installation manual vanloda system

Date: 14/03/2024 Document No: MSTRO4INS-en Rev 1 Language: EN

joloda hydraroll
LIGHTENING LOADS

LIGHTENING LOADS AROUND THE WORLD

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Table of Contents

1. Record of Revisions

Revision Number	Issue Date	Date Received	Received By
1	14/03/2024		

2. Abbreviations

Abbreviation	Definition
ASSY/Assy	Assembly
C	Celsius
cm	centimetre
CSK	Countersunk
DIA	Diameter
EC	European Community
EN	English
Fig	Figure
FLT(s)	Fork Lift Truck(s)
FWD	Forward
ID	Inside Diameter
kg	kilogram
LH	Left Hand
Ltd	Limited
m	metre
min	minute
Mk	Mark
mm/MM	millimetre
MRS	Modular Rollerbed System
N	Newton
N/A	Not Applicable
Nm	Newton metre
No.	Number
OD	Outside Diameter
P/N	Part Number
PPE	Personal Protective Equipment
PPV	Pressure Protection Valve
PRT	Pneumatic Roller Track
psi/PSI	pounds per square inch
PZD	Pozidrive (Screw Driver)

Abbreviation	Definition
QEV	Quick Exhaust Valve
Qty	Quantity
RH	Right Hand
rpm	Revolution per minute
RSA	Rolled Steel Angle
SR	Standard Roller
SWL	Safe Working Load
Tee	'T' Shaped air pipe connector
ULD	Unit Load Device
UK	United Kingdom
V	Volts
W	Watts
WBP Ply	Weather and Boil Proof Plywood

3. EC Declaration of Conformity

Joloda Hydraroll Ltd hereby certify that the Vanloda system complies with all the relevant provisions of the EC Machinery Directive and the National Laws and Regulations adopting this Directive.

Modifications to the Vanloda without prior approval from Joloda Hydraroll Ltd will render this declaration null and void.

4. Health and Safety

4.1 - Disclaimer

4.1.1 - Manual Objectives

This manual gives the information and procedures necessary for the operator, van driver and maintenance personnel to install, operate or maintain the system safely.

The manual also tells personnel the specification and function of the system.

The manual must be given to all personnel who work on the system, to decrease the risk of injury, damage to the equipment and prevent any dangerous procedures.

All the manuals for the system including manufacturers' manuals must always be available and kept in a safe, dry area free from dirt.

The van driver must have a manual available for use in the truck.

4.1.2 - Manual Revision Service

If you are not sure about any of the information or procedures in the manual, you must tell your local Joloda Hydraroll representative.

The information will then be sent to our technical department to review and if necessary a revision to the manual will be done and sent to the customer.

4.1.3 - Approved Personnel

The information and procedures in the manual are only applicable if the operator, van driver and maintenance personnel have been approved by the customer.

All personnel must also have manual handling approval.

The customer is the approval authority not Joloda Hydraroll Ltd.

All approved personnel must know and obey the warning labels.

An approved person must do the maintenance procedures, refer to Section 13. Routine Maintenance.

4.1.4 - Condition of the System

The system must only be operated if it is clean and serviceable.

Parts and components which are high use can wear quickly, so they must be examined regularly and if they are worn/damaged, replace immediately.

All replacement parts must be installed in accordance with the manufacturers' manual. All original parts are under warranty from the manufacturer.

4.1.5 - Entrapment and Crushing Risk

The mechanical dangers regarding the Vanloda equipment refer to finger entrapment, between the top plate and the roller when the system is pressurised and a drawing in and crush hazard. Safe working practices must always be referred to when operating the Vanloda system, fingers and clothing should always be kept clear when system is receiving power.

There is also the possibility of a load crushing personnel. It is paramount that the loading / unloading area is kept completely clear of personnel when the system is being operated.

4.1.6 - Pallet Stops

Pneumatic Roller Track in vans must have pallet stops installed. The pallet stops are manually operated.

Contact Joloda Hydraroll Ltd or your local Joloda Hydraroll representative for further information.

4.2 - Warnings and Cautions

READ THE MANUAL
DO NOT START ANY WORK BEFORE YOU READ THIS MANUAL.
Always read the manual to make sure that you know the system before you start any work.

WARNING
PALLET END STOPS MUST BE INSTALLED IN EACH TRACK OF THE VAN, REFER TO SECTION 7.3 - END STOPS.
If you do not obey this instruction injury or death to personnel can occur.

WARNING
MAKE SURE THAT THERE ARE NO PERSONNEL IN THE VEHICLE BEFORE YOU OPERATE THE SYSTEM.
If you do not obey this instruction injury or death to personnel can occur.

WARNING
MAKE SURE THAT THE SYSTEM IS ISOLATED FROM THE PNEUMATIC AND ELECTRICAL SUPPLY BEFORE COMMENCING ANY MAINTENANCE.
If you do not obey this instruction injury or death to personnel can occur.

WARNING
DRAWING IN AND CRUSH HAZARD. DO NOT PUT YOUR FINGERS OR CLOTHES IN THE ROLLERS DURING OPERATION OF THE SYSTEM.
If you do not obey this instruction injury to personnel can occur.

WARNING
ALWAYS PUT ON THE CORRECT PERSONAL PROTECTIVE EQUIPMENT (PPE) BEFORE OPERATION OR MAINTENANCE.
If you do not obey this instruction injury to personnel can occur.

WARNING
DO NOT WALK ON THE ROLLER TRACK.
If you do not obey this instruction injury to personnel can occur.

CAUTION
COMPRESSED AIR, NORMAL OPERATING PRESSURE IS 2.1 BAR
Do not disconnect any equipment until pressure has been totally released.

CAUTION
MAKE SURE THAT TRACKS AND PRT ARE CLEAN AND THERE IS NO DEBRIS BEFORE YOU START ANY MAINTENANCE.
If you do not obey this instruction damage to the system can occur.

CAUTION
DO NOT DRIVE THE VAN WITH ROLLERS IN THE UP POSITION.
If you do not obey this instruction damage to the system and van can occur.

CAUTION
STRAIN INJURY CAN OCCUR IF LADEN PALLETS ARE INCORRECTLY MOVED ALONG RAISED ROLLER TRACK
If you do not obey this instruction injury to personnel can occur.

4.3 - Safety Components

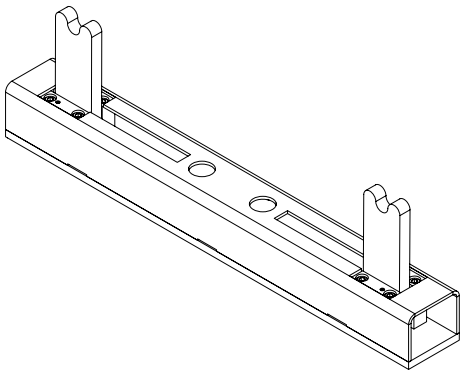
The system has many safety devices to give the operator and maintenance personnel a high level of safety.

4.3.1 - End Stops

The end stops are a manually operated pallet stop that is installed at the rear of the van on the Vanloda system.

The end stop's purpose is to stop product from rolling off the rear of the system, by ensuring the pallet stops are upright and in a safe position when the system is not in use.

Figure 1 - End Stops

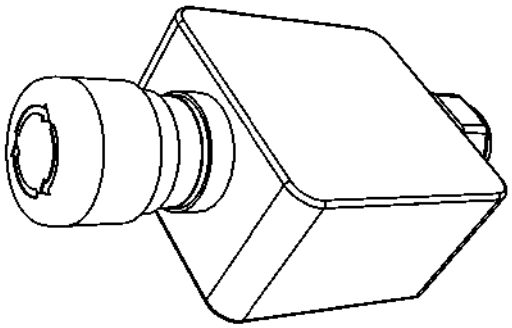


4.3.3 - Operation Switch

The operation switch contains an autodown function which is activateed by an electronic pulse from the switch.

When pressed, the switch cuts power and de-pressurises all rollers so the payload rests on the van floor and not on the live rollers.

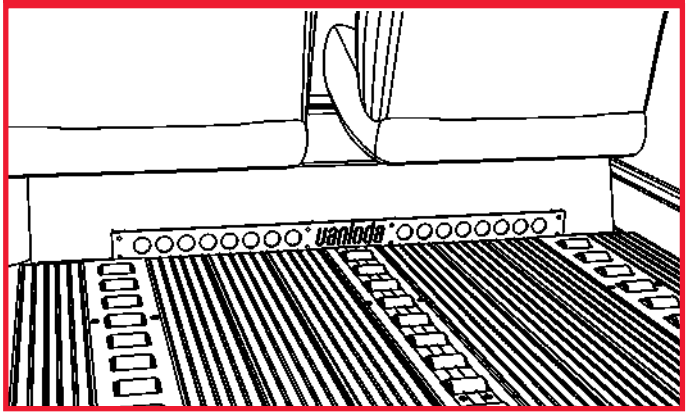
Figure 2 - Operation Switch



4.3.4 - Integrated bulkhead

At the cabin side, the system is fitted with a reinforced galvanized steel kick strip which acts ass a bulkhead to prevent the pallet from hitting the cabin or partition wall.

Figure 3 - Bulkhead



5. Unpacking Equipment

5.1 - Unpacking and Checking Contents

- Thoroughly read and understand the instructions before commencing any installation or operation.
- Retain all literature included with the kit for future reference.
- Ensure that the end user is supplied with a set of operator instructions.
- Check all cartons, ensure they are free from damage.
- Any damage found to equipment upon delivery should be immediately reported to the carrier.
- Unpack equipment and check all items against packing list and parts list.
- Report any shortages or damage to equipment immediately to your local Joloda Hydraroll distributor.
- Installation and maintenance should only be carried out by trained personnel.

Figure 4 - Ensure free from damage

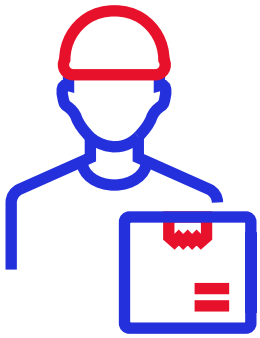


Figure 5 - Check that no cartons are missing

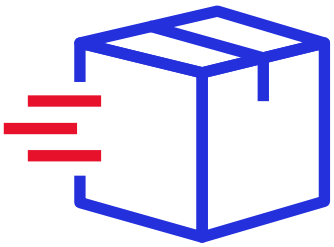
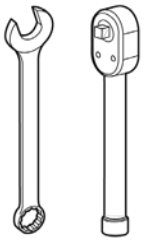


Figure 6 - Retain all documentation

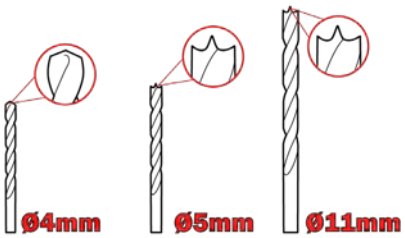
5.2 - Recommended Tools

Ball Peen Hammer



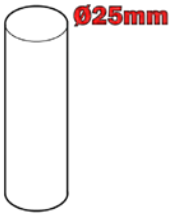
Spanner/ Socket Set

Angle Grinder



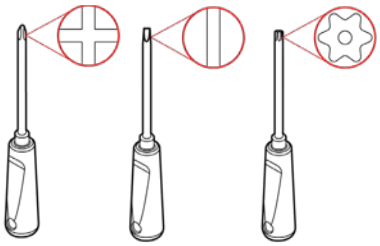
Wood & Metal Drill Bits

Hand Drill

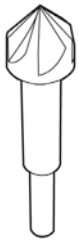


Ø25mm Round Bar

Hole Saw



Screwdrivers (Phillips, Flat-head, Torx)



Countersinking Bit

6. General Information

6.1 - Document Specification

Document Specification	
Description	**Information**
Responsibility	Joloda Hydraroll Ltd
Document Name	Vanloda Installation Manual
Document Number	MSTR04INS-en
Revision Number	0

6.2 - System Specification

Vanloda Specification	
Description	**Information**
System Height	63 mm
System Length	Variable
Standard Module Length	3254 mm
Standard Module Width	1862 mm (Variable)
Standard No. Of Lanes	4
PRT Lift Capacity	550 kg per metre
PRT Types	MK 9
MK9 Lift Height	10.2 mm

6.3 - System Description

Vanloda systems are a pneumatic system which are controlled via an operation switch and compressor. there is no air reservoir in the system, so the compressor directly infflates the PRT airbags.

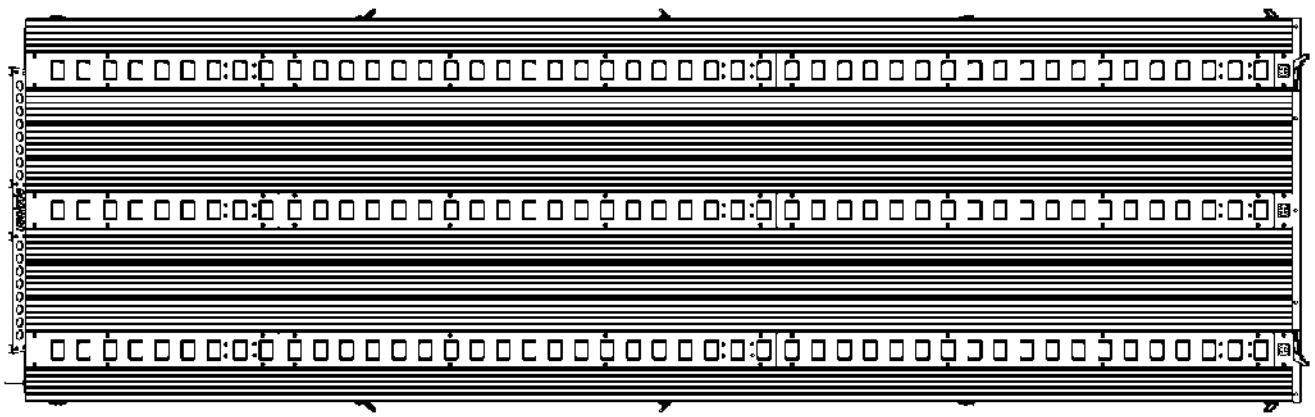
Vanloda uses the Modular Rollerbed System to integrate the floor system and Pneumatic Roller Tracks together. This allows easy installation of the pre-assembled modules with no modification to the van.

Safety features included are pallet stops and auto down procedures.

When raised, pallet stops ensure that a load is not able to be lost over the edge of a van, and act as a safety barrier for both operators, and the load.

An auto down procedure is also included in all Vanloda installations, through the operation switch.

Figure 7 - Vanloda System



7. Vanloda System

7.1 - Pneumatic Roller Track

PRT is a set of steel rollers fixed within a roller cradle, which is housed within a channel section that is contained with a top plate. The rollers rise and fall through the implementation of a pneumatic airbag. PRT lanes, are fitted within the aluminium extrusion of the modular floor at set intervals depending on the type of pallets being transported.

When live the PRT smoothly transfers the weight of the pallets and when in the safe position the PRT acts as the van floor.

Figure 8 - Pneumatic Roller Track (PRT)

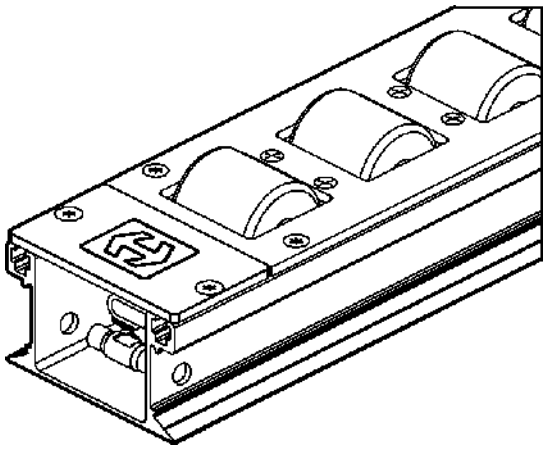
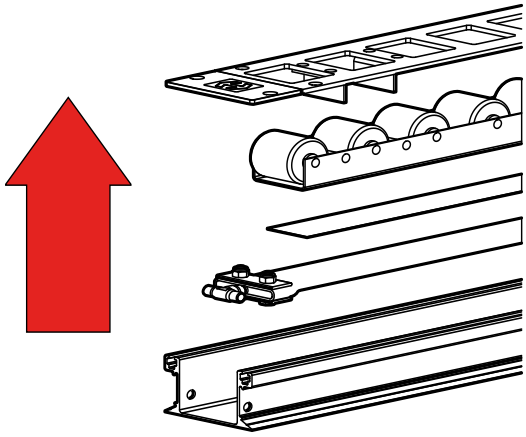


Figure 9 - Pneumatic Roller Track Sections



7.2 - Modular Floor

The Vanloda system consists of a lightweight aluminium extrusion modular floor with integrated PRT's, electrical cables and pneumatic pipes.

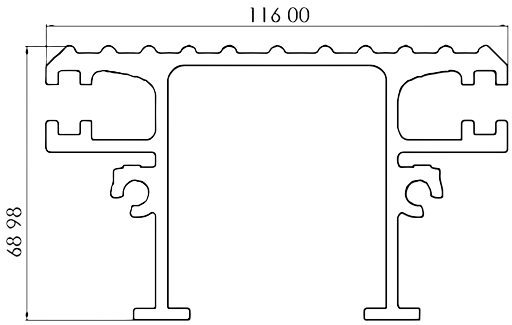
The floors typically consist of three lanes of PRT and eight lanes of aluminium flooring one assembly, which is delivered pre-assembled due to the size.

7.2.1 - Aluminium Extrusion

The lightweight aluminium extrusion integrates the PRT, electrical cables and pneumatic air pipes into the floor.

The aluminium extrusion is captivated by the air beam and end plate using tap fix screws to make up the modular floor of the system.

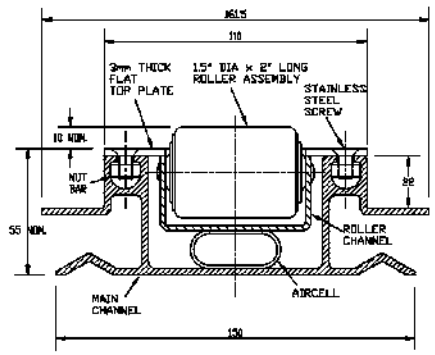
Figure 10 - Aluminium Extrusion



7.2.3 - Roller Track Mk 9

Roller Track Mk 9 Specification	
Roller Assembly Diameter	50.8 mm
Roller Lift	10.2 mm

Figure 13 - Roller Track Mk 9



Pneumatic Roller Tracks are assembled with main module channels of extruded aluminium section cut to module lengths of up to 4m.

7.3 - End Stops

End stops ensure that no pallet can fall off the end of the van.

1. To engage the pallet stops, with your hand lever them up 90 degrees until they drop vertically down into the slot, refer to Figure 11 - End Stops Up.

2. To lower the end stops lift them out of their slots and rotate them 90 degrees until horizontal and are flush within the apertures, refer to Figure 12 - End Stops Down.

Figure 11 - End Stops Up

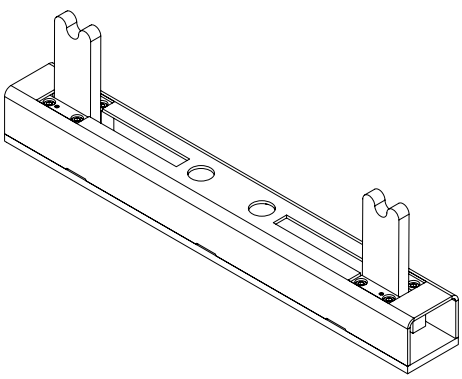
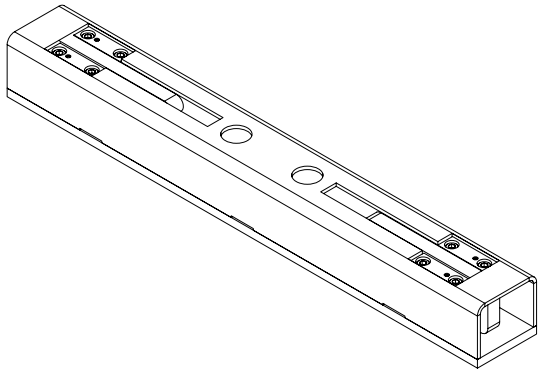


Figure 12 - End Stops Down

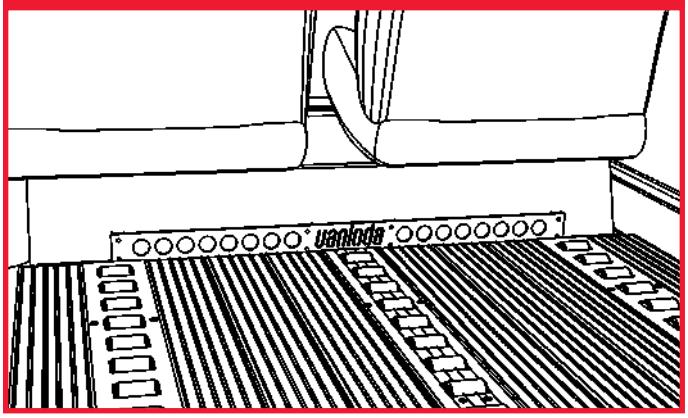


7.4 - Bulkhead Stop

The bulkhead stop is integral to the end plate, and is designed to stop the load from rolling too far and hitting the cabin or partition wall.

It is made from reinforced galvanized steel, with a height of 50mm.

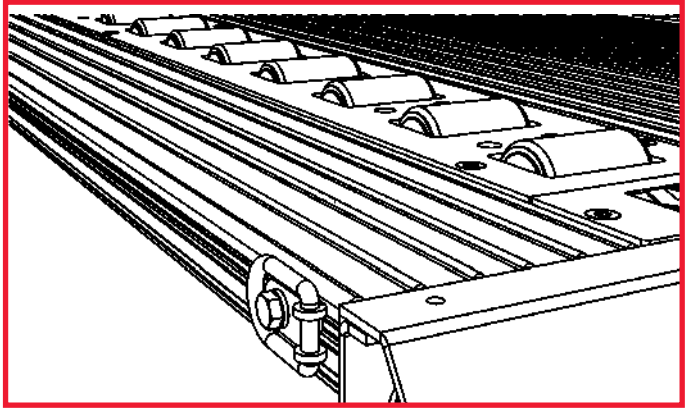
Figure 14 - Bulkhead Stop



7.5 - Lashing Rings

The lashing rings are used to secure the system in the van using tie wraps or turnbuckles. There are a number of these along each side, and are supplied loose so that they can be positioned along the system length to suit the van anchor points.

Figure 15 - Lashing Rings



7.6 - Air Control Systems

The raise and lower functions of all marks of Hydraroll pneumatic roller tracks are controlled via an 'Air Control System'.

An auto down feature is built into all control boxes. This is an emergency feature which, in the event that the operator forgets to lower the rollers prior to transport, the system resets itself into a 'safe' condition with the rollers down. For vanloda systems, this is through the mounting position of the operation switch at the rear door. When the door is closed, the switch is pushed in and air supply to the rollers is cut off.

The Vanloda Air Control Box houses the compressor, pressure switch and air inlet and outlet.

The outside of the box consists of air inlet and outlet and power outlet cable. The air outlets of the box are piped directly to the independent air bags of each roller track module, since there is no air reservoir tank.

The roller tracks are lowered when the air in the air bags is released and exhausts to the atmosphere through the quick exhausts valves.

The operating switch controls the power to the compressor. When the switch is pulled out, the compressor will engage and start to raise the rollers. This will take 60 to 80 seconds to complete.

When pressed, the switch cuts power and de-pressurises all rollers so the payload rests on the van floor and not on the live rollers.

The pneumatic system has built in over-pressure protection through pressure protection valves. In the unlikely event this system is deployed, the auxiliary air inlet valve can be used to pressurise the system temporarily, for removal of payloads.

Figure 16 - Air Control Box

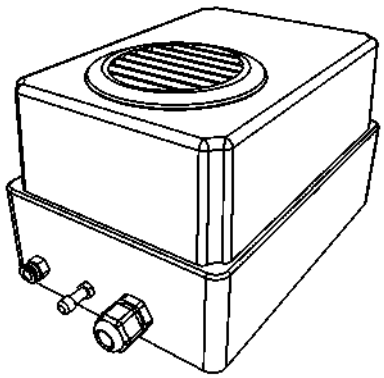


Figure 17 - Operation Switch

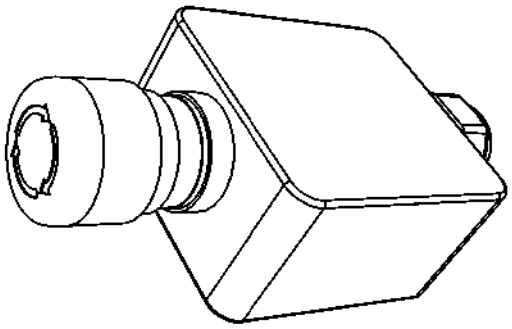
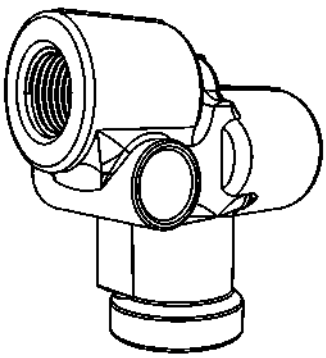


Figure 18 - Pressure Protection Valve



8. Mechanical Installation

8.1 - Inserting Modules into Van

Vanloda System floor sections can be loaded into the van via the use of a forklift truck.

Ensure that the orientation of the loaded section is correct by following the layout drawing.

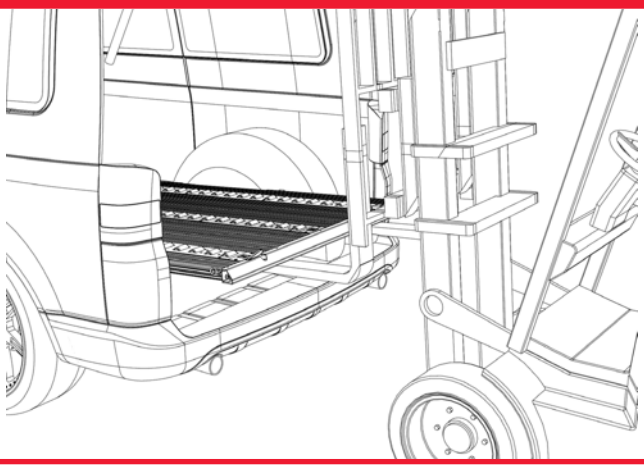
Starting at the bulkhead and working towards the door end, place the floor into the van, ensuring the orientation is correct with the end stops at the rear door.

Then simply push towards the bulkhead and remove the roller cradles from under the floor. Ensure the floor is as far back as possible whilst being set forward enough to allow the rear door to shut. Once in, ensure it is square with the rear sill and central between the wheel arches.

Note

Use a banksman when operating a forklift truck to ensure safety.

Figure 19 - Loading Vanloda with FLT



8.2 - Installation of Modules

Ensuring that the whole floor is straight along the centreline of the van, locate the side lashing rings and position them along the length of the floor on each side to suit the van anchor points.

Once positioned, using the tie wraps secure the floor to the van using the lashing rings and the van anchor points.

Securing at an angle as shown in Figure 21 - Van Anchor Points provides greater stability against forward and backwards movement.

Note

Avoid any pipes / cables situated in the floor (diesel, electrical, pneumatic, etc.)

Figure 20 - Lashing Rings

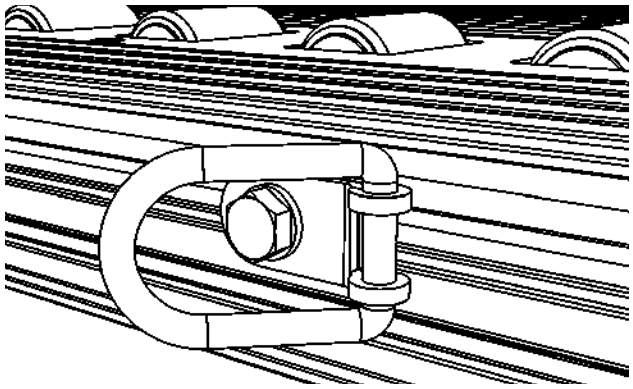
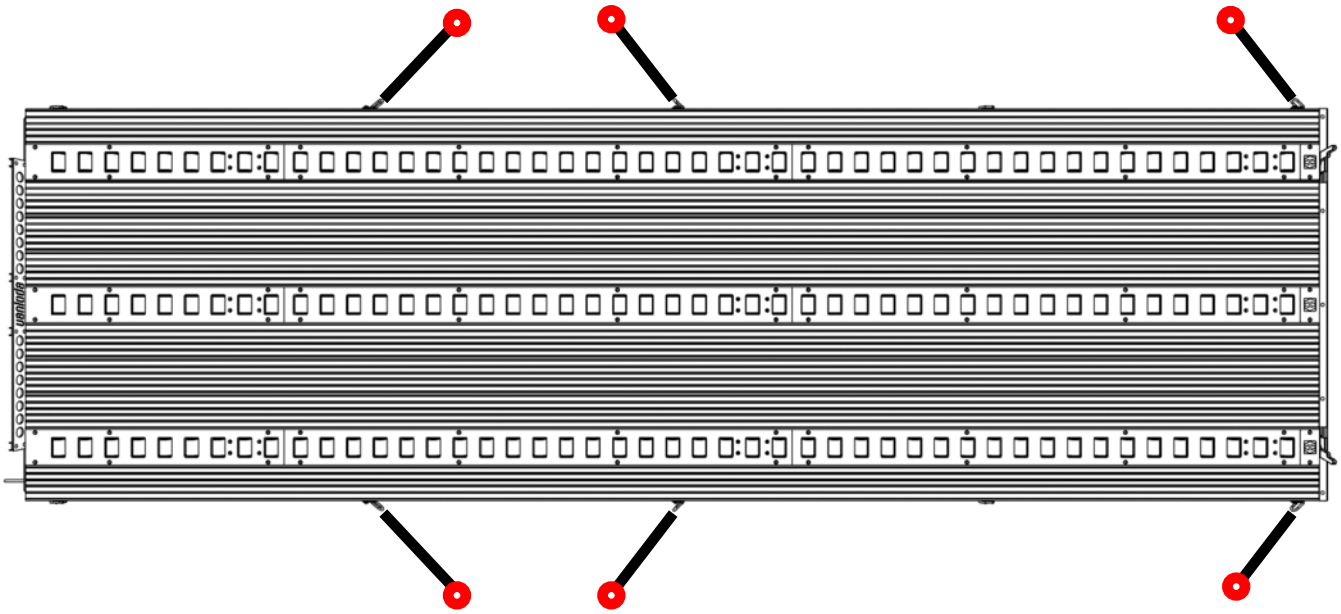


Figure 21 - Van Anchor Points



9. Air Equipment Installation

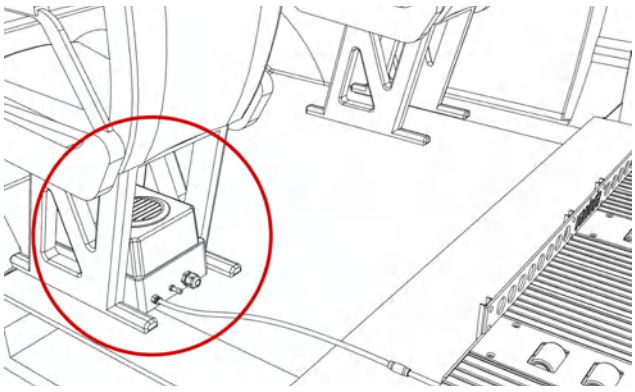
9.1 - Air Control Box Installation

9.1.1 - Mounting

Due to the dimensions of the air control box (255mm x 180mm x 155mm), and the lack of air reservoir tank, it is able to be positioned at any point in the van cabin or cargo compartment that the customer prefers.

Fasten the control box in the desired location, for example under the driver's seat to keep it away from potential damage. See Figure 22 - Example Control Box Location

Figure 22 - Example Control Box Location



9.1.2 - Air Pipe Connection

Since the ccontrol box contains the air components, the installation of the air lines only requires a simple connection of the 8mm air pipes.

When the location of the conotrol box is determined, using the air pipe included, connect the box to the Vanloda floor near the bulkhead stop.

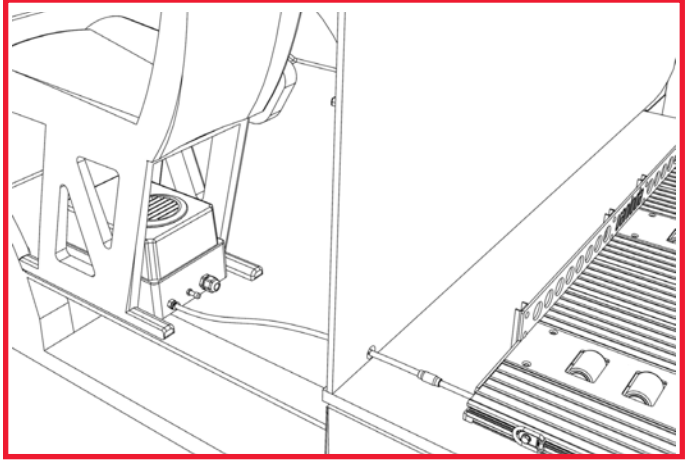
Use an 8mm to 8mm straight connector to join the pipes together.

Note

> Use grommets or edge protection if an air pipe is to go through the bulkhead or any sheet material.

See Figure 23 - Connection Through Bulkhead for an exampleof the air pipe routing thorugh the cabin bulkhead.

Figure 23 - Connection Through Bulkhead



9.1.3 - Electrical Cable Connection

Using the supplied cables, wire the control box to the battery of the van. Cables will need routing thorugh the cab and into the engine bay.

The conrtol box has a fuse to protect the circuit, but it is advised to install an inline fuse at the batteery end of the system.

A wiring diagram is included in the Appendix.

9.2 - Air Operation Switch Installation

For the auto down function of the operation switch to work when the system is not in use, the switch should to be mounted so that when the van doors are closed, the button is pressed fully and will release the air from the PRT. When the van doors open, the button will release and automatically begin to raise the rollers.

With the rear door closed and the operation switch pressed in, align flush with the van door against the rear pillar. Mark the position and then open the doors.

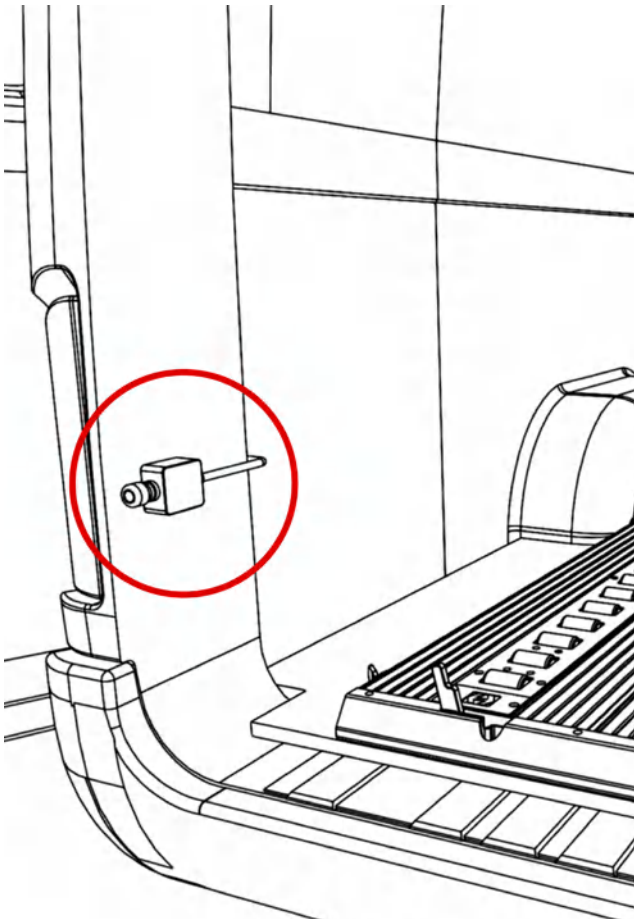
With the doors open, standing outside the van, ensure that the height of the switch is accessible without overstretching. Secure the switch in the position marked with the screws provided.

Note

Ensure that once fitted, the switch is fully depressed when the van door is shut.

Once secured, connect the operation switch to the air control box with the electrical connections and cable supplied. Cables will need to be routed neatly from the switch to the control box so as to avoid tripping hazards or issues in loading the pallets.

Figure 24 - Operation Switch Mounting



10. Testing

10.1 - Air Leak Testing

All Joloda Hydraroll Ltd equipment is manufactured to the highest standard of quality, and all components have been tested against failures. Regardless leaks and tears can always happen over time, and it is always good practice to test for leaks at appropriate time intervals.

Note

The normal operating pressure for Joloda Hydraroll Ltd PRT is 2.1 Bar (30 PSI).

1. First raise the track by realeasing the operation switch.
2. Pressure system from the main source - regulator gauge in control box should read 2.1 BAR/ 30 PSI (+/- 10%).
3. Allow to settle.
4. Read and record air pressure.
5. Wait one hour.
6. Re-check the pressure on the gauge and ensure it has not dropped more than 0.3 BAR/ 4.35 PSI.
7. If pressure drop is more than 0.3 BAR check all connections with soap solution
8. Watch for bubbles in soap solution.
9. Rapid drop in pressure indicates severe leakage which would normally also be heard.

If severe leakage is found, contact Joloda Hydraroll Ltd representatives for information regarding replacement parts for any damaged equipment.

Figure 25 - Damaged Line/Connection

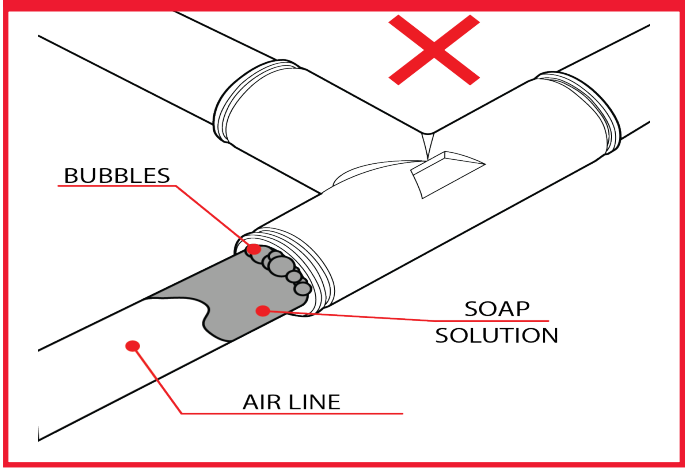


Figure 26 - Testing Operating Pressure

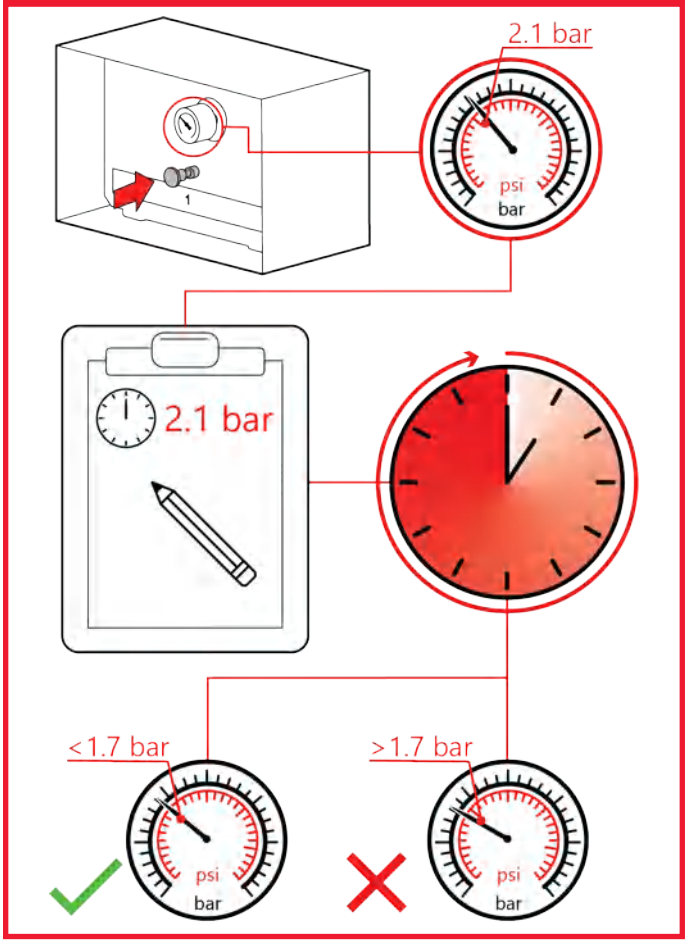
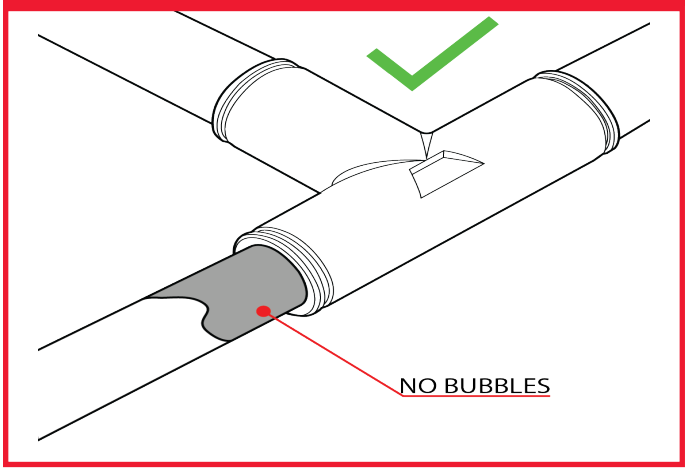


Figure 27 - No Damage



11. Commissioning

Before commissioning Joloda Hydraroll Ltd Vanloda, ensure that the following have been completed:

- Remove all protective tape from top plates.
- Ensure that all valves are fully functional.
- Thoroughly clean out track. Ensure that no damage can occur to air cells by any harmful debris in track such as metal filings or glass shards.
- Ensure that pallets run true along the track in both directions.
- Replace all covers/guards following any inspection or maintenance procedures.
- All labels in the control box MUST be kept clean and free from damage, failure to do so could result in the safety or operators and load being compromised.
- Ensure all electrical terminations have been checked and are free from damage.
- Ensure all pneumatic connections have been connected and checked.
- Repair / replace any components that may have been damaged during installation.
- Ensure that after commissioning, all supporting documentation is kept safe and easily accessible for future readers.

For further information regarding operating and maintaining the system, refer to the operator's manual contained within the technical manual folder provided with the Vanloda equipment.

12. Spare Parts List

Spare Parts List		
Item No.	**Part Number**	**Description**
1	See Parts List	Track Module Complete
2	See Parts List	Roller Assembly
3	See Parts List	Roller Pin
4	4AD027	Stainless Steel Top Plate Screw - Torx
5	HY10023404	Nut Bar
6	2AC001	Air Cell – 1.5”
7	AE-ABCKIT-1.5IN	Air Bag Clamping Kit – 1.5”
8	2AC002	Air Cell – 2”
9	AE-ABCKIT-2.0IN	Air Bag Clamping Kit – 2.0”
10	2ED001	Pressure Gauge 0 - 4 bar
11	AE-ATSKIT	Strap Kit
12	2HD001	Drain Valve
13	AE-PPVKIT-80	PPV Assembly
14	AE-QEV	Quick Exhaust Valve
15	2AB002	Tubing - 8mm
– ITEM NOT ILLUSTRATED		

13. Routine Maintenance

13.1 - Maintenance Schedule

WARNING
BEFORE YOU START ANY MAINTENANCE, MAKE SURE THAT YOU HAVE READ AND KNOW THE HEALTH AND SAFETY INFORMATION, REFER TO SECTION 4. HEALTH AND SAFETY.

An approved person must do the maintenance procedures. If you do not obey this instruction injury or death to personnel can occur.

No.	Maintenance Procedure	Week 1	Week 2	Week 3	Week 4	Daily	Weekly	Monthly	Quarterly	6 Months	Yearly
1	Make sure that the flip up end stops operate					X					
2	Ensure the vehicle floor, pneumatic roller track and associated power systems are free from dirt and debris.					X					
3	Check that all rollers lift, rotate and drop pneumatically					X					
4	Check that the powered rollers rotate correctly with power, with no excessive vibration or unusual sounds.					X					
5	Check that the operation switch works correctly.						X				
6	Do a visual inspection of the track and rollers for damage							X			
7	Ensure systems are disconnected then check that all electrical connections are free from corrosion and provide efficient contact							X			
8	Check for air leaks or damaged airbags, see 10. Testing							X			
9	Remove roller track top plates and lift out roller channel assemblies and check for damage. Replace damaged rollers.									X	
10	Check air bags for damage and leaks and replace/ repair as necessary.									X	
11	Clean out dirt and debris from roller track main channels and roller channels.									X	
12	Re-assemble roller tracks and replace top plates using new top plate screws. Tighten screws to a torque setting of 7 - 9.5Nm.									X	

13.2 - General

13.2.1 - General

Prior to any maintenance ensure that all systems are disconnected from electrical power supplies before commencing any repair or maintenance work.

Ensure air systems are isolated from their supply and that system pressures are released before disconnecting any air equipment.

Replace all covers and guards after installation.

All maintenance work should be carried out by qualified staff.

13.3 - PRT Roller Replacement

1. Identify the track assembly that has the damaged roller, refer to Figure 28 - Damaged Roller
2. Remove the screws that attach the logo plate.
3. Remove the logo plate, refer to Figure 29 - Disassemble the Track Assembly.
4. Remove the screws that attach the top plate.
5. Remove the top plate, refer to Figure 29 - Disassemble the Track Assembly.

Note

Step 6 is only applicable for slipchain docks with fixed rollers installed.

6. Remove the screws at the front that attach the fixed roller to the roller track.
7. Remove the roller track, refer to Figure 29 - Disassemble the Track Assembly.
8. Put the roller track on a flat work surface.
9. Use a grinder to remove the peined end of the roller pin, refer to Figure 30 - Remove the Roller Pin.
10. Use a hammer and a punch to remove the roller pin.
11. Remove the roller.
12. Discard the roller and roller pin.
13. Put a new roller in position on the roller track and push a new roller pin all the way through the roller track and roller, refer to Figure 31 - Install a new Roller
14. Position the roller track, so that the side that the roller pin protrudes through is at the top, refer to Figure 31 - Install a new Roller.
15. Use a ball-pein hammer to pein over the roller pin, refer to Figure 32 - Hand Pein the Roller Pin
16. Use an air gun to remove any debris from the main channel or the extrusion and the roller track, refer to Figure 33 - Remove any Debris
17. Put the roller track in position in the main channel or the extrusion, refer to Figure 34 - Assemble the Track Assembly.
18. Attach the top plate with the screws, refer to Figure 34 - Assemble the Track Assembly.
19. Torque the screws between 7 Nm and 9.5 Nm.
20. Attach the logo plate with the screws, refer to Figure 34 - Assemble the Track Assembly.
21. Torque the screws between 7 Nm and 9.5 Nm.

Figure 28 - Damaged Roller

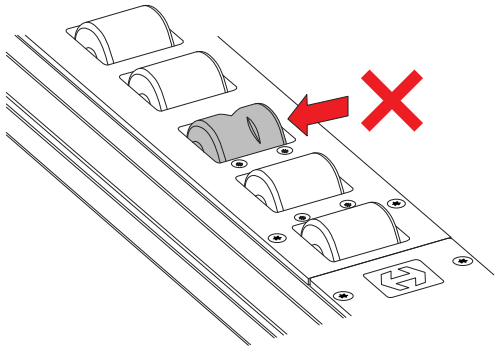


Figure 29 - Disassemble the Track Assembly

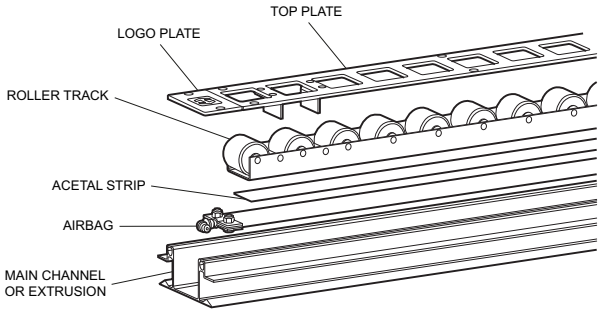


Figure 30 - Remove the Roller Pin

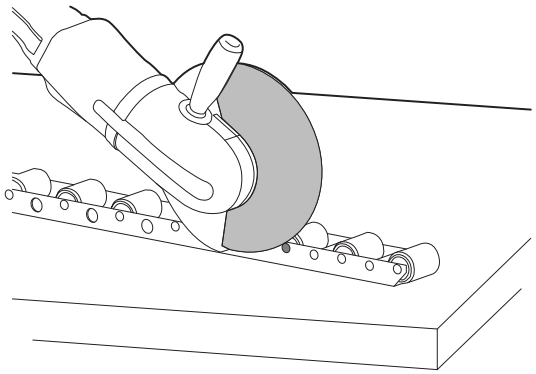


Figure 31 - Install a new Roller

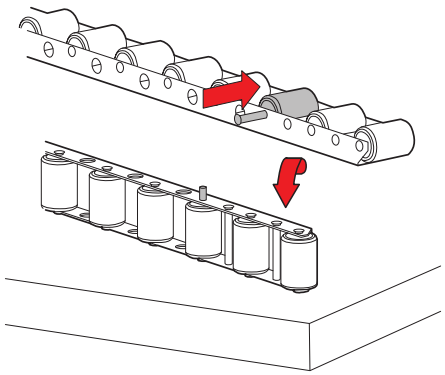


Figure 32 - Hand Pein the Roller Pin

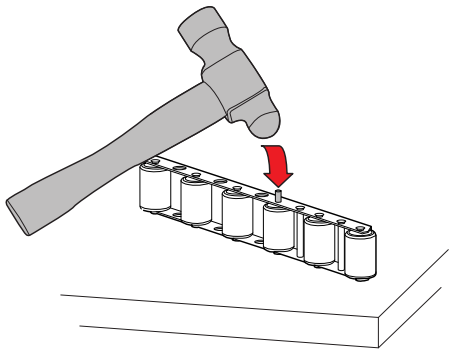


Figure 33 - Remove any Debris

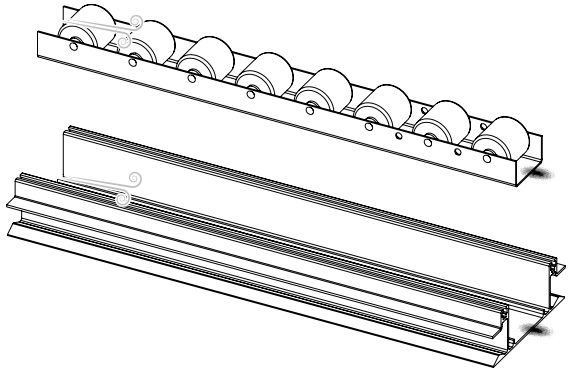
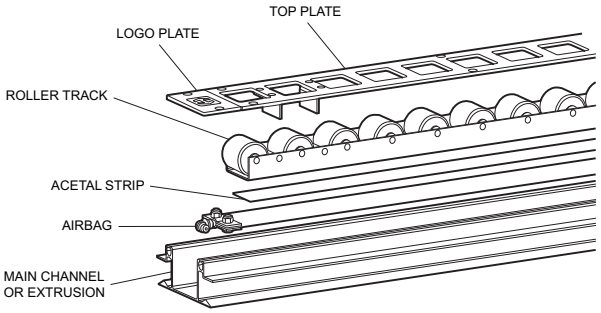


Figure 34 - Assemble the Track Assembly



13.4 - PRT Airbag Replacement

1. Remove the screws that attach the logo plate.
2. Remove the logo plate, refer to Figure 35 - Disassemble the Track Assembly.
3. Remove the screws that attach the top plate.
4. Remove the top plate, refer to Figure 35 - Disassemble the Track Assembly.

Note

Step 5 is only applicable for slipchain docks with fixed rollers installed.

5. Remove the screws at the front that attach the fixed roller to the roller track.
6. Remove the roller track, refer to Figure 35 - Disassemble the Track Assembly.
7. If installed, remove the acetal strip, refer to Figure 35 - Disassemble the Track Assembly.
8. Disconnect the air pipe(s) from the elbow or the tee.
9. Remove and discard the airbag, refer to Figure 35 - Disassemble the Track Assembly.
10. Put the new airbag on a flat work surface.
11. Remove the nuts and the screws that attach the clamp plates.
12. Remove the clamp plates.
13. Measure the length of the main channel or the extrusion or the total length of the system and record the dimension.
14. Mark a line on the new airbag to show the length of the dimension at Step 13, refer to Figure 36 - Mark a line on the Airbag.
15. The new airbag must be cut to the length of the dimension at Step 13 minus 32 mm to 35 mm, refer to Figure 37 - Calculate the Airbag Cut Length.
16. Mark the cut line on the new airbag, in accordance with the dimension calculated at Step 15, refer to Figure 38 - Airbag Cut Line.

CAUTION

WHEN COMPLETING STEP 17, MAKE SURE THAT THE CUT IS STRAIGHT.

17. Use a sharp pair of scissors to cut the new airbag at the cut line, refer to Figure 39 - Cutting the Airbag.

Note

When completing Step 18 make sure that the clamp plate is held tightly in position.

18. Put a clamp plate on top of the new airbag and mark the two holes in the clamp plate on to the new airbag, refer to Figure 40 - Mark the Holes on the Airbag.
19. Remove the clamp plate from the new airbag.
20. Use a 4 mm drill bit to drill the two holes marked on the new airbag, refer to Figure 41 - Drill the Holes for the Clamp Plates.
21. Use the screws and the nuts to attach the clamp plates to the new airbag, refer to Figure 42 - Attach the Clamp Plates.
22. Torque the nuts to no less than 24 Nm.
23. Make sure that the nuts at the elbow or the tee end are torqued between 10 Nm and 14 Nm.
24. Clean the new airbag with a soft, dry cloth.
25. Use an air gun to remove any debris from the main channel or the extrusion and the roller track, refer to Figure 43 - Remove any Debris.
26. Put the new airbag in position with the elbow or the tee at the rear of the van and the clamp plates at the front of the van, refer to Figure 44 - Airbag Position.
27. The elbow or the tee must align with the holes in the main channel or the extrusion, refer to Figure 45 - Elbow or Tee Position.
28. Connect the air pipe(s) to the elbow or the tee.
29. If installed before, put the acetal strip in position on top of the new airbag, refer to Figure 46 - Assemble the Track Assembly.
30. Put the roller track in position in the main channel or the extrusion, refer to Figure 46 - Assemble the Track Assembly.
31. Attach the top plate with the screws, refer to Figure 46 - Assemble the Track Assembly.
32. Torque the screws between 7 Nm and 9.5 Nm.
33. Attach the logo plate with the screws, refer to Figure 46 - Assemble the Track Assembly.
34. Torque the screws between 7 Nm and 9.5 Nm.
35. Do the Leak Test, refer to 10. Testing.

Figure 35 - Disassemble the Track Assembly

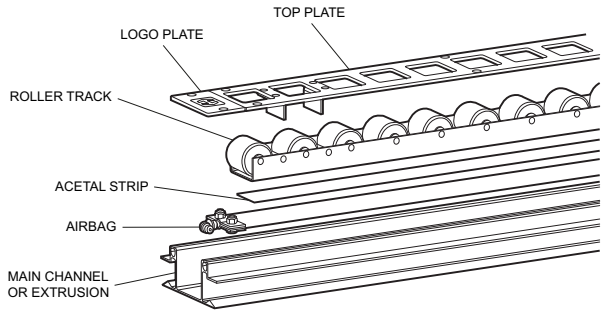


Figure 36 - Mark a line on the Airbag

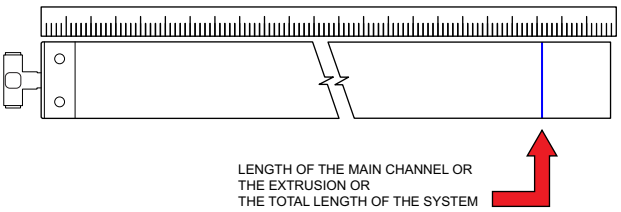


Figure 37 - Calculate the Airbag Cut Length

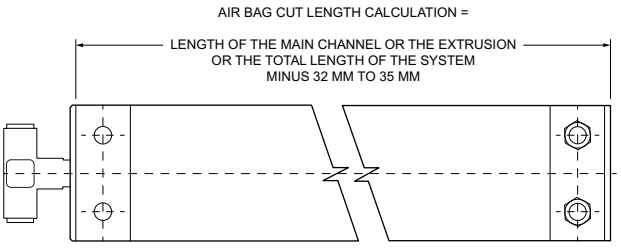


Figure 38 - Airbag Cut Line

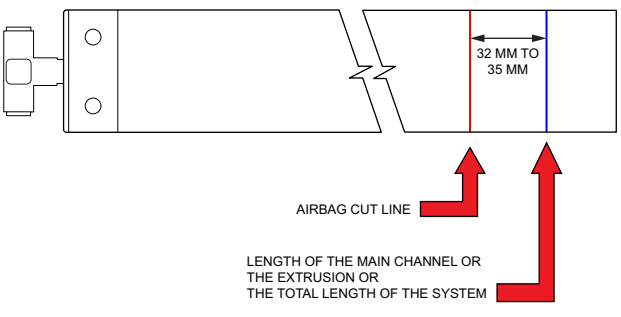


Figure 39 - Cutting the Airbag

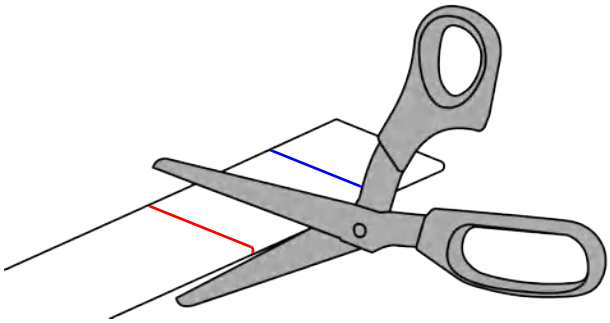


Figure 40 - Mark the Holes on the Airbag

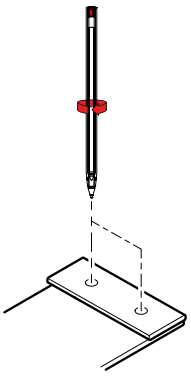


Figure 41 - Drill the Holes for the Clamp Plates

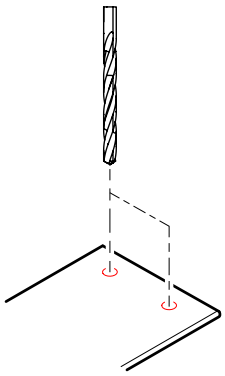


Figure 42 - Attach the Clamp Plates

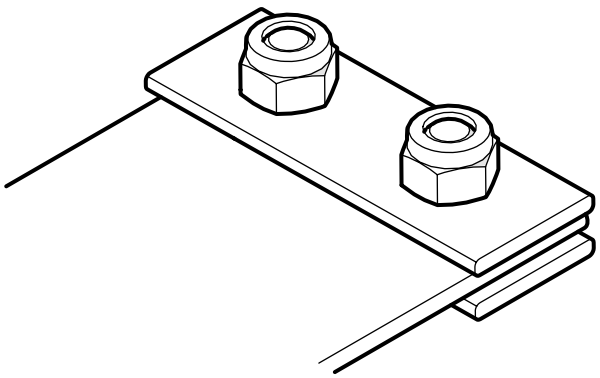


Figure 43 - Remove any Debris

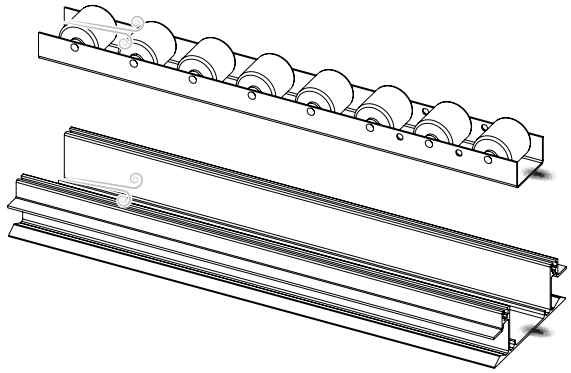


Figure 44 - Airbag Position

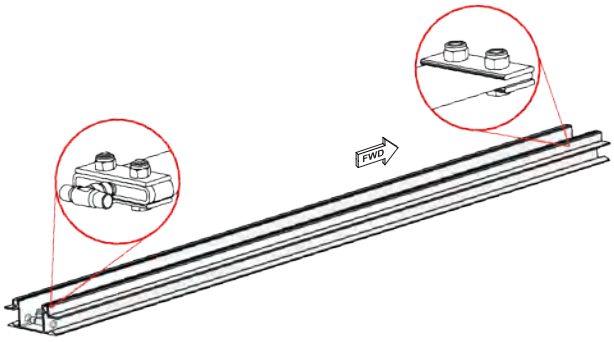


Figure 45 - Elbow or Tee Position

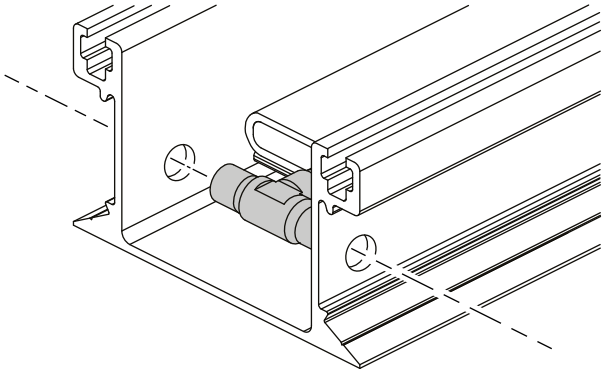
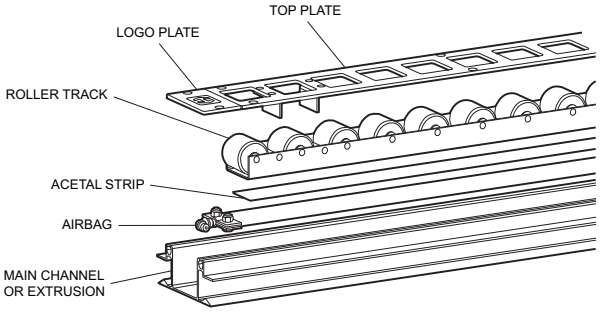


Figure 46 - Assemble the Track Assembly



14. Troubleshooting

CAUTION
DO NOT LUBRICATE OR USE ANY CLEANING SOLVENTS ON THE ROLLERS OR THE TRACKS.

If you do not obey this instruction damage to the system can occur.

Mechanical Troubleshooting		
Fault	**Cause**	**Solution**
PRT rollers will not raise	No Air Supply to the Regulator	Make sure that the pressure from the air supply is sufficient and increase if necessary
		Check for the correct operation of the PPV and replace if necessary
		Check the air pipes and connectors for leaks and repair / replace if necessary, refer to Section 10. Testing
	No air supply to the valves in the control boxes	Check operator switch has not been activated. Reset if necessary.
		Check the regulator setting and operation
		Check the air pipes and connectors for leaks and repair / replace if necessary, refer to Section 10. Testing
	No air supply to the airbags	Check for the correct operation of the valves in the control boxes and replace if necessary
		Check the air pipes and connectors for leaks and repair / replace if necessary, refer to Section 10. Testing
	Damaged airbags	Replace the airbag, refer to Section 13.4 - PRT Airbag Replacement
PRT rollers will not lower	Defective Valves in the Control Boxes	Check the correct operation of the valves in the control boxes and repair / replace if necessary.
	Debris in the Main Channel or Roller Track of the PRT	Remove the top plates to gain access then follow the cleaning procedure to remove any debris present.
	Blocked Air Pipes	Check the air pipes for a blockage and replace if necessary.
	Damaged parts	Check if any parts have been deformed or damaged and therefore are clashing with adjacent parts. Repair / replace as necessary.
Roller(s) do not rotate freely	Damaged roller	Do the roller replacement procedure, refer to 13.3 - PRT Roller Replacement.
	Debris in the roller track	Disassemble the roller track and use high pressure air to blow out the debris from the main channel / follow the cleaning procedure to remove debris.

Mechanical Troubleshooting		
Fault	**Cause**	**Solution**
Rollers lower when load is applied	Insufficient air supply	Check the air pipes and connectors for leaks and replace if necessary, refer to Section 10. Testing
		Inspect the airbags for leaks and replace as necessary, refer to Section 13.4 - PRT Airbag Replacement.
		Make sure that the pressure from the air supply is sufficient and increase if necessary.
		Check compressor is wokring correctly.
	Load exceeds the weight limit of the system	Review and reduce the load.
		Review the load and the possibility of distributing the load more evenly across the van

Note

If issues persist after attempted repairs, contact Joloda Hydraroll Ltd for further assistance.

15. Disposal of the System

WARNING
BEFORE YOU START TO DISPOSE OF THE SYSTEM, MAKE SURE THAT YOU HAVE READ AND KNOW THE HEALTH AND SAFETY INFORMATION, REFER TO SECTION 4. HEALTH AND SAFETY.

An approved person must do the disposal of the system. If you do not obey this instruction injury or death to personnel can occur.

When the system is unserviceable or the service life of the system has expired you must dispose of the system in accordance with local regulations and safety procedures.

16. Warranty

16.1 - Warranty Statement

This statement is part of and subject to Joloda Hydraroll Ltd's Warranty Terms and Conditions and contractual agreements specified in the Terms and Conditions of Sale.

This section only includes the general aspects of the warranty, refer to Joloda Hydraroll Ltd's Warranty Terms and Conditions and Terms and Conditions of Sale for more information.

You must not change any component in the system without approval from Joloda Hydraroll Ltd. Any changes could cause damage to the system or a malfunction.

Any changes to the system without approval from Joloda Hydraroll Ltd will result in the warranty being cancelled.

The Joloda Hydraroll Ltd warranty for the system supplied is only applicable if the system is operated and the maintenance done in accordance with this Manual.

The maintenance instructions in this manual are what Joloda Hydraroll Ltd thinks is the minimum amount of maintenance necessary for the operational reliability of the system.

If the system does not operate or it stops, an approved person must do the troubleshooting procedures, refer to Section 14. Troubleshooting, before you tell Joloda Hydraroll Ltd.

If you think that a problem with the system is covered by the warranty, you must tell Joloda Hydraroll Ltd or your local Joloda Hydraroll representative.

Any costs for maintenance done by the customer or a third party without written approval from Joloda Hydraroll Ltd, are not covered by the warranty.

16.2 - Period of Warranty

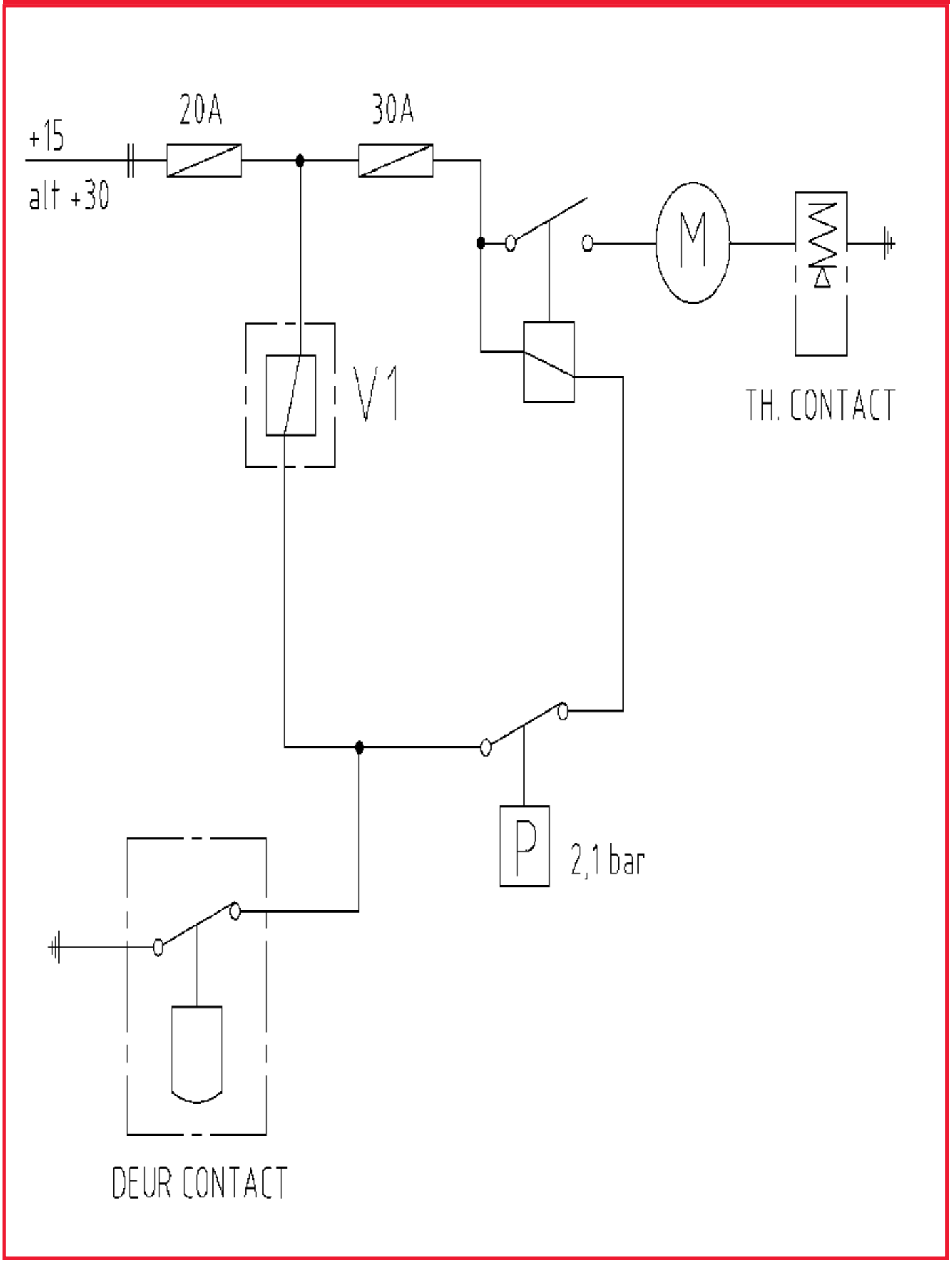
All systems supplied by Joloda Hydraroll Ltd have a warranty period of 12 months, which starts on the delivery date.

If the system is supplied by a third party and/or is an integrated part of a system supplied by a third party, the Joloda Hydraroll Ltd system is to be an integrated part of the resellers warranty. The warranty period of 12 months starts on the first day of installation.

17. Notes

18. Appendix

Figure 47 - Wiring Diagram



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joloda hydraroll
LIGHTENING LOADS

LOADING SOLUTIONS AROUND THE WORLD