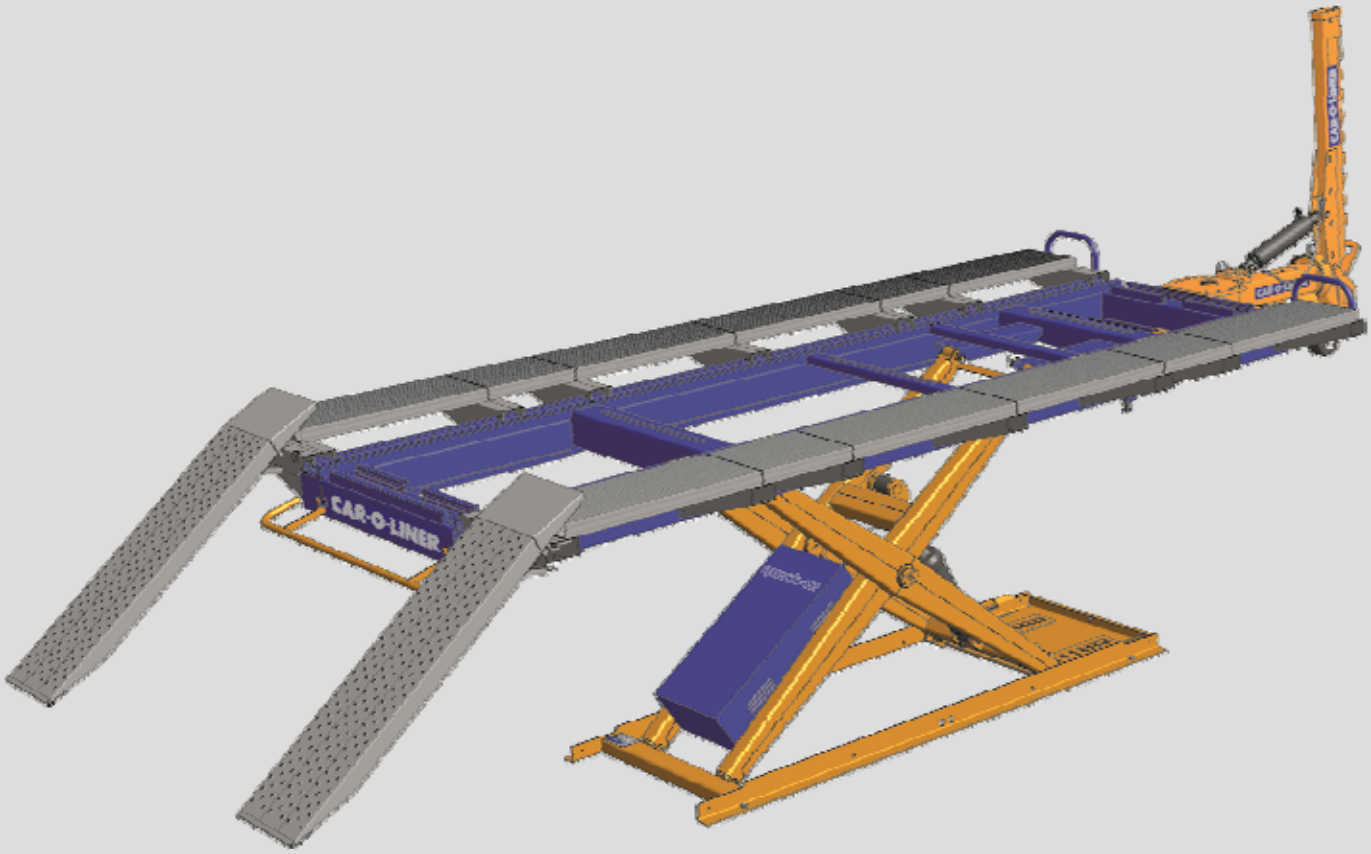
Quick 42

The multifaceted bench repair system

Instruction Manual



(40724, rev 8) **2017-09 EN**

CAR-O-LINER®

Foreword

This equipment is used to facilitate high quality repairs to collision-damaged vehicles. All other use of the equipment, or use that is contrary to the instructions in this manual, can cause personal injury and/or equipment damage.

Car-O-Liner Group AB including any company within the Car-O-Liner Group of companies ("Car-O-Liner") can not be held responsible for any claims for loss or damages as a result from incorrect use of this equipment or its use in a manner not intended. Save for product liability claims for loss or damages as a result of personal injury or damage to property to the extent caused by the negligence, gross negligence, breach of contract, or other wrongdoing of Car-O-Liner (as prescribed by the Product Liability Act (1992:18) or similar legislation applicable on other markets),
Car-O-Liner shall in no event be liable for any loss or damage to revenues, profits or goodwill or other special, incidental, indirect or consequential damages of any kind.

Warranty

Car-O-Liner offers a one-year limited guarantee from the date of installation of the equipment at end users premises. This guarantee covers only material defects and assumes normal care and maintenance according to Car-O-Liner specification.

The guarantee assumes that:

- The equipment is correctly installed and inspected in accordance with current local laws and regulations.
- The equipment has not been altered or rebuilt without prior written approval from Car-O-Liner.
- Genuine Car-O-Liner spare parts are used in any repairs and conducted by Car-O-Liner certified technician.
- Operation and maintenance have been carried out according to the instructions in this manual.

All claims on warranty shall be notified through your authorized Car-O-Liner Distributor by use of Car-O-Liner´s VisionWeb platform without undue delay and shall verify that the fault has occurred within the guarantee period and that the unit has been used within its operating range as stated in the specifications. All claims shall include the product type and article number as well as a detailed description of the problem and actions taken trying to solve it. This data is stamped on the name plate (refer to section 1.2 "Marking" for location).

Note

This instruction manual provides advice as well as instructions for installation, operation, maintenance and trouble shooting.

IMPORTANT! Read this manual carefully to become familiar with the proper operation of the equipment. It is recommended that you use your authorized Car-O-Liner Distributor for maintaining, servicing and upgrading your products. Never perform repairs, adjustments or any other work on the products which may result in personal injury and damage to the product.

Your Car-O-Liner Distributor employs factory trained technicians and is focused on offering you the best overall experience with your new Car-O-Liner product. Any revisions or upgrades of the products, as required by Car-O-Liner, shall be performed by your authorized Car-O-Liner Distributor.

The photographs and drawings in this manual are intended only to be illustrative and do not necessarily show the design of the equipment available on the market at any given time. The equipment is intended for use in accordance with current trade practice, applicable laws and safety regulations. The equipment illustrated in the manual may be changed without prior notice.

The contents in this publication can be changed without prior notice.

Conformity with directives and standards

The equipment is designed and manufactured by Car-O-Liner, which is an EN-ISO 9001 and 14001 accredited development and manufacturing organisation.

The equipment is CE-approved by Inspecta, Sweden. It is required that only Car-O-Liner approved spare parts and accessories are used with the equipment.

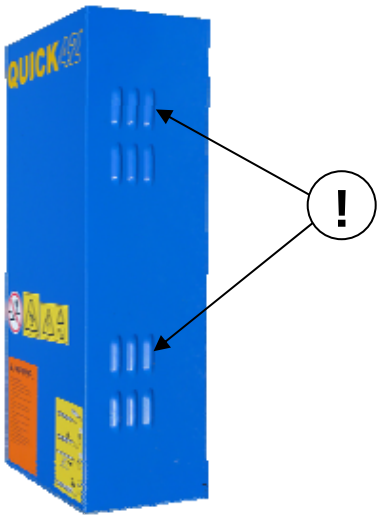
This Quick 42 Instruction Manual describes two different Power Unit versions, henceforward reffered to as "Type 1" and "Type 2" in this Instruction Manual.

Type 1 Power unit

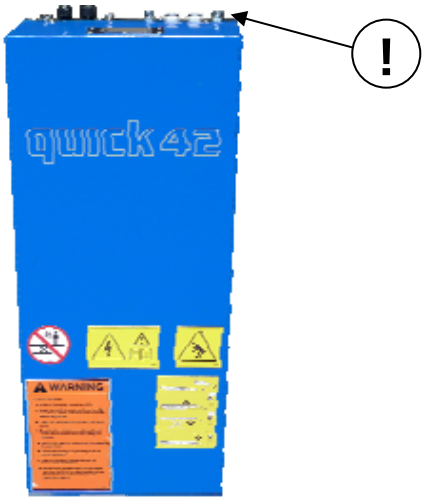
For identification of Type 1, see design and name plate. Serial no. beginning with 541 on 110 V 60 Hz. Article no 39754.
Serial no. beginning with 511 on 230/400 V 50 Hz. Article no 39751.
For more extensive information, *see section 3.2.3 Type 1 Power unit.*

Type 2 Power unit

For identification of Type 2, see design and name plate. Serial no.beginns with Q611 followed by manufacturing year and a serial number.
For more extensive information, *see section 3.3.8 Type 2 Power unit.*

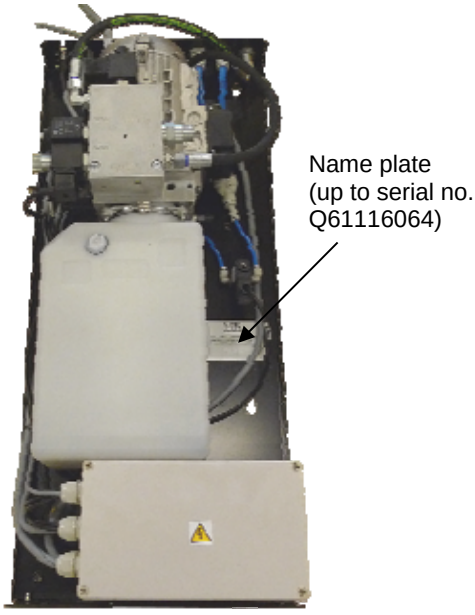


Type 1 exterior



Type 2 exterior

Type 1 interior

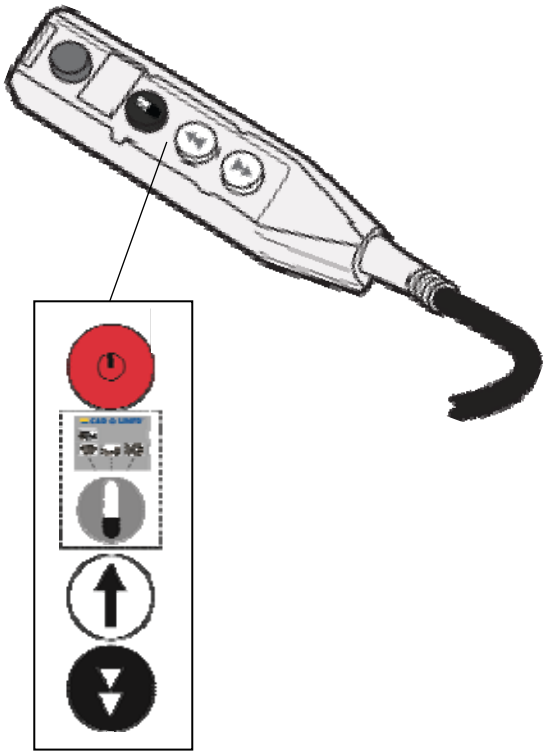


Type 2 interior

This Quick 42 Instruction Manual describes two different Pendant station versions, henceforward reffered to as "Type 1" and "Type 2" in this Instruction Manual.

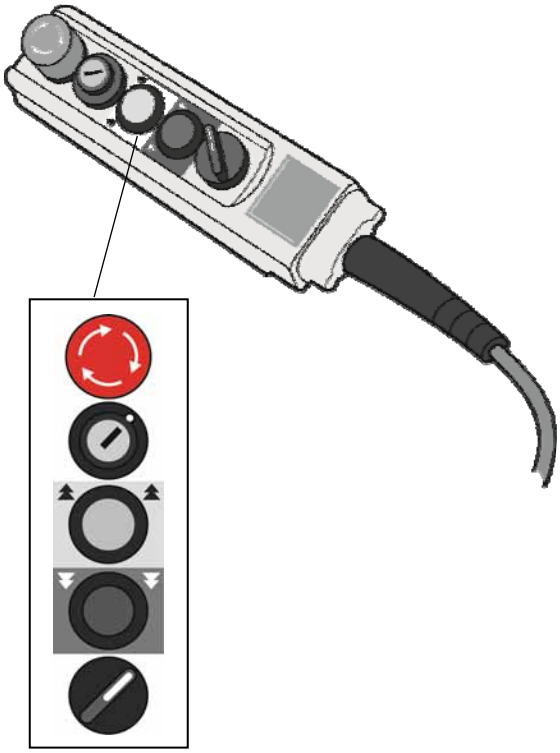
Type 1 Pendant station

For identification of Type 1, see design and control panel. For more extensive information, *see section 3.1.13 Type 1 Pendant station.*



Type 2 Pendant station

For identification of Type 2, see design and control panel. For more extensive information, *see section 3.1.14 Type 2 Pendant station.*

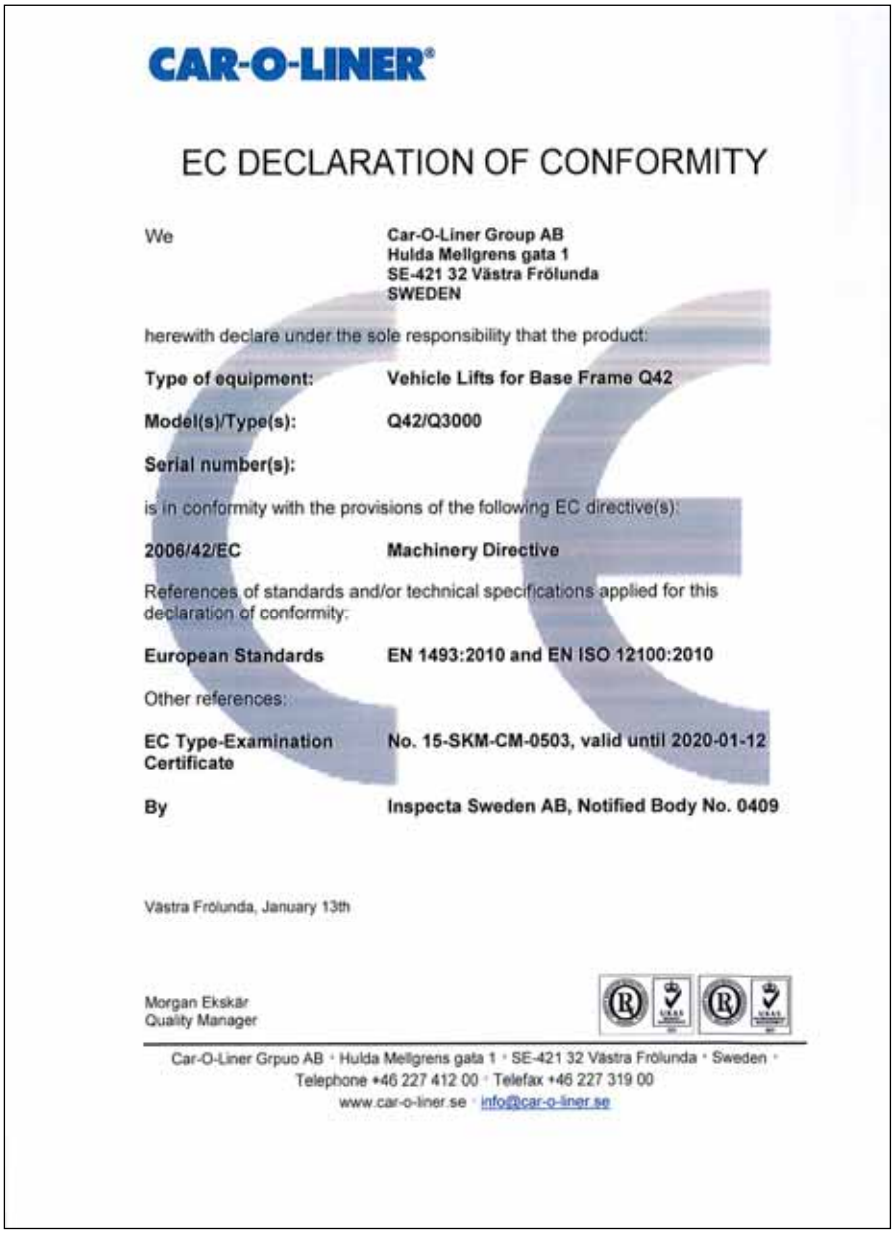


Conformity with directives and standards

The Quick 42 bench repair system is manufactured by Car-O-Liner AB, which is an ISO 9001:2008 and ISO 14001:2004 accredited organisation.

Below an example of how the EC Declaration of Conformity for the Quick 42 is outlined.

A signed and dated copy of the EC Declaration of Conformity, including serial number, is included in the documentation for the Quick 42. Please contact your distributor if you need a new copy of the Declaration of Conformity.



CAR-O-LINER®

EC DECLARATION OF CONFORMITY

We — **Car-O-Liner Group AB, Hulda Mellgrens gata 1, SE-421 32 Västra Frölunda, SWEDEN**

herewith declare under the sole responsibility that the product:

Type of equipment: **Vehicle Lifts for Base Frame Q42**

Model(s)/Type(s): **Q42/Q3000**

Serial number(s):

is in conformity with the provisions of the following EC directive(s):

2006/42/EC **Machinery Directive**

References of standards and/or technical specifications applied for this declaration of conformity:

European Standards **EN 1493:2010 and EN ISO 12100:2010**

Other references:

EC Type-Examination Certificate **No. 15-SKM-CM-0503, valid until 2020-01-12**

By **Inspecta Sweden AB, Notified Body No. 0409**

Västra Frölunda, January 13th

Morgan Ekskär
Quality Manager

Car-O-Liner Grpuo AB · Hulda Mellgrens gata 1 · SE-421 32 Västra Frölunda · Sweden ·
Telephone +46 227 412 00 · Telefax +46 227 319 00
www.car-o-liner.se · info@car-o-liner.se

Contents

1 Introduction 9
1.1 General 9
1.2 Marking 10

2 Safety 11
2.1 General 11
2.2 Warnings and important notices 11
2.3 Safety signs 16
2.3.1 Placement of safety signs 18
2.4 Safety devices 20

3 Installation 21
3.1 Connection of electrical and air supply 21
3.2 Bleeding of the hydraulic system 22
3.2 Quick 42 With Lift 23
3.2.1 Drive-on Ramps 23
3.2.2 Roll-off stops 24
3.2.3 Bench Supports For Draw Aligner Height 24
3.2.4 Crush Guard 25
3.2.5 Loading Trolley/Roll Stop B57 (Optional) 25
3.2.6 Bench Mounting 25
3.2.7 Cam Locks B626 25
3.2.8 Hydraulic Jacks Q170, 2 pcs 26
3.2.9 Chassis Clamp B106 26
3.2.10 Sill Support B23 26
3.3 Lift and Power unit 27
3.3.1 Applications 27
3.3.2 Lift unit 27
3.3.3 Type 1 Power unit 28
3.3.4 Type 1 Power unit - Electrical supply 29
3.3.5 Electrical diagram for 230 and 400V AC, 3-phase for Type 1 Power unit 29
3.3.6 Electrical diagram for 110V AC, single-phase for Type 1 Power unit 30
3.3.7 Electrical diagram for 110V AC (single-phase) and 230/400V AC (3-phase) (for 24V low voltage circuit) for Type 1 Power unit 31
3.3.8 Type 2 Power unit 32
3.3.9 Type 2 Power unit - Electrical supply 33
3.3.10 Electrical diagram for 230/400V AC, 3-phase for Type 2 Power unit 33
3.3.11 Connection of motor block, 230/400V 34
3.3.12 Electrical diagram for 24V low voltage circuit 34
3.3.13 Type 1 Pendant station 35
3.3.14 Type 2 Pendant station 35
3.4 Installation of pendant station cable for type 2 power unit 36
3.5 Hydraulics 38
3.5.1 Hydraulic diagram, 110V for Type 1 Power unit 38
3.5.2 Hydraulic diagram, 230/400V for Type 1 Power unit 39
3.5.3 Hydraulic diagram, 230/400V for Type 2 Power unit 40

3.6 Draw aligner Q16 41
3.6.1 Preparations before starting alignment 42
3.7 Transport and inspection of delivery 42
3.7.1 Transport Protection 43
3.7.2 Mains Connections Check 43
3.8 Space requirements 43
3.8.1 Anchoring to the floor 46

4 Operation 47
4.1 General 47
4.2 Operating the lift 48
4.2.1 Raising the bench, Type 1 pendant station 48
4.2.2 Lowering the bench, Type 1 pendant station 48
4.2.3 Tilting the bench, Type 1 pendant station 49
4.2.4 Raising the bench, Type 2 pendant station 50
4.2.5 Lowering the bench, Type 2 pendant station 51
4.2.6 Tilting the bench, Type 2 pendant station 51
4.3 Measuring system 52
4.4 Ramp support and Side ramps 53
4.5 Connect the Q16 to the benchframe 56
4.5.1 Positioning and linking the draw aligner 57
4.6 Drive on to Q42 58
4.6 Setting up the vehicle 59
4.7.1 Setup with chassis clamps 60
4.7.2 Using Q201 spacers (optional) 62
4.7.3 Bench Mounting 65
4.7.4 Q63 Quick setup 65
4.7.5 Q62 Quick setup 66
4.8 Set up of a vehicle without front or rear sub frame 68
4.9 Q16 Draw aligner 69
4.9.1 Pulling a side damage when two fixing points are used 69
4.9.2 Pulling straight forward when two fixing points are used 70
4.9.3 Offset pulling when two fixing points are used 70
4.10 Useful when working with the vehicle 71
4.10.1 Compressed air 71
4.10.2 Hand tools 71
4.10.3 Width extension possibility 71

5 Mobile unit 73
5.1 General 73
5.2 Installation of transport wheels, using trolley jack 73
5.3 Installation of transport wheels, using hydraulic jacks 75
5.4 Safety 77
5.4.1 Two Q16 on the same bench side on an **empty unbolted** bench 77

6 Service and Maintenance 79
6.1 General warnings 79
6.2 Bench inspection and service plan 80
6.3 Draw aligner inspection and service plan 81

7 Troubleshooting 82
7.1 General 82
7.2 Problem: The lift can not be raised 82
7.3 Problem: The lift drops 83
7.4 Problem: The lift cannot be lowered 83
7.5 Emergency lowering of the lift, earlier design of SDV 1 valve 84
7.6 Emergency lowering of the lift, later design of SDV 1 valve 88

8 Dismantling and Salvage 92
8.1 Mechanical Components 92
8.2 Other Components 92

9 Technical Specifications 93

10 Spare parts 94
10.1 Bench spare part kits 94
10.2 Type 1 Power unit - summary 96
10.2.1 Type 1 Pendant station 98
10.2.2 Type 1 Pump unit 400/440V 99
10.2.3 Type 1 Pump unit 110V 100
10.2.4 Type 1 Upper manifold 101
10.2.5 Type 1 Electrical components 102
10.3 Type 2 Power unit – summary 103
10.3.1 Type 2 Pendant station 105
10.3.2 Type 2 Pump unit 400V 106
10.3.3 Type 2 Upper manifold 107
Type 2 Upper manifold (from serial no 61117065, *see nameplate!*) 108
10.3.4 Type 2 Electrical components 109
10.4 Draw aligner Q16 110
10.5 Ramps 111

1 Introduction

1.1 General

Quick 42 is used for vehicle alignment and has mobility, automatic tilt, pulling power integrated and a variably adjusted scissors lift which can raise the bench frame to the maximum working height of 1 480 mm (58 in).

The bench frame has drive-on ramps and ramp sections, so-called “side ramps”. The side ramps are easily hooked to the side tracks of the bench frame.

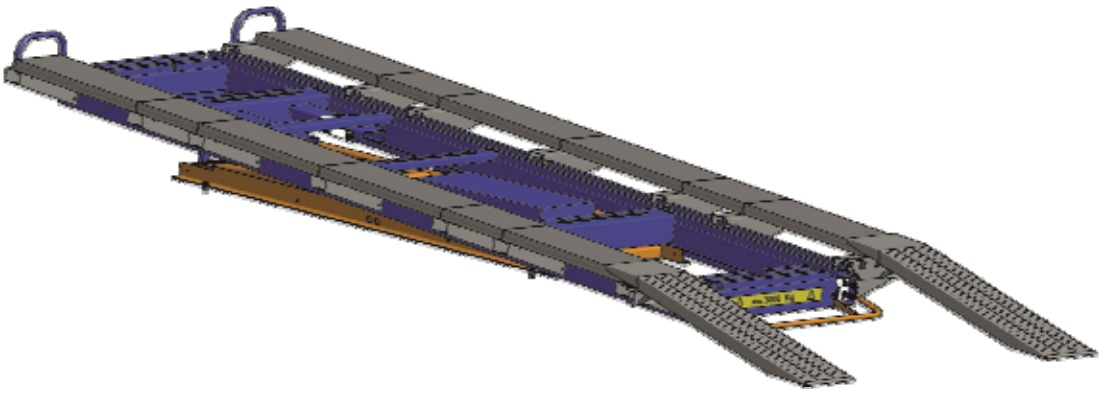
The ramps permit a vehicle to be driven on to the bench frame for quick anchoring of chassis clamps (such as Standard Clamp B106).

The bench frame may be tilted to facilitate driving on the vehicle.

Maximum permitted vehicle weight is 3 000 kg (6 600 lbs)

Maximum static load per ramp section is 1 000 kg (2 200 lbs).

The entire vehicle must be positioned on the bench when carrying out alignment work. The lift and bench frame may not be used to lift one end of the vehicle while the other end remains on the floor. Moreover, the lift’s working platform may not be used for anything other than vehicle repair.



1.2 Marking

The name plate is located at the base frame of the lift.

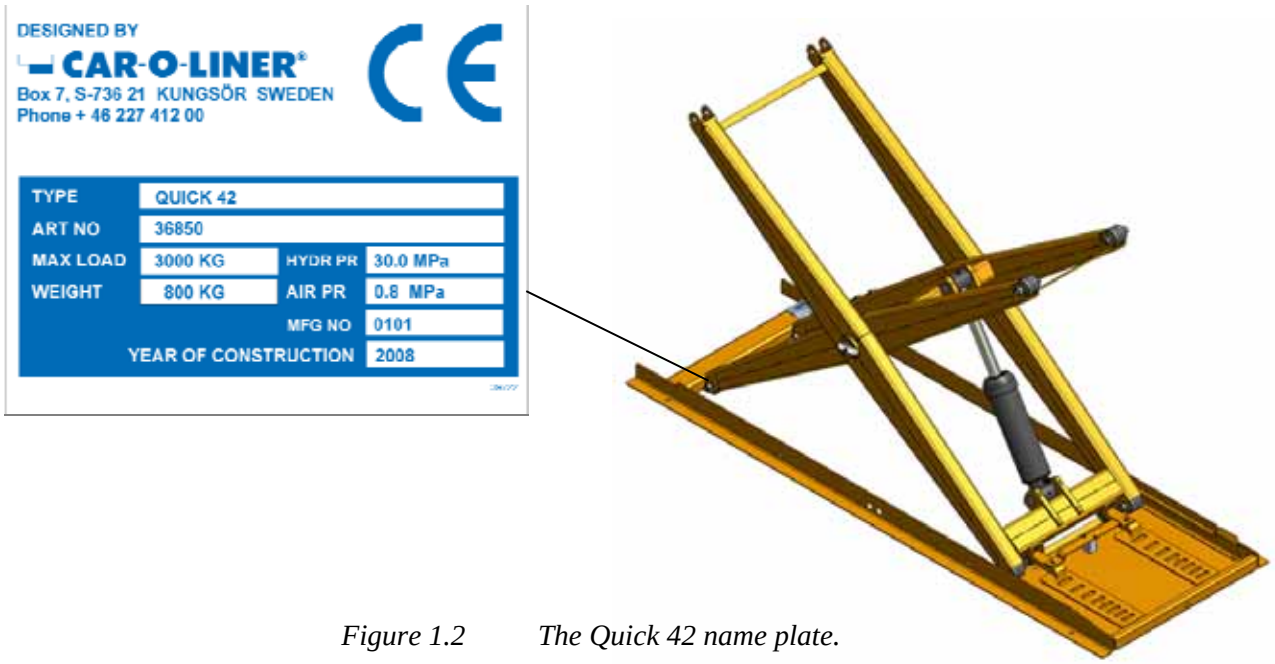


Figure 1.2 The Quick 42 name plate.

The power unit name plate is located on the front of the power unit from serial no. Q61116065.
(Name plate location up to serial no. Q6116064, *see page 3*.)

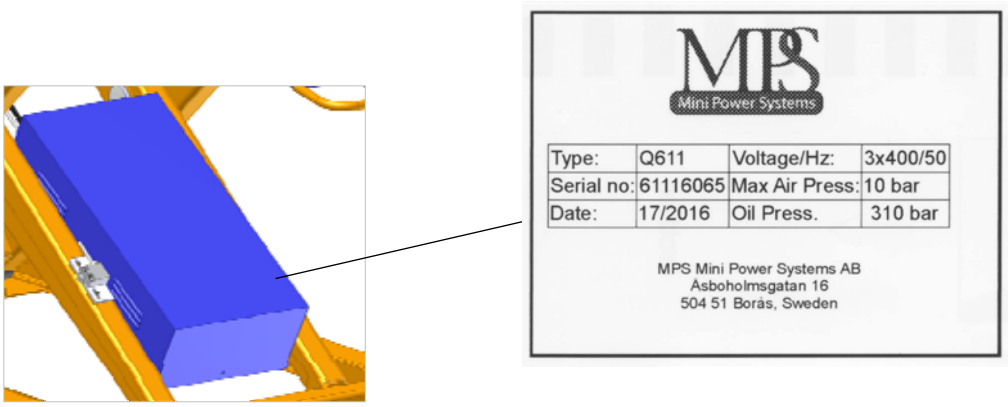


Figure 1.3 The Q605 name plate.

2 Safety

2.1 General

Quick 42 has been designed and tested to meet strict safety requirements. Please read the following instructions carefully before operating Quick 42 and refer to them as needed to ensure the continued safe operation of the equipment.

Information provided in this manual describes the suggested best working practices and should in no way take precedence over individual responsibilities or local regulations.

Great effort has been placed on the design and manufacture of Quick 42 in order for it to comply with all applicable safety aspects for this type of equipment. During operation and other work it is always each individual's responsibility to consider:

- Their own and other's personal safety.
- The safety of the Quick 42 through correct use of the equipment in accordance with the descriptions and instructions provided in this manual.

By observing and following the safety precautions, users of Quick 42 will ensure safer working conditions for themselves and their fellow workers.

2.2 Warnings and important notices

The following types of safety signs are used on the equipment and in Car-O-Liner's instruction manuals:

Prohibited
Prohibits behaviour that can cause injury.

Command
Prescribes a specific responsibility or action.

Warning
Warns of risks for personal injuries and or damages to equipment.

The following warnings and important notices are used in the instruction manual:

WARNING
Warning (in bold type) is used in this manual to indicate a possible danger that could lead to personal injury. An instruction is normally given, followed by a short explanation plus the possible effect if the instruction is not followed.

IMPORTANT
Important (in bold type) is used to indicate a possible danger that could lead to damage to the equipment and/or cause environmental damage.

NOTE: (in bold type) is used to accentuate supplementary information that is required for problem-free use or optimal use of the equipment.

In addition to the safety signs illustrated in *section 2.3 "Safety signs"*, the following warnings and important notices appear in the manual:

WARNING! The draw aligner is meant to be equipped with a hydraulic cylinder with a maximum capacity of 10 tons (300 bar).

WARNING! Make sure that the safety wire is correctly fitted and undamaged.

WARNING! Never release the locking wedge if the bench is not at draw aligner height. Risk for injury.

WARNING! Make sure that the draw aligner is correctly secured to the bench frame.

WARNING! The two locking pegs in the front of the draw aligner must be pressed in completely.

WARNING! Always use safety glasses when hammering the draw aligner locking wedge in or out. Risk for splinters.

WARNING! Watch out for flying objects during aligning work. Do not stand behind or near the draw aligner during a pull.

WARNING! Before moving the draw aligner, always lock the arm in an upright position. Risk for tipping.

WARNING! Ensure that the rear crush guard is fitted so that it always drops down of its own weight and does not jam. Risk of crushing injuries.

WARNING! Maximum static load per ramp = 1 000 kg (2 200 lbs).

WARNING! Maximum static load per hydraulic jack = 900 kg (2 000 lbs).

WARNING! The drive-off stops should always be correctly fitted to the bench. Risk of driving off the bench and cause improper weight distribution.

WARNING! All work on the electrical equipment must be carried out by qualified personnel.

WARNING! Minimum allowed distance between axle and bench end is 0.5 meter when lifting a vehicle with short a wheel-base (1,5 - 2 meter). Otherwise risk of crushing injuries.

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! The cable protection must be properly fastened over the air hose and electrical cable. Risk of tripping.

WARNING! During setup of the vehicle on the bench, care must be exercised so that the vehicle does not roll or slide out of the hydraulic jacks or bench mountings. Risk of crushing injuries.

WARNING! When other personnel are in the vicinity exercise care when operating the lift. Risk of crushing injuries.

WARNING! Ensure that the bench supports hang straight down. Risk of injury.

WARNING! Before raising or lowering the lift, ensure that no-one is near the bench. Risk of crushing injuries.

WARNING! Observe high standards of cleanliness when working with the hydraulic system. Dirt in the hydraulic oil can cause operating problems.

WARNING! Never drive the car onto the bench with the lift in raised position. Risk for vehicle overturning which may cause injuires.

WARNING! The vehicle must be firmly attached to the bench frame before the run up ramps are dismounted.

WARNING! Always be extremely careful when working with jacks or hydraulic equipment. Risk for falling or flying objects.

WARNING! Make sure to lift on a safe lifting point, so that the vehicle doesn't slide during the lifting.

WARNING! Block the wheels or engage the hand brake before tilting the bench. Risk of unintentional rolling.

WARNING! All electrical connections must be carried out by authorized personnel. Risk for electric shock.

WARNING! Forbidden to use the T48 on top of the drive on ramps. Risk of falling off from the ramps.

WARNING! Maximum one ramp support can be added on the other. Risk of crushing injuries.

WARNING! The floor underneath the bench with wheels must be level. Always set the wheel brakes. Risk of unintentional rolling.

WARNING: Risk of rolling bench. The wheel assemblies shall be locked after the bench has been moved.

WARNING! Always lift vehicle with hydraulic jacks on both sides of the vehicle. Risk of personal injuries and material damage.

WARNING! Make sure that the holding arm cam locks are tightened in 90° angle to the bench tracks.

WARNING! Maximum hydraulic jack lifting capacity t is 900 kg (2000 lbs). Risk of personal injuries and material damage.

IMPORTANT! Exercise care when transporting Quick 42.

IMPORTANT! When an air wrench is used to tighten nuts and bolts, ensure that it is set to a maximum of 200 Nm to avoid damage to the equipment.

IMPORTANT! Transport protection must be used whenever the equipment is moved.

IMPORTANT! Ensure that the toothed segments are clean and fitted correctly.

IMPORTANT! If there is any uncertainty about the quality of the floor, contact a building engineer for an inspection.

IMPORTANT! It is the responsibility of the owner (user) of the equipment to ensure that inspection, in accordance with current local regulations, is carried out before the lift is put into use.

IMPORTANT! To obtain maximum performance and to avoid damage to the draw aligner, the chain must run parallel to the hydraulic cylinder.

IMPORTANT! When using the draw aligner, remember to protect the measuring system from the damaged area to avoid damage to the measuring system.

IMPORTANT! Remove transport protection before the lift is put in use; otherwise damage can occur.

IMPORTANT! For the sake of the environment, it is important that the equipment is dismantled in an environmentally friendly way.

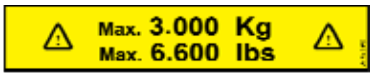
WARNING! Maximum height when using ramps as standing platform is 1 meter.

2.3 Safety signs

Undamaged safety signs shall always be affixed at the indicated places (*see section 2.3.1 "Placement of safety signs"*). If any signs are damaged or missing, the user is responsible for their immediate replacement. The following safety signs can be found on the equipment:

Part No 44307 (kit)

PROHIBITED
For personnel to be on the lift while it is moving.



Part No 41642 (kit)

WARNING
The highest allowed vehicle weight is 3 000 kg (6 600 lbs).

Part No 41642 (kit)

WARNING
Minimum allowed distance between axle and bench end is 0.5 meter when lifting a vehicle with short wheel-base (1.5-2 meter). Otherwise there is risk for crushing injuries.

Part No 44307 (kit)

WARNING
During inspection and maintenance with the lift unit in the raised position, the lift unit must be blocked against unintentional lowering.

Part No 35721 (kit)

WARNING
Danger of tripping due to loose hoses, etc.

Part No 35721 (kit)

WARNING
The draw aligner is to be equipped with a hydraulic cylinder with a maximum capacity of 10 tons (300 bar).

Part No 35721 (kit)

WARNING
Watch out for flying objects during aligning work. Do not stand behind or near the draw aligner during a pull.

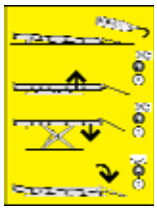
Part No 35721 (kit)

COMMAND
Safety glasses must be used when hammering in the locking wedge

Part No 35721 (kit)

COMMAND
The locking pegs must always be pressed in completely.

Part No 44307 (kit)



TILTING OPERATION DECAL

SAFETY
Sign with safety rules to be displayed at the power unit (1) and at a highly visible location (2). Choose your language.

Part No 40372 (kit)

1

2

2.3.1 Placement of safety signs

The safety signs are placed as follows:

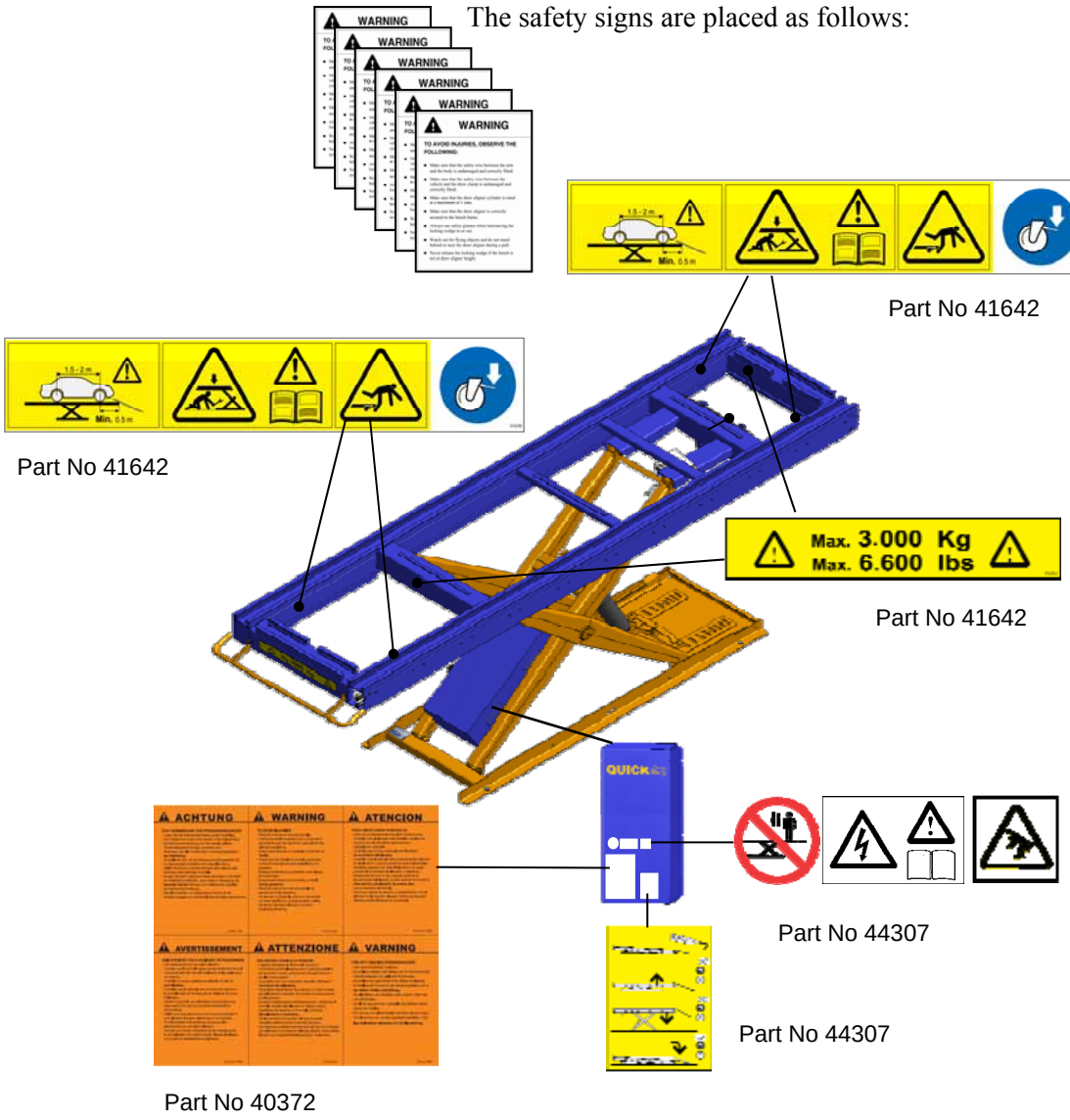


Figure 2.3.1 Placement of safety signs and tilting operation decal.

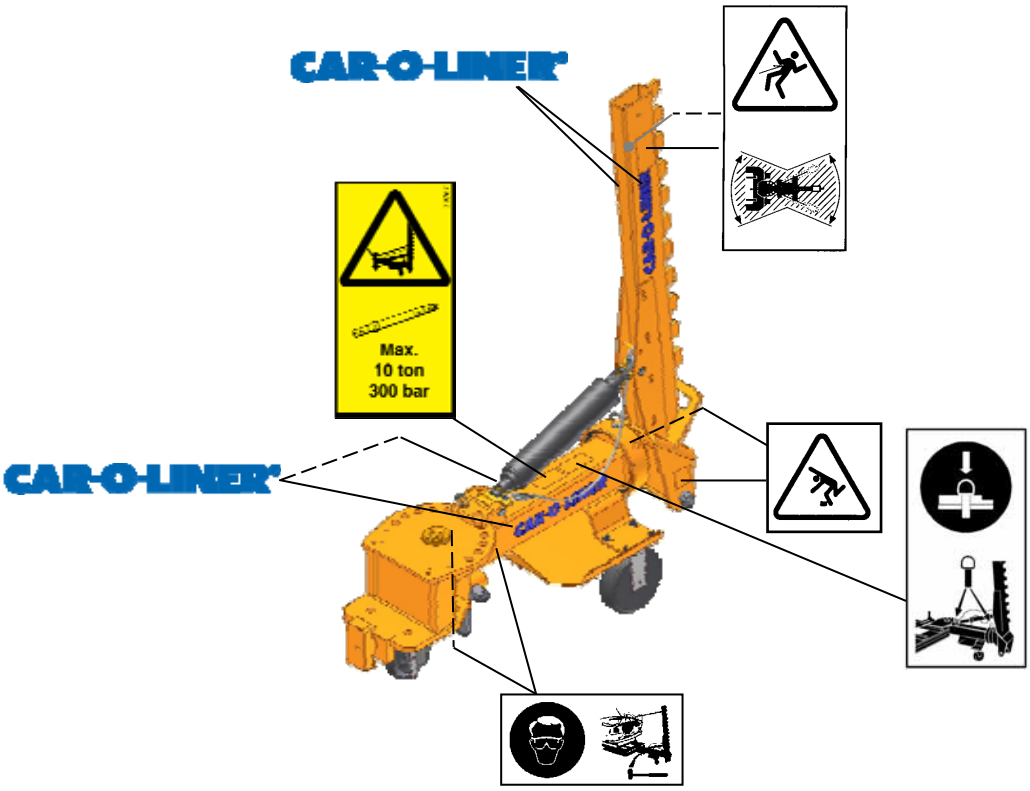
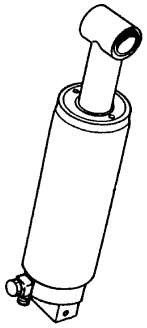


Figure 2.3.1 Placement of safety signs on the draw aligner. Part no, see 2.3

2.4 Safety devices



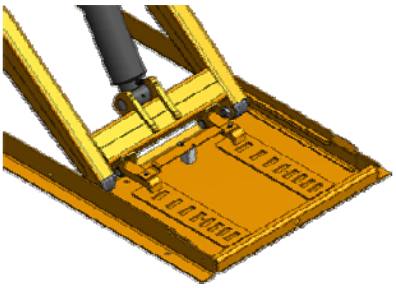
The power unit has a built-in relief valve to prevent overloading. The relief valve shunts the oil back to the tank in case of excessive pressure. The pressure setting is made at the factory and the valve is sealed.

When the hydraulic pump is overloaded, its sound changes markedly.

The lift cylinder is a single-acting hydraulic cylinder with a built-in hose rupture protection. This valve ensures that the lift slowly sinks in the event of a hydraulic hose rupture or other leakage.

To avoid accidental lowering when the under-side of bench frame is higher than 500 mm (20 in) from the floor, a safety latch prevents the lift from sinking more than a maximum of 100 mm (4 in) in the event of leakage.

Quick 42 have a crush guard to prevent feet from being caught between the bench and the floor during tilting operations.



3 Installation

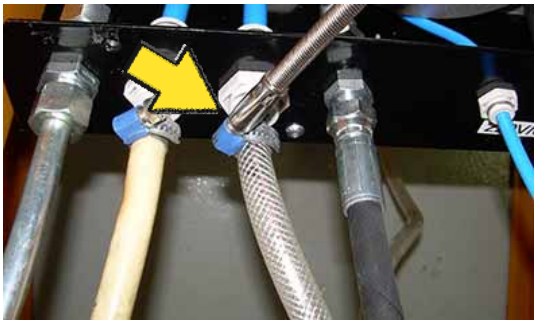
3.1 Connection of electrical and air supply

Connect the provided plug (not provided for the single phase units) of the Q42 power unit to a receptable.
Use a suitable plug for installation of the single phase unit.

Connect the Q42 Power unit to a compressed air network.

1 Attach the air hose to the air intake.

2 Fix the air hose.



3.2 Bleeding of the hydraulic system

Bleeding at the satellite is recommended when installing a new system.
At new installations and to avoid pushing air into the hydraulic system, connect the 2 standard hoses to the rear satellite connection of the bench.
Plug the adapter described in the tool list to the hose.
Connect the male connector (not provided). Place the male connector in the tank and run the pump with 3-step breaker on the pendant station in the accessories mode.

3.2 Quick 42 With Lift

The bench frame is made of a welded HS square section. The top face is milled and equipped with tracks for fitting bench mountings and pulling components.

On the underside there are legs upon which the bench frame rests in its lowest position as well as bench supports for the draw aligner position.

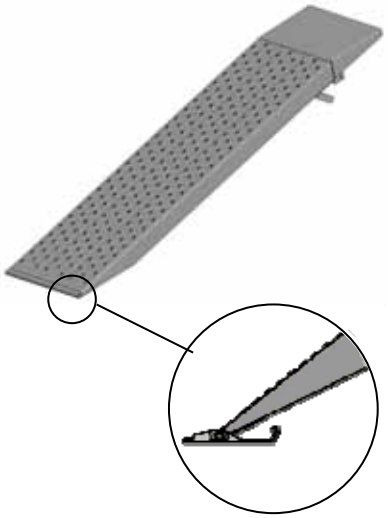
3.2.1 Drive-on Ramps

The drive-on ramps are attached to the ramp supports at the drive-on end. Standard width for drive-on ramps is 300 mm. Optional 400 mm ramps can be fitted.

NOTE! There are some limitations in the use of the hydraulic jacks when 400 mm ramps are fitted. The jack can not be placed between the ramp and the bench. This applies only to the ramps where the wheels are positioned.

NOTE! The 300 mm ramps can be positioned in three positions to fit the track-width of the vehicle! The 400 mm ramps have two positions.
(For more information, see section 4.4)

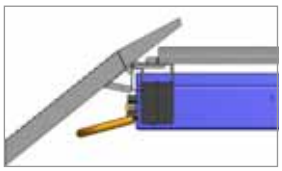
NOTE! As an option the drive-on ramps can be equipped with sliding plates (parts no 42425 for 300 mm and 43695 for 400 mm) to prevent the edges of the drive-on ramps from fastening on e.g. floor tiles. This may cause damage to equipment.



Drive-on ramp with sliding plate.

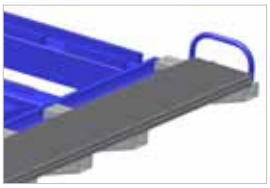
The drive on-on ramps must remain in place while the vehicle is standing on the wheels and the lift is raised or lowered, due to the roll-of stop function.

WARNING! The vehicle must be firmly attached to the bench frame before the drive-on ramps are dismounted.



NOTE! The drive-on ramps also act as drive-off stop when the lift is raised.

3.2.2 Roll-off stops



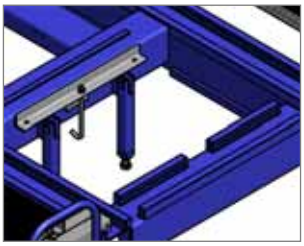
WARNING! The roll-off stops should always be correctly fitted to the bench. Risk of driving off the bench and cause improper weight distribution.

NOTE! The roll-off stop must be mounted for left and right hand side.

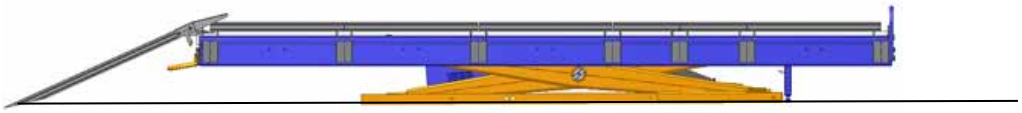
3.2.3 Bench Supports For Draw Aligner Height

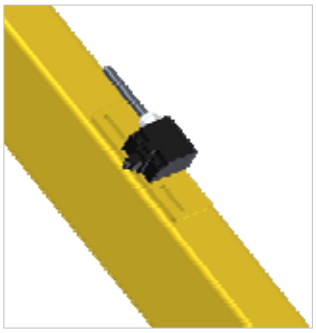
WARNING! When other personnel are in the vicinity exercise care when operating the lift. Risk of crushing injuries.

WARNING! Ensure that the bench supports hang straight down. Risk of injury.



The enclosed bench supports are fitted as shown in the illustration. The bench supports are fitted to the underside in the front of the bench. It is stopping mechanically in the front, and on a micro-breaker situated on the inner scissors arm, on the run-up side. When the bench is lowered to its lowest horizontal position, it stops at the proper height for the connection of the draw aligner.





To adjust to the correct draw aligner height, do as follows

1 **Adjust the height between underside of bench and floor by turning the screw under the bench supports. The height shall be 220 mm (9 in). Measure the height near the bench supports. Tighten the locking nut.**

2 **Measure the height on the drive-on side. Move the breaker (see illustration) if necessary to adjust the height. Moving it upwards will increase, and mowing it downwards will decrease the height.**

3 **Check that the draw-aligner fit easily around the entire bench.**

NOTE! Raise and lower the lift a few times to ensure that the bench stops at the correct height.

3.2.4 Crush Guard

The crush guard is designed with a hinge mechanism.

WARNING! Ensure that the crush guard is fitted so that it always drops down of its own weight and does not jam. Risk of crushing injuries.

3.2.5 Loading Trolley/Roll Stop B57 (Optional)

The loading trolley is designed to be placed under a damaged or locked wheel, thus allowing the vehicle to be winched on to the bench.

By turning the loading trolley upside down so that it does not roll freely, it may be used as a roll stop. This stop must be placed under an undamaged wheel when the vehicle is setup on the bench with the help of the hydraulic jacks to prevent the vehicle from rolling.

WARNING! During setup of the vehicle on the bench, care must be exercised so that the vehicle does not roll or slide out of the hydraulic jacks or bench mountings. Risk of crushing injuries.

3.2.6 Bench Mounting

The bench mountings are fitted to the tracks on the upper side of the bench. They may be turned inward or outward depending upon the width of the vehicle. (Variations of the mountings may differ from the illustrated model).

3.2.7 Cam Locks B626

Used for fitting bench mountings, track plates, etc.

3.2.8 Hydraulic Jacks Q170, 2 pcs

The hydraulic jacks are fitted to the bench tracks and used to lift a vehicle during the setup in the bench.

WARNING! Make sure to lift on a safe lifting point, so that the vehicle doesn't slide on the jack-pads during the lift.

WARNING! Maximum static load per hydraulic jack = 900 kg (2 000 lbs).

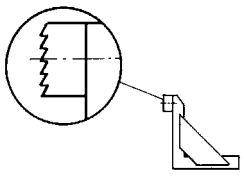
NOTE! Make sure the Cam lock is fully rotated before it's locked with the handle.

NOTE! The jacks shall only be used for jacking the vehicle during setup.

3.2.9 Chassis Clamp B106

The B106 Chassis Clamp is bolted to the bench mounting arm and is provided with toothed segments that grip the vehicle's sill edge.

The toothed segments may either be fastened to the clamp's angle or to the mounting plate. Alternatives for various vehicles are listed on the data sheets.

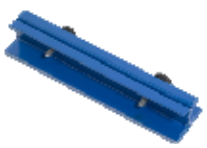


The fastening holes are also offset so the segments can be turned if there are obstructions on the sill flange.

The accompanying illustration shows a toothed segment fitted to the base bracket.

Special chassis clamps are available for some vehicles. Consult the Car-O-Liner data sheet for a list of vehicles concerned.

3.2.10 Sill Support B23



Used to avoid damage to the sill edge when setting up the vehicle.

3.3 Lift and Power unit

3.3.1 Applications

The scissors lift is designed solely to lift the bench system and vehicle.

The maximum permitted vehicle weight is 3 000 kg (6 600 lbs).

The lift consists of two main components:

- Lift Unit
- Power Unit

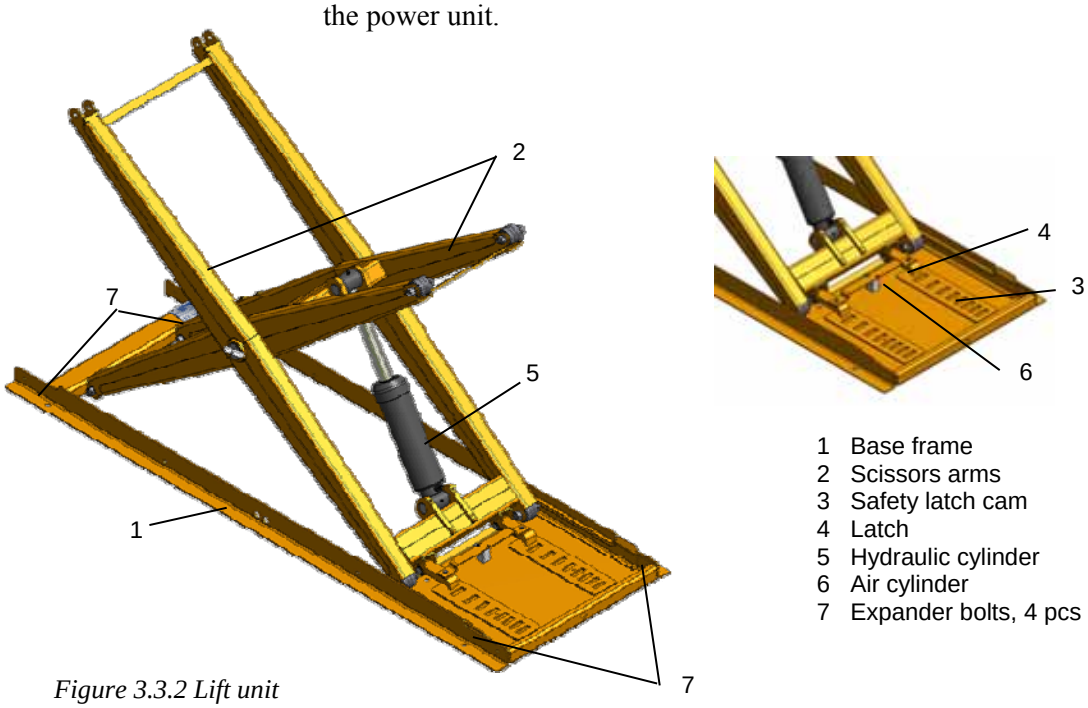
3.3.2 Lift unit

The lift is hydraulic-driven and is built on a base frame. The hydraulic cylinder is fitted between the scissors arms.

The base frame is also equipped with a mechanical latch to prevent the lift from sinking. This latch (4) is released with the help of an air cylinder (6) so that the lift may be lowered.

The upper ends of the scissors arms are connected to the bench frame.

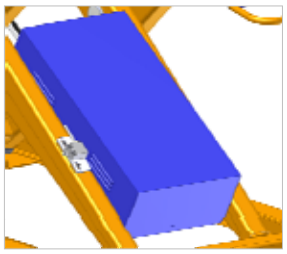
The hydraulic cylinder is single-acting, with hydraulic pressure provided by the power unit.

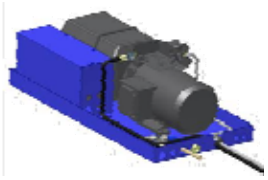


1 Base frame
2 Scissors arms
3 Safety latch cam
4 Latch
5 Hydraulic cylinder
6 Air cylinder
7 Expander bolts, 4 pcs

Figure 3.3.2 Lift unit

3.3.3 Type 1 Power unit



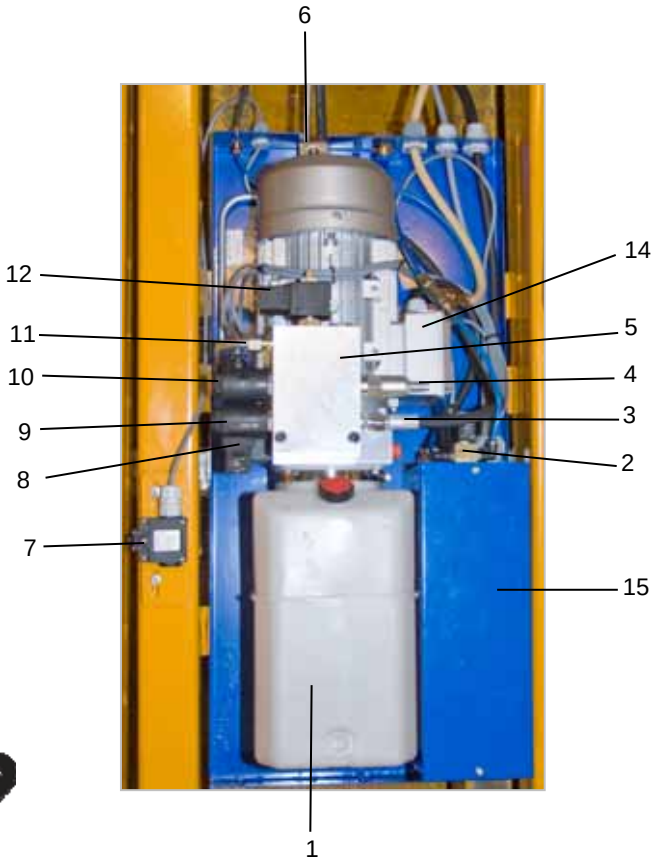


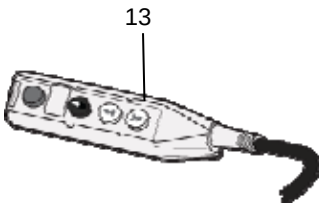
The power unit is placed inside the scissors lift. The power unit has two purposes:

- Lifting the frame and vehicle with full hydraulic flow.
- Supply the draw aligner and the hydraulic jacks with a reduced hydraulic flow.

NOTE! The electrical control box is placed inside the power unit.

1. Oil tank, 8 litres (2.1 gallons)
2. Pneumatic solenoid valve YV3
3. A1 (outlet for lift)
4. Flow control valve RPCV-05
5. Upper manifold
6. Electric pump motor
7. Limit switch (draw aligner/tilt)
8. Lowering solenoid valve SCV1
9. Solenoid valve SDV1
10. Solenoid valve SDV2
11. A2 (outlet for accessory)
12. Lowering solenoid valve Accessory SCV2
13. Type 1 Pendant station
14. Motor connection box
15. Electrical box





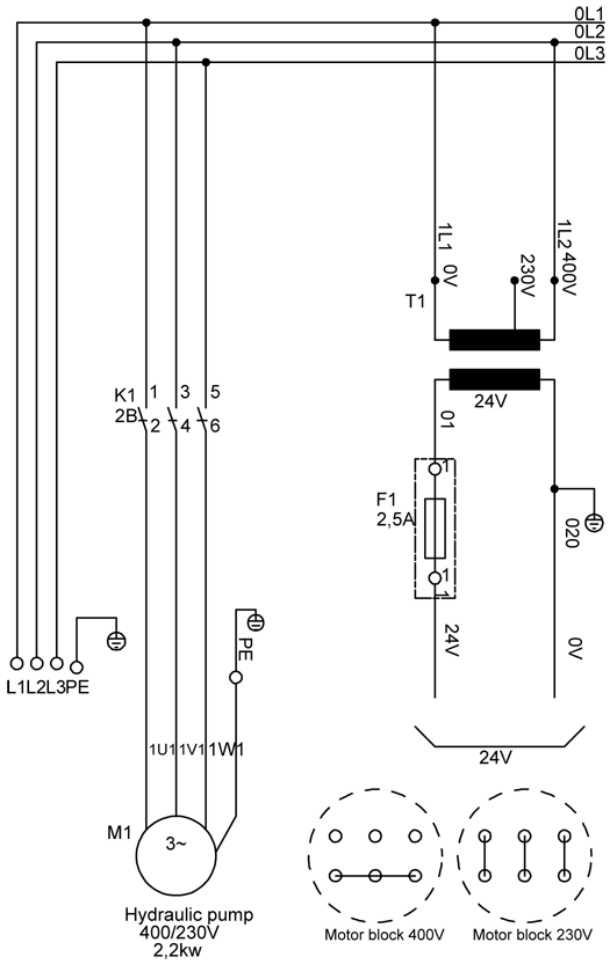
3.3.4 Type 1 Power unit - Electrical supply

The electrical equipment is delivered for any of the following voltages:

- 110V, 60 Hz, single-phase
- 230V, 50 Hz, 3-phase
- 400V, 50 Hz, 3-phase

WARNING! All electrical connections must be carried out by authorized personnel. Risk for electric shock.

3.3.5 Electrical diagram for 230 and 400V AC, 3-phase for Type 1 Power unit

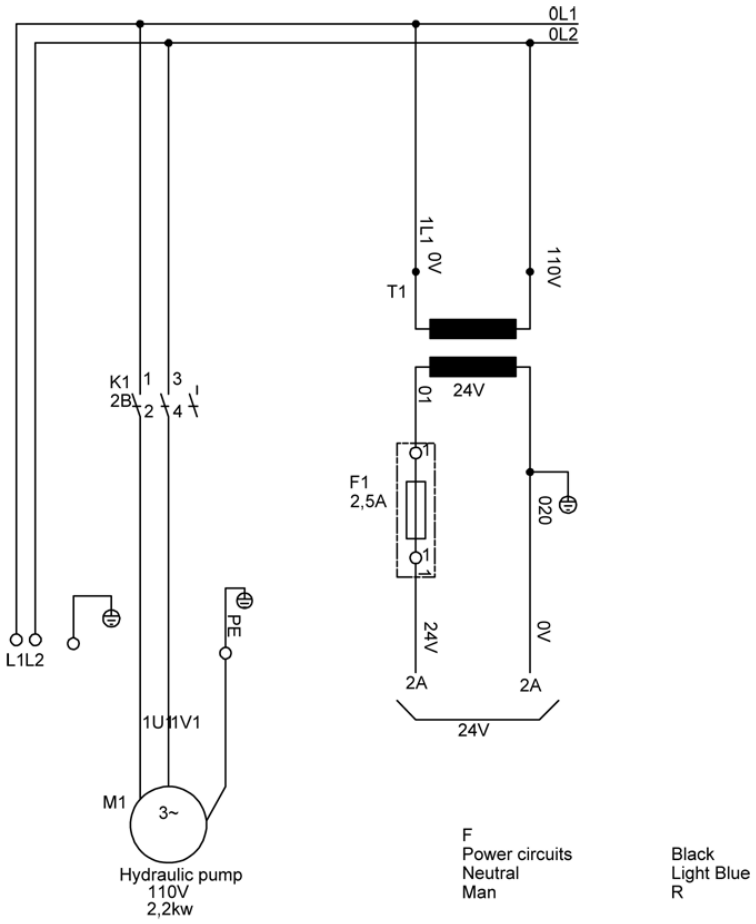


K1 Contactor

T1 Transformer

F1 Fuse 2,5 A (glass tube fuse)

3.3.6 Electrical diagram for 110V AC, single-phase for Type 1 Power unit

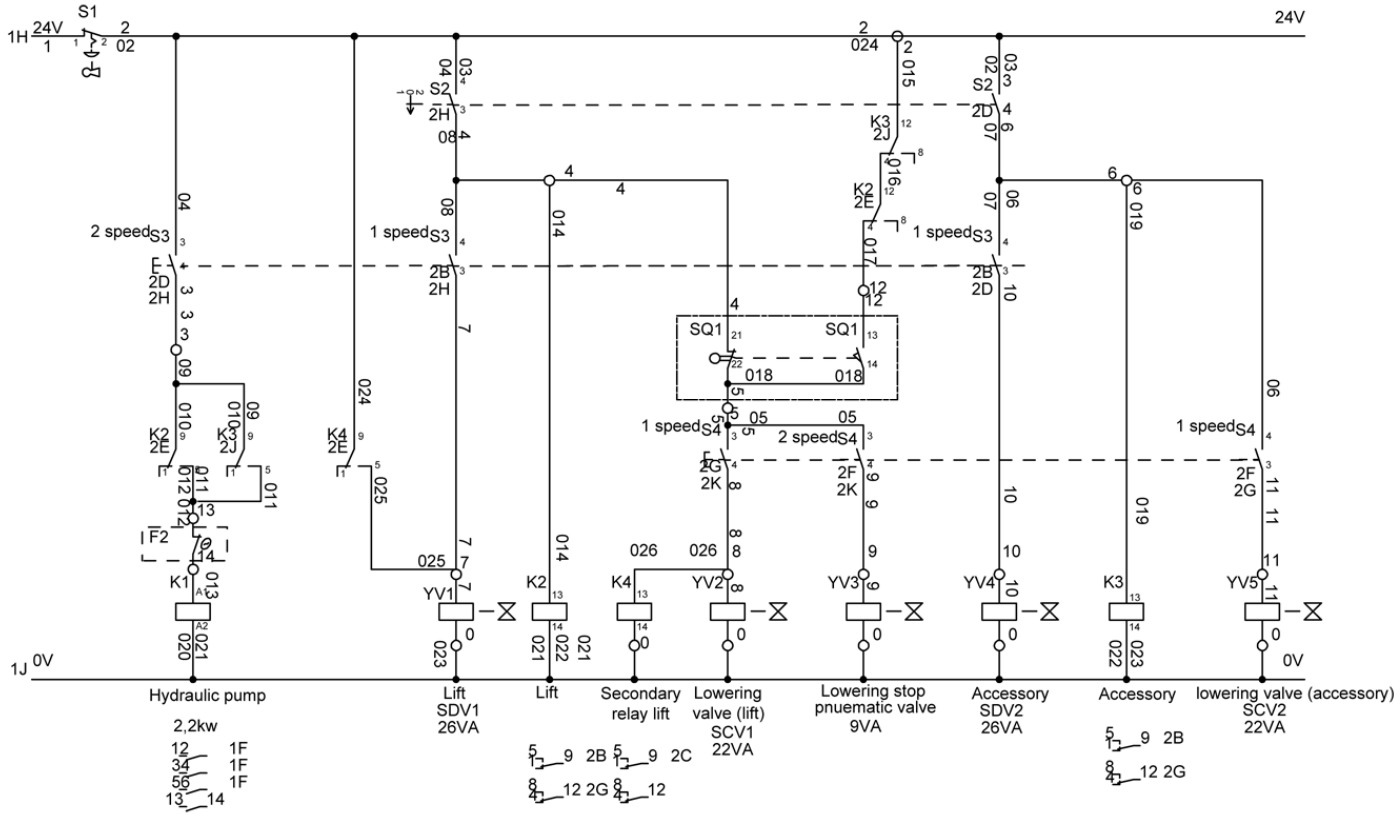


K1 Contactor

T1 Transformer

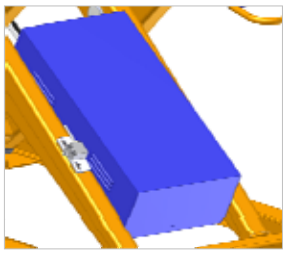
F1 Fuse 2,5 A (glass tube fuse)

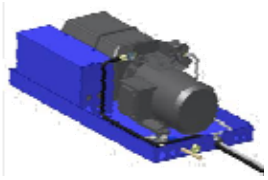
3.3.7 Electrical diagram for 110V AC (single-phase) and 230/400V AC (3-phase) (for 24V low voltage circuit) for Type 1 Power unit



S1	Emergency stop button	**K2**	Raising relay, scissors lift
S2	3 step switch	**K3**	Accessory relay
S3	Up	**K4**	Lowering relay, scissors lift
S4	Down	**YV1**	Solenoid valve SDV1
K1	Contactor	**YV2**	Solenoid valve SCV1
F2	Thermal fuse (inside motorwinding)	**YV3**	Solenoid valve (pneumatic)
SQ1	Limit switch at lifting platform (draw aligner height)	**YV4**	Solenoid valve SDV2
		YV5	Solenoid valve SCV2

3.3.8 Type 2 Power unit



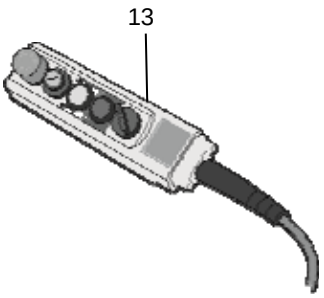


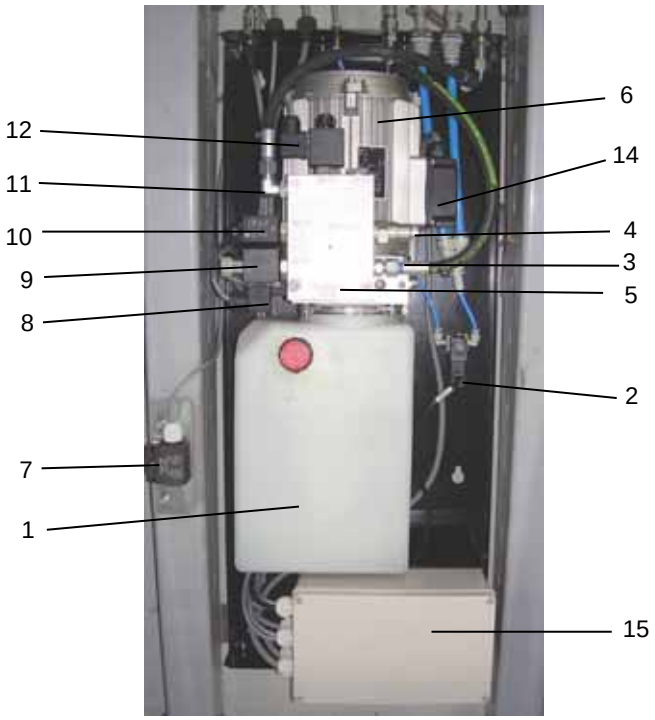
The power unit is placed inside the scissors lift. The power unit has two purposes:

- Lifting the frame and vehicle with full hydraulic flow.
- Supply the draw aligner and the hydraulic jacks with a reduced hydraulic flow.

NOTE! The electrical control box is placed inside the power unit.

1. Oil tank, 8 litres (2.1 gallons)
2. Pneumatic solenoid valve YV3
3. A1 (outlet for lift)
4. Flow control valve RPCV-05
5. Upper manifold
6. Electric pump motor
7. Limit switch (draw aligner/tilt)
8. Lowering solenoid valve SCV1
9. Solenoid valve SDV1
10. Solenoid valve SDV2
11. A2 (outlet for accessory)
12. Lowering solenoid valve Accessory SCV2
13. Type 2 Pendant station
14. Motor connection box
15. Electrical box





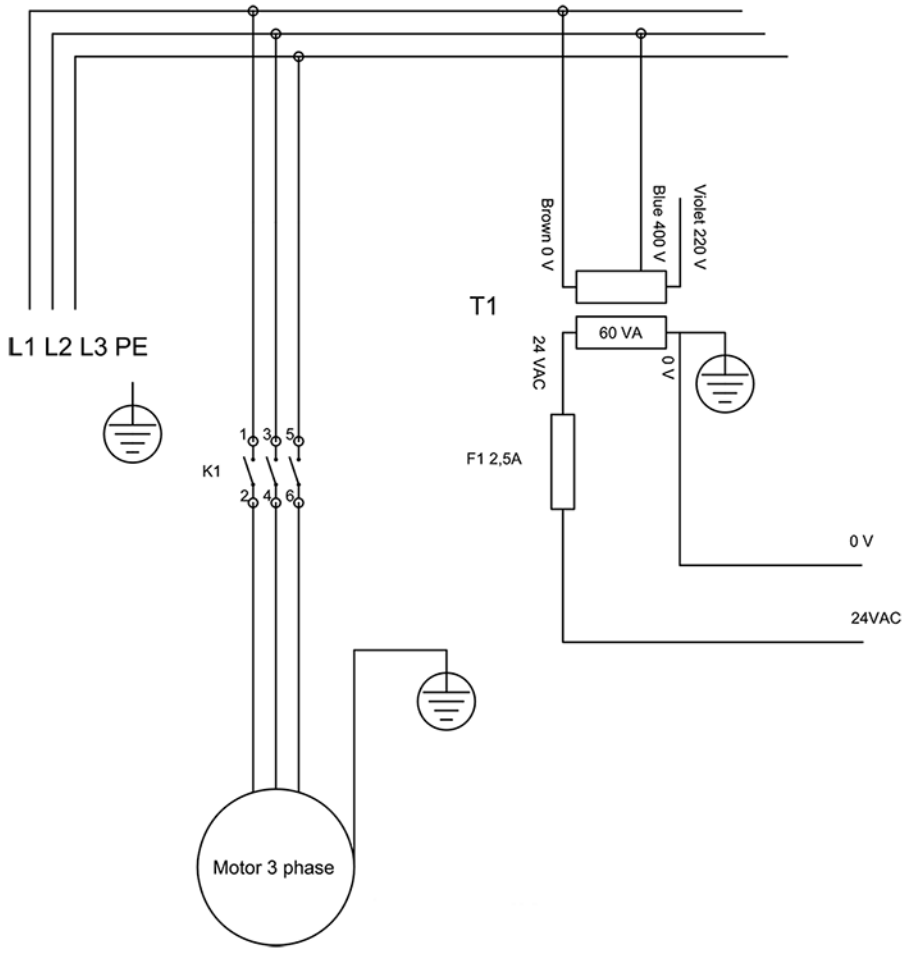
3.3.9 Type 2 Power unit - Electrical supply

The electrical equipment is delivered for any of the following voltages:

- 230/400V, 50 Hz, 3-phase

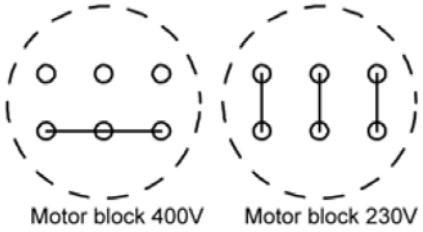
WARNING! All electrical connections must be carried out by authorized personnel. Risk for electric shock.

3.3.10 Electrical diagram for 230/400V AC, 3-phase for Type 2 Power unit

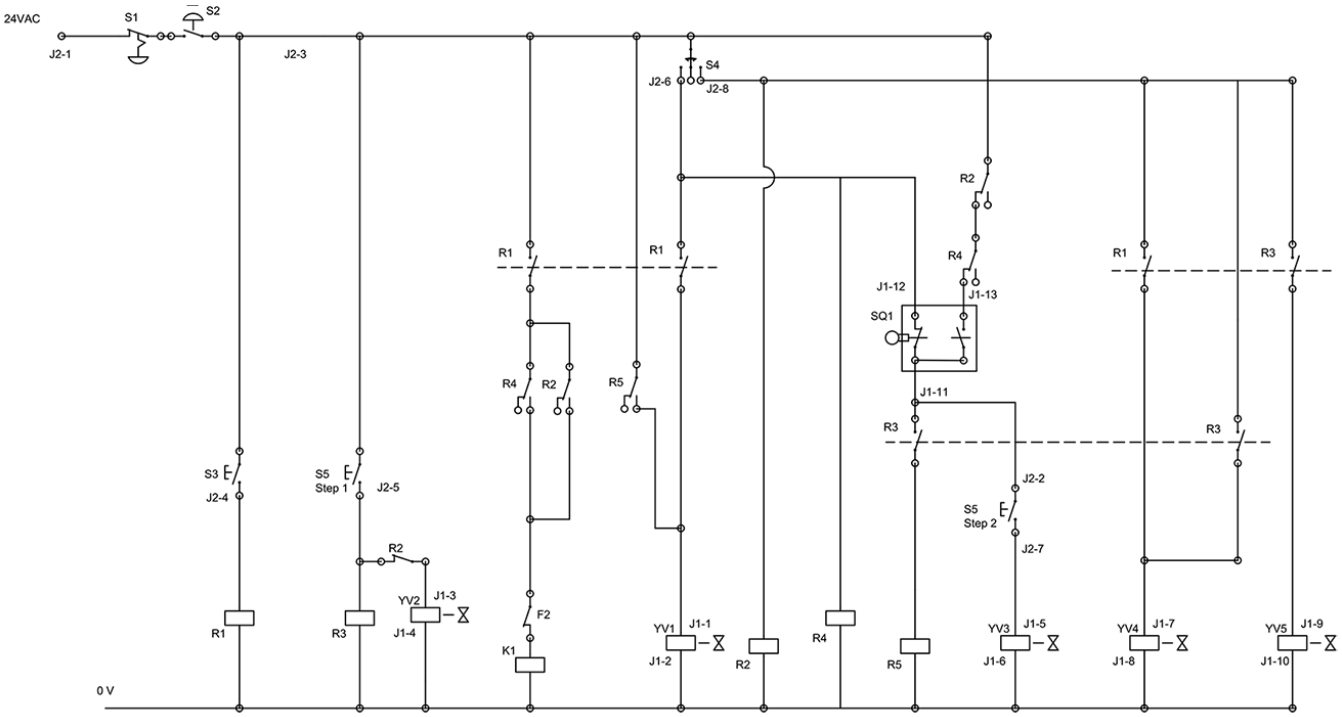


T1 Transformer 230, 400/24VAC 60VA
F1 Fuse 2,5 A (20x5 mm)
K1 Contactor 32 A (24 VAC)

3.3.11 Connection of motor block, 230/400V



3.3.12 Electrical diagram for 24V low voltage circuit

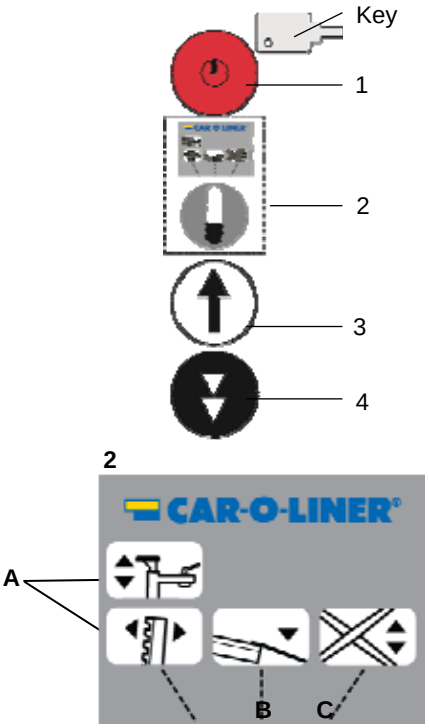


S1 Emergency stop button
S2 Key lock switch
S3 Up push button
S4 Selector switch
S5 DOWN switch (2 step)
SQ1 Limit switch

F2 Thermal fuse (motor)
K1 Contactor 24VAC
R1 Relay
R2 Relay
R3 Relay
R4 Relay
R5 Relay

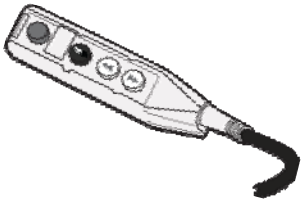
YV1 Solenoid valve SDV1
YV2 Solenoid valve SCV1
YV3 Solenoid valve Pneumatic
YV4 Solenoid valve SDV2
YV5 Solenoid valve SCV2

3.3.13 Type 1 Pendant station



How to operate the lift; *see section 4.2 "Operating the lift"*

The pendant station consists of 4 buttons:



1 Emergency breaker (lockable with a key).

2 3-step switch:

A - Left position: Manoeuvring of accessories, draw aligner and hydraulic jacks.

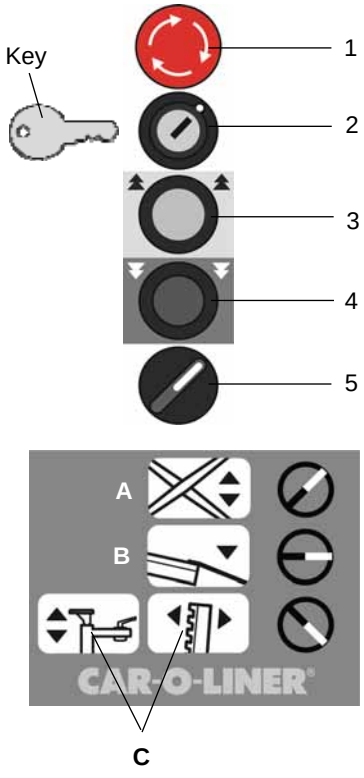
B - Middle position: When tilting the bench.

C - Right position: Manoeuvering of the scissors lift.

3 Up button or pulling with the draw aligner.

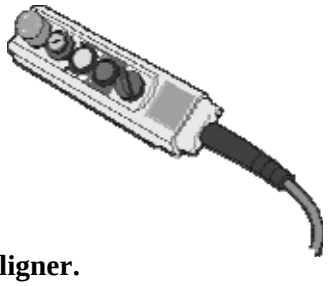
4 2-step Down button or retraction of draw aligner.

3.3.14 Type 2 Pendant station



How to operate the lift; *see section 4.2 "Operating the lift"*

The pendant station consists of 5 buttons:



1 Emergency breaker. Push to activate, turn to release.

2 Safety lock.

3 2-step Up button or pulling with the draw aligner.

4 2-step Down button or retraction of draw aligner.

5 3-step switch:

A - Upper position: Manoeuvering of the scissors lift.

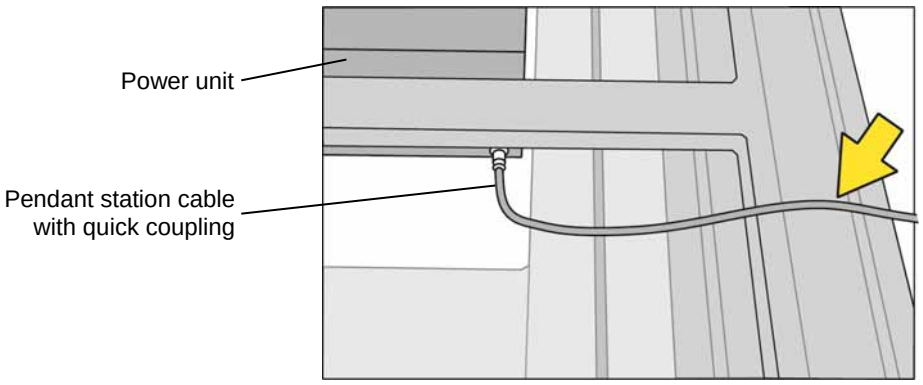
B - Middle position: Tilting of the bench.

C - Lower position: Manoeuvring of accessories, draw aligner and hydraulic jacks.

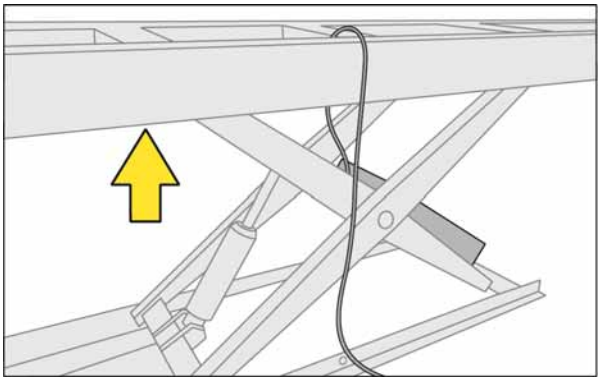
3.4 Installation of pendant station cable for type 2 power unit

To prevent the pendant station cable from accidently being twitched out of the Power unit, and thereby damaging the cable and contact, a cable pulling stop (art. no 45629) is included at delivery.
Install the pendant station cable according to the instructions below:

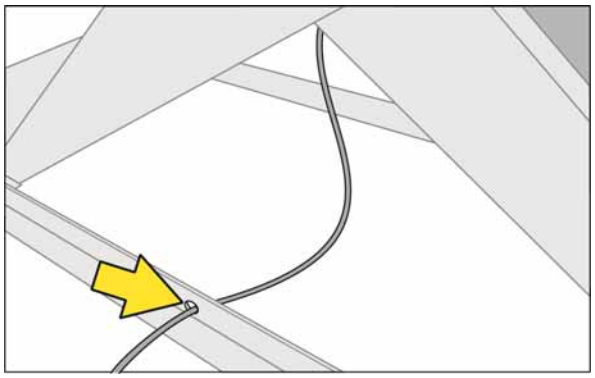
1. **Connect the cable to the Power unit, according to the picture.**



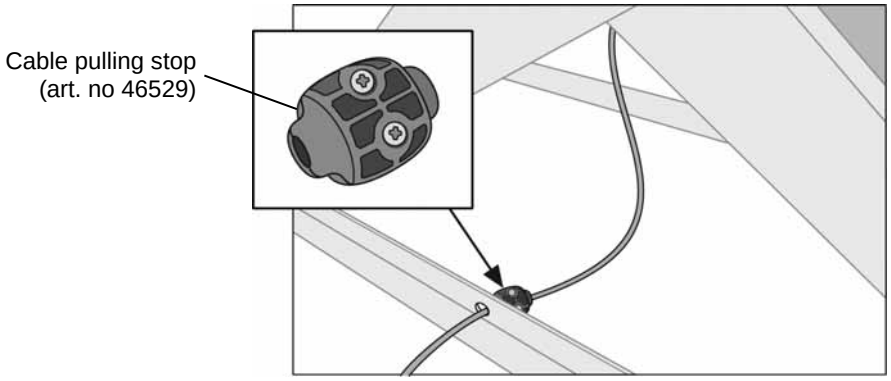
2. **Raise the bench and let it rest on the safety latches in maximum height position,** ***see section 4.2 Operating the lift.***



3. **Disconnect the cable from the Power unit. Insert the cable through the hole in the base frame (opposite side from the wall power outlet) and connect it to the Power unit.**



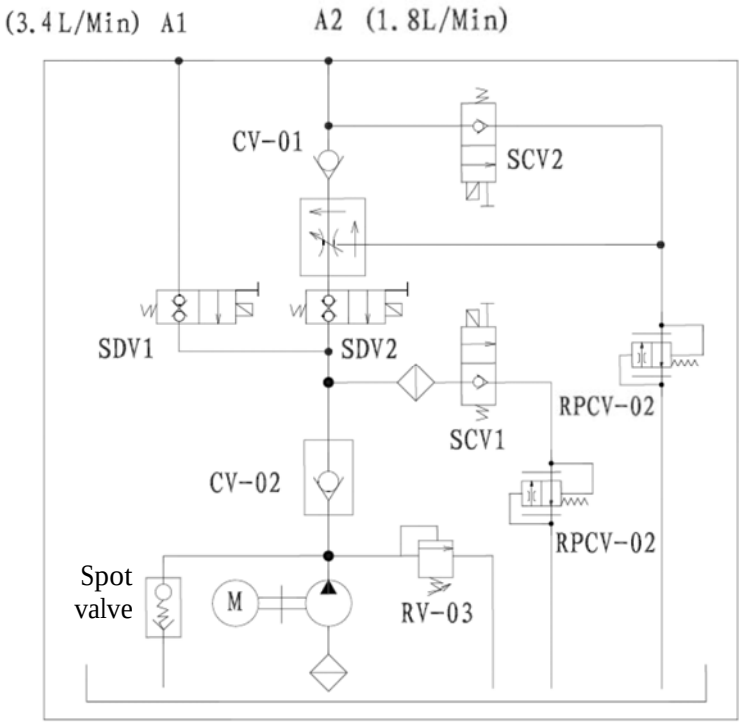
4. **With the bench still at maximum height, fix the cable pulling stop to the cable just inside the hole in the base frame.**
   The cable must be loose, not tight!



3.5 Hydraulics

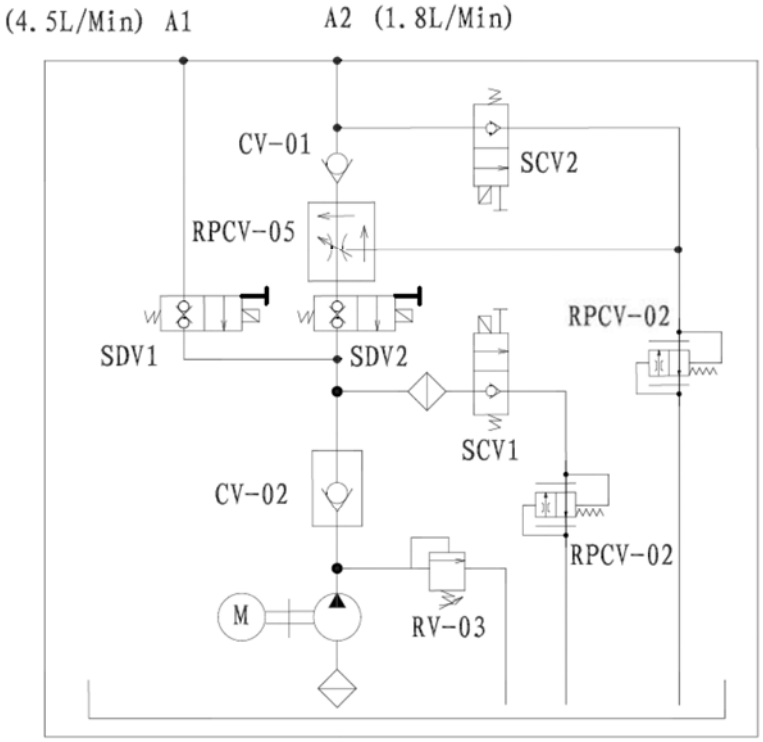
Central satellite locations for hydraulics and air supply. (Quick couplings)

3.5.1 Hydraulic diagram, 110V for Type 1 Power unit



Schematic hydraulic diagram, 110V, for Type 1 Power unit

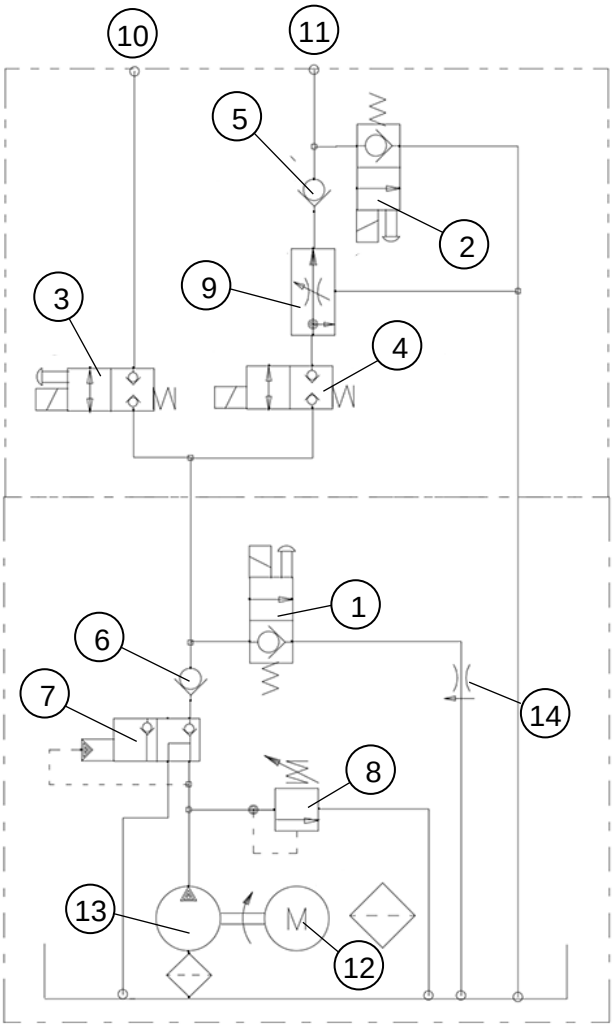
3.5.2 Hydraulic diagram, 230/400V for Type 1 Power unit



Schematic hydraulic diagram,
for 230/400V, Type 1 Power unit

SCV1 Control valve lift
SCV2 Control valve accessories
SDV1 Directional valve lift
SDV2 Directional valve accessories
CV-01 Non return valve accessories
CV-02 Main non return valve
RV-03 Over pressure valve
RPCV-02 Return flow control valve (x2)
RPCV-05 Flow control valve accessories (adjustable)
A1 Outlet for lift
A2 Outlet for accessories

3.5.3 Hydraulic diagram, 230/400V for Type 2 Power unit



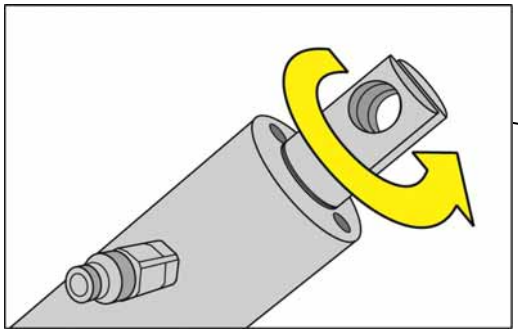
Schematic hydraulic diagram, 230/400V, for Type 2 Power unit

1. SCV1 Control valve lift
2. SCV2 Control valve accessories
3. SDV1 Directional valve lift
4. SDV2 Directional valve accessories
5. CV-01 Non return valve accessories
6. CV-02 Main non return valve
7. Start up valve
8. RV-03 Over pressure valve
9. RPCV-05 Satellite flow control valve
10. A1 Outlet for lift, 5 L/min
11. A2 Outlet for accessories, 1,8 L/min
12. Engine
13. Hydraulic pump
14. RPCV-02 Lift return flow control valve

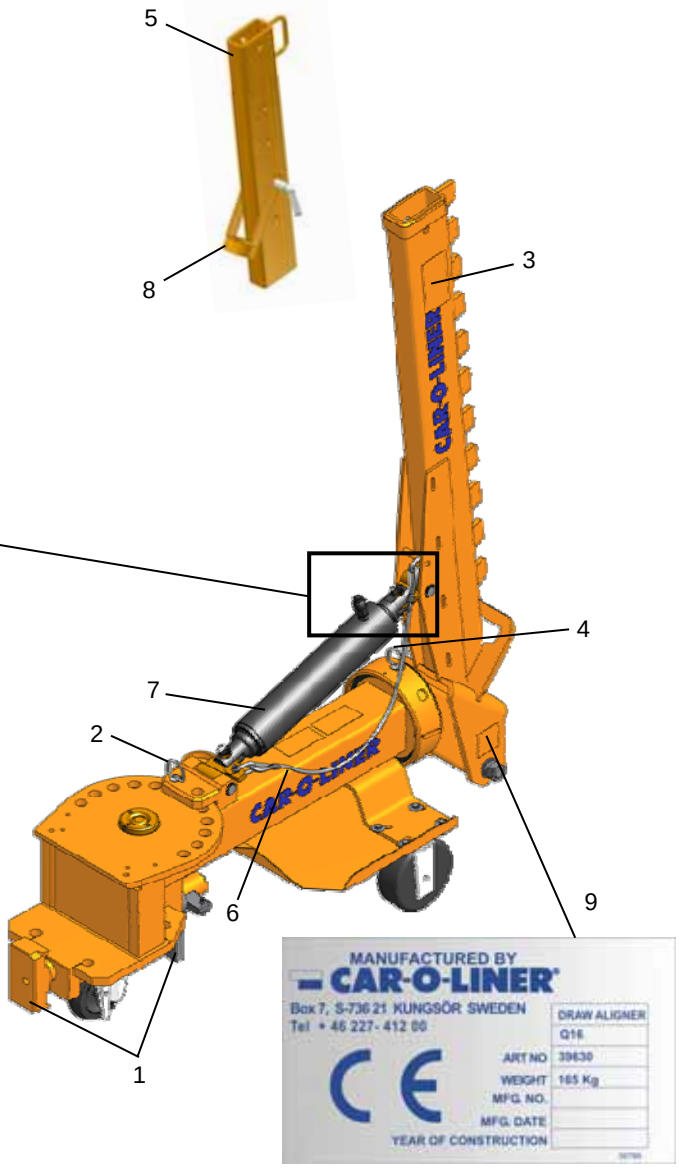
3.6 Draw aligner Q16

The draw aligner can be placed at any position along the four sides of the base frame. It is secured to the base frame with the locking wedge (1). The draw aligner rotates sideways and is locked in the desired position with a horizontal locking peg (2). The arm (3) can be inclined sideways to obtain the optimum pulling angle. It is locked in position with a vertical locking peg (4). The arm can be fitted with an extension (5). A safety wire (6) limiting the outward movement of the arm is connected between the arm and the hydraulic cylinder mounting. The hydraulic cylinder (7) has a capacity of 10 tons and is operates from the build in power unit. The mounting bracket (8) at the end of the arm is for an extra pushing cylinder, to be used on the main arm (3).

1. Drawbar with locking wedge and safety plate
2. Peg for horizontal locking
3. Draw aligner arm
4. Peg for vertical locking
5. Arm extension
   (accessory, parts no 30404)
6. Safety wire
7. Hydraulic cylinder
8. Mounting bracket for extra hydraulic cylinder
   (accessory, parts no 30409)
9. Nameplate



When installing the hydraulic cylinder to the Q16.
Unscrew the cylinder attachment 1 revolution counter clockwise according to the picture above. This is done to allow swiveling of the cylinder when pivoting the draw aligner arm.
This applies only to Enerpac hydraulic cylinders.



3.6.1 Preparations before starting alignment

Before using the draw aligner, observe the following:

Clean the area on the vehicle to which the clamp is to be fastened in order to ensure a good grip. Always use an approved pull chain from Car-O-Liner and see that the clamp, hook or plate is in good shape.

Make sure that the hydraulic hose is undamaged. The working pressure is approximately 300 bar. If the hose springs a leak, the oil under high pressure can cause damage. Make sure that there is no air in the hydraulic system.

NOTE! Never leave the draw aligner unattended when it is under pressure.

Part No
31905

Part No
31895

WARNING! The draw aligner is meant to be equipped with a hydraulic cylinder with a maximum capacity of 10 tons (300 bar).

WARNING! Watch out for flying objects during aligning work. Do not stand behind or near the draw aligner during a pull.

IMPORTANT! When using the draw aligner, remember to protect the measuring system from the damaged area to avoid damage to the measuring system.

3.7 Transport and inspection of delivery

On delivery, the equipment must be checked with regard to transport damage. If any part is damaged, the lift may not be used until the damage has been repaired. Contact your supplier.

The bench and the bottom frame are held together by a transport hook to ensure safe transport.

The hook must be used whenever the bench and frame are moved. Total weight is 755 kg (1 665 lbs).

Use a forklift truck to load or offload the unit from a truck, keep the fork span as wide as possible.

NOTE! Lifting straight on the centre of base frame will damage the frame!

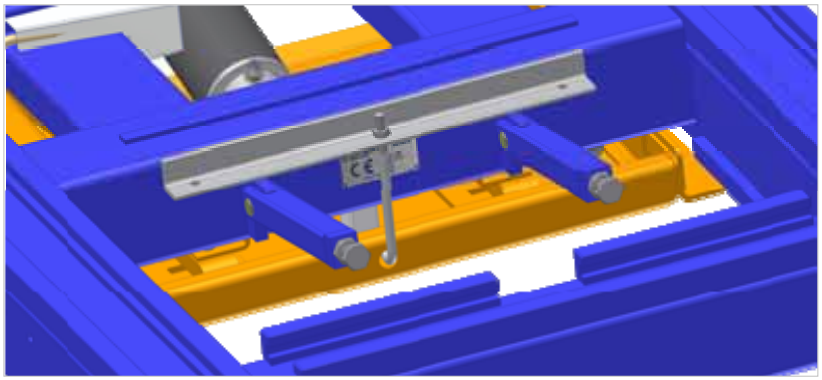
IMPORTANT! Exercise care when transporting Quick 42.

3.7.1 Transport Protection

All models of Quick 42 are equipped with transport protection that holds the base frame against the bottom of the bench.

IMPORTANT! Remove transport protection before the lift is put in use; otherwise damage can occur.

IMPORTANT! Transport protection must be used whenever the equipment is moved.



3.7.2 Mains Connections Check

Ensure that the electric motor is supplied with the correct voltage and frequency and that it turns in the right direction after connection. For connection information. *See section 3.3.3 “Power unit”.*

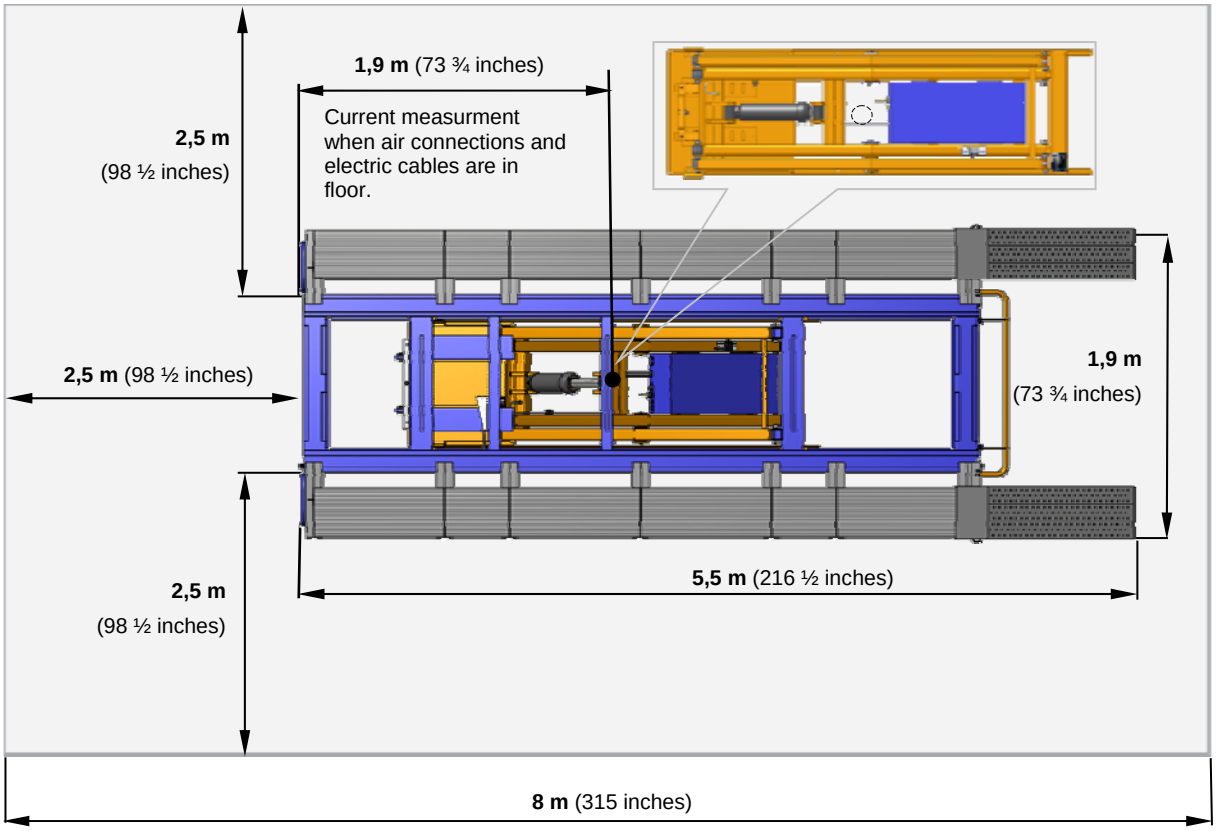
3.8 Space requirements

The recommended space for installation is shown in the illustration on next page.
Early units must be bolted to a flat, good quality concrete floor. From MFG no 2240 the units can be used either as a mobile unit or bolted to the floor. *See section 3.7.1 "Anchoring to the floor” and chapter 5 “Mobile unit”.*

NOTE! The recommendation is to bolt the unit to the floor. In mobile use exercise care when driving on to the run up ramps and also when to stop (braking) on the bench. Risk for sliding of the bench.

IMPORTANT! It is the responsibility of the owner (user) of the equipment to ensure that inspection is, in accordance with current local regulations, carried out before the lift is put into use.

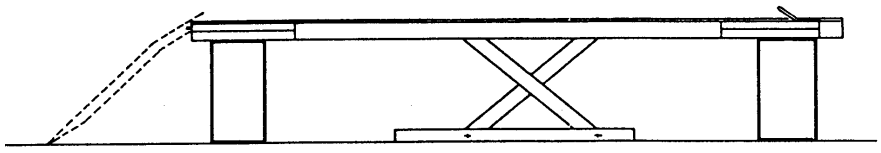
Example of space requirements



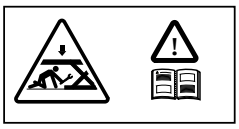
WARNING! All work on the electrical equipment must be carried out by qualified personnel.

Install the electrical cables and air connections to the power unit.

Raise the lift to the highest position and block up the bench frame.



NOTE! When doing service and maintenance to the power unit, the recommendation is to have the bench in the tilted position!



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.

Engage the two safety latches.

Place the unit to its desired position and use the base plate as a template for drilling the 4 mounting holes in the floor. Fit the expander bolts to the holes. *See Section 3.7.1 "Anchoring to the floor"*.

Raise the lift and remove the blocks from under the bench frame.

WARNING! Before raising or lowering the lift, ensure that no-one is near the bench. Risk of crushing injuries.

Lower the lift to the draw aligner height.

Ensure that the draw aligner can be easily connected to all sides of the bench frame. *See section 3.2.3* "*Bench Supports for Draw Aligner Height*". Adjust the screws and micro breaker if necessary.

Install the cable protection (accessory) over the air hose and electrical cable.

WARNING! The cable protection must be properly fastened over the air hose and electrical cable. Risk of tripping.

Raise and lower the lift a few times to ensure that the safety latch element *(Figure 3.2)* falls easily into the slots. Lubricate if necessary.

WARNING! Ensure that the crush guard is fitted so that it always drops down of its own weight and does not bind. Risk of crushing injuries.

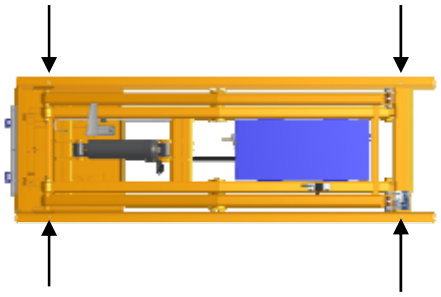
Position the warning decals and signs providing instructions for lift and alignment work *see section 2 "Safety"*.

3.8.1 Anchoring to the floor

Quick 42 standard configurations can either be anchored to the floor or mobile, *see Mobile unit chapter 5.*

The recommendation is to anchor the lift to the floor for best performance. Also applicable local regulations may require that the lift is anchored to the floor with expander bolts.

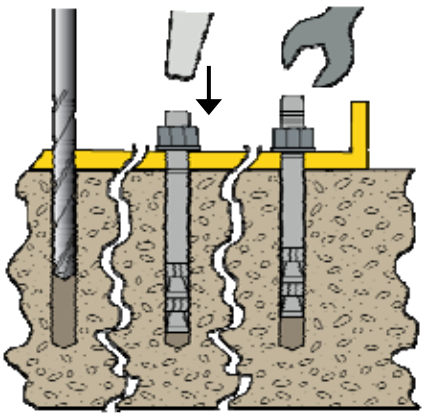
NOTE! Mobile kit is optoinal and includes transport wheel and jacking plate.



The lift should be anchored to a flat floor with the following properties:

- A minimum of K25 concrete floor quality.
- A minimum slab thickness of 150 mm (6 in).
- The requirements of the floor or the flatness of the floor (under the lifting platform) is 2 mm/m or better.

Procedure



Expander bolts M16x125, Car-O-Liners Art No. 36819. 4 bolts are supplied with the Q42 system.

Drill holes in the floor using the base plate holes as a template. Drill diameter 16 mm (5/8 in), hole depth 110-120 mm (4-5 in).

1 **Clean the holes with vaccum cleaner and air hose. Unscrew the nut so that only the un-threaded top of the bolt is above the nut. Gently tap the expander bolts into the holes with a hammer.**

2 **Tighten the bolts with a torque wrench set to 100 Nm.**

NOTE! If the above torque is not attained, the anchoring is not satisfactory.

IMPORTANT! If there is any uncertainty about the quality of the floor, contact a building engineer for an inspection.

IMPORTANT! It is the responsibility of the owner (user) of the equipment to ensure that inspection, in accordance with current local regulations, is carried out before the lift is put into use.

4 Operation

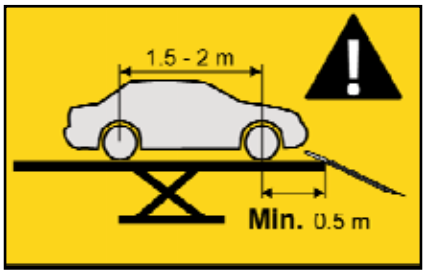
4.1 General

WARNING! During setup of the vehicle on the bench, care must be exercised so that the vehicle does not roll or slide out of the supports or mountings. Risk of crushing injuries.

The vehicle may be driven onto the ramps or winched up if there is wheel damage.

The vehicle is lifted free of the ramps with the help of hydraulic jacks allowing the bench mountings and chassis clamps to be fitted.

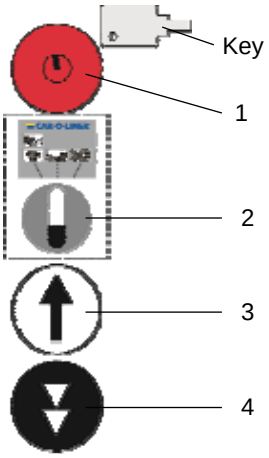
Depending upon the type of vehicle and the nature of the damage, the hydraulic jacks shall be placed under a strong part of the body.
The recommendation is to lift the vehicle with a pair of jacks at the front under the suspension cradle, and then repeat the same procedure at the rear.



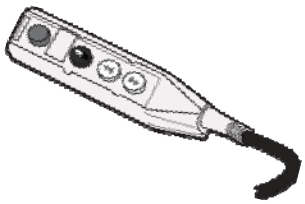
Proper weight distribution

Minimum allowed distance between the heaviest axle (normally the front axle) and the run-up end is 0.5 meter when lifting a vehicle with short wheelbase (1.5-2 meter).Otherwise there is a risk of tipping of bench in mobile use which can cause crushing injuries.

4.2 Operating the lift



Pendant station type 1:



The Hand control consists of 4 buttons:

1 Emergency breaker (lockable with a key)

2 3-step switch

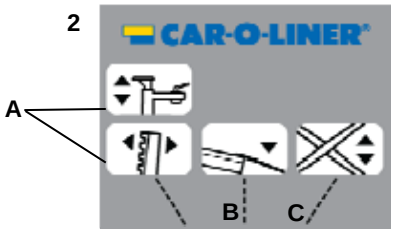
A - Left position: Manoeuvring of accessories, draw aligner and the hydraulic jacks.

B - Middle position: Tilting of the bench.

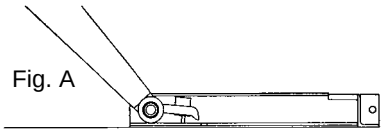
C - Right position: Manoeuvring of the scissors lift.

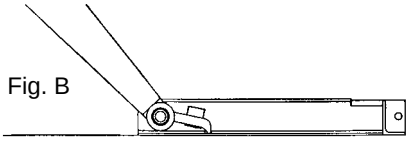
3 Up button or pulling with the draw aligner.

4 2-steps down button or retraction of draw aligner.



4.2.1 Raising the bench, Type 1 pendant station





1 Place the switch to the right position.

2 Raise the lift by pressing the up button, when releasing the button the lift stops and the lift is standing on the hydraulic cylinder.

3 By pressing the down button half way to the first position, the lift sinks to the nearest safety latch position, fig. B.

4.2.2 Lowering the bench, Type 1 pendant station

Place the switch to the right position. If the lift is standing on the mechanical latch, the lift must first be raised approx. 10 mm before the down button is fully depressed.

The air valve, fig A, will lift the mechanical latch to allow the lift to be lowered to the desired height or draw aligner height.

4.2.3 Tilting the bench, Type 1 pendant station

When the bench is in its lowest horizontal position (draw aligner height), the bench can automatically be tilted.

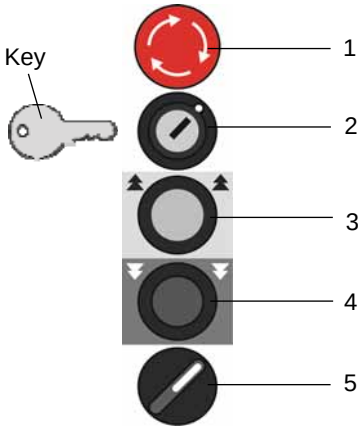
1 Turn the switch to its middle position

2 Press the down button, and the bench tilt the drive-on side.

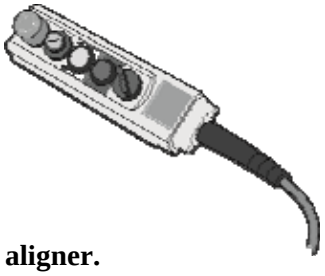
WARNING! Block the wheels or engage the hand brake before tilting the bench. Risk of unintentional rolling.

NOTE! When the lift has been lowered and stopped by the safety latch and further lowering is desired, the lift must be raised aprox. 10 mm (⅓ in) to release the latch. When the Down button is subsequently depressed fully, the lift will be lowered past the safety latch stops.

Pendant station type 2:



The pendant station consists of 5 buttons:



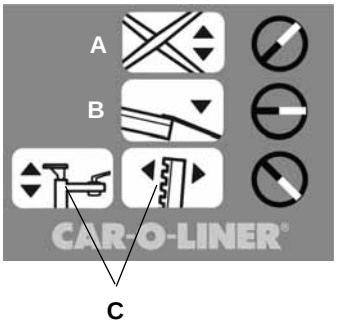
1 **Emergency breaker. Push to activate, turn to release.**

2 **Safety lock.**

3 **2-step Up button or pulling with the draw aligner.**

4 **2-step Down button or retraction of draw aligner.**

5 **3-step switch**



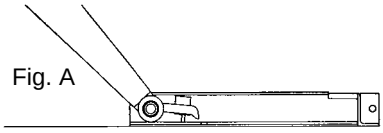
5 3-step switch:

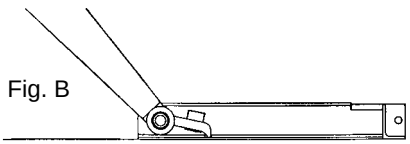
A - Upper position: Manoeuvering of the scissors lift.

B - Middle position: Tilting of the bench.

C - Lower position: Manoeuvring of accessories, draw aligner and hydraulic jacks.

4.2.4 Raising the bench, Type 2 pendant station





1. **Place the switch to the upper position.**
2. **Raise the lift by pressing the up button, when releasing the button the lift stops and the lift is standing on the hydraulic cylinder.**
3. **By pressing the down button half way to the first position, the lift sinks to the nearest safety latch position, fig. B.**

4.2.5 Lowering the bench, Type 2 pendant station

Place the switch to the upper position. If the lift is standing on the mechanical latch, the lift must first be raised approx. 10 mm before the down button is fully depressed.

The air valve, fig A, will lift the mechanical latch to allow the lift to be lowered to the desired height or draw aligner height.

4.2.6 Tilting the bench, Type 2 pendant station

When the bench is in its lowest horizontal position (draw aligner height), the bench can automatically be tilted.

1. **Turn the switch to its middle position**
2. **Press the down button, and the bench tilt the drive-on side.**

WARNING! Block the wheels or engage the hand brake before tilting the bench. Risk of unintentional rolling.

NOTE! When the lift has been lowered and stopped by the safety latch and further lowering is desired, the lift must be raised aprox. 10 mm (⅓ in) to release the latch. When the Down button is subsequently depressed fully, the lift will be lowered past the safety latch stops.

4.3 Measuring system

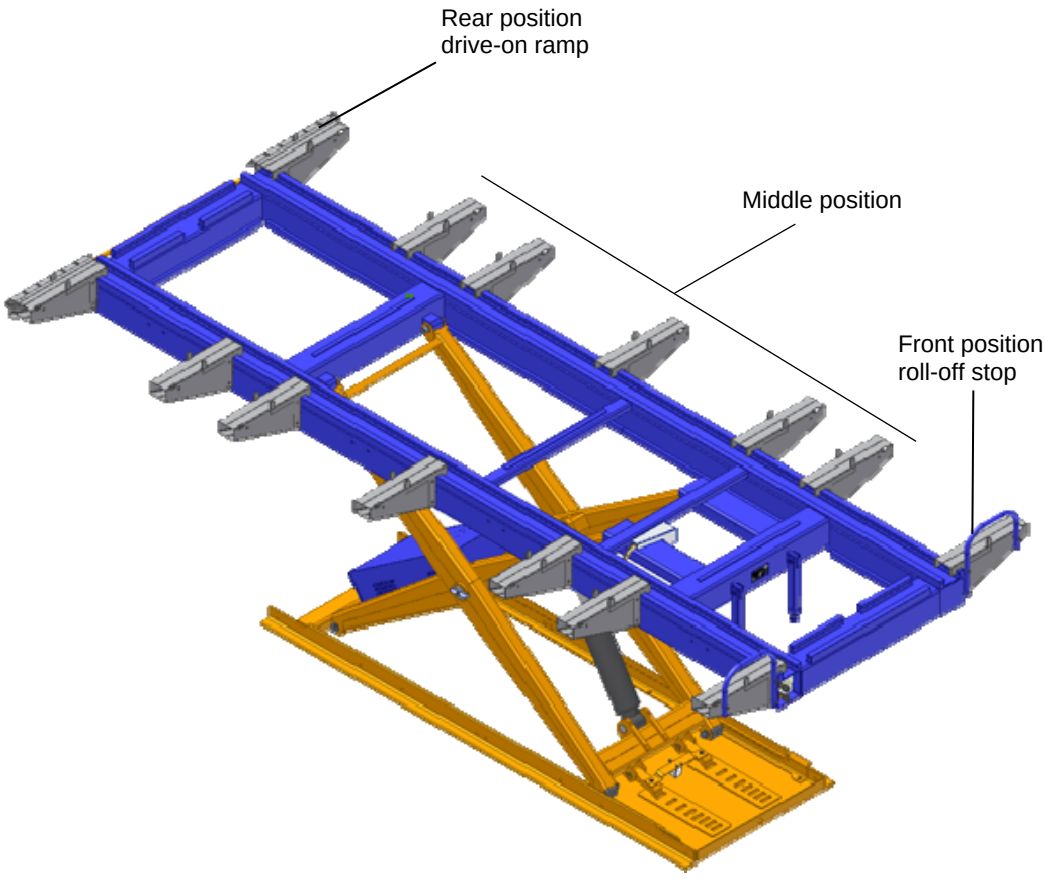
1 Install the Car-O-Tronic measuring bridge to the bench.

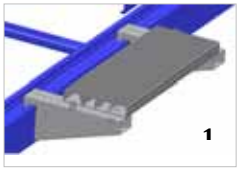
4.4 Ramp support and Side ramps

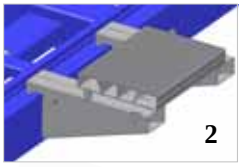
The ramp supports can be mounted in different combinations depending on wheelbase of the vehicle that will be repaired. There are three types of ramp supports:

- Front
- Middle
- Rear

The picture below shows the recommended start configuration.







There are three types of ramps:

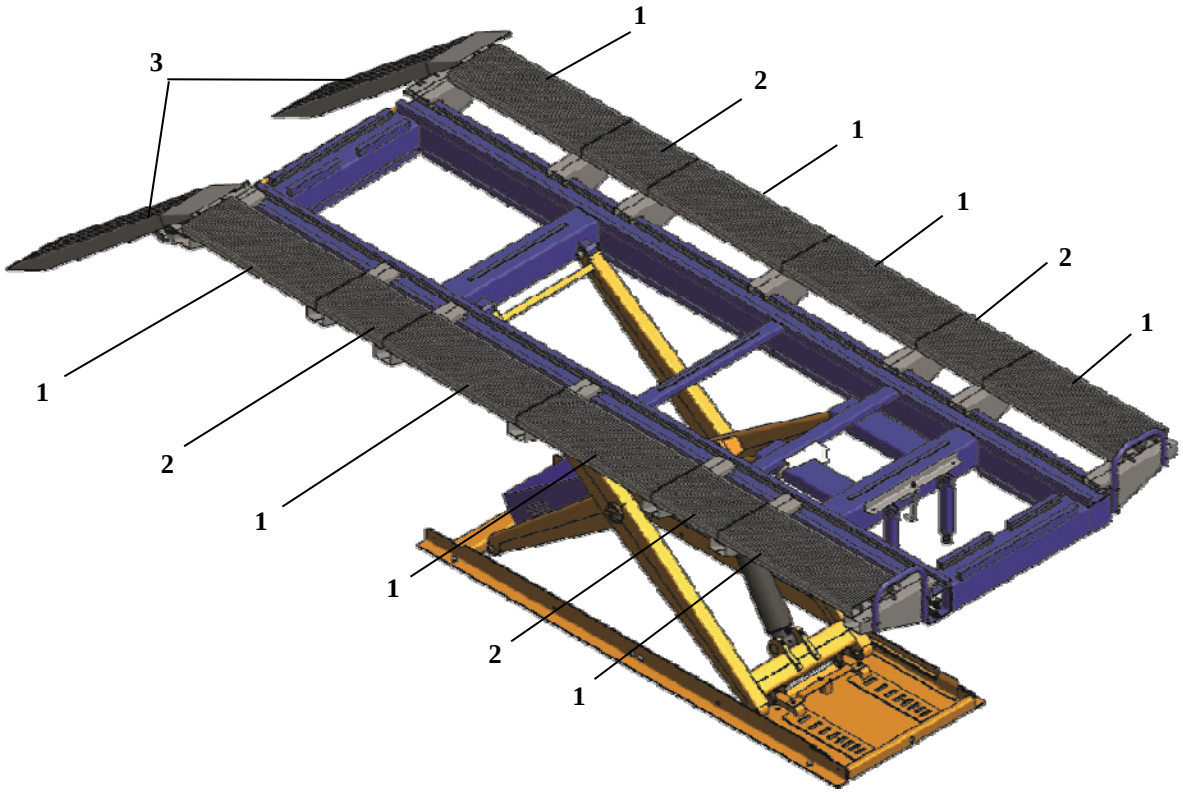
1 Long, 4+4 pcs

2 Short, 2+2 pcs

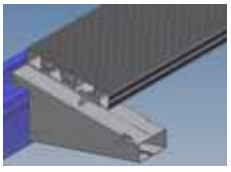
3 Drive-on ramps, 2 pcs

The ramps and ramp supports may be removed when necessary to facilitate access during measurement and alignment work.

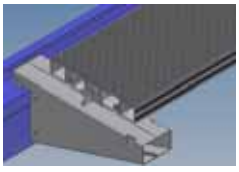
The picture below shows the standard start configuration.



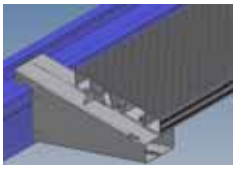
300 mm ramps, three positions



Inner position

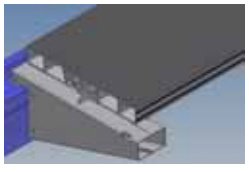


Middle position

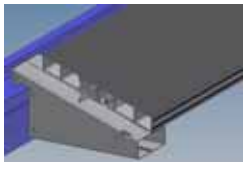


Outer position

400 mm ramps, two positions



Inner position



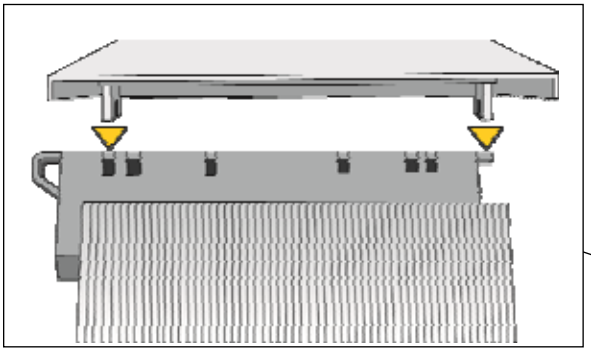
Outer position

The 300 mm ramps have three width positions depending on wheel track of the vehicle. The 400 mm ramps have two width positions.

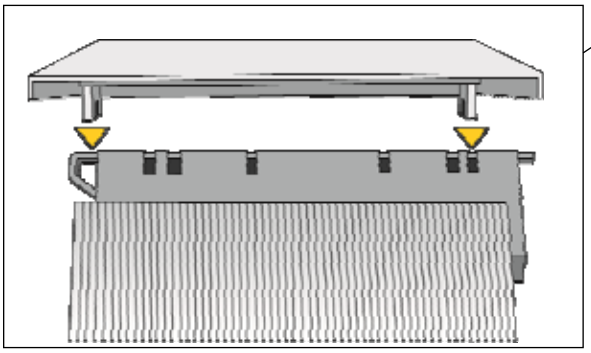
WARNING! Maximum static load per ramp = 1000 kg (2 200 lbs).

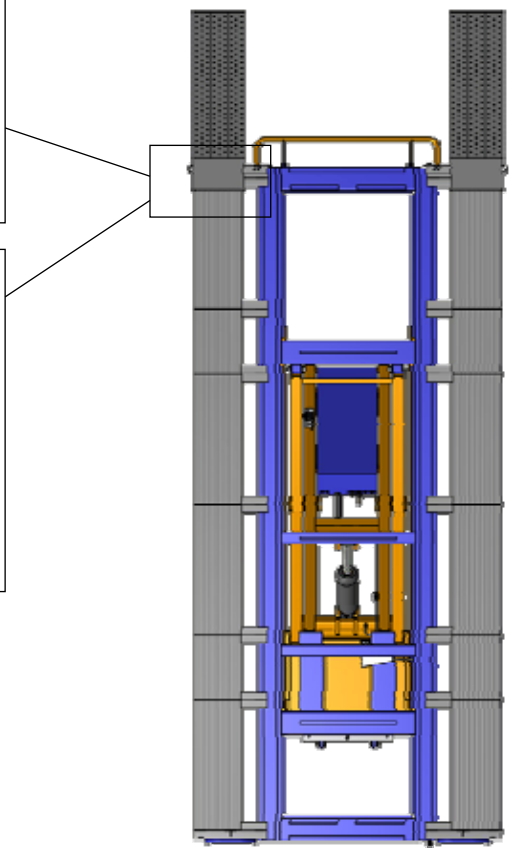
NOTE! The drive-on ramps must be fitted into the correct slots of the ramp supports to align with the side ramps. There are three positions for the 300 mm side ramps and two positions for the 400 mm side ramps (see previous page). Below the fitting for the 400 mm drive-on ramp is illustrated. Incorrect fitting may cause damage to equipment.

Inner position fitting of drive-on ramp and side ramp



Outer position fitting of drive-on ramp and side ramp





4.5 Connect the Q16 to the benchframe

1 **The head of the drawbar must be horizontal. The wedge (B) and safety plate should hang straight down with the drawbar pushed against the safety plate (A). The supports legs of the bench frame must be adjusted so that the head of the draw aligner is free when the draw aligner is pushed in under the bench frame.**

WARNING! Before moving the draw aligner, always lock the arm in an upright position. Risk for tipping.

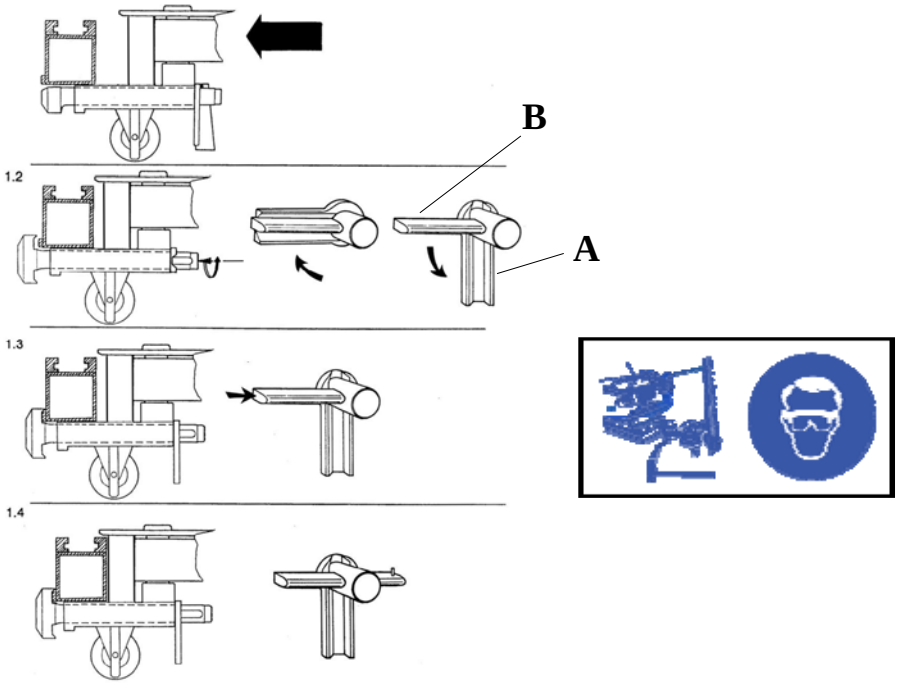
2 **Rotate the drawbar 90° by drawing up the locking wedge and safety plate. Turn the safety plate back again while holding the wedge in its horizontal position. The drawbar and its head are thus pressed against the inner side of the bench frame and the head of the drawbar engages the steel strip on the inside of the bench.**

WARNING! Always use safety glasses when hammering the locking wedge in or out. Risk for splinters.

3 **The draw aligner is locked to the bench frame by driving in the locking wedge with a lead hammer.**

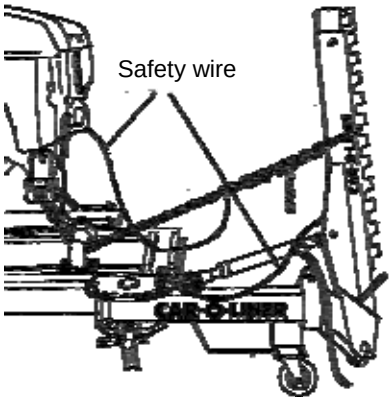
4 **The draw aligner is detached by performing the preceding steps in reverse order.**

WARNING! Never release the locking wedge if the bench is not at draw aligner height. Risk for injury.



The safety plate under the locking wedge on the drawbar prevents the head of the drawbar from losing its grip on the steel strip on the inner side of the bench frame when the wedge is hammered out.

WARNING! Never release the locking wedge if the bench is not at draw aligner height. Risk for injury.



The safety wire between the draw aligner arm and the body prevents the arm from falling too far backwards during movement or if the pull should come loose.

When a pulling chain is delivered from Car-O-Liner together with the Q16, a safety wire is included which is to be fastened between the vehicle and the draw clamp. This prevents accidents if the clamp should lose its grip.

WARNING! Make sure that the safety wire is correctly fitted and undamaged.

WARNING! Make sure that the draw aligner is correctly secured to the bench frame.

WARNING! Watch out for flying objects during aligning work. Do not stand behind or near the draw aligner during a pull.

4.5.1 Positioning and linking the draw aligner

WARNING! Before moving the draw aligner, always lock the arm in an upright position. Risk for tipping.

Position the draw aligner based on the impact angle of the damage.

The bench frame must be at a height that is suited to the draw aligner. If, for instance, the floor is uneven, the height for the draw aligner can be adjusted with the screws on the support legs of the aligning bench, *see section 3.2.3*.

WARNING! The two locking pegs in the front of the draw aligner must be pressed in completely.

Correct positioning of the draw aligner minimizes the number of times it must be moved during the course of the work.

IMPORTANT! To obtain maximum performance and to avoid damage to the draw aligner, the chain must run parallel to the hydraulic cylinder.

IMPORTANT! When using the draw aligner, remember to protect the measuring system from the damaged area to avoid damage to the measuring system.

When a suitable anchoring angle has been determined, secure the draw aligner to the bench frame with the locking wedge.

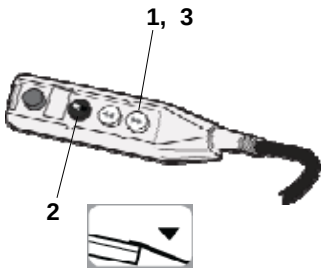
WARNING! Always use safety glasses when hammering the locking wedge in or out. Risk for splinters.

WARNING! Never release the locking wedge if the bench is not at draw aligner height. Risk for injury.

4.6 Drive on to Q42

WARNING! Never drive the car onto the bench with the lift in raised position. Risk for vehicle overturning which may cause injuires.

WARNING! Minimum allowed distance between axle and bench end is 0.5 meter when lifting a vehicle with short a wheel-base (1.5-2 meter). Otherwise there is risk for crushing injuries.

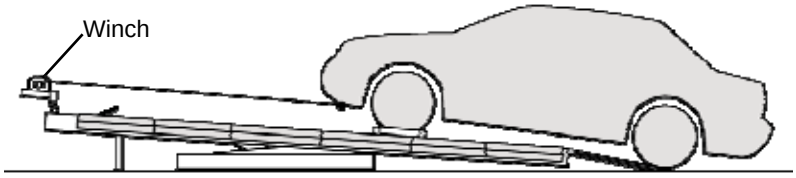


1 **Push the “down” button to lower the lift. Keep the button pushed down until the lift reaches draw aligner height. Release the button.**

2 **Turn the Switch to the tilt position.**

3 **Push the “down” button one more time, the bench will tilt to drive on position.**

4 Drive or winch the car on to the bench. Before drive on to the bench make sure width positions of the ramps are fitted to wheel track of the vehicle. Apply the hand brake.



5 Place the car lengthwise depending of the damaged area. Try to position the vehicle's centre line as closely as possible to the centre line of the bench.

6 Lift the vehicle up to the desired working height.

NOTE! Drive-off stop prevent the vehicle to roll off.

WARNING! Block the wheels or engage the hand brake before tilting the bench. Risk of unintentional rolling.

WARNING! During setup of the vehicle on the bench, care must be exercised so that the vehicle does not roll or slide out of the hydraulic jacks or bench mountings. Risk of crushing injuries.

4.6 Setting up the vehicle

IMPORTANT! Tightening torque for **M16** nuts and bolts on bench mountings (cam locks), chassis clamps, and EVO system is maximum of 200 Nm to avoid damage to the equipment.

IMPORTANT! All nuts and bolts shall be cleaned and greased regularly.

4.7.1 Setup with chassis clamps

Depending upon the type of vehicle and the nature of the damage, the hydraulic jacks shall be placed under a strong part of the body.

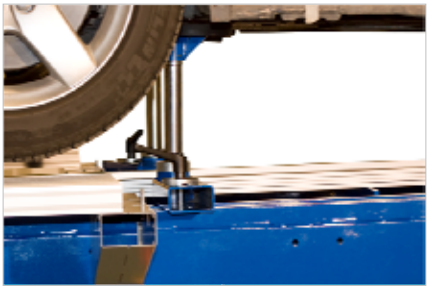
Unibody
The recommendation is to lift the vehicle with a pair of jacks at the front under the suspension cradle and then repeat the same procedure at the rear.

Full frames (Vehicles with separate frame)
Suitable lifting points are on the frame of a vehicle with a separate frame. The front or rear axle beams or corresponding structures are also suitable lifting points.

1 **Mark the gripping points A and B for the chassis clamps. The measurements are given in the data sheet,** *see the instruction manual for the Measuring System***. Clean under-seal and dirt from the sill edge to give the chassis clamps a good grip and to ensure that the correct height is obtained when measuring.**

2 **Raise the lift to its highest position and fit the two hydraulic jacks.**

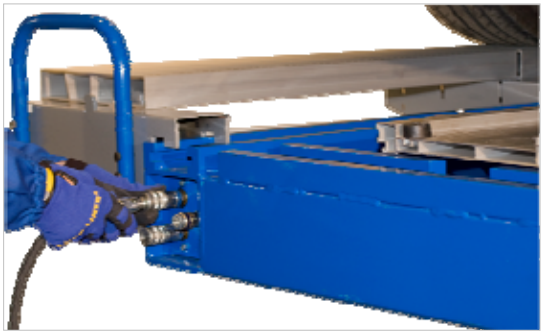
3 **Adjust the position of the hydraulic jacks for a suitable lifting point. Remove the ramps where the hydraulic jacks are to be positioned for easy access.**



4 **Tighten the hydraulic jacks.**

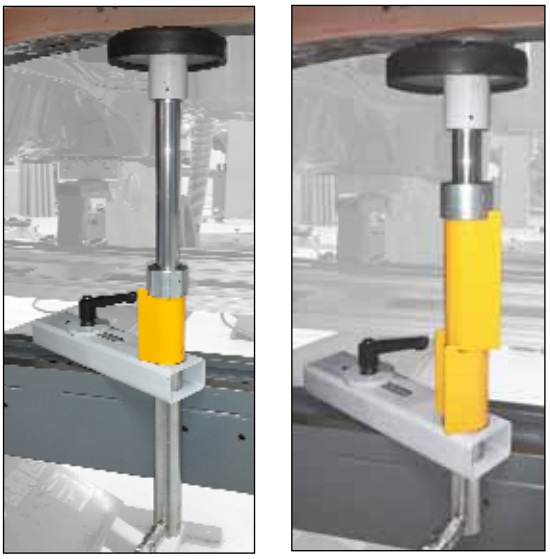
NOTE! Make sure the cam lock is fully rotated before tightening.

5 Attach the hydraulic hoses between the jacks and the power supply.



4.7.2 Using Q201 spacers (optional)

When lifting a full frame vehicle or any vehicle with high lifting points (for example when using T48 Support stand), Q201 Spacers can be used. To achieve as much lifting height as possible it is necessary to close the gap between lifting pad and lifting point.
The Q201Spacer kit consists of 2x3 spacers of various heights that can be combined as seen in the examples below.
Lift the hydraulic cylinder and place the spacer between cylinder and holder arm, according to pictures below.
To order the Q201 Spacer accessories kit (parts no. 41146), contact your local Car-O-Liner distributor.



The Q201 spacers can be combined to reach required lifting height.

The holding arm cam lock tightened in 90° angle to the bench tracks.

WARNING! Always lift vehicle with hydraulic jacks on both sides of the vehicle. Risk of personal injuries and material damage.

WARNING! Make sure that the holding arm cam locks are tightened in 90° angle to the bench tracks. Risk of personal injuries and material damage.

WARNING! Maximum hydraulic jack lifting capacity t is 900 kg (2000 lbs). Risk of personal injuries and material damage.

Raising the hydraulic jacks

WARNING! Always be extremely careful when working with jacks or hydraulic equipment. Risk for falling or flying objects.

WARNING! Maximum static load per hydraulic jack = 900 kg (2 000 lbs).

1 **Place the switch to the left position.**

2 **Press the up button to raise the vehicle to desired height, when releasing the button the jack stops.**

3 **With the vehicle supported by the hydraulic jacks, place the bench mounting with the cam locks under the marked A or B position.**

4 **Tighten the bench mountings against the bench.**

5 **Place the chassis clamps onto the bench mounting.**

6 **Remove the ramps under the lifted axle.**

7 **Lower the jacks by pressing the down button, and steer the position of the chassis clamp to the sill flange.**

8 **Tighten the bolts on the sill flange.**

NOTE! Do not tighten the bolts for the clamp plates to the bench mounting before all 4 chassis clamps are in position.

IMPORTANT! Ensure that the toothed segments are clean and fitted correctly.

Move the hydraulic jacks to the other end of the vehicle and repeat the procedure. Tighten all the clamp plates to the bench mountings.

Tighten the chassis clamps, first against the sill edge and then against the bench mounting.

IMPORTANT! When a wrench is used to tighten nuts and bolts, ensure that it is set to a maximum of 200 Nm to avoid damage to the equipment.

4.7.3 Bench Mounting

Please note that there are different types of bench mountings.

If the vehicle is damaged so that it does not lie correctly in one or more of the chassis clamps, the following procedure is recommended:

- Lift the chassis clamp toward the sill edge with a suitable tool, then tighten the clamp against the sill edge.
- Tighten the chassis clamp bolts against the bench mounting, forcing the vehicle down to the correct position.
- When all of the bolts have been properly tightened, alignment work can begin.

During the course of the alignment work, distortion may be checked by loosening the chassis clamp in question to see if the stress remains.

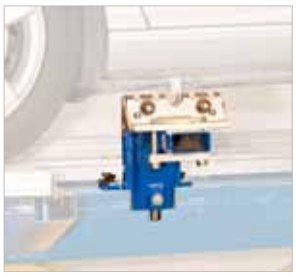
4.7.4 Q63 Quick setup

For info regarding recommended position of 2 Quick anchoring points, *see chapter 4.7.*

The use of only 2 anchoring points is only recommended for minor alignment purposes.

When using two Q63 it's easy to mount without jacking up the car. Depending of the damage, Q63 could be mounted on the same side or the opposite side.

Q63



Q63 and B106

NOTE! If the wheels has to be removed it's necessary to use the hydraulic jack.

1 When the bench mounting is fixed to the bench frame, adjust the height using a wrench.

2 Thighten all bolts and nuts.

3 Repeat the procedure on the other fixation point.

4.7.5 Q62 Quick setup

When using two Q62 it's easy to mount without jacking up the car. Depending of the damage, Q63 could be mounted on the same side or the opposite side.

Q62 mounted on one side of the car

NOTE! If the wheels have to be removed it's necessary to use the hydraulic jack.

Track plate

Q62

1 Thighten the track plate and the EVO clamp.

2 Tighten the bolts for EVO tower.

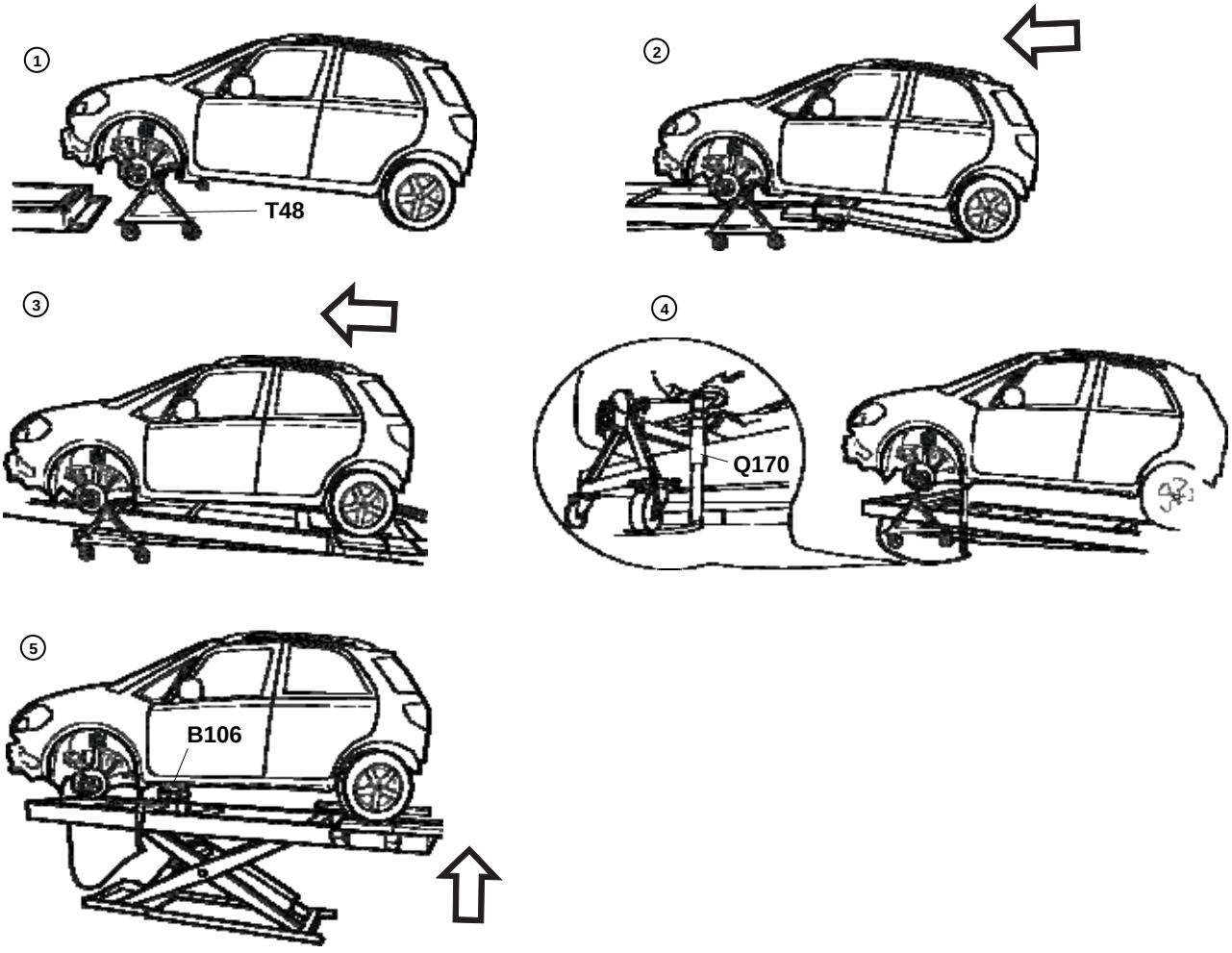
3 Mount the other EVO tower in the same order.

4.8 Set up of a vehicle without front or rear sub frame

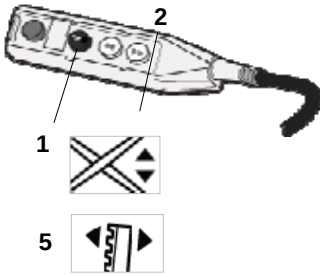
Illustrations show the recommended way to set up the vehicle.

WARNING! It is forbidden to use the T48 on top of the drive on ramps. Risk of falling off from the ramps.

WARNING! Maximum static load per hydraulic jack = 900 kg (2 000 lbs).



4.9 Q16 Draw aligner



1 **Turn the Switch in “Lift” position.**

2 **Push the “down” button to lowering the lift. Keep the button pushed down until the lift reaches draw aligner height. Release the button.**

3 **Position the draw aligner in desired position.**

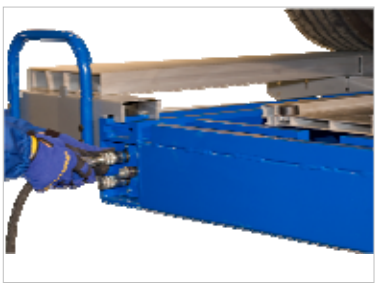
4 **Lock the draw aligner to the bench, *see section 4.5*.**

5 **Turn the Switch in “Draw aligner” position.**

4.9.1 Pulling a side damage when two fixing points are used

1 **Mount the clamp’s on the opposite side of the damage/draw aligner.**

2 **Connect the hose o the draw aligner with the quick coupling in the front or rear of the bench.**



NOTE! When working on te opposite side of the satelites with the draw aligner, placed in the middle of the bench, use two hydraulic hoses.

4.9.2 Pulling straight forward when two fixing points are used

1 Mount the clamp's on the same side as the damage/draw aligner.

2 Place the draw aligner from the side to avoid interference with the hydraulic hose.

NOTE! To mount the draw aligner in the short end of the bench may create conflict with the quick couplings in some situations.

4.9.3 Offset pulling when two fixing points are used

Mount the clamp's on the same side of the vehicle. When pulling to the right, clamp the vehicle on the left side.
When pulling to the left, clamp the vehicle on the right side.

4.10 Useful when working with the vehicle

4.10.1 Compressed air

Air tools could easily be connected to the compressed air outlet on the bench.

4.10.2 Hand tools

The drive on ramp's can be used for placing the hand tools or other equipment during the repair.

4.10.3 Width extension possibility

Width extension possibility of the ramps makes it easier to build a standing platform. It makes it convenient to reach and repair upper body positions.

WARNING! Maximum one ramp support can be added on the other. Risk of crushing injuries and damage to the equipment.

WARNING! Maximum height when using ramps as standing platform is 1 meter.

5 Mobile unit

5.1 General

Art No. 41856

WARNING! The floor underneath the bench with wheels must be level. When not moving the bench, always set the wheel brakes. Risk of unintentional rolling.

WARNING: Risk of rolling bench. The wheel assemblies shall be locked after the bench has been moved.

NOTE! The kit is optional and includes transport wheel and jacking plate.

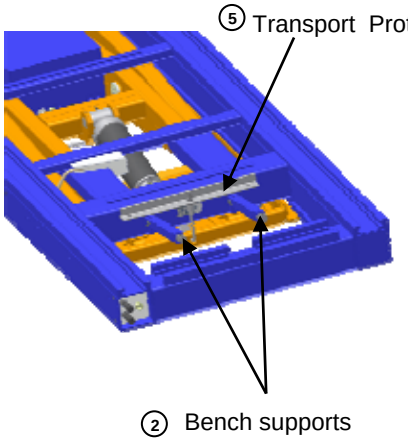
The wheel assemblies are placed at the long sides of the bench frame. The transport wheels are mounted under the positions for the ramp consoles. Use one of the holes for the locking mechanism. The recommendation is to use the second position of the console holes. All wheels are equipped with brakes. The wheel swivel can be locked in four positions.

Wheels can be mounted when a vehicle is fixed on the bench.

NOTE! Mount the transport wheels as wide as possible for maximum stability, and also not to overload the wheels.

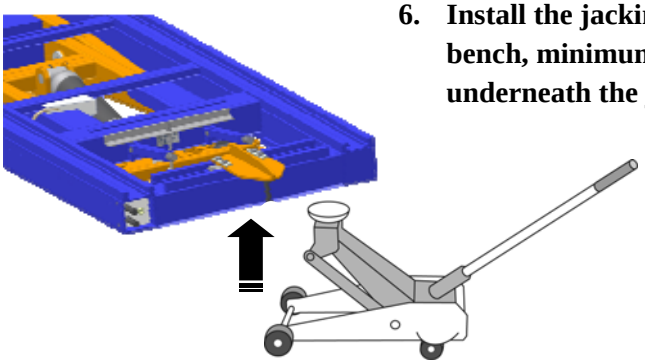
5.2 Installation of transport wheels, using trolley jack

IMPORTANT! Transport protection must be used whenever the equipment is moved.



1. **Raise the bench to a suitable safety latch stop level.**
2. **Turn-up the bench supports, use a circlip plier.**
3. **Lower the bench to the lowest horizontal level (The switch on the hand control in tilt position).**
4. **Disconnect the air and electricity.**
5. **Install the transport protection to hold the bench against the bottom of the lift.**

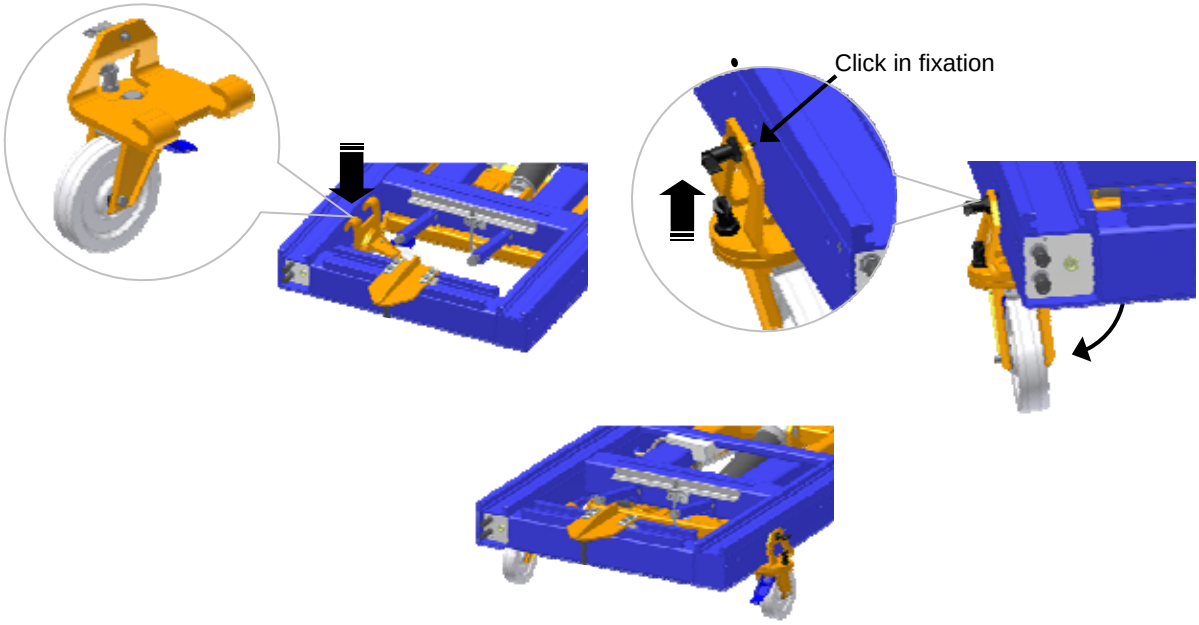
⑥



6. **Install the jacking plate at the end of the bench. Lift the bench, minimum 55 cm (22 in) using a trolley jack placed underneath the jacking plate.**

7. **Install the transport wheels on the bench sides using the second position of the console holes.**
   Make sure that the locking peg fits in the hole of the bench.

⑦

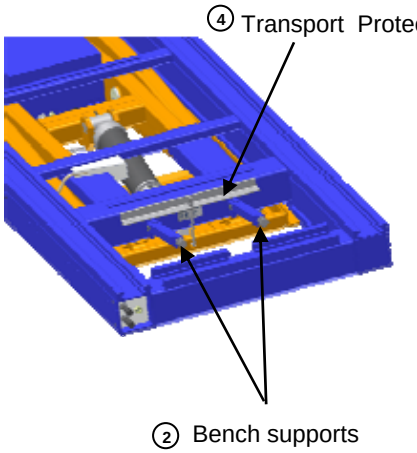


8. **Lower the jack and repeat from step 6 – 8, at the other end of the bench.**

NOTE! When moving the unit (a vehicle mounted on the bench) over high obstacles e. g doorpost, you need to lift the bench in order to not destroy the wheels.

5.3 Installation of transport wheels, using hydraulic jacks

IMPORTANT! Transport protection must be used whenever the equipment is moved.



1. **Raise the bench to a suitable safety latch stop level.**
2. **Turn-up the bench supports, use a circlip plier.**
3. **Lower the bench to the lowest horizontal level (The switch on the hand control in tilt position).**
4. **Install the transport protection to hold the bench against the bottom of the lift.**
5. **Use two hydraulic jacks and one Q201 spacer kit. Medium spacer (100mm/4 in) from Q201 kit is used. The Camlocks of the hydraulic jacks are turned upside down.**

6. **Place the hydraulic jacks and the spacer according to the picture.**

7. **NOTE! Control must be in Left position (see 4.2 Operating the lift). Raise the hydraulic jacks and mount two wheels in**

the second position of the console holes (see 5.2, step 7). Make sure that the locking peg fits in the hole of the bench.

8. **Lower the hydraulic jacks until the wheels stand on the floor. Lower the jacks completely and remove them.**

9. **Place the hydraulic jacks according to the picture.**

10. **When mounting the two wheels on the opposite side of the bench, repeat step 7-8.**

11. **Disconnect the air and electricity.**

NOTE! When moving the unit (a vehicle mounted on the bench)

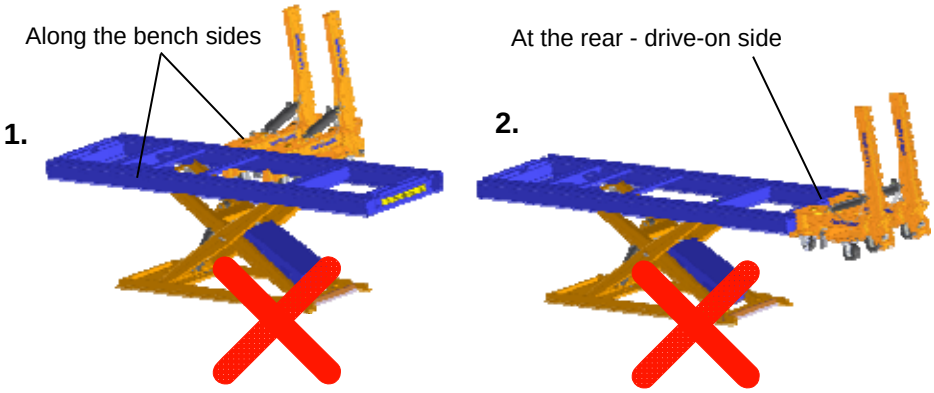
over high obstacles e. g doorpost, you need to lift the bench in order to not destroy the wheels.

5.4 Safety

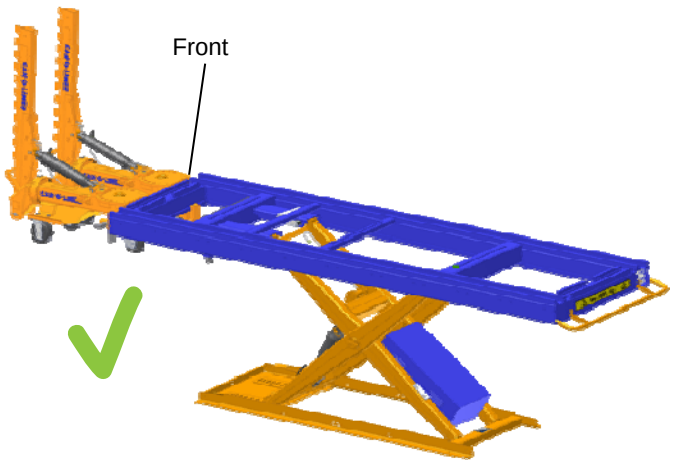
5.4.1 Two Q16 on the same bench side on an **empty unbolted** bench

Normally, when a bench is bolted to the floor, there are no problems to connect two Q16 draw aligners on the same bench-side of an empty bench.

But when the bench is mobile (not bolted to the floor) it is forbidden to connect two draw aligners to an empty bench and raise the lift as in ill. 1 and 2. The bench might overturn during a lift and cause injuries.



It is only allowed to connect the two draw aligners in the front of the empty mobile bench when raising the lift.



By observing and following the safety precautions, users of the Quick 42 will ensure safer working conditions for themselves and their fellow workers.

6 Service and Maintenance

6.1 General warnings

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

WARNING! Observe high standards of cleanliness when working with the hydraulic system. Dirt in the hydraulic oil can cause operating problems.

6.2 Bench inspection and service plan

	Daily inspection	Monthly inspection
Check function of the limit switch (controls draw aligner height and foot crush protection)	●	
Check that the safety latch drops easily into its slot. Clean and lubricate if necessary.		●
Make sure that the hydraulic hoses are positioned properly and that they are in good condition.		●
Check that the crush gard does not jam. Lubricate if necessary.		●
Check that dive-off stops are not loose or damaged.		●
Check for oil leakage at cylinders and power unit. Contact Service & Support if leaking.		●
Hydraulic cylinders equiped with lubrication nipples needs additional lubrication and should be lubricated every 6 month. Add with Molycote APS2 grease or equivalent graphite based grease.		●
Check that joint axles and locking screws are fully tightened. Tighten if necessary.		●
Check the level in the hydraulic oil tank. Top up as necessary. Change oil and filter at least once a year.		●
Check the warning signs and replace if damaged or missing.		●
Check the anchoring to the floor for cracks in the concrete and the tightness of the anchoring bolts (100 Nm). *See warning above, about working under the lift.*		●
Check that lifting pads are undamaged. Change if necessary.		●
Check and lubricate nuts and bolts, for example chassis clamps, hydraulic jacks and cam locks. Change if necessary.		●
Check drive-on ramps and side ramps for rust and un-normal wear.		●

Additional information regarding monthly inspection:

IMPORTANT! Observe high standards of cleanliness when working with the hydraulic equipment. Dirt in the hydraulic oil can result in breakdowns and subsequent loss of function.

6.3 Draw aligner inspection and service plan

The draw aligner and its component parts are subject to large amounts of loading and strain and therefore need regular inspection and replacement of any worn parts.

For the hydraulic components, please see the manufacturer's instructions.

	Daily inspection	Monthly
Check piston rod for damages and oil leakage. Contact Service & Support if leaking.	●	
Check that all locking pins at at the cylinder attachment points and draw aligner are undamaged and that locking washers are in place and undamaged. Replace if necessary.	●	
Check hose couplings for damages and leakage. Replace if necessary.	●	
Check that locking pegs are undamaged and can be completely pressed into the holes. Replace pegs and/or clean holes if necessary.	●	
Check locking wedge for damage or deformation. Replace if necessary.	●	
Check pulling chain and pulling clamps for damage or deformation. Replace if necessary.	●	
Check that the cylinder attachment points are greased and do not jam. Lubricate if necessary.		●

7 Troubleshooting

7.1 General

The trouble shooting instructions in this chapter will help you to quickly find and correct the most common faults that may occur when using the Car-O-Liner Power unit.

WARNING! All electrical connections must be carried out by authorized personnel. Risk for electrical shock.

WARNING! Observe high standards of cleanliness when working with the hydraulic equipment. Dirt in the hydraulic oil can result in breakdown.

7.2 Problem: The lift can not be raised

Fault	Possible cause	Solution
The motor does not run	Wrong position of the switch on the hand control.	Turn the Switch to the "**Lift**" position.
	Cable to the remote pendant damaged.	Check the cable to the remote pendant. Change or repair.
	Phase error, blown fuse.	Check for voltage on all three phases. Check the fuse.
	Voltage drop or wrong voltage.	Check the voltage and make sure that the motor and electrical component box are connected for the correct voltage.
	Faulty contactor.	Check the contactor and contactor coil. Replace any defective components.
	The thermal fuse (inside motorwinding) has cut off (overheated).	It will automatically resets itself when the temperature drops.
	Fault in the lifting control circuits.	Check the auxiliary contactors in the overcurrent breaker. Check the fuse and control circuits. Replace or repair any defective components.
The motor runs, but the lift cannot be raised	Excess load on the lift.	Maximum load on the lift is 3000 kg (6 600 lbs).
	Motor rotating in the wrong direction.	Change the phase order on the electrical connection and check the direction of rotation.
	Low oil level.	Check the oil level. Top up with oil if necessary. See "Recommended Types of Oil", section 8 "Technical Specifications".
	Oil leakage.	Check the hoses and couplings. Replace defective components.
	Dirt in the lowering valve	Clean. Change the oil.
	Defective lowering valve	The lowering valve has jammed in the open position. Replace the valve.
	Defective relief valve	The relief valve is open or opens to early. The relief valve shall open at 300 bar.
Fault	**Possible cause**	**Solution**

The motor runs, but the lift cannot be raised	8. Defective relief valve	Connect a pressure gauge to the hydraulic hose and check the pressure (should be 30 Mpa). Pressure is set at the factory; if the pressure is incorrect, contact your supplier.
	9. Defective pump	Replace the pump unit.

7.3 Problem: The lift drops

Fault	Possible cause	Solution
Lowering valve leaks	Dirt in the lowering valves. SDV1 or SCV1	Lower the lift and dismantle the lowering valve.
		Blow out the valve or replace.
		Change the oil.
Oil leakage	Leakage from the hose or coupling.	Check hoses and couplings for leakage. Replace defective components.
Oil leakage in the cylinder	Worn gaskets.	Dismantle the cylinder and change gaskets. Change the oil.
Non-return valve in the pump defective or leaking	Non-return valve defective.	Replace the non-return valve.

7.4 Problem: The lift cannot be lowered

Fault	Possible cause	Solution
Lowering valve fails to open.	Cable to the hand control damaged.	Check the cable to the hand control. Change or repair.
	No current to the magnetic coil.	Check the voltage on the coils, SDV 1 and 2 18V DC during load SCV 1 and 2 22V AC during load. Trouble shoot according to the diagram.
	The valve is blocked with dirt.	Clean the valve.
	The valve sticks.	Change the valve and the oil.
	The security latch is stiff or sticks.	Clean and lubricate so that the latch enters the slot easily.
Security latch is jammed	Air cylinder does not lift the latch from the slot.	Check the air supply to the air valve and that the air valve receives 22 V AC. Make sure that the air hose is not crushed or blocked.

7.5 Emergency lowering of the lift, earlier design of SDV 1 valve

1 **Cut off power to the bench.**

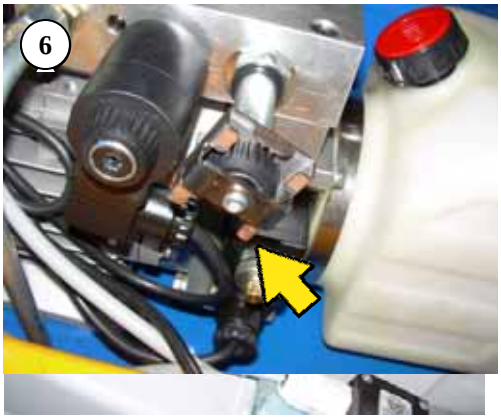
2 **Place safety supports in front and rear of the bench between floor and bench, eg. pallets or jackstands.**
If lowering of the scissors lift does not work, remove measuring bridge (if any) and the lid of the hydraulic unit.

3 **Remove the lid of the electric box and check the fuse, 2.5 A glass fuse.**

4 **Remove all items around and under the bench. If the vehicle can be moved on its own wheels, lock the brakes or secure the wheels to prevent the vehicle from moving.**

5 **Loosen the plastic nut at least 2.5 turns on the rear valve (SDV 1) on left -side *(later design of SDV 1, see section 7.6)*.**

6 **Mount the plastic nut. Place special tool no 44116 on the nut. Press down and lock. Tighten the whole assembly as far as possible. Make sure that the centre screw M4 is fully in.**



7 **If the security latches are in unlocked position, raise the security latches and insert a guide (card board or masonite) to prevent the security latches from attaching. If in locked position, see step 12-15.**

8 **Check that nobody is near the bench and that nothing is placed under the bench. Loosen brass screw (counter clockwise) in the centre of the SCV1.**

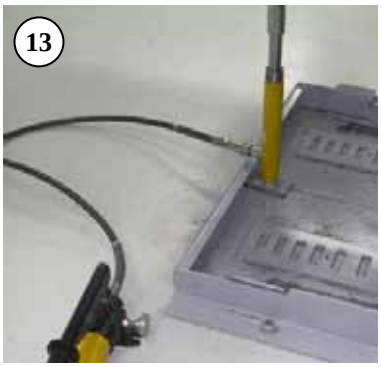
9 **When the brass screw is loosened the lift is slowly lowered all the way to tilted position (make sure that the car can not roll off when wheels are mounted)**
The limit switch for tilting position will not be engaged when carrying out this operation.

10 **When loosening the brass screw and the lift is starting to move slowly downwards, remove the safety supports and immediately move away from the lift - SQUEEZE RISK WARNING! Wait until the lift is in tilted position.**
Remember to block the wheels or lock the brakes when carrying out this operation!

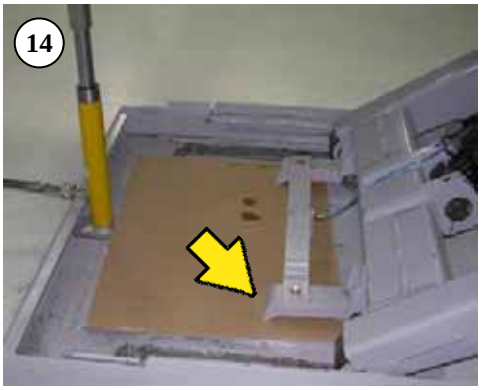
11 **Shut the valve, remove special tool and tighten the plastic nut.**
Remove the guide at the security latch.
Repair the fault *(see section 7.4)* and reassemble the covers

12 If the security latches are in locked position by the weight of the bench, they must first be loosened by lifting the bench with two hydraulic cylinders and pumps, to enable the security latches to come off.

13 One hydraulic cylinder is placed in the front and one is placed in the rear of the centre line of the bench and must stand on the lift platform, they must NOT stand on the floor!
They shall be raised alternately, bit by bit, until the security latches can be lifted manually.



14 Insert a guide to prevent the security latches from attaching.



15 Lower the hydraulic cylinders carefully alternately, bit by bit, until they are free. Remove them from the lift.

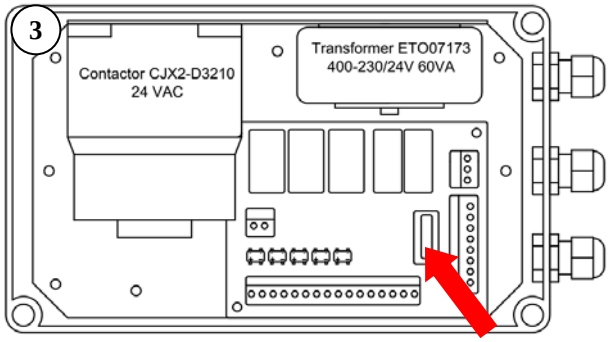
Proceed from step 8 to 11

7.6 Emergency lowering of the lift, later design of SDV 1 valve

1 Cut off power to the bench.

2 Place safety supports in front and rear of the bench between floor and bench, eg. pallets or jackstands.
If lowering of the scissors lift does not work, remove measuring bridge (if any) and the lid of the hydraulic unit.

3 Remove the lid of the electric box and check the fuse, 2.5 A glass fuse.



4 Remove all items around and under the bench. If the vehicle can be moved on its own wheels, lock the brakes or secure the wheels to prevent the vehicle from moving.

5 Loosen the plastic nut and remove the coil on the rear valve (SDV 1) on left –side *(earlier design of SDV 1, see section 7.5)*.

6 Apply special tool no 44110.
Tighten the special tool.

7 If the security latches are in unlocked position, raise the security latches and insert a guide (card board or masonite) to prevent the security latches from attaching. If in locked position, see step 12-15.

8 Check that nobody is near the bench and that nothing is placed under the bench. Remove the plastic nut that is located straight under the valve (SDV 1) with the special tool.

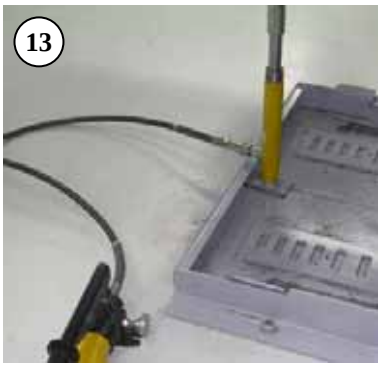
9 When the brass screw is loosened the lift is slowly lowered all the way to tilted position (make sure that the car can not roll off when wheels are mounted) the micro breaker for tilting position is disconnected when carrying out this operation.

10 When loosening the brass screw and the lift is starting to move slowly downwards, remove the safety supports and immediately move away from the lift - SQUEEZE RISK WARNING! Wait until the lift is in tilted position.
Shut the valve and mount the plastic nut.

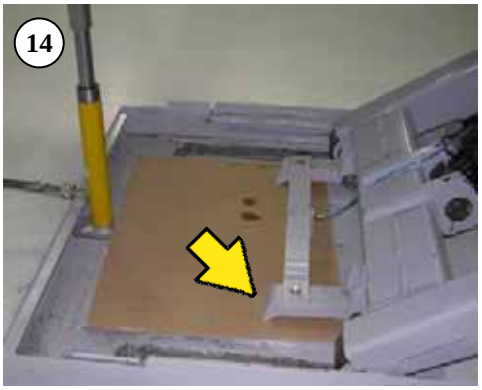
11 Remove the special tool and reassemble the coil and the plastic nut. Remove the guide at the security latch.
Repair the fault *(see section 7.4)* and reassemble the covers.

12 If the security latches are in locked position by the weight of the bench, they must first be loosened by lifting the bench with two hydraulic cylinders and pumps, to enable the security latches to come off.

13 One hydraulic cylinder is placed in the front and one is placed in the rear of the centre line of the bench and must stand on the lift platform, they must NOT stand on the floor!
They shall be raised alternately, bit by bit, until the security latches can be lifted manually.



14 Insert a guide to prevent the security latches from attaching.



15 Lower the hydraulic cylinders carefully alternately, bit by bit, until they are free. Remove them from the lift.

Proceed from step 8 to 11

8 Dismantling and Salvage

IMPORTANT! For the sake of the environment, it is important that the equipment is dismantled in an environmentally friendly way.

8.1 Mechanical Components

When scrapping or dismantling lift components the oil must be emptied from the cylinder, hoses and pump.

8.2 Other Components

All electrical components, plastic hoses, steel and aluminium should be sorted for recycling.

9 Technical Specifications

Bench length	4 200 mm (165 in)
Ramp length	4 200 mm (165 in)
Bench width	1 110 mm (47.3 in)
Bench width with ramps:	
minimum	1 590 mm (62.6 in)
maximum	1 915 mm (75 in)
Maximum lifting height	1 480 mm (58 in)
Lift capacity	3 000 kg (600 lbs)
Min. height (equipment height)	480 mm (19 in)
Lifting time	
3 phase 230V/400V	30 - 40 seconds
1 phase 110V	60 seconds
Total length with approach ramp	5 480 mm (216 in)
Bottom frame dimensions	780 x 2 200 mm
Weight (lift + frame)	755 kg (1 661 lbs)
Recommended type of oil Hydraulic oil	DIN 51524 del 2 groupe HLP ISO 6743/4 group HM Viscosity class 32 according to ASTM D445 or ISO 3448
Power	3 phase 230V/400V 50Hz 1 phase 110V 60Hz
Current (ampere) 3 phase 230V/400V 1 phase 110V	 16 A 30 A
Draw aligner Q16	
Pulling force	10 tons (300 bar)
Maximum width with draw aligner	2 230 mm (88 in)
Maximum length with draw aligner	5 320 mm (210 in)
Weight	150 kg/ (330 lbs)
Floor requirements	
Flatness of the floor	2 mm (0.08 in)/m or better

10 Spare parts

The spare parts required for maintaining the Car-O-Liner Quick 42 are listed in this chapter.

For other spare parts and questions about repair of the Power Unit, please contact the service department at Car-O-Liner AB.

Note! Use only genuine Car-O-Liner spare parts in any repairs.

10.1 Bench spare part kits

Position	Quantity	Part No.	Object
1	1	39669	Hydraulic cylinder
2	1	43502	Seal kit
3	1	43534	Pneumatic cylinder
4	4	42741	Hydraulic Coupling kit (female)
5	1	43503	Hydraulic Coupling kit (male)
6	1	*See section 10.2*	Hydraulic spare parts

**Special import regulations may apply*

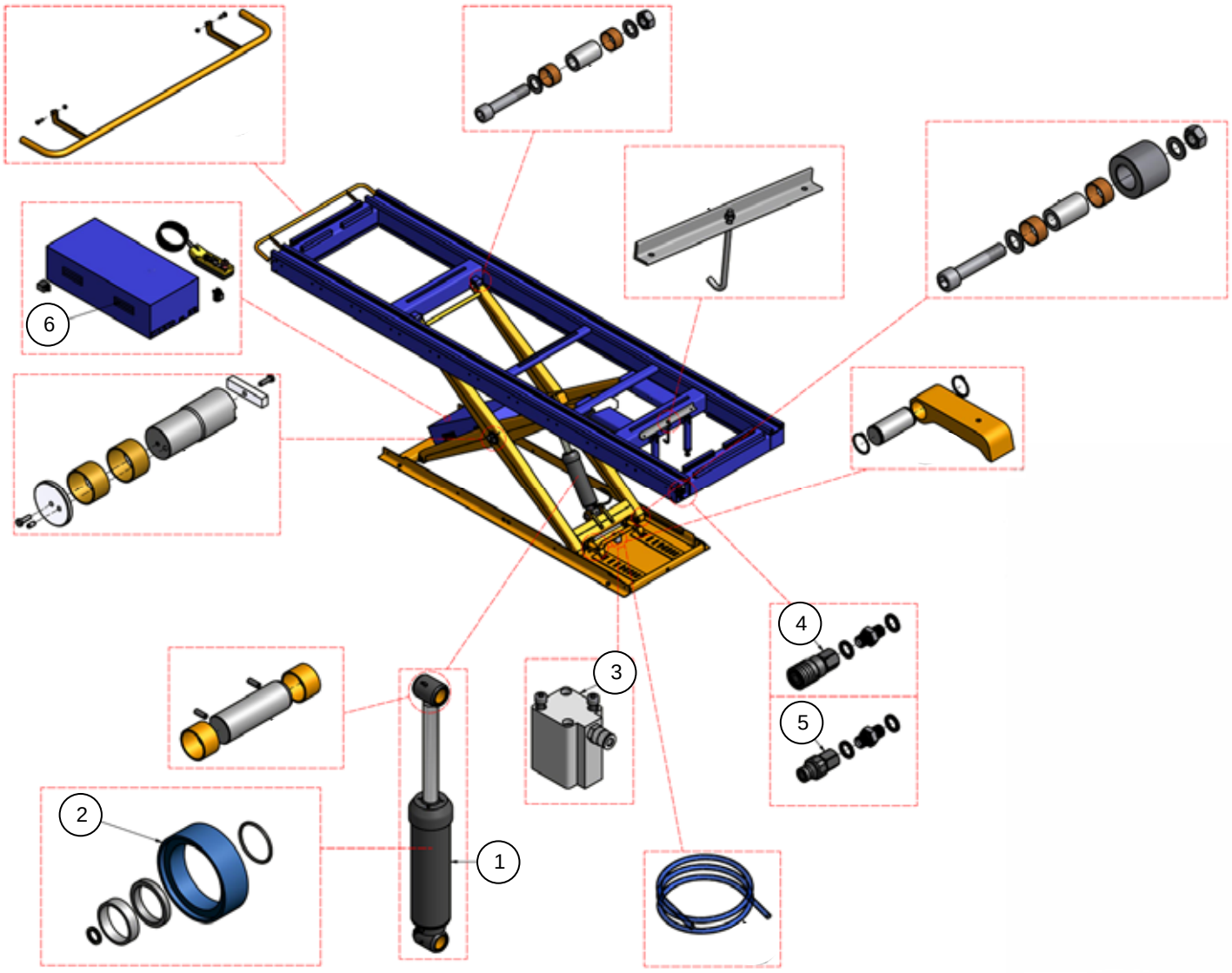


Figure 10.1 Bench spare part kits

10.2 Type 1 Power unit - summary

Position	Quantity	Part No.	Object
1	1	*See section 10.2.1*	Remote pendant
2	1	43608	Motor 110V 1 PH 60 Hz
2	1	43609	Motor 230/400V 3 PH 50Hz
3	1	*See section 10.2.2*	Pump unit 400V Q42
3	1	*See section 10.2.3*	Pump unit 110V Q42
4	1	*See section 10.2.4*	Upper manifold Q42
5	1	39878	Hose, cylinder
6	1	*See section 10.2.5*	Connection block
7	1	44116	Emergency lowering tool SDV, earlier design
7	1	44110	Emergency lowering tool SDV, later design
	1	41642	Decal spare part kit
8	1	39671	Position switch

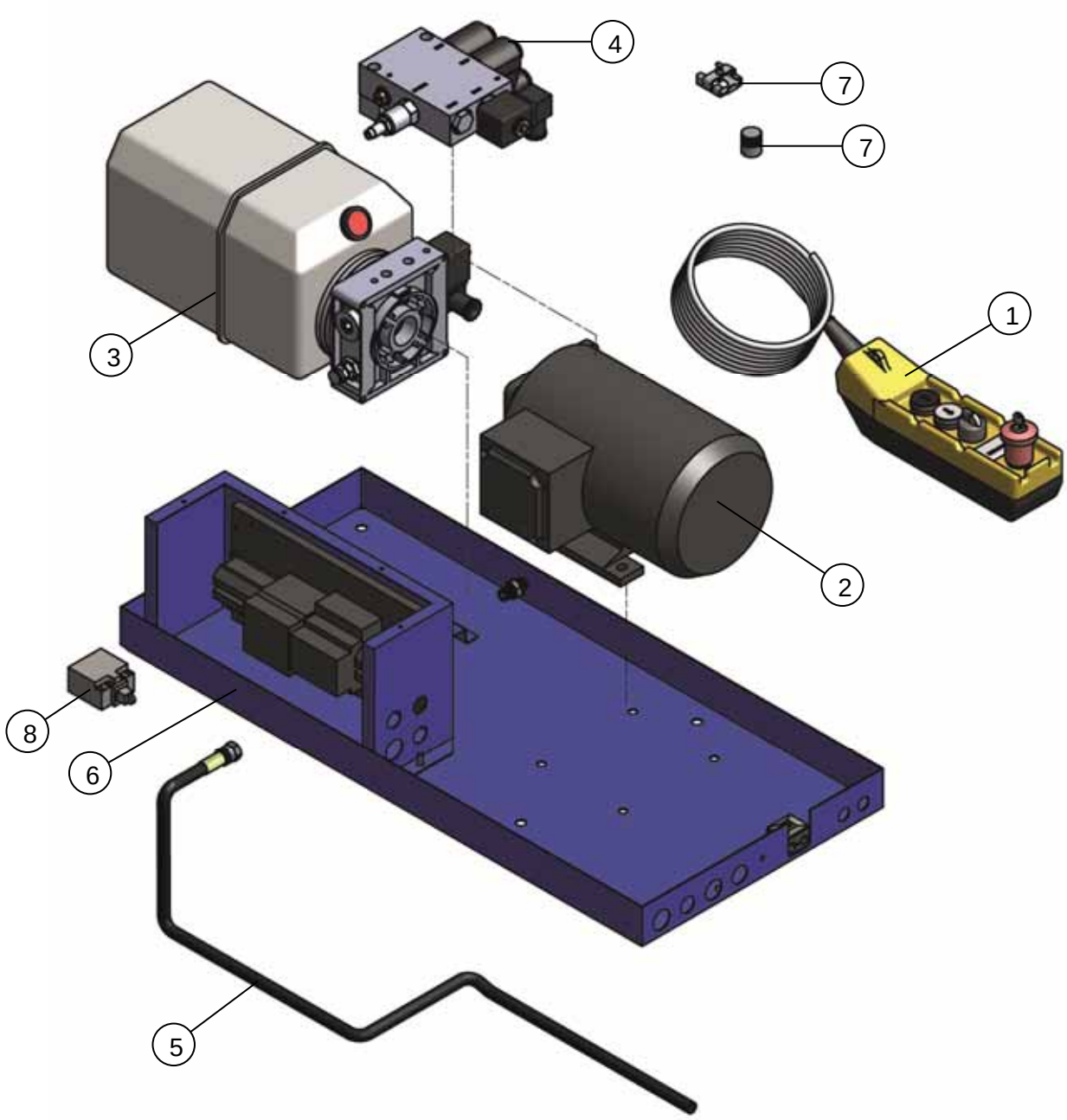


Figure 10.2 Type 1 Power unit - summary

10.2.1 Type 1 Pendant station

Position	Quantity	Part No.	Object
1	1	43511	Stop with key
2	1	43648	Control switch label
3	1	43509	Switch button
4	1	41389	Complete pendant with cable
5	1	43514	Block for emergency stop
6	2	43516	Block for switch button
7	4	43515	Block "1-speed"
8	2	43517	Block "2-speed"

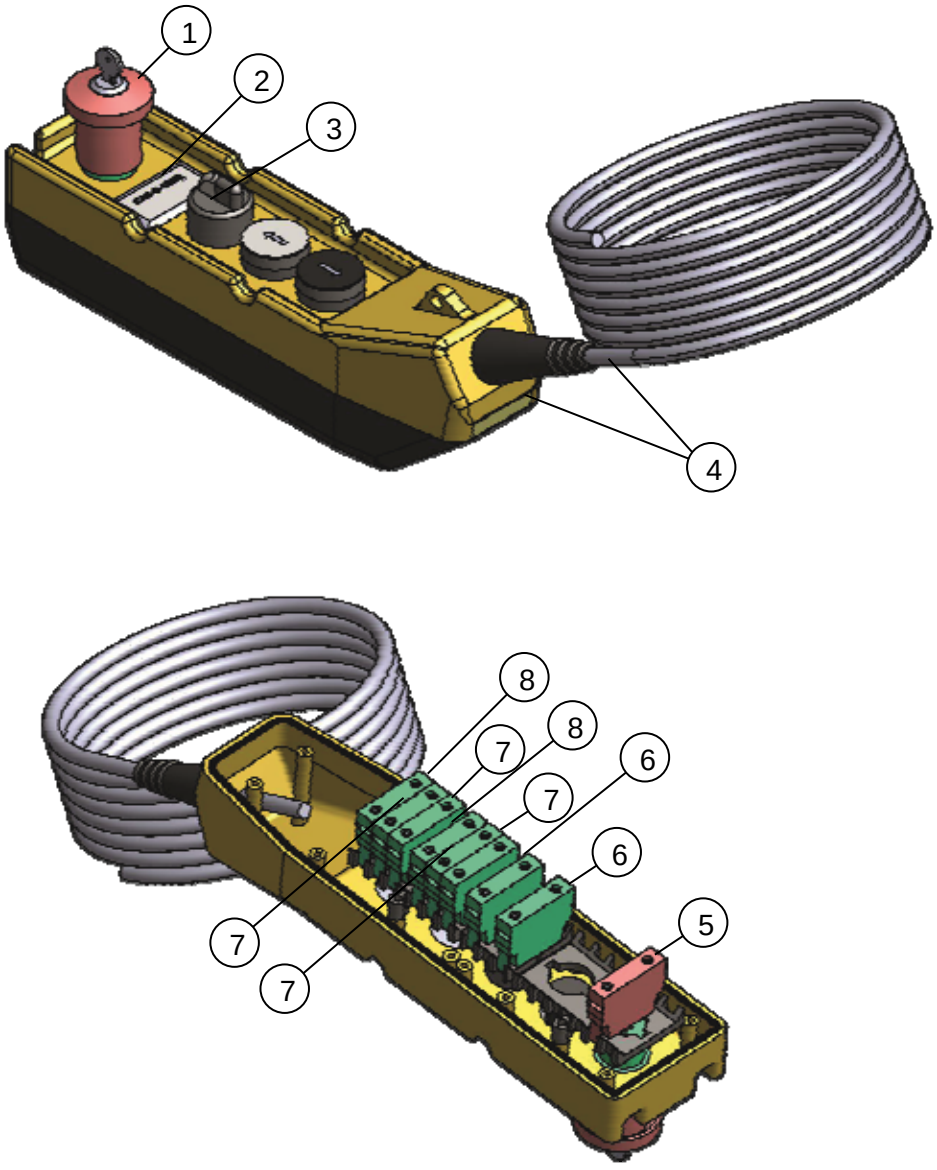


Figure 10.3 Type 1 Pendant station

10.2.2 Type 1 Pump unit 400/440V

Position	Quantity	Part No.	Object
1	1	33124	Tank with cover 8L
2	1	43529	Flow control valve A2
3	1	43529	Flow control valve A1
4	1	43533	Pump 400V, Q42 with pipe and filter
4	1	44245	Pump 440V, Q42 with pipe and filter
5	1	33985	Valve SCV 1
6	1	33945	Coil SCV 1
7	1	43523	Connector
8	1	43528	Relief valve
9	1	33109	Main non return valve

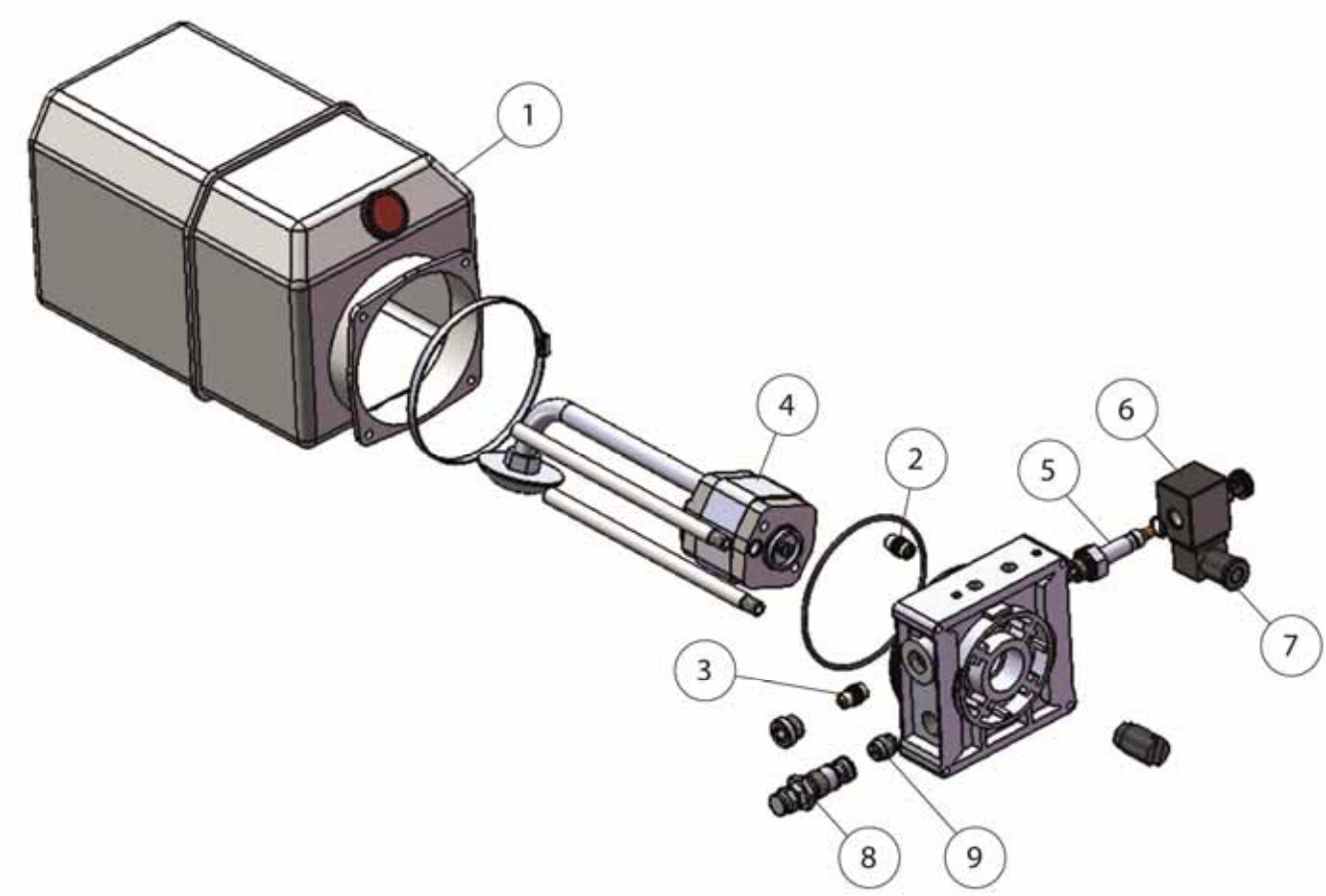


Figure 10.4 Type 1 Pump unit 400V

10.2.3 Type 1 Pump unit 110V

Position	Quantity	Part No.	Object
1	1	33124	Tank with cover 8L
2	1	43529	Flow control valve A2
3	1	43529	Flow control valve A1
4	1	43531	Pump 110V, Q42 with pipe and filter
5	1	33985	Valve SCV 1
6	1	33945	Coil SCV 1
7	1	43523	Connector
8	1	43528	Relief valve
9	1	43530	Start valve
10	1	33109	Main non return valve

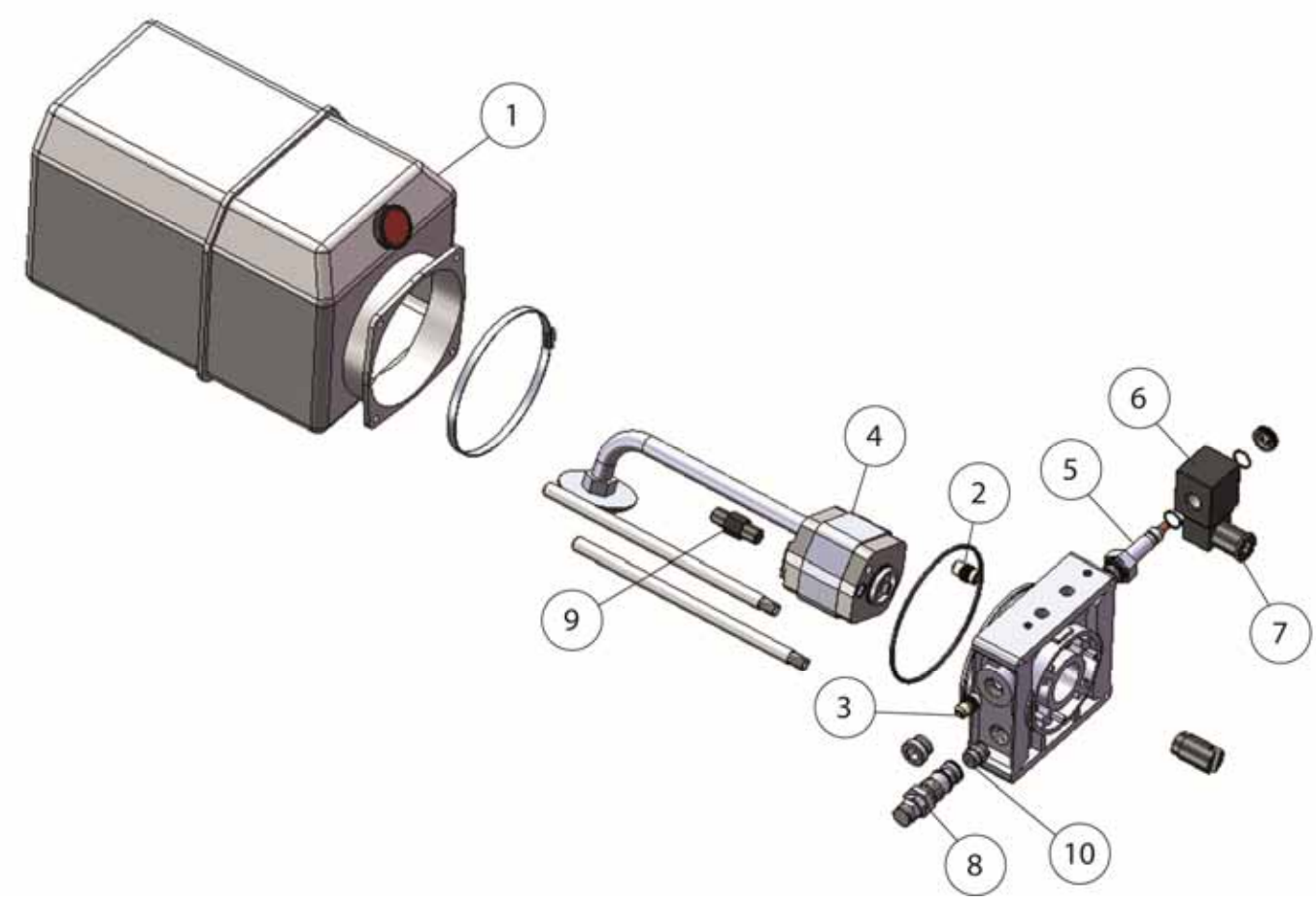


Figure 10.5 Type 1 Pump unit 110V

10.2.4 Type 1 Upper manifold

Position	Quantity	Part No.	Object
2	1	44003	Adapter between manifolder and block
3	4	44004	O-ring for adapter
4	1	33985	Valve SCV 2
5	1	33945	Coil SCV 2
6	1	43523	Connector
9	2	43524	Valve and coil kit SDV 1 & 2
11	1	43520	Check valve
12	1	43519	Flow control valve

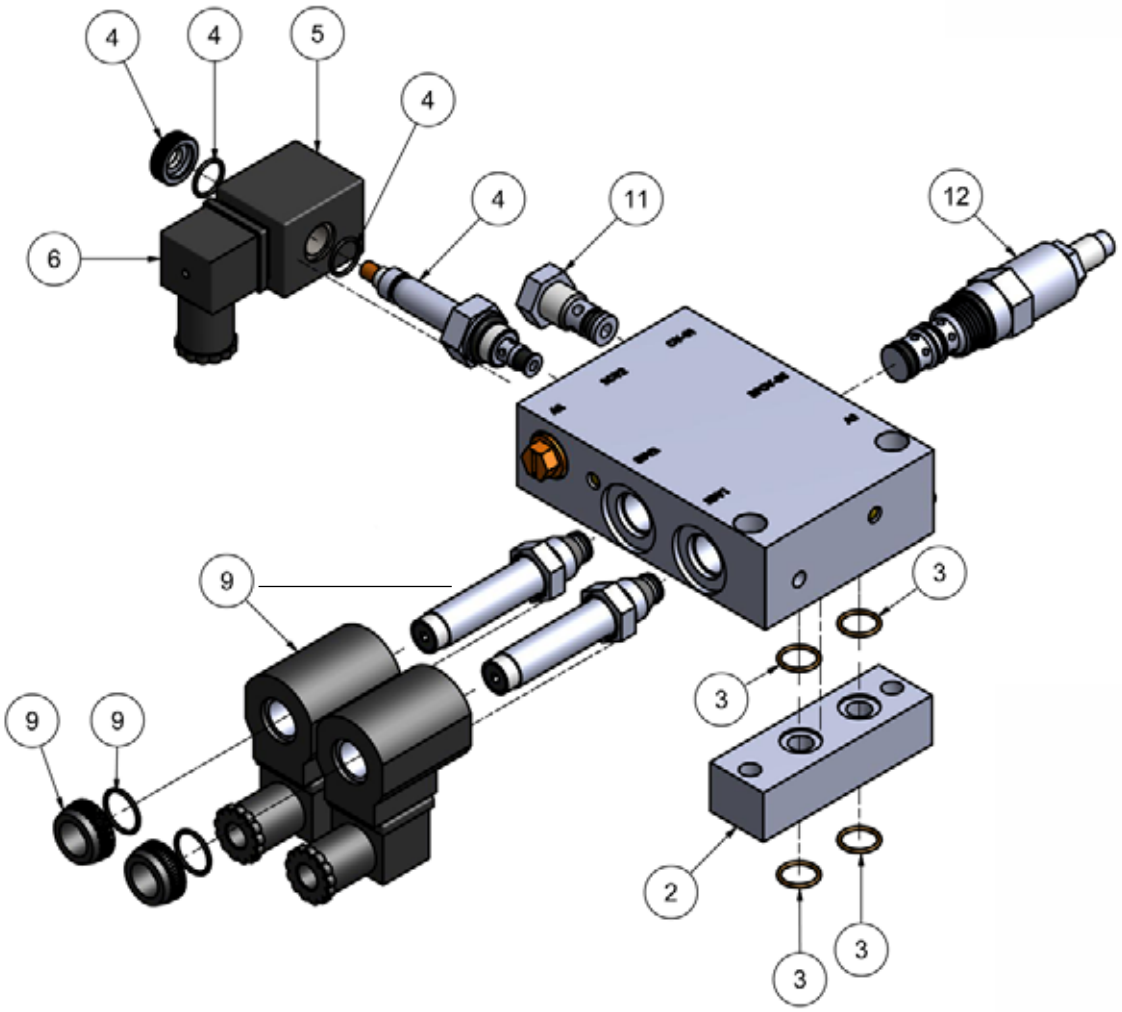


Figure 10.6 Type 1 Upper manifold

10.2.5 Type 1 Electrical components

Position	Quantity	Part No.	Object
1	1	44233	Fuse 2,5A , 5x20 mm
2	3	43611	Relay
3	1	43613	Contactor 400V
3	1	43612	Contactor 110V
4	1	43614	Transformer 230/400V
4	1	43615	Transformer 110V
5	1	43616	Pneumatic valve

Figure 10.7 Type 1 Electrical components

10.3 Type 2 Power unit – summary

Position	Quantity	Part No.	Object
1	1	*See section 10.2.1*	Pendant station
2	1	43609	Motor 230/400V 3 PH 50Hz
3	1	*See section 10.2.2*	Pump unit 400V Q42
		46510	Pneumatic valve
4	1	*See section 10.2.4*	Upper manifold Q42
5	1	44278	Hose, cylinder
6	1	*See section 10.2.5*	Connection block
7	1	44116	Emergency lowering tool SDV, earlier design
7	1	44110	Emergency lowering tool SDV, later design
	1	41642	Decal spare part kit
8	1	48490	Air connection kit

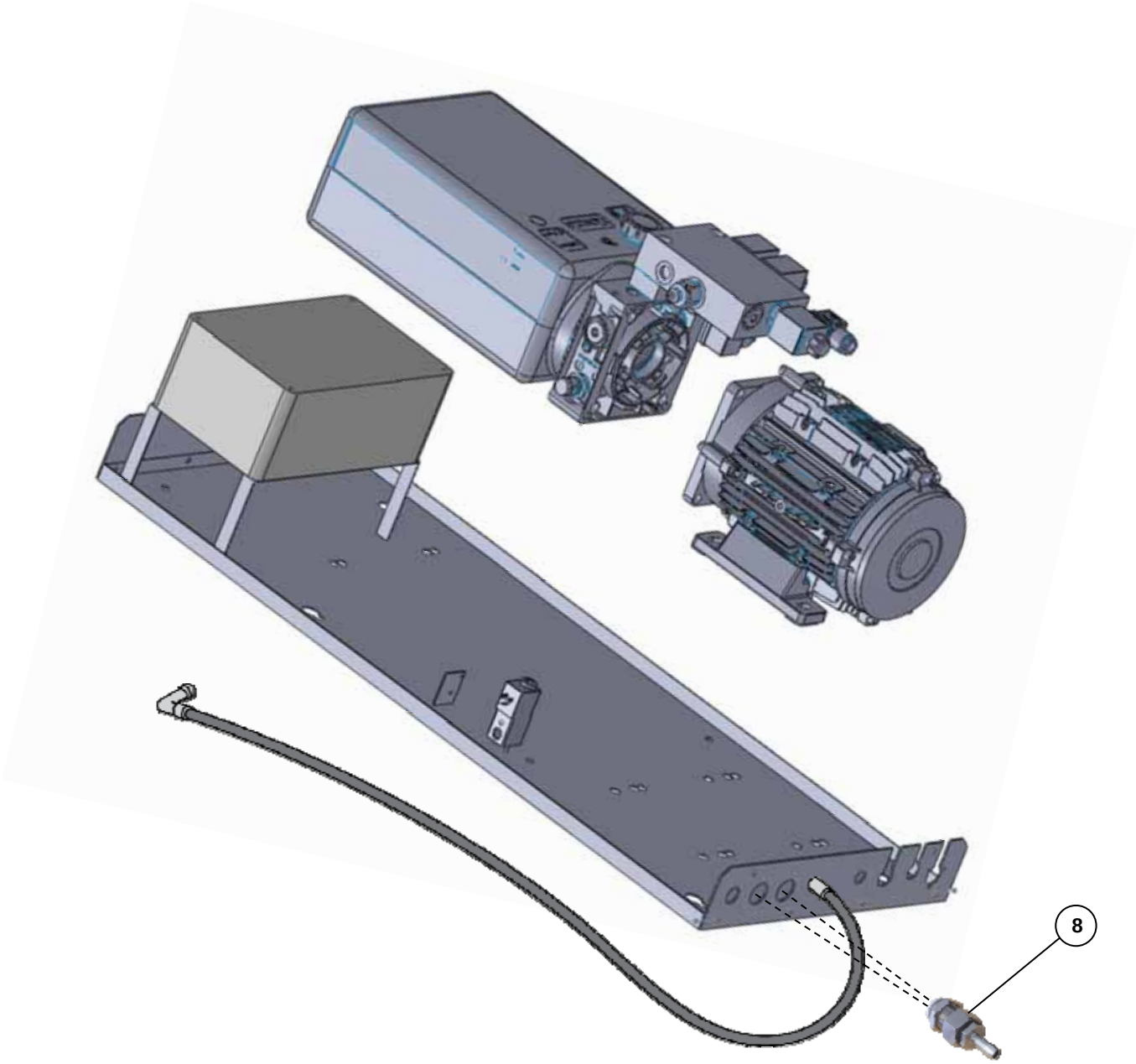


Figure 10.8 Type 2 Power unit - summary

10.3.1 Type 2 Pendant station

Position	Quantity	Part No.	Object
1	1	45899	Pendant complete with cable
2	1	45918	Pendant complete without cable
3	1	46473	Cable with connector
4	1	46529	Cable pulling stop

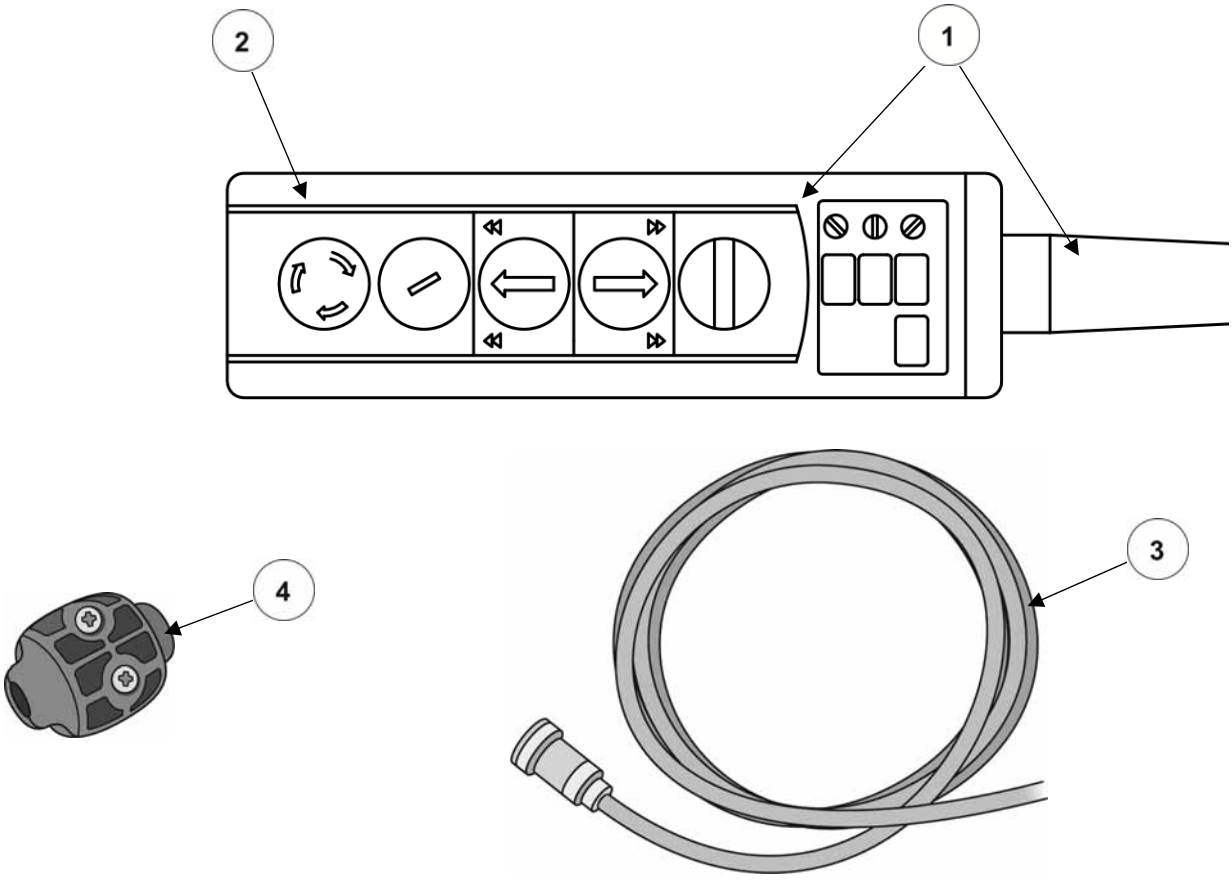


Figure 10.9 Type 2 Pendant station

10.3.2 Type 2 Pump unit 400V

Position	Quantity	Part No.	Object
1	1	46472	Valve SCV 1
2	1	33945	Coil SCV 1

ATTENTION! New type of valve and coil (below) are implemented from serial no: 61117065, *see nameplate.*

Position	Quantity	Part No.	Object
1	1	48425	Valve SCV 1
2	1	48426	Coil SCV 1

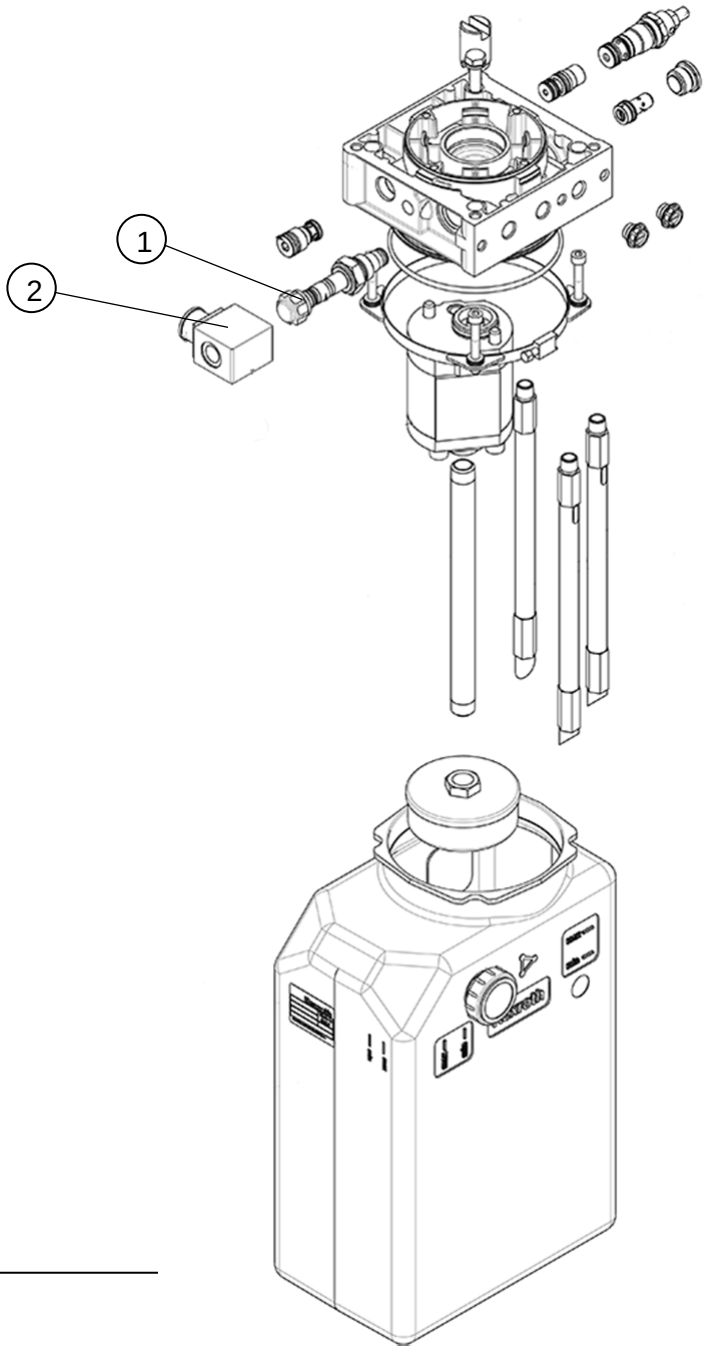


Figure 10.10 Type 2 Pump unit

10.3.3 Type 2 Upper manifold

Position	Quantity	Part No.	Object
1	1	42242	Coil SCV /SDV
2	1	42239	Valve SDV 1/2
3	1	46555	O-ring kit SDV Valve
4	1	46554	O-ring kit SCV Valve
5	1	46472	Valve SCV 2
6	1	44110	Emergency tool

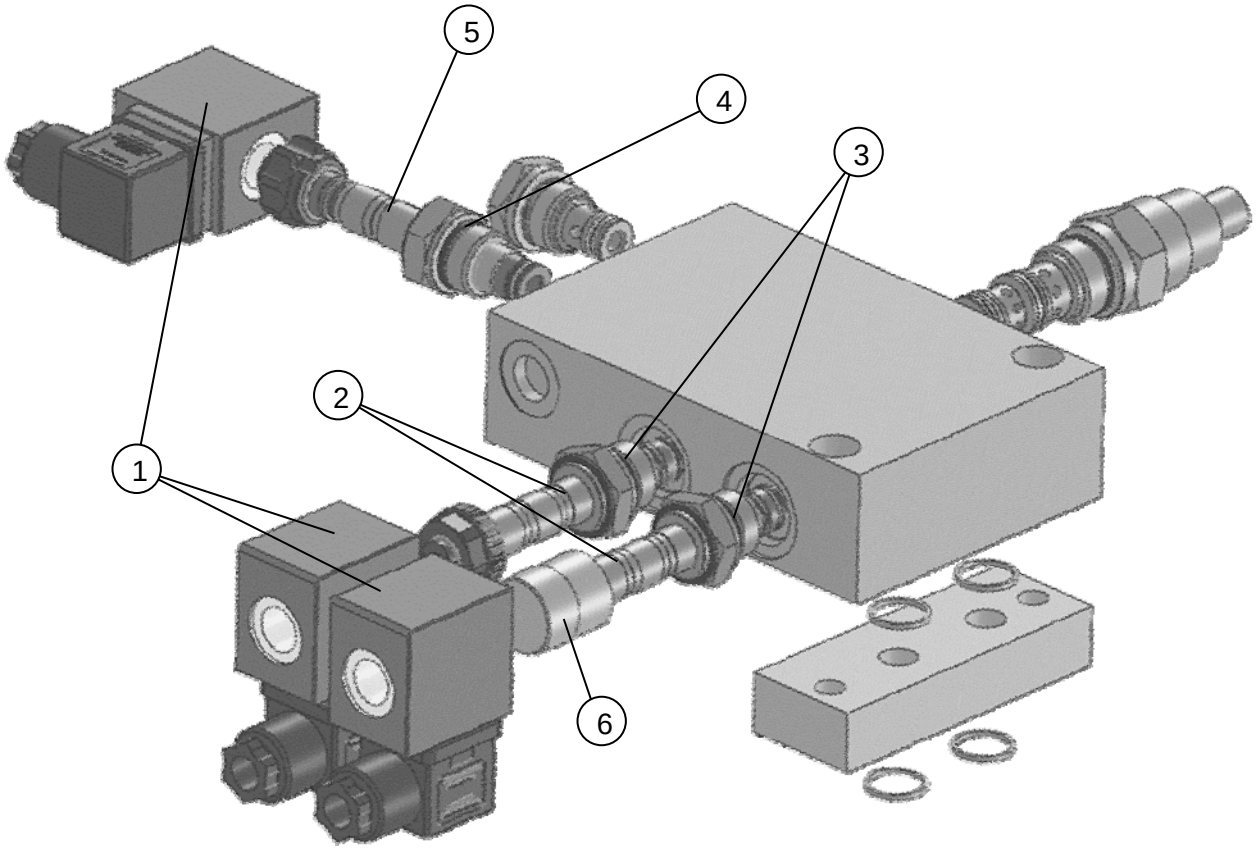


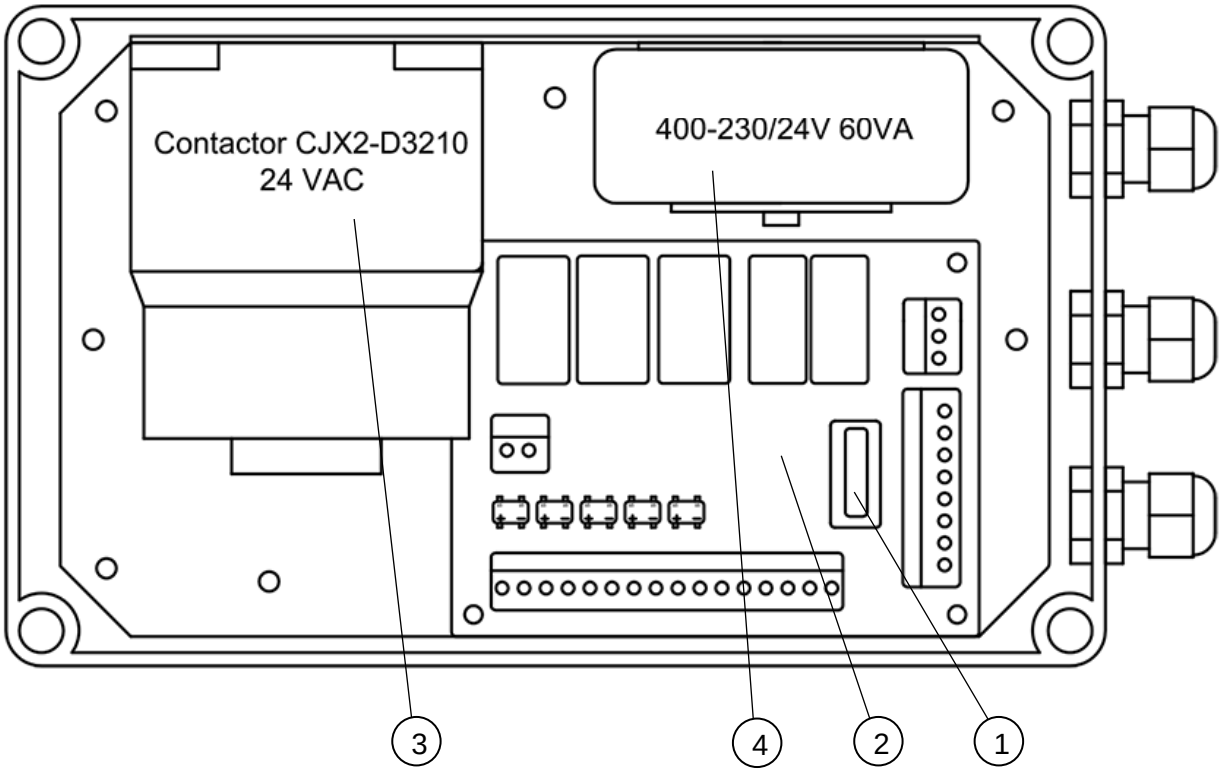
Figure 10.11 Type 2 Upper manifold

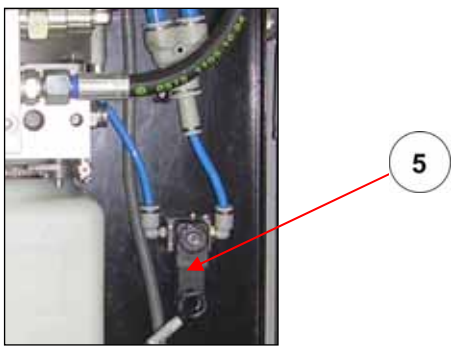
Type 2 Upper manifold (from serial no 61117065, *see nameplate!*)

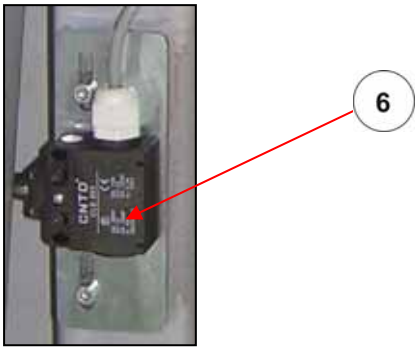
Position	Quantity	Part No.	Object
1	1	48426	Coil SCV /SDV
2	1	48429	Valve SDV 1/2
3	1	46555	O-ring kit SDV Valve
4	1	46554	O-ring kit SCV Valve
5	1	48425	Valve SCV 2
6	1	48427	Emergency tool

10.3.4 Type 2 Electrical components

Position	Quantity	Part No.	Object
1	1	44233	Fuse 2,5A , 5x20 mm
2	1	46505	PCB Complete
3	1	44236	Contactor 400V
4	1	44235	Transformer 230-400/24V
4	1	46912	Transformer 440-460/24V
5	1	46510	Pneumatic valve with coil, *see section 3.3.8*
6		39671	Position switch, *see section 3.3.8*







10.4 Draw aligner Q16

Position	Quantity	Part No.	Object
1	1	30952	Wheel
2	2	39845	Wheel 142383N
3	1	30312	Wire
4	1	30408	Connecting Rod
5	1	30358	Lock washer
6	1	30326	Wedge
7	2	30334	Peg Ø24
8	1	39756	Q161 Cylinder Q16
9	1	44366	Seal kit Q16
10	1	30404	Extension arm
11	1	30405	Peg
12	1	30409	Mounting bracket

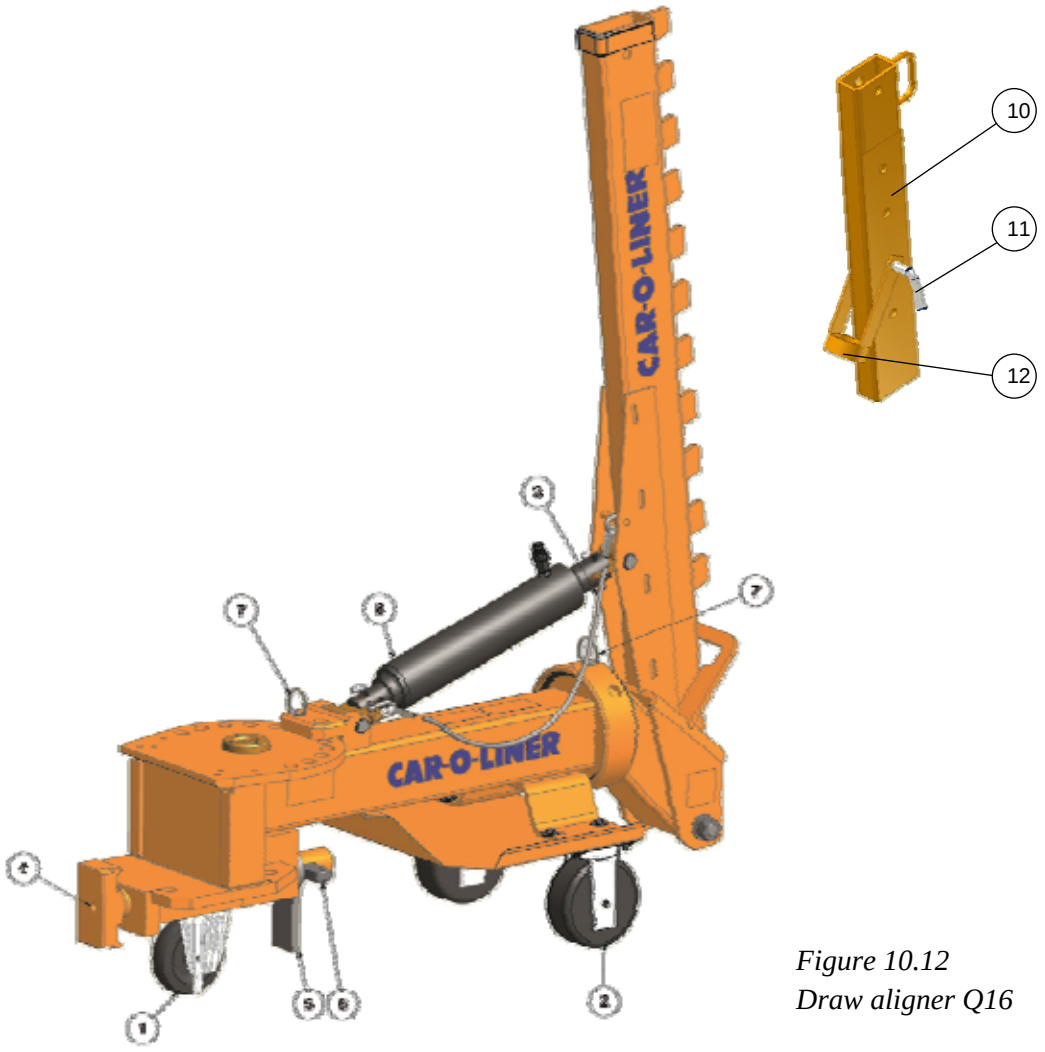


Figure 10.12
Draw aligner Q16

10.5 Ramps

Position	Quantity	Part No.	Object
1	1	42723	Console welded drive on left
2	1	42717	Console welded drive on right
3	12	41448	Console welded
4	2	36891	Roll-off stop front
5	2	41079	Drive-on ramp (width 300 mm)
5	2	42725	Drive-on ramp (width 400 mm)
6	8	41443	Ramp long (width 300 mm)
6	8	42720	Ramp long (width 400 mm)
7	4	41444	Ramp short (width 300 mm)
7	4	42719	Ramp short (width 400 mm)
8	2	42425	Sliding plate (width 300 mm)
8	2	43695	Sliding plate (width 400 mm)

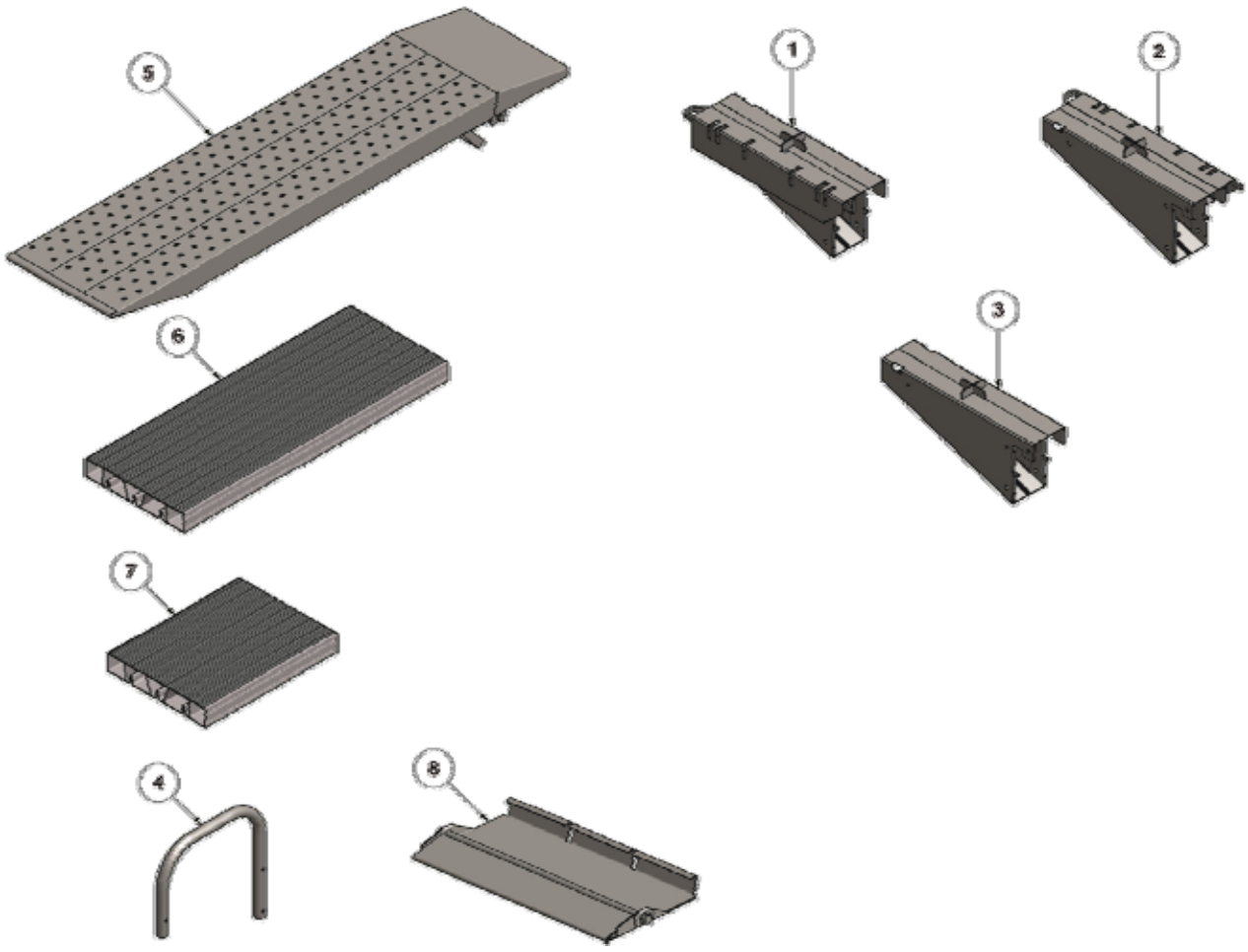


Figure 10.13Ramps

Car-O-Liner® is a Leading Global Provider of Assured and Profitable Alignment Processes to the Automotive Industry, including Technical Development, Training and Service.
Over 55 000 Car-O-Liner Collision Repair Systems are in use worldwide. Car-O-Liner runs operations of its own in Scandinavia, USA, UK, France, Germany, Singapore, India and China and sells through local distributors in more than 60 countries.

Car-O-Liner products are well known for their high quality, advanced technology and ergonomic design.

CAR-O-LINER®

Telephone +46 227 412 00 www.car-o-liner.se info@car-o-liner.se