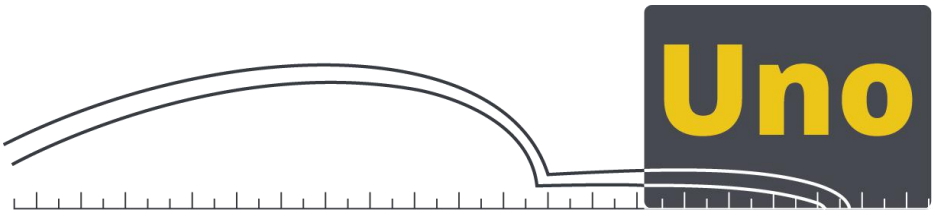

Manual

STRAIGHTENING BENCHES

CRS3000 - CRS4000 - CRS4600 - CRS5500

Original Manual

1 PREFACE

We, as UnoLiner Systems, are happy, that you have selected the UnoLiner Straightening System for your workshop. You have made the right choice and we are convinced that you will be, and remain, completely satisfied.

UnoLiner Systems is a Dutch Company based in the old V.O.C. city Hoorn.
UnoLiner collision repair systems are designed and built to comply with the ever increasing demands in safety and reliability, gained from many years of practical experience in Body Shops around the world.
This instruction manual will help, and inform you about the different possibilities and applications. Before using and operating, we obligate you to carefully study and implement the safety instructions included in this Manual.
We wish you a productive time and good business with your UnoLiner Collision Repair System

Yours faithfully
The UnoLiner Systems team

UnoLiner Systems BV
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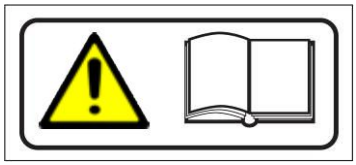
www.unoliner.com

INDEX

2 INTRODUCTION

Before operating, Carefully read this manual and the safety instructions .
Carefully read the chapters for function and operation, observe and apply all
safety information to eliminate the risk of accidents/injury or death and damage to equipment.

IMPORTANT!
- Read and apply all instructions in the instruction manual
- Get to know the equipment
- Keep safety equipment and a well-stocked first aid kit readily available and in good condition
- Only use UnoLiner Systems original spare parts and accessories



It is strongly recommended to carefully read the safety instructions first.

Safety signs

WARNING! Denotes the possibility of serious injury or death

CAUTION! Denotes the possibility of injury or damage to equipment

3 SAFETY

The machinery is to be operated according to this instruction manual. UnoLiner Systems BV can, in no way what so ever, be held responsible for the consequences of any actual use as implemented by any user of UnoLiner Systems BV products.
The drawings and images in the instruction manual are illustrative only and do not always correspond with the actual image or shape of the products as delivered.
As UnoLiner Systems is continuously developing and improving its products, delivered machines can have been modified, without change to the images in the instruction manual.
When using any straightening bench and ancillary equipment it is important to be aware of the substantial power and forces applied and required to repair an automobile chassis, body and panels. The operator must be suitably experienced and at all times take safety and usage points into account and consideration thereby ensuring that the use of the equipment is completely safe.
Regular inspection of all equipment is important. Check regularly for hairline cracks in all parts, that there is no air in the hydraulic pump hoses and piping and that the chassis clamp teeth and the clamps themselves, are clean. A clamp or part covered in any dirt, grease, tactile and/or bituminous products, will never function or clamp securely.
Always use correct and suitable for purpose tools and accessories, clamps and chains. Never use chains which are too light and always use a safety cable attached to, and a safety blanket over, the chains when pulling.
When using any straightening bench and ancillary equipment always warn any people who are near or in the working area. Ensure that all persons are at a safe distance from the working area. Watching is safer and better from a distance!

In the centre of each side of the Bench Frame there is a warning sticker to keep feet en equipment away from the bench. Danger of crushing the object. (*See picture 3.1*)

There are 2 labels at each end of the bench on the inner side of the Bench Frame end cross beams, with information giving the maximum weight the bench is permitted to lift. The maximum weight specified on the label is dependent on the specific bench type concerned. (*See picture 3.2 / 3.3 / 3.4*)

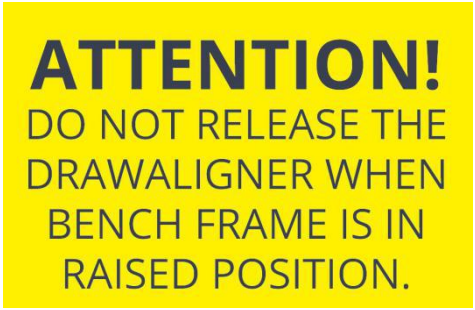
On each P10 pulling tower there is a sticker (*See picture 3.5*). This states that you may never loosen the quick bolt locking system when the bench is in raised position.

3.1

3.2

3.3

3.4



3.5

3.1 Safety and precautions

1. The UnoLiner Systems equipment is designed for the straightening and repair of automobile chassis and body panels
2. Never use the bench to lift persons, *(See picture 3.1.1)*
3. Never use the bench when someone or any obstacle is in, under or in the vicinity of UnoLiner Systems equipment.
4. It is not permitted to make any changes to UnoLiner System equipment without prior writtem premission by and from UnoLiner Systems BV.
5. Ensure you and all personnel intending to use UnoLiner Systems equipment are sufficiently qualified for the operating and use of UnoLiner Systems equipment. Only personnel that have read and understood this manual are permitted to operate the UnoLiner systems equipment
6. (Optional) Assemble the feet protection in the appropriated places on the bench sides, *(See picture 3.1.2)*
7. Always place a vehicle with its heavy side (normally the engine side) above the hydraulic cylinders of the Scissor lift, *(See picture 3.1.2)*
8. Place the vehicle in a central position on the bench. See the maximum out of centre placement position which is permitted in *(See picture 3.1.3)*
9. All scissor lift ground holes must be attached and fixed to the floor with the Fischer FIS V Injection Resin System chemical anchor bolt system using Fischer threaded rod FIS A M16 x 175 galvanic zinced, or an equivalent suitable floor anchoring bolt type system. Floor to be a horizontal, suitably flat, level and solid concrete floor surface equivalent to C35/45 according to the European norm NEN-EN 206-1.
10. When moving the scissor lift, the hydraulic and pneumatic hoses connected to, respectively, the hydraulic and pneumatic cylinders, must be disconnected. The hydraulic and pneumatic hoses must always be protected from damage, as example, from sharp objects, jamming and sharp bending.
11. Check that the area around the bench is free, of obstacles when raising and lowering it.
12. Make sure that the hydraulic and pneumatic hoses and tubes, which connect respectively, the hydraulic pump and the safety lock plate to the respective cylinders, are lying level on the floor and are suitably protected, This in such a way that ensures that damage to the hydraulic and pneumatic hoses is avoided and cannot occur.
13. Scissor lift use is not permitted without the hose break safety valve *(see Chapter 6)* connected to the hydraulic cylinder. (UnoLiner Systems delivers hydraulic cylinder sets with this hose break safety valve connected as standard)

3.1.1

3.1.2 Optional

3.1.3

14. Remove waste oil or oil from leakages immediately. This to avoid the risk of accidents caused by slippery surfaces.
15. Any old, removed and/or excess hydraulic oil is to be returned to a

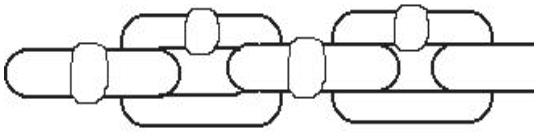
suitable local service or authority for recycling.

16. Only reinforced forged chains are permitted to be used for pulling. You can buy those from UnoLiner Systems B.V. and/or our distributor in your territory. *(see Chapter 3.2)*
17. Always use a safety wire and safety cover blanket being careful when pulling and /or applying tension to chains
18. You must wear individual protective equipment (safety boots and gloves) during both the installation and use of the equipment.

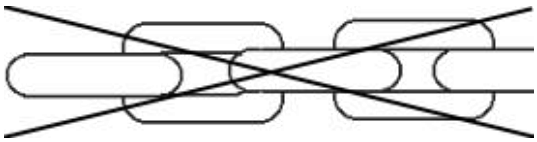
19. Do not wear loose hanging clothing and / or jewellery and / or long loose hanging hair.
20. Ensure that the space around UnoLiner Systems equipment is free of obstacles to avoid tripping, stumbling and falling.
21. Ensure that work space is well lit with sufficient lighting to ensure good visibility.

3.2 Pulling chains and safety wire attention points

There are two different kinds of chains: the welded reinforced forged type and the normal chain. You can see the difference by looking at the link weld.
When using a chain for pulling, the reinforced forged chain with welded links MUST be used when pulling and placing tension on the chain.
This is important for the safety, when the reinforced chain breaks it falls down and will release without tension.
The normal chain when it breaks under tension, flays and is thrown around. Do NOT use this normal type of chain for any pulling work.

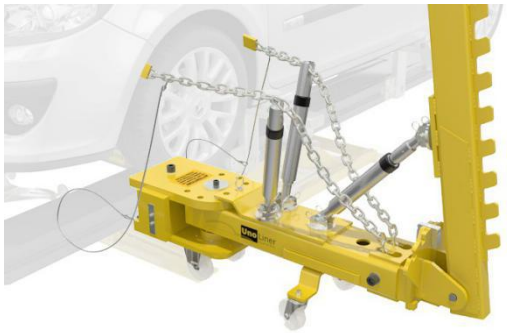


Reinforced chain



Normal chain

WARNING!
Always us reinforced chain with welded link and a securely attached safety wire. !! Cover the chain and connections under tension with a safety blanket !

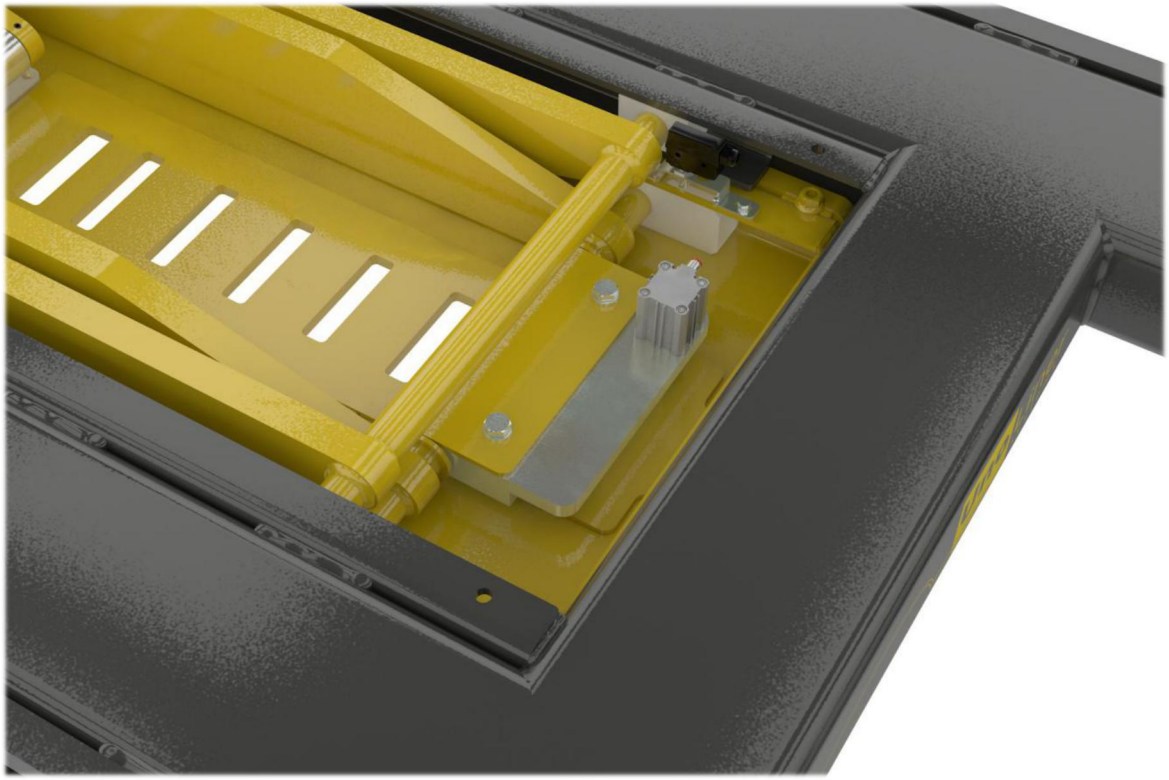


3.3 Safety foot

WARNING!
Never use the bench without the safety foot or with the safety foot not working correctly. Always check that the safety foot is working properly before using the bench. Always put the safety foot in a notch when the bench is in raised position.

Each bench frame equipped with a Scissor Lift has safety foot to secure the scissor Lift from falling down when a hydraulic cylinder failures. Do not remove this safety foot for your own safety and to protect equipment from damage Before using the scissor lift check the following items:

1. Can the safety foot move without obstruction
2. Are the bolts tightened
3. Is there a pneumatic cylinder and is it working correctly
4. Is the de-locking slide block fastened to the pneumatic cylinder



4 GENERAL INFORMATION

4.1 Warranty

UnoLiner Systems BV. Undertakes to remedy any defects, lack of quality or non-conformity of the products for which it is liable, occurring within the warranty terms. UnoLiner Systems BV. Will have the right, at its own discretion. To repair or replace the products or reimburse wholly or partially the price of the products which have shown to be defective.
The warranty time period will start on the date of purchase indicated on the attached Warranty Card

Warranty time periods

1 Year	90 Days
● UnoLiner Bench frame's ● UnoLiner Scissor lift's ● UnoLiner Hydraulic pump ● UnoLiner Accessories, For instance P10 Pulling tower, R20 drive on ramps, C10 chassis clamps, etc.	● Hydraulic couplings ● Pneumatic couplings

What is not covered under this warranty

- Hydraulic hoses, pneumatic hoses and electrical cables
- Parts that fail due to normal wear
- Parts failed due to transport damages, abnormal working conditions, failure to follow UnoLiner Systems instructions, negligence, Lack of maintenance, abnormal or unsuitable supply of electricity, misuse, tampering, alteration and/or repair of products without UnoLiner Systems BV. Authorization.

Return authorization

The buyer shall apply to the retailer where the product was purchased and delivered, along with the following documentation:

- Warranty Card, Correctly completed (See attachment)
- Readable invoice copy or receipt
- Clearly recorded photo of the situation

Failing this documentation the warranty shall be void.
In case that the retailer is not available, the buyer can forward the warranty claim directly to:

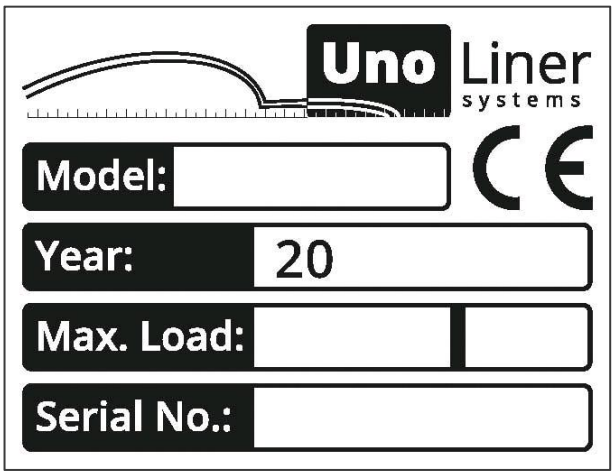
Company	UnoLiner Systems BV.
Street	Neutronweg 47
Zip Code/Postal Code	1627LG
City & country	Hoorn NH, The Netherlands
E-Mail	Info@unoliner.com

Warranty Card

Name/ Company:		Product name:	
Sure name:		Serial number:	
Street:		Date of purchase:	
Zip code/Postal Code:		Where purchased:	
Province:		Description of complaint:	
Country:			
Phone:			
Mobile:			
E-Mail:			

4.2 Unoliner serial number plate

You will find a label as pictured, on the inside Bench Frame crossbeam between the Scissor Lift support arm hinge points. UnoLiner Model and the serial No. must be specified in orders placed for accessories and spare parts, or when you have a warranty claim. Do not remove this label. If the label is removed or is unreadable, any warranty is void and is lost.



4.3 Personal data

We shall not sell your personal data to any third party and this information shall be only available to those connected to UnoLiner Systems B.V.. Our employees and third parties engaged by UnoLiner Systems are obliged to respect the confidentially of your data. This factory warranty and all consequential and subsequent actions shall be governed solely by the laws of The Netherlands and is accepted by UnoLiner systems BV at its corporate Office in Hoorn NH, The Netherlands. Any dispute arising out of or in connection with warranty, insofar no amicable solution can be found between parties, shall be settled by the Dutch Court having jurisdiction over UnoLiner Systems BV place of business.

5 HANDELING AND INSTALLATION INSTRUCTIONS

CAUTION!
Any action involving the operation, transportation or unpacking of the equipment must ONLY be performed by trained personnel with a proper knowledge of the lift and of the contents of this operating manual.

5.1 Transport safety lock

Each bench frame equipped with a Scissor Lift has Transport Safety Lock Plates (except for the CRS3000) to secure the Scissor Lift in position during transport. Do not remove these Transport Safety Lock Plates before the Bench Frame with Scissor Lift has been placed into the final location or the manual gives you instructions. (*See picture 5.5.2 / 5.5.3*)

WARNING!
Without the Safety Lock plates in place when moving and positioning the Scissor Lift, it is possible for the nylon scissor lift slide blocks to slide out of its guides on the bench frame. The Transport Safety Lock plates must be kept secured in place to avoid any risk of injury to people or damage to the equipment when moving the Scissor Lift and Bench Frame.

5.2 Unloading with fork truck

All UnoLiner Systems BV deliveries are delivered Ex. Works UnoLiner Systems BV, Hoorn, according to Incoterms 2010 and is in no way responsible and cannot be held accountable in any way what so ever for any damages resulting from transport and/or the unloading, handling, moving, positioning and/or re-positioning of goods.
As basic common sense information the following:
Use only trained and skilled staff for the specific task required. Example; an experienced and licensed fork truck operator.
Place the fork truck forks in their widest possible position between the wooden transport beams which you will find screwed to the bottom of the Bench with Scissor Lift, fit the lift forks in the centre of the long side of the Bench Frame.
Lift it carefully with the fork truck checking and ensuring that the load is in balance. The control of the balance is important, also when other goods have been placed on the bench and are being unloaded together with the bench.

5.3 Unloading with slings or ropes

Suitably strong sling / rope to be placed around the bench frame on the outer sides of the wooden transport beams attached to the bottom of the Scissor Lift. Sling/rope to be placed in such a way that the sling/rope cannot slide or move and that the load remains in balance. Unloading must always only be carried out by experienced, suitably trained and licensed personnel. See also above " Un- loading with fork truck". *(Chapter 5.2)*

5.4 Removing the transport beams

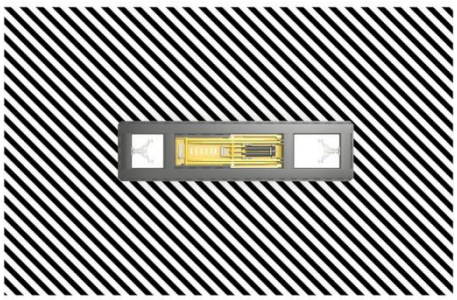
Before placing the Bench Lift in its final position, remove the wooden transport beams as follows: Remove the Transport Safety plates secured with 2x M12 bolts. (see Chapter 5.5 Step 3) Temporarily connect the hydraulic hose to the Electro/Hydraulic pump and the hydraulic cylinder. Make the connection so nobody can get injured or equipment can get damaged! (See chapter 6.2). Raise the bench, then lower (See chapter 6.3) until the Lift safety foot securely rests into the selected notch of the Scissor Lift. This to create a safe working space. Make sure that you are 3 meter away from the bench at all times when raising and lowering the bench. Check that the Safety foot is in a notch before coming closer to the bench. Now unscrew and remove the bolts holding the wooden beams to the bottom of the lift. Lower the bench back to the lowest position and screw the Transport Safety Plate back into place so that the bench frame and lift are secured together. Using slings or ropes placed around the bench frame only, lift the combination of bench frame and lift so that the wooden beams are free and can be removed from the underside of the lift.

5.5 Placing the Bench (13 STEPS)

CAUTION!
the following actions should be carried out by authorized personnel only.

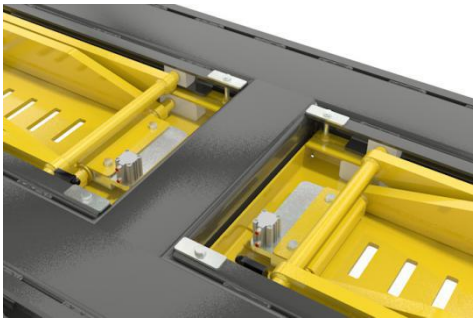
1. Prepare location where the Straightening Bench is to be placed, ensure the floor is level, sufficiently strong (equivalent to C35/45 according European norm NEN-EN 206-1). Ensure the floor is suitable to carry the loads which the Straightening Bench and the to be repaired vehicles will place on the floor. (2000 kg pm2)
2. Place assembled bench with scissor lift in the chosen position leaving enough free space around the bench. (Minimum. 2 meters (6.5 feet) on all sides, also take the calculated space for the safety area in mind). *(See picture 5.5.1)*
3. Remove the transport safety bolts and plates from the lift. *(See Picture 5.5.2 & 5.5.3)*
4. Temporarily connect the hydraulic hose to the Electro/Hydraulic pump and the hydraulic cylinder. Use the hose break safety valve.

WARNING!
Make the connection in such a way that no one can get injured and equipment damage is possible. *(See chapter 6.2)*



5.5.1

CRS4000 5.5.2



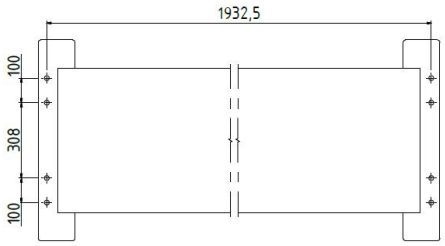
CRS5500 5.5.3

5. Raise the bench, then lower *(See chapter 6.3)* until the Lift safety foot securely rests into the selected notch of the Scissor Lift. This to create a safe working space to be able to install the chemical anchor bolts.

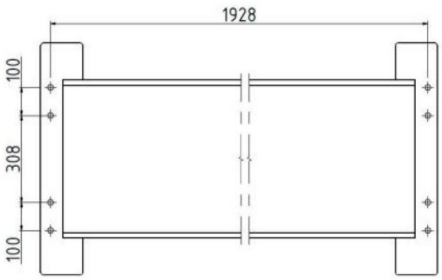
WARNING!
Make sure that you are 3 meter (10 feet) away from the bench at all times when raising and lowering the bench. Check that the Safety foot is in a notch or the bench is flat before moving towards the bench.

6. Install 8x (CRS5500 16x) M16 Chemical Anchor bolts by which the Scissor Lift is to be secured to the floor. Chemical anchor bolts type, Fischer FIS V Injection Resin System with Fischer threaded rod FIS A M16 x 175 galvanic zinced or equivalent. Holes made for installation of chemical anchor bolts to be dust free before installing chemical anchor bolts. Screw and secure the M16 nuts onto the installed M16 chemical anchor bolts.

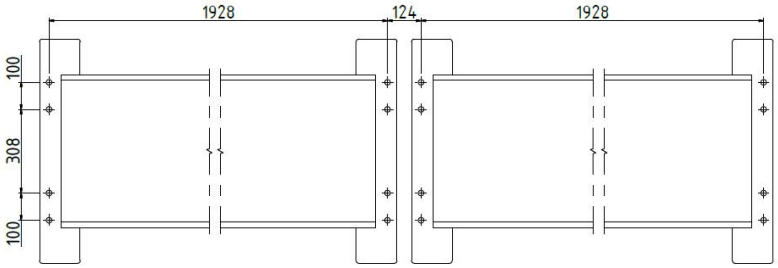
WARNING!
It is not permitted to use the chassis straightening bench & lift set without the lift being securely fastened to a horizontal suitably flat, level and solid floor surface.



5.5.4 CRS3000 dimensions in mm

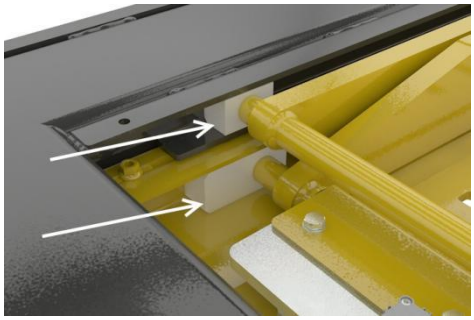


5.5.5 CRS4000 dimensions in mm



5.5.6 CRS5500 dimensions in mm

7. Ensure that the safety foot *(See chapter 3.3)* securely rests in a notch. Ensure there is no pressure at the temporarily connected hydraulic hose, This can be done by pressing the down button. Uncouple the Temporarily hose and make a permanent connection from the Electro/Hydraulic pump to the hydraulic cylinder and Pneumatic Cylinder. *(See chapter 6.2)*
8. (Optional Height sensor) Connect the height sensor with the Electro/Hydraulic pump *(See chapter 7).*
9. Ensure that all the hoses and cables cannot get trapped into moving parts or deviate from the instructions in this manual.
10. Ensure that slide track profiles, for the plastic Slider Blocks connecting the Scissor Lift on the bench frame, are lubricated with a No-Ox-Id grease or PTFE / Teflon lubricant spray. *(See picture 5.5.5)*



5.5.5

12. Raise and lower the Lift 10 - 15 times without any load. *(see Chapter 6.3)*. This to allow the air to escape from the hydraulic system. It is possible that there can be a small leakage of hydraulic oil from the cylinders as the cylinder seals bed in.
13. Check that the mechanism of the pneumatically operated safety lock functions correctly. Check that all screws in the shafts, bolts and connections, are correctly and securely fastened. Check that the bench is secured on the floor with anchoring bolts.
14. The bench is ready to operate.

6 SYSTEM INSTALLATION AND INFORMATION

6.1 Components & oil information

Technical data

1. Electro/Hydraulic pump (L2830)

Height	75 cm
Width	25 cm
Length	26 cm
Motor Power	1.8 kW
Amperage	220V 3PH 8A 400V 3PH 4.5A
Number of wires	3 + earth
Speed	(star) 1400 rpm (triangle) 1690 rpm
Hydraulic oil	Viscosity < 23 ISO 3448 BP Bartran 22 Shell Tellus S2
The pump tank volume	6 litre
Pneumatic pressure	8 - 10 bar

2. Hydraulic Cylinders (L2823)

Quantity	2

3. Hydraulic coupling set

	for L25 lift	for L30 lift	for L45 lift
Part name	L2570	L3024	2x L3024
Banjo bolt	2	2	4
Banjo pipe		2	4
Bonded Seal Ring	4	4	8
Elbow		1	2
Elbow	1	1	2
T Coupling		1	2
Hose Breakage safety valve (adjustable)	1	1	2
Hydraulic pipe	1	1	2
bonded seal	1	1	2
Banjo pipe short	2		
T Coupling	1		

L25 Hydraulic set

L30 Hydraulic set

4. Pneumatic cylinder:
   Pneumatic cylinder for L25 Lift
   Pneumatic cylinder for L30 Lift

5. 2x Pneumatic 4 mm hose and quick connectors

6. The Hydraulic system is supplied with a hose break safety valve, which ensures that, in the case of breakage of the hydraulic hose, the scissor lift lowers slowly to the closest safety notch catch position of the safety lock plate.

6.2 Connecting electro/hydraulic pump with bench

Connecting Hydraulic hose to the Electro/Hydraulic Pump

1. Open the pump by removing the front panel
2. Remove the small RED screw cap

3. Install the supplied Thread adapter

4. Lead the hydraulic hose through the side panel and screw the hydraulic hose onto the pump

5. Check that all connections are clean and securely tightened

Connecting Hydraulic and pneumatic hose to the L30 (L50) lift permanent

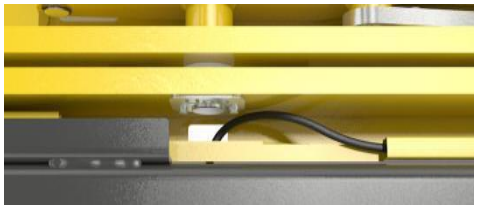
1. Pass the hydraulic and pneumatic hoses, through the opening in the scissor lift bottom plate *(See picture 6.2.4)*
2. Guide the hoses through the yellow 25x25 square tube *(See picture 6.2.4)*
3. Guide the hydraulic hose across the bearing block and under the arm of the lift *(See picture 6.2.5)*
4. Attach the hose clamp on the hydraulic hose. Leave enough room for the hydraulic hose to move up and down when the lift is raising or lowering. *(See picture 6.2.5)*
5. connect the hydraulic hose to the hose break safety valve which is connected to the hydraulic coupling set *(See picture 6.2.6)*
6. Tighten all the fittings with the correct spanner
7. Guide the Pneumatic hose through the 10x10 square tube on the lift arms. *(See picture 6.2.7)*
8. Leave enough room for the pneumatic hoses to move over the hinge of the arms, make sure the Pneumatic hose cannot get trapped between moving parts. *(See picture 6.2.8)*
9. Connect the Pneumatic hoses on the pneumatic cylinder. *(See picture 6.2.9)*
10. Check that all connections are clean, cannot get trapped between moving parts and are securely tightened.

Connecting Hydraulic and pneumatic hose to the lift temporally

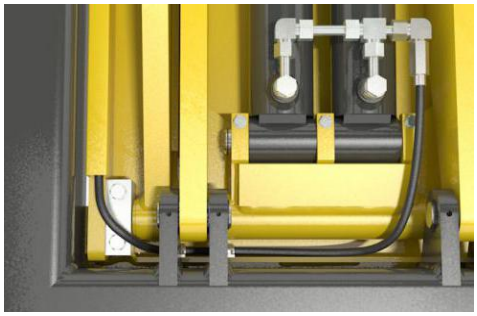
1. Pass the hydraulic hose over the bench and make the connection with the Hydraulic cylinders. *(See picture 6.2.10)*

WARNING!
Ensure the hose cannot get trapped or damaged in any way by moving parts of the lift. Also check all the connections are tightened. Make sure that you are 3m (10 feet) away from the bench at all times when raising and lowering the bench. Check that the Safety foot is in a notch or the bench is in its lowest position before moving towards the bench.

WARNING!
It is strictly forbidden to use the lift before it is fixed to the ground. (Risk of tipping over)

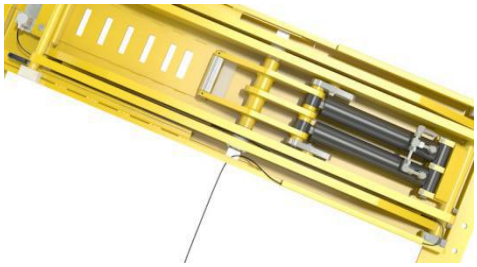


6.2.4



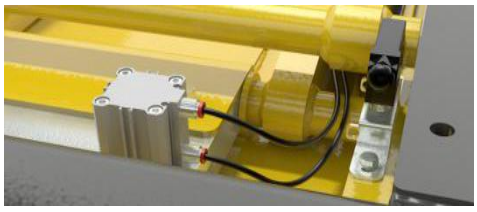
6.2.5

6.2.6



6.2.7

6.2.8



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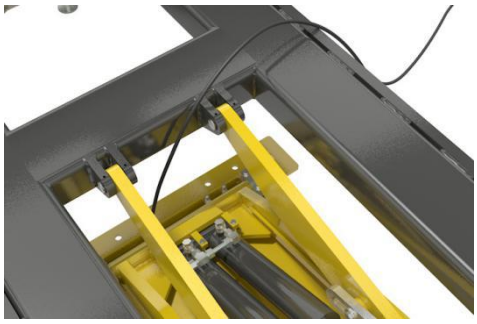
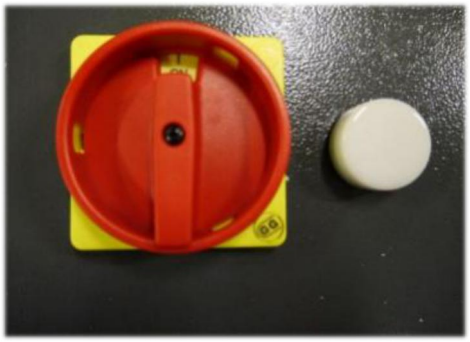


6.2.10

BUTTONS and FUNCTIONS

Switch on the pump

1. ON/OFF switch
2. White ON/OFF light



Wired controller

WARNING!

Before raising:

1. Check if the vehicle on the bench is mounted properly
2. Check there is no personal or equipment around in a radius of 3 meter (10 feet) around the bench

Before lowering:

1. Check there is no personal or equipment around in a radius of 3 meter (10 feet) around the bench

1. Red emergency stop button
2. White up button
3. 2 phase down button
   1) Normal down without pneumatic cylinder (with this function the safety foot gets in a notch)
   2) Down with pneumatic cylinder (with this function the safety Foot gets out of a notch)

WARNING!

Be careful when operating the lift with personnel in the vicinity. Risk of crushing injuries or death.

6.3 Extra information

Changing the voltage on the Electro/Hydraulic pump

WARNING!
Always disconnect the pump power supply before opening the case or when doing maintenance.

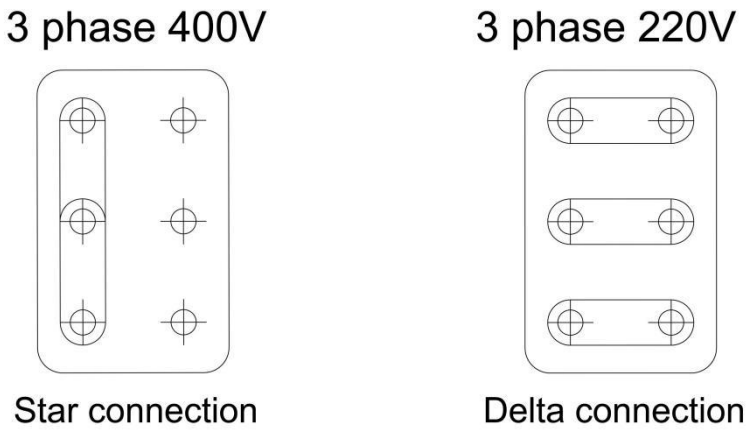
CAUTION!
All work on the electrical equipment must be carried out by authorized personnel.

6.3.1

6.3.2

The voltage to which the Electric Hydraulic Pump has been set is according to the standard voltage value which is used in the customers country to which UnoLiner has supplied to. The voltage of the Electric Hydraulic Pump can be changed between two possible voltages namely 230V 3 Phase and 400V 3 Phase.
You can change the voltage by following the next steps:

1. Open the pump by removing the front plate
2. Open the electric cabinet in the top of the pump
3. Find the Electric transformer *(See picture 6.3.1)*
4. Switch the cable into the desired voltage labelled on the Electric transformer
5. Open the black cover on the pump*(See picture 6.3.2)*
6. Change the connection of the plates in the following way *(See picture 6.3.3)*



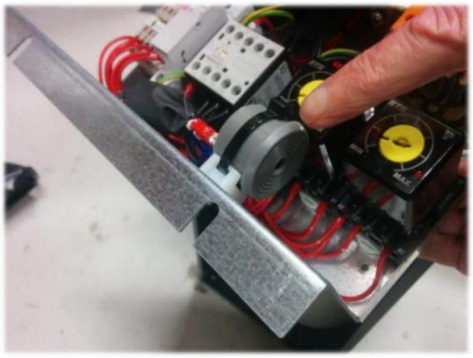
6.3.3

How to adjust the pressure of the Electro/Hydraulic pump

CAUTION!
All work on the electrical equipment must be carried out by authorized personnel.

The pump pressure can be adjusted by following the next steps:

1. Unhook the hydraulic hose coupled to the hydraulic cylinder in the lift
2. Fit a hydraulic pressure gauge to the hose. The Hydraulic pressure meter must be capable to hold 310bar / 4500 psi
3. Locate the hole in the side panel of the pump casing
4. Peek straight through the hole and locate the Socket bolt and counter nut
5. Unscrew the counter nut half way so you can adjust the socket bolt
6. Adjust the pump pressure with the socket bolt to 250 bar / 3626 psi
7. Tighten the counter nut
8. Unhook the pressure gauge and reassemble the hydraulic hose to the hydraulic cylinder on the lift
9. Check for leaks in the system



6.3.4

How to replace the buzzer on the Electro/Hydraulic pump

CAUTION!
All work on the electrical equipment must be carried out by authorized personnel.

6.3.5

The buzzer can be replaced by following the next steps:

1. Open the pump by removing the front plate
2. Open the electric cabinet in the top of the pump casing
3. Find the buzzer and replace it *(See picture 6.3.4)*

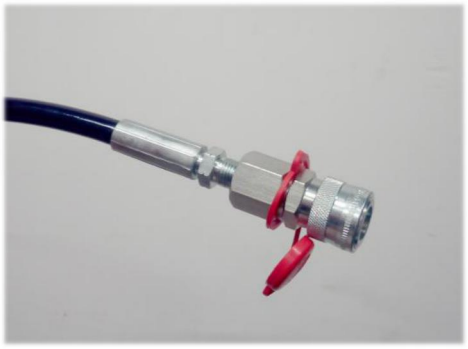
How to replace the fuse on the Electro/Hydraulic pump

CAUTION!
All work on the electrical equipment must be carried out by authorized personnel.

The fuse can be replaced by the following steps:
1. Open the pump by removing the front plate
2. Open the electric cabinet in the top of the pump casing
3. Find the fuse for the pump and replace it *(See picture 6.3.5)*

6.4 Connecting foot pump with draw aligner

Connect the foot pump by the following steps:
1. Screw the hydraulic fitting (female) on the high pressure hydraulic hose *(See picture 6.5.1)*
2. Screw the other end of the hydraulic hose in the foot pump *(See picture 6.6.2 & 6.6.3)*
3. Screw the hydraulic fitting (male) on the high pressure cylinder *(See picture 6.5.2)*
4. Connect the quick connect fitting of the hose and the cylinder together
5. Connect a pneumatic hose onto the Foot pump and a compressor
6. The connection with the draw aligner is ready



6.5.1

6.5.2

6.5 Foot pump

WARNING! TO AVOID INJURY:

- Read the instruction manual
- Get to know the equipment
- Keep safety equipment readily available and in good condition.
- Ensure that no-one is in the way when you operate the draw aligner or lift.
- Do not leave the draw aligner under pressure when it is unattended.
- Always secure the designated safety line to the pulling chain when the draw aligner is used.
- Never stand with in 3 meters the draw aligner when in use.
- Make sure the draw aligner is correct and securely attached to the bench.
- Only use UnoLiner Systems original spare parts.
- Check that the chain to be used is undamaged and that it is intended for a 10 ton pulling force.

General information

The UnoLiner air-powered hydraulic pumps are designed for use with single-acting cylinders and tools. The pump treadle may be operated by hand or foot for greater versatility.

6.6.1

Preparation

Adding Oil to the Reservoir:

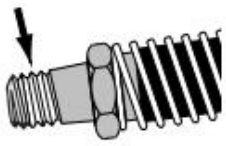
1. Remove the transport plug on the pump, located on the top side of the pump.
2. Fill the reservoir and constantly check with the included fluid level stick.
3. After filling the reservoir, screw the included fluid level stick in the filling hole and finger tighten.

WARNING!

Attempting to overfill the reservoir will cause the reservoir to become pressurized. If the reservoir is subjected to high pressure, the casing may rupture, causing personal injury and/or equipment damage.

CAUTION!

DO NOT use a wrench. Over-tightening will damage the plastic reservoir .



6.6.2

Connecting hydraulic hose:

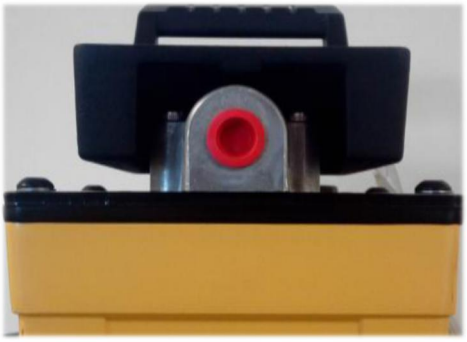
1. Prepare the threaded end of the hose with a pipe thread sealer, such as Teflon tape. Use 1 1⁄2 wraps of Teflon tape, leaving the first thread bare to prevent tape from shedding into the hydraulic system and causing damage.
2. Tighten pipe connections securely, but DO NOT OVER-TIGHTEN

6.6.3

Connect air supply:

Air pressure should be regulated to a maximum of 9 bar (140psi)

1. Prepare the threaded end of the included pneumatic connection with high-grade pipe thread sealer, such as Teflon tape.
2. Tighten pipe connections securely, but DO NOT OVER-TIGHTEN



6.6.4

Operation foot pump

The foot pump is operated on the floor with the foot of the operator.

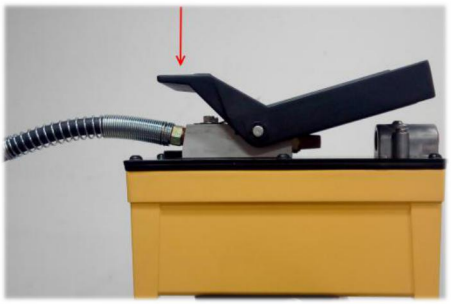
1. Stationary position of the foot pump, in this position the pump does not pump or release pressure. *(See picture 6.6.5)*

6.6.5

2. Working position of the foot pump, tilt the pedal of the foot pump as shown in the picture. The foot pump is will to build pressure when the pedal is tilted backwards. *(See picture 6.6.6)*

6.6.6

3. Release position of the foot pump, tilt the pedal as shown on the picture. The foot pump releases the pressure of the cylinder. *(See picture 6.6.7)*



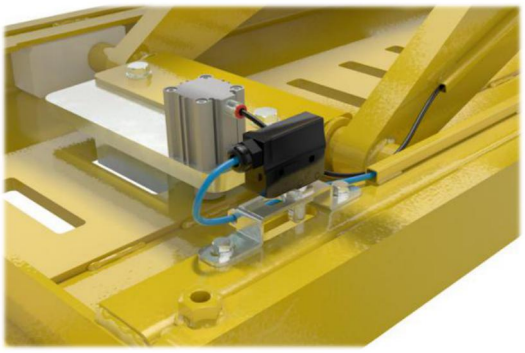
6.6.7

Maintenance

1. Periodically check all hydraulic and air connections to be sure they are tight. Loose or leaking connections may cause erratic and/or total loss of operation. Replace or repair all defective parts promptly.
2. Periodically check the hydraulic oil level in your system.
3. Change hydraulic oil after every 12 months, it may be necessary to change the oil more frequently in dusty or dirty areas. To change the oil, drain used oil through the fill opening and fill reservoir to 1 centimeter below the fill opening with clean hydraulic oil. Dispose of used oil in accordance with local regulations and ensure an environmental friendly disposal

7 HEIGHT SENSOR (OPTIONAL)

7.1 General function and information



The height sensor is a extra safety function. The optional Height Sensor will stop the descent of the bench at 300mm at which point the descend button on the remote control must be pressed again to allow the lift to descend further.

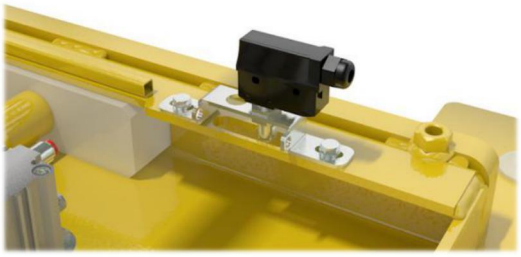
7.2 Connection

Connect the Height Sensor cable to the Electro/hydraulic pump with the provided plug.

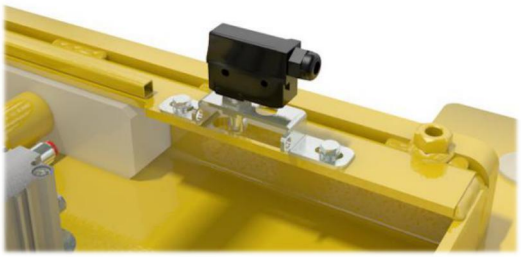
7.3 Stopping position adjustment

The height sensor stopping position can be adjusted by following the next steps:

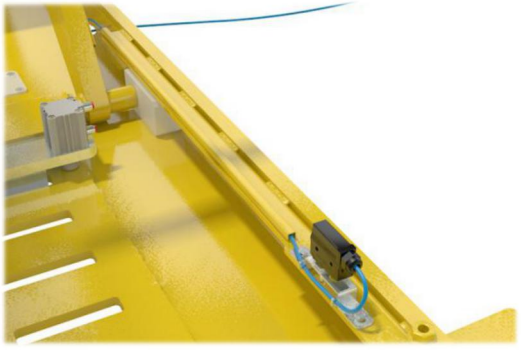
1. Raise the bench to 300mm (11.8 Inches). Measure the distance from the top of the bench frame to the ground.
2. Normal situation: mount the sensor in the hole of the bracket. *(See picture 7.3.1)*
   In-ground situation: assemble the sensor in the hole of the bracket *(See picture 7.3.2)*
3. Guide the cable coming from the sensor along the side of the bracket *(See picture 7.3.3)*
4. guide the cable through the 10x10 tube. *(See picture 7.3.3)*
5. Bolt the bracket with the mounted sensor on the lift ground plate.
6. Adjust the stopping height by moving the bracket in the slotted holes. *(See picture 7.3.4)*



7.3.1



7.3.2



7.3.3

7.3.4

8 QUICK START GUIDE DRIVE ON BENCHES

BEFORE USING THE UNOLINER EQUIPMENT READ CHAPTER 3 SAFETY!

WARNING!
During set-up of the vehicle on the bench, care must be exercised so the vehicle does not roll or slide from the support or mountings. Risk of injuries or death.

1. Drive the vehicle onto the R20 drive on ramp set *(See picture 8.1)*

WARNING!
Maximum vehicle weight CRS3000: 2500kg (5500 lbs)
Maximum vehicle weight CRS4000 L30 / L36: 3000kg (6600 lbs) / 3600kg / (7920 lbs)
Maximum vehicle weight CRS4600 L30 / L36: 3000kg (6600 lbs) / 3600kg / (7920 lbs)
Maximum vehicle weight CRS5500: 5000kg (11000 lbs)

8.1

WARNING!
R20/R25 Maximum load per ramp = 1000kg (2200 lbs)
R30 Maximum load per ramp = 1500kg (3300 lbs)

The safety stop bracket on the last ramp and the safety blocks should all ways be correctly fitted before driving on the bench

TIP
See R15 for in ground solution.

2. Raise the bench *(See picture 8.2)*

WARNING!
Before raising:
1. Check if the vehicle on the bench is mounted properly
2. Check there is no personnel or equipment around in a radius of 3 meter around the bench

Before lowering:
1. Check there is no personnel or equipment around in a radius of 3 meter (10 feet) around the bench

8.2

3. Place the 4x H20 Wheel stand under the vehicle's tires *(See picture 8.3)*

8.3

TIP
The H30 is also a quick and easy to use Wheel stand and takes less space when not in use.

4. Lower the bench, Now the vehicle stands on the H20 Wheel stands

5. Remove the middle section of the R20 drive on ramps to enable the placement of the bench adapters

6. Place B10 Bench adapter on the bench where the vehicle must be clamped with the C10, use the B10 single bolt locking system to keep them in place *(See picture 8.4)*

8.4

TIP
There is also a B10S For the shark measuring system, B30 For smaller cars and the B70 for height adjustment on the bench adapter itself.

7. Place the C10 Quick locking chassis clamp on the B10, Place them where the vehicle must be clamped and supported *(See picture 8.5)*

8.5

CAUTION!
Ensure that the chassis clamp toothed segments are clean and fitted correctly.

8. Raise the bench until the sill edges are in the jaws of the C10 chassis clamp

9. Fasten the C10 chassis clamp onto the cars sill edges using the single bolt locking system *(See picture 8.6)*

8.6

TIP
For 4x4 and trucks there is the C30 and C31 and Check the catalogue for other jaws that fit the C10.

10. Raise the bench so the F1030 Support legs can be lowered in working position, there are two F1030 on each side of the bench *(See picture 8.7)*

8.7

TIP
See F1030L support leg for in-ground solution.

11. Lower the bench until the F1030 rests on ground

12. Roll the P10 Draw aligner against the bench *(See picture 8.8)*

8.8

TIP
Also check out the P5 5 ton draw aligner and the P20 vector pull set for more pulling solutions.

13. Lock the P10 draw aligner with the quick bolt mechanism *(See picture 8.9)*

8.9

14. You are ready to straighten the vehicle, *(see chapter 6.6 operation foot pump)*

TIP
Check out the full catalogue on the UnoLiner System website for more accessories and pulling solutions!
www.unoliner.com

9 MAINTAINANCE

All adjustments of the equipment and replacement of parts are to take the herein included information as guide and must be taken into consideration when carrying out maintenance work on UnoLiner Systems equipment.

• Keep all accessories and tools in their fixed storage places	**Daily**
• Keep all parts clean. Be especially attentive to keeping hydraulic connections and hoses clean at all times	**Daily**
• Check that the pneumatic safety slide lock plate mechanism on the Scissor lift is free from any dirt, or other material which can hamper its function. Make sure that the safety lock moves freely and does not have any resistance	**Once a week**
• Lubricate the shafts and the lift slide blocks regularly	**Once a week**
• Check regularly and ensure that the lock screws of the shafts and axles are correctly tightened	**Once a week**
• The Scissor lift should be raised and lowered a number of times without any load, to remove any possible air in the hydraulic-system	**After oil level control of hydraulics**
• Clean the frame and all accessories after each use	**Recommended**

WARNING!
During all service and fitting work, the lift must be blocked up while in the raised position to prevent accidental lowering. Risk of crushing injuries.

WARNING!
Do not repair yourself any defective part of the lift or straightening system.

CAUTION!
Waste oil should be disposed of according to local legislation and in an environmental friendly manner.

CAUTION!
Any repair on on UnoLiner equipment must be performed by a **UnoLiner System** representative.

10 FAULT DETECTION

Fault	Cause possible	Action
The pump does not run	Phase error, blown fuse	Check for tension on the phases. Check the fuse. (*see chapter* 6.3 Extra information)
	Voltage drop or wrong voltage	Check the voltage and make sure that the motor and electrical component box are connected for the correct voltage. (*see chapter* 6.3 Extra information)
	Defective pump	Replace the pump unit
Fault	**Cause possible**	**Action**
The Scissor lift does not work. Hydraulic pump works.	Transport safety	Remove the transport safety bolts and plates. (see chapter 5.5 Placing the bench)
	Lift is jammed by obstacle	Look closely for objects jamming the lift or the nylon slider blocks are jamming. Remove the objects causing the jam.
	Excess load on the lift	Maximum load on the lift is overwritten, check max load label on bench how much it can handle. (*see chapter* 3 Safety)
	Motor rotating in wrong direction	Change the phase order on the electrical connection and check the direction of rotation.
	Low oil level	Check oil level. For more oil information see chapter 6.1 components & oil information
	Oil leakage	Check the hoses, couplings and cylinder seals for leakage. Tighten components correctly or replace defective components .
	Dirt in the hydraulic system.	Disconnect Check and clean hoses and connections.
	Hose Breakage Safety Valve blockage	Disconnect the hose breakage safety valve and blow it through with compressed air. Check that oil flow through the Hose Breakage Safety Valve is set to correct flow.
	Defective remote control	Check remote control connections, if problem still occurs replace the remote control.
	Defective pump	Replace the pump unit

Fault	Cause possible	Action
The Scissor lift works but has no strength.	Excess load on the lift	Maximum load on the lift is overwritten, check max load label on bench how much it can handle. (*see chapter* 3 Safety)
	Too low pressure generation by the hydraulic pump.	Contact the UnoLiner Systems technical service provider to adjust the pressure adjustment valve screw on the side of the pump to a maximum pressure of 280 Atmosphere. (see chapter 6.3 extra information.)
	Dirt in the hydraulic system.	Disconnect and clean hoses and connections. Replace the hydraulic oil.
	Leakage at the interior of the hydraulic system.	Control and change the seals and gaskets. Change oil.
Fault	**Cause possible**	**Action**
The Scissor lift raise and lowers irregularly.	Air in the hydraulic system.	Raise the Scissor lift up and down a few times without weight load on the bench and lift.
	Jam between the nylon slide blocks and the tracks.	Lubricate the Slide Block tracks with light grease.
Fault	**Cause possible**	**Action**
The Scissor lift lowers slowly	Dirt in the hydraulic system	Disconnect and clean hoses and connections. Replace the hydraulic oil.
	Oil leakage from hose, coupling or gasket	Check hoses, couplings and cylinder gaskets. Replace components if failure has occurred. Replace the hydraulic oil.
	Non-return valve in the pump defective or leaking	Replace component or replace the pump unit.
Fault	**Cause possible**	**Action**
The Scissor lift cannot be lowered	The safety foot is jammed	Raise the bench and place [1]supports under the bench frame in case the lift collapses. Remove the cause of the jam or replace defective component. **DO NOT USE THE SCISSOR LIFT WHEN SAFETY FOOT IS DEFECTIVE!** ([1] Supports need to be strong enough to hold the bench system and all the components resting on it!)
	The pneumatic cylinder does not lift the safety foot up	Check the air supply and the reducer valve in the pump. Make sure the air supply is not crushed,blocked or leaking out of connections.