Ctop3	
8D	Z13-5-05x30	8	Schraube	Cap Head Bolt	Capuchon vis	M5 x 30mm
8E	1308220	1	Plastiknuss für die Spule	Plastic Nut for Coil	Ecrou plastique bobine	
8F	1318107	2	Plastiknuss	Plastic Nut	Ecrou plastique	
9	1330143	1	Laden und Halten Ventil	Load Holding Valve	Vanne maintient au chargement	
10	1330144	1	Rotieren nach dem Wickeln Ventil	Rotate After Wrap Valve	Vanne de rotation après enrub	
11	1330151	1	Check Ventil	Check Valve	Clapet A/R	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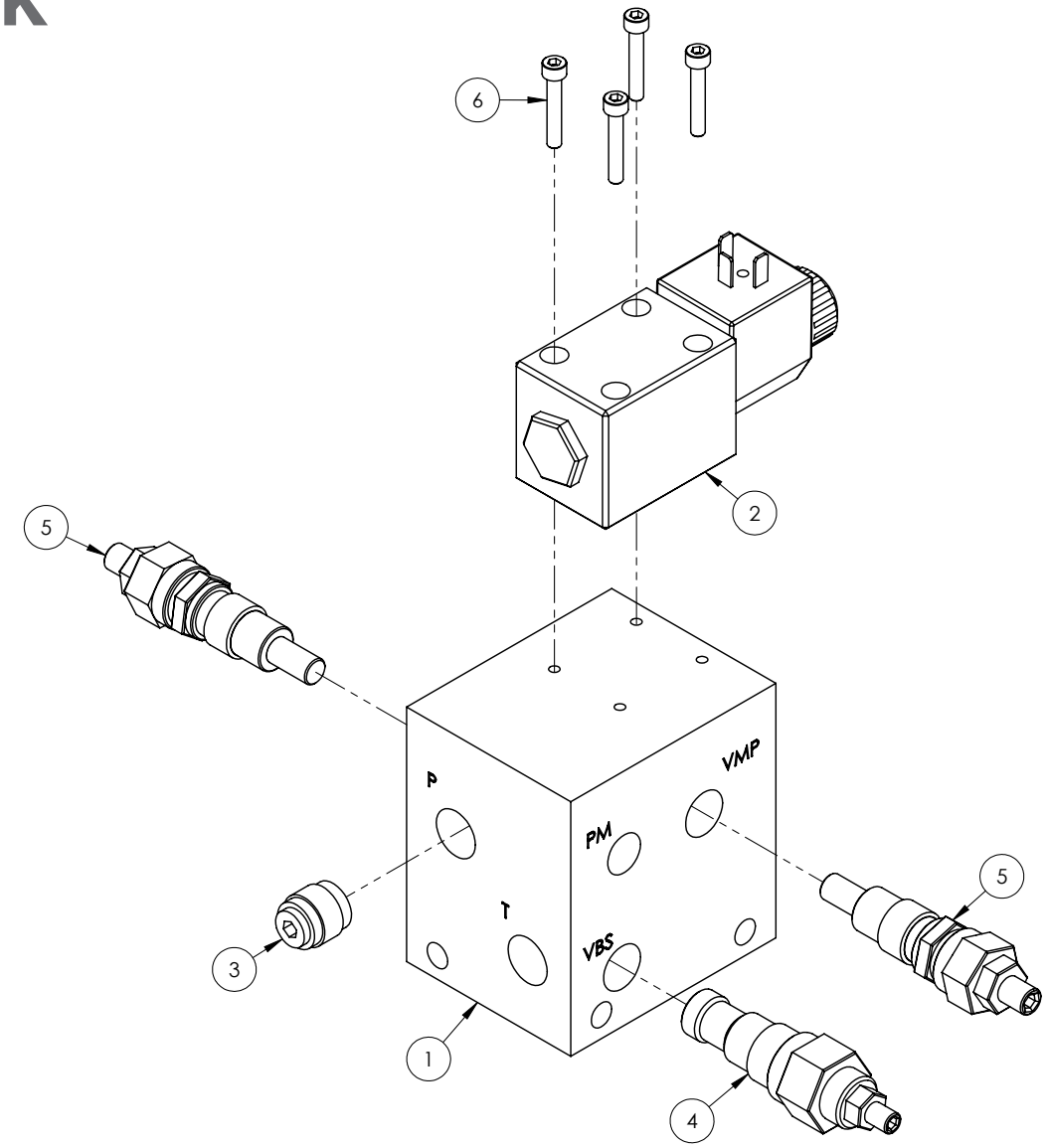
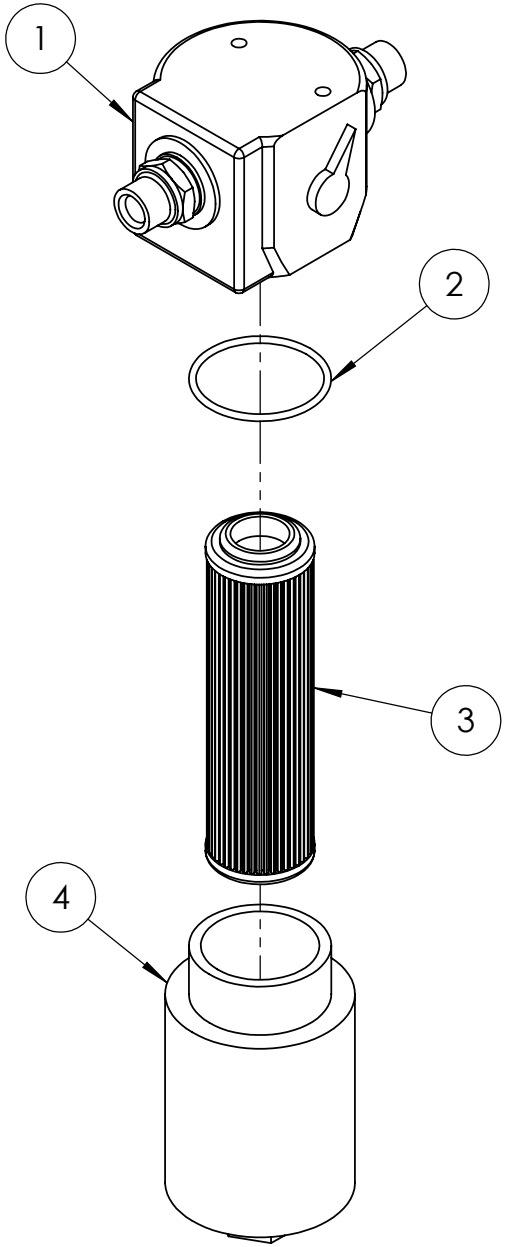
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1330145	1	LS Schließ Kompensator	LS Lock Compensator	Compensateur LS	
2	1330146	1	Haupt Unterstützungs Ventil	Main Relief Valve	Vanne soupape principale	
3	1330147	1	Abladen Sicherheitsventil	Unload Safety Valve	Vanne sécurité décharg	
4	1330148	1	Auseinanderfalten Sicherheitsventil	Unfold Safety Valve	Vanne sécurité dépli	
5	1330149	1	PO Check Einzelventil	PO Check Valve Single	Clapet A/R	

9. Tower Valve Block



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	1308154	1	Turm Block	Tower Block	Bloc Tour	
2	1308170	1	Umkehrungsventil	Reversing Valve	Vanne marche arrière	
3	1308302	1	Checkventil	Check Valve	Clapet A/R	1/2" x 1.5Ba
4	1308109	1	Bremsventil	Brake Valve	Vanne de frein	8:1
5	1308108	2	Kreuzlinienventil	Cross Line Relief Valve	Vanne de soupape	
6	1308221	4	Inbusschraube	Allen Head Bolt	Vis BTR	M5 x 30mm
	1308153	1	Turm Block Dichtungssatz	Tower Block Seal Kit	Kit joint bloc tour	

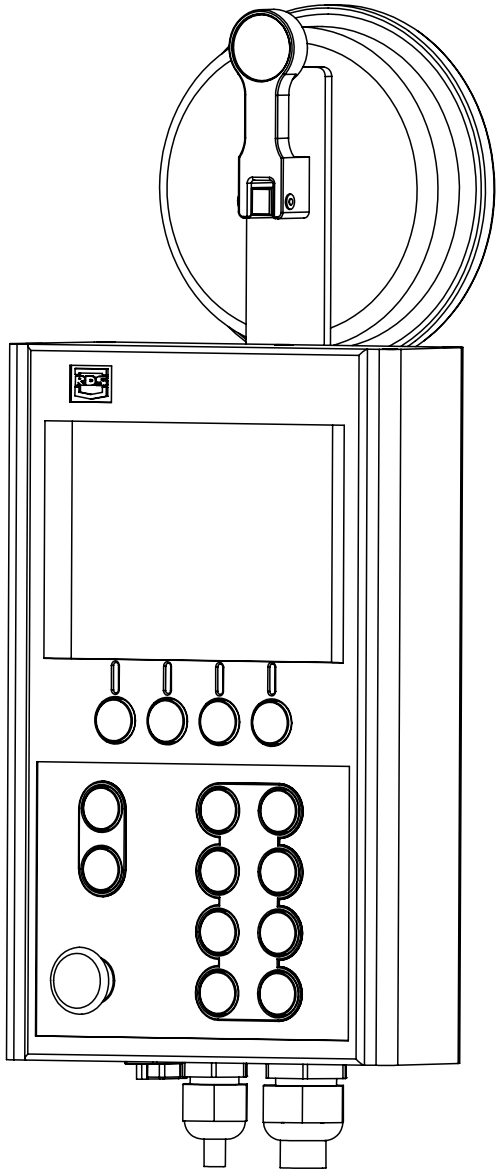
10. Filter

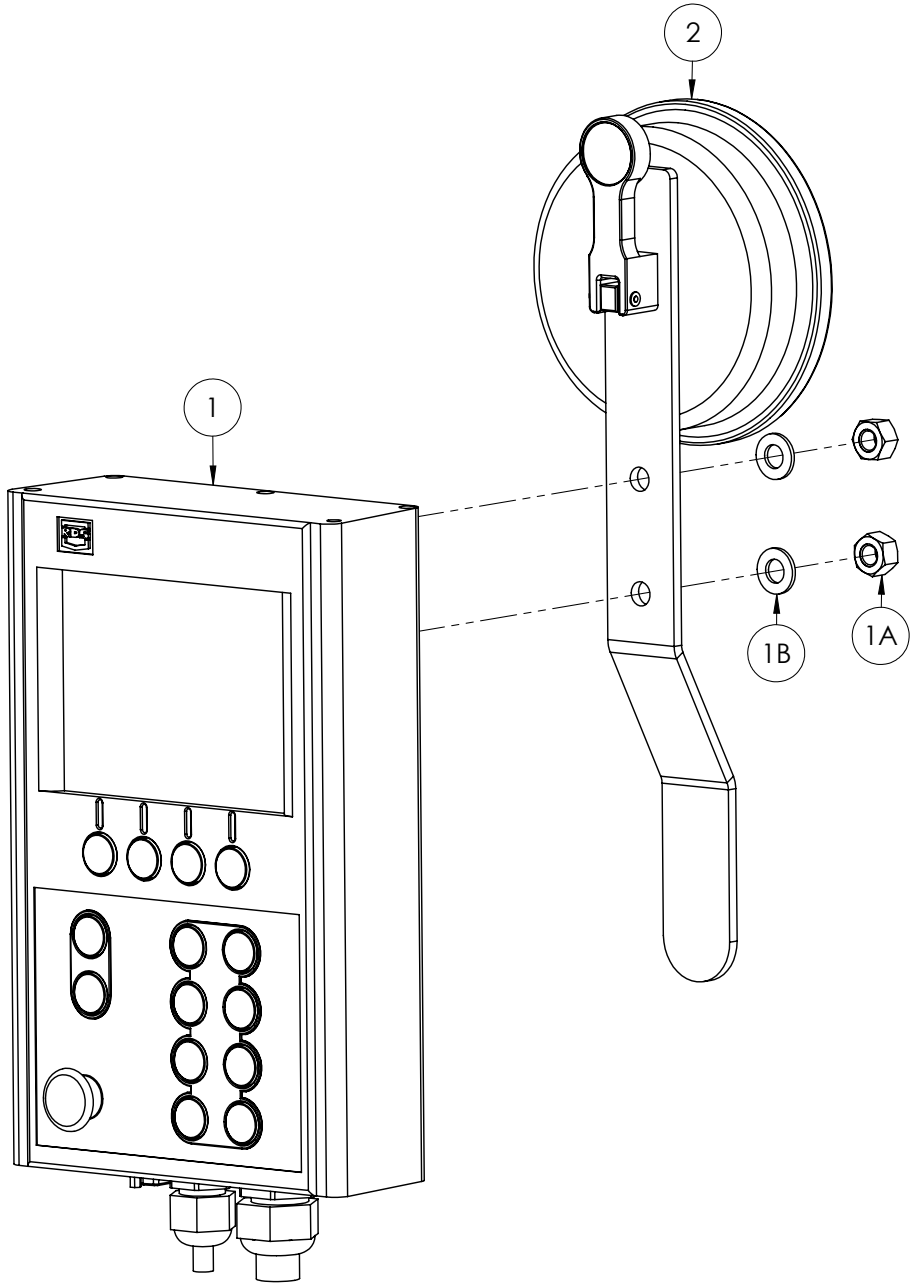


POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
	1308075	1	Öldruckfilter DFM90S2T-10BG	Pressure Filter DFM90S2T-10BG	Filtre pression DFM90S2T-10BG	
1	1308073	1	Filterkopfeinheit	Filter Head Unit	Tête de filtre	
2	1308072	1	Filter O-Ring	Filter O-Ring	Joint o-ring filtre	
3	1308071	1	Filter Element	Filter Element	Element filtrant	
4	1308074	1	Filter Gehäuse	Filter Bowl	Bol filtre	

11. Expert Plus Controller

11.1. Expert Plus Control Unit Mounting

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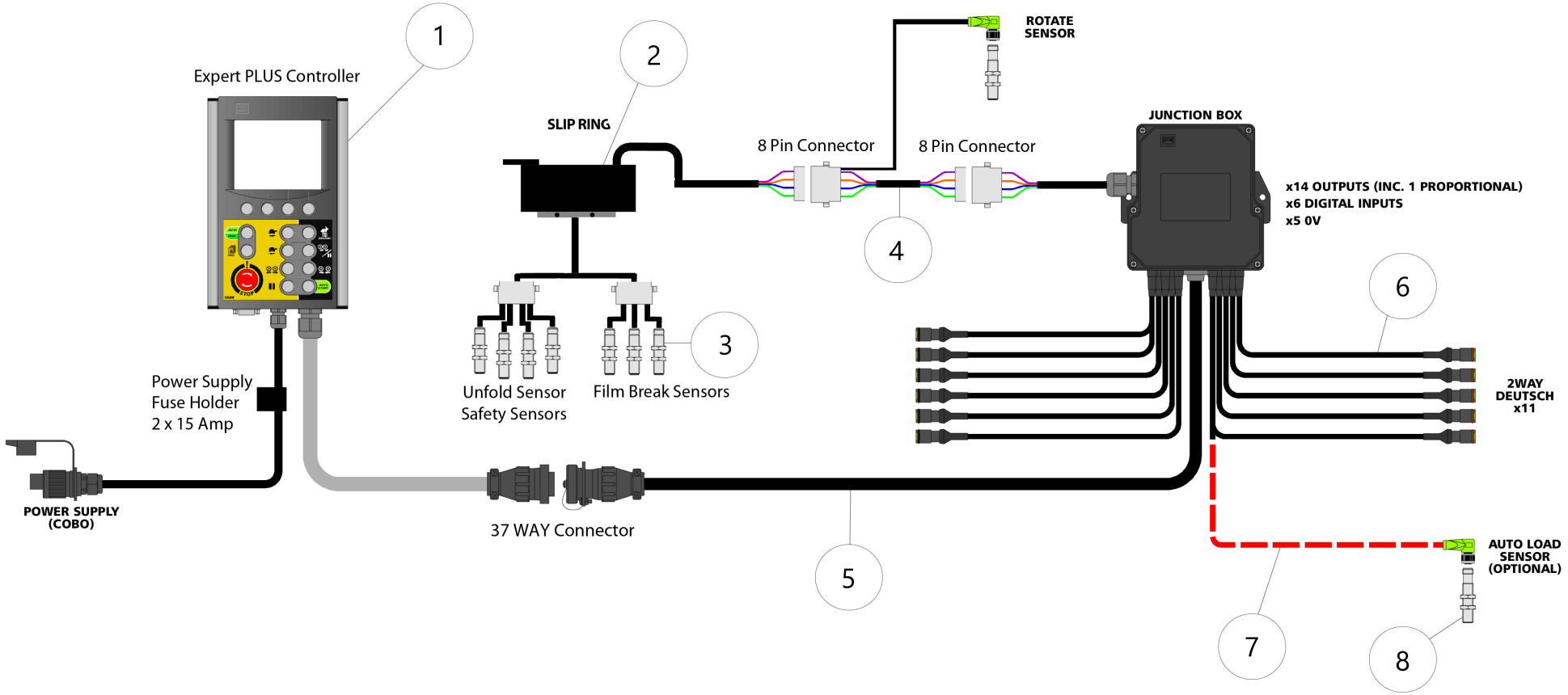
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
1	1330034	1	Expert Plus Kontrolleinheit	Expert Plus Control Unit	Controleur RDS Expert Plus	
*	1330035	-	VariWrap S200 Kontrollkit	VariWrap200 Control Kit	Kit controleur S200	
*	1330038	-	VariWrap S300 Kontrollkit	VariWrap300 Control Kit	Kit controleur S300	
1A	Z23-08	2	Sicherungsmutter	Locknut	Contre-écrou	M8
1B	z10-02-08	2	Unterlegscheibe, flach	Flat Washer	Rondelle plate	M8
2	1309023	1	Saugnapf	Suction Cup	Ventouse	

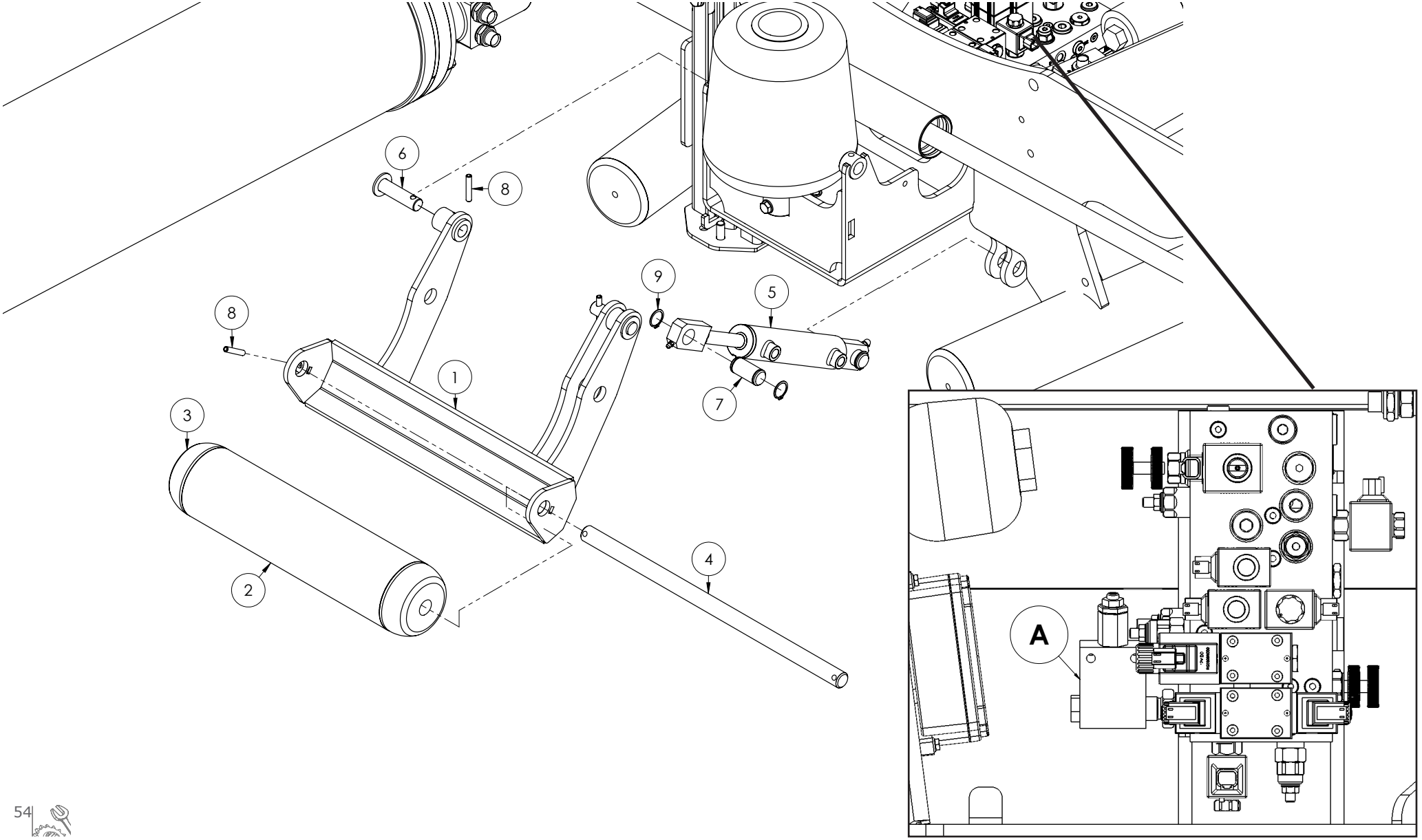
11.2 Electric Circuit Components



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	1330034	1	RDS Expert Plus Kontrolleinheit	RDS Expert Plus Control Unit	Controleur RDS Expert Plus	
2	1330055	1	Aufsteckring	Slip Ring	Couronne electrique	BTH3899-0605
3	1309202	1	Sensorbaugruppe	RDS Sensor Cable	Cable capteur RDS	3m
4	1309104	1	Verlängertes Input Kabel mit Sensor Verbindung	Extension Input Cable with Sensor Connector	Extension de cable avec prise capteur	4Mtr
5	1330039	1	VariWrap Comp Kabel	Variwrap Comp Cable	Cable Variwrap	
6	1330032	1	Spulenkabel	Deutsch Drive Lead	Cable Deutsch	0.8M
7	2009350	1	Sensorkabel	Sensor Cable	Cable Capteur	M12 (5m)
8	2009400	1	Proximity Sensor Lange Version	Proximity Sensor LONG Range	Capteur de proximité (LR)	M12

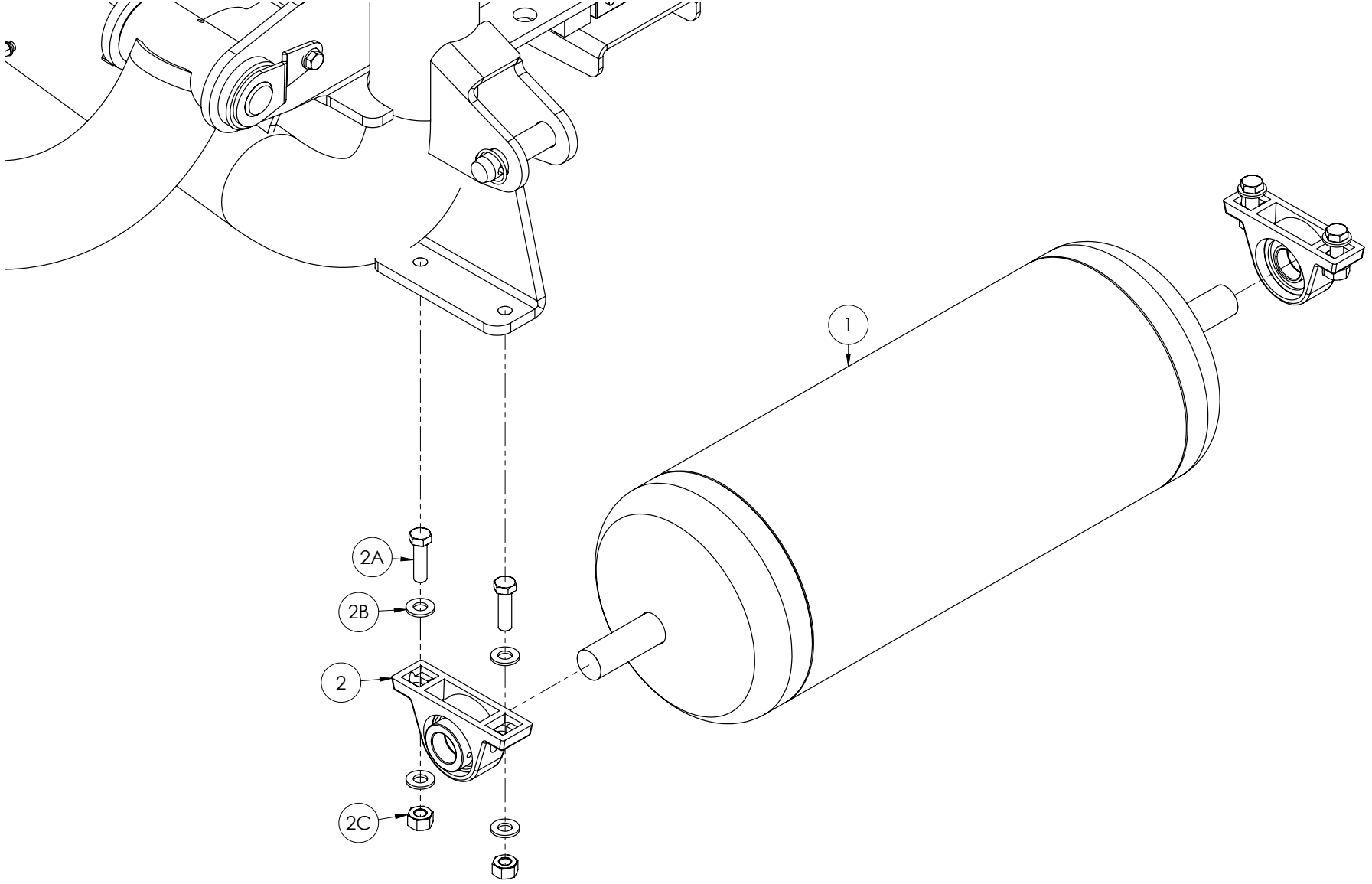
12. Options

12.1 Hydraulic End Tip



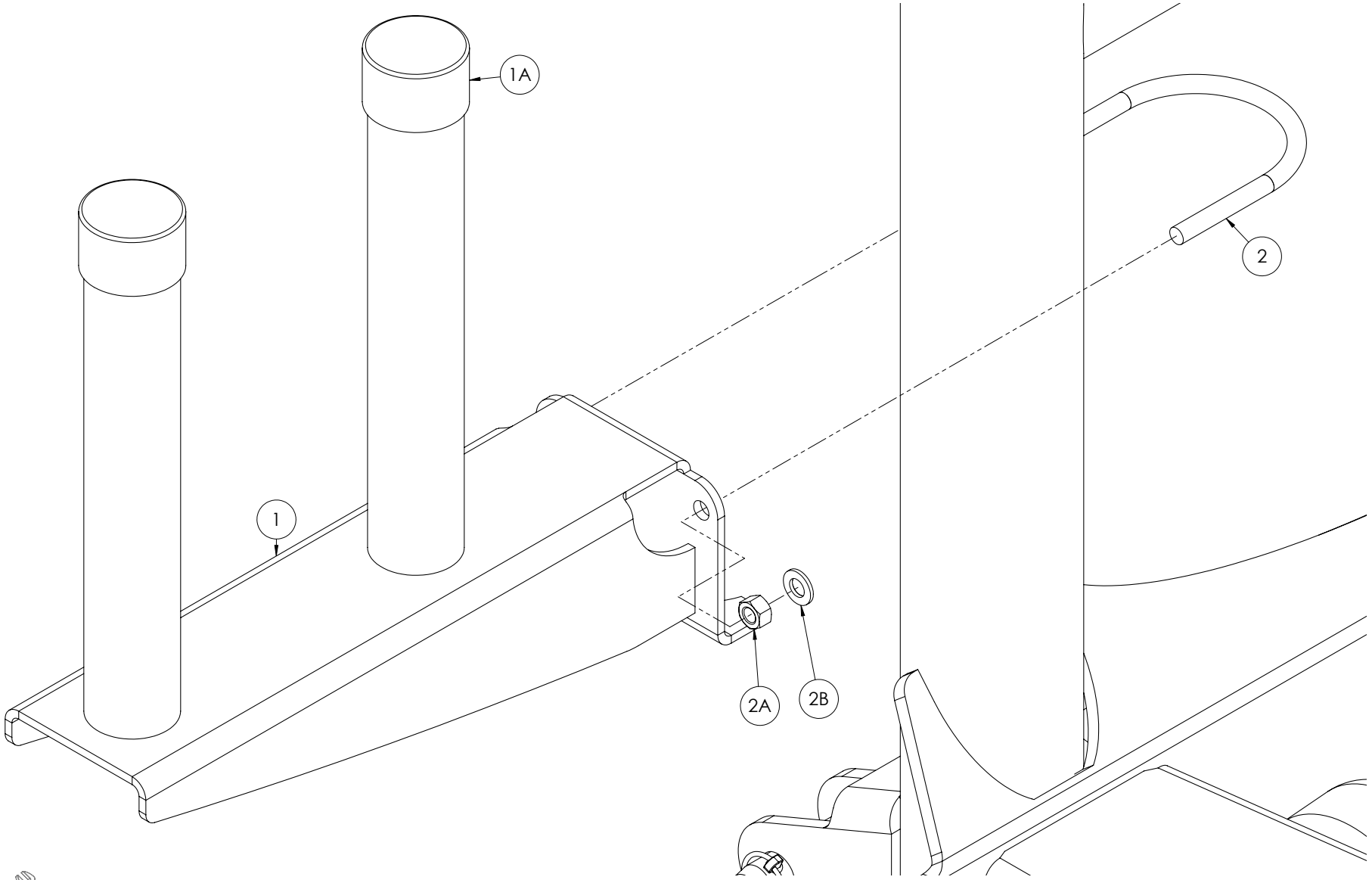
POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
	1340070		VariAuto S200/300 Ballenaufsteller	VariAuto S200/300 End Tip Kit	Retourneur de balle S200/300	
	1340075		VariAuto S100 Ballenaufsteller	VariAuto S100 End Tip Kit	Retourneur de balle S100	
1	1340060	1	Vari/Auto S Ballenaufstellerrahmen	Vari/Auto S End Tip Frame	Châssis retourneur de balle série S	
2	1340065	1	VariAuto Ballenaufstellerkappe	VariAuto End Tip Roller Tube	Tube retourneur de balle	
3	1100156	2	Walzen Endkappe	Roller End Cap	Capuchon de rouleau	
4	1100157	1	Ballenaufsteller Walzenpin	End Tip Roller Pin	Axe rouleau retourneur	
5	1340040	1	Vari/Auto Ballenaufsteller Zylinder	Vari/Auto End Tip Ram	Vérin retourneur de balle	
	34043800		Dichtungssatz TAN13	Seal Kit TAN13	Kit joint TAN 13	
6	1340055	2	Vari/Auto Ballenaufsteller Bolzen	Vari/Auto End Tip Pin	Axe retourneur de balle	20mm
7	34105631	2	Zylinderstift	Cut & Start Pin A	Axe A ciseau	25mm
8	1330309	3	8 x 45 mm Walzenbolzen	8 x 45mm Roll Pin	Axe 8x45mm	
9	Z28-525	4	Seegerring	M25 External Circlip	Circlips Ext M25	
A	Z01-03-10-A8SQ	1	Sequenz Zentrum Inline Ventil	Sequence Overcentre Inline Valve	Vanne sequentielle	

12.2 Ground Roller



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	1340080	1	VariWrap Bodenstützrolle	VariWrap Ground Roller Kit	Rouleau de support	
2	Z06-485-35	2	Bodenstützrolle Lager	Pillow Block Bearing	Roulement	35mm
2A	Z26-104B	4	Schraube	Hex Bolt	Vis Hex	M14 x 50
2B	Z10-02-14	8	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	14mm
2C	Z23-14	4	Sicherungsmutter	Locknut	Contre-écrou	14mm

12.3 Film Roll Holder Attachment



POS. NR. POS. NR. POS. NO.	TEILE NR. PART NR. PIECE NO.	STUCK QUANTITY QUANTITEE	BENENNUNG	DESCRIPTION	DESIGNATION	TECHNISCHE ANGABEN TECHNICAL DATA DONNEES TECHNIQUES
	1330084		Vari/Auto Filmrollenhalter	Vari/Auto Film Holder Attachment Set	Support de film	
1	1330087	1	Vari/Auto Filmrollenhalter Rahmen	VariAuto Film Holder Assembly	Assemblage Support de film	
1A	Z32-085	2	Plastikkappe	Tube External Cap	Capuchons	2 3/8""
2	1330089	1	U Schraube innere Länge 145mm	"U Bolt" inner length 145mm	Bride long int 145 mm	M12
2A	Z10-02-12	2	Unterlegscheibe, flach	Flat H/D Washer	Rondelle plate	12mm
2B	Z23-12	2	Sicherungsmutter	Locknut	Contre-écrou	12mm