



ORIGINAL USER MANUAL

Scissor Lift

INVENTO SX30

TIP-TOPOL Sp. z o.o.

62-010 Pobiedziska

Hive. Kostrzyńska 33

www.sklep.tiptopol.pl

Original EC/EU declaration of conformity

Tip-Topol Sp. z o.o.
Hive. Kostrzyńska 33
62-010 Pobiedziska

He declares that the product:

Scissor Lift
Model: SX30

complies with the essential requirements of the Directive:

2006/42/EC

Directive 2006/42/EC

and specific requirements contained in harmonised standards:

EN 60204-1:2006+A1:2009	Safety of machinery — electrical equipment of machinery — Part 1: General requirements
EN 1493:2010	Vehicle lifts.

This declaration is the basis for the CE marking of the product.

This declaration applies only to machinery in the state in which it was placed on the market and does not cover components added by the end-user or subsequent operations carried out by the end-user.

The technical documentation is available at the headquarters of TIP-TOPOL Spółka z o.o. 62-010 Pobiedziska; Hive. Kostrzyńska 33 with the person responsible – Jacek Bilski.

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PACKAGING, TRANSPORT AND STORAGE

ALL PACKING, LIFTING, MOVING, TRANSPORTING, AND UNPACKING OPERATIONS MUST ONLY BE PERFORMED BY QUALIFIED PERSONNEL WITH KNOWLEDGE OF THE LIFTER AND THE CONTENTS OF THIS MANUAL.

PACKAGING

	The jack is shipped disassembled into the following parts	Weight (kg)
1.	Complete lift box	395kg
2.	Hydraulic and control unit	35kg

GROSS WEIGHT	430kg
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TRANSPORT

The packed cartons can be lifted and moved with a forklift.

STORAGE

Packed boxes should be stored in a covered, protected place at a temperature between -10°C and +40°C. They must not be exposed to direct sunlight or rain.

STACKING

The type of packaging allows the lifts to be stacked up to 5 crates high. Crates can be stacked on top of each other on trucks if properly positioned and provided they are held in place to prevent falling.

UNPACKING

Check that the jack has not been damaged during transport and that all replaced parts are present. Boxes should be opened with precautions to avoid damage to the jack or its parts. Make sure that the parts do not fall out of the box when opening.



INTRODUCTION WARNING

This manual has been prepared for workshop workers and technicians responsible for routine maintenance. It should be read before performing any operation with the elevator. It contains important information regarding the personal safety of operators and maintenance workers and the safety of the lift.

ELEVATOR SAFETY

3000kg

Express the rated load is 3000kg, do not let the lifting load weigh more than 3000kg.



This symbol indicates the attention to be paid to electrical hazards.



This symbol indicates the connection point to the ground.

KEEPING THE INSTRUCTIONS

An integral part of the lift is the manual, which should always accompany the lift, even if the device is sold. The manual must be kept near the lift in an easily accessible place so that the operator and maintenance personnel can locate and consult the manual at any time.

IT IS STRONGLY RECOMMENDED THAT YOU READ SECTION 3 CAREFULLY, WHICH

CONTAINS IMPORTANT SAFETY INFORMATION AND WARNINGS.

DIGEST SAFETY WARNING

! SAFETY INSTRUCTIONS !			
Make sure you fully read and understand the user manual!	Read maintenance and repair instructions extra careful!	After raising the vehicle about 30cm, check the vehicle's stability before further lifting!	Only lift the vehicle on points specified by the vehicle's manufacturer!
Only authorized personnel is allowed to use the lift!	Always place the vehicle's center of gravity in the middle of the lift!	Keep safety exits clear and clear area in case of falling vehicle!	Avoid excessive rocking of vehicle when in lifted position!
It is strictly forbidden to make adjustments to safety devices/ controls or the lift itself!	Remain clear of lift when raising or lowering the vehicle!	Keep unauthorized persons away from the lift!	Check if there are no objects under the vehicle/ lift before lowering!
Do not climb on the lift/ vehicle when in lifted position!	Always pay attention to the lift/vehicle if lift is moving!	Never exceed the lift's maximum load capacity!	Never attempt to lift only one side of the vehicle!
			3000KG
Keep hands away during lowering -> Crushing hazard!	Keep feet away during lowering -> Crushing hazard!	HIGH VOLTAGE! DANGER OF ELECTROCUTION!	Maximum capacity: 3000KG!

CHAPTER 1 – DESCRIPTION OF THE ELEVATOR

The hydraulic mobile jack can work on flat ground or slope slope, less than or equal to 3°.

The elevator consists of the following main parts:

1. Fixed structure (frame)
2. Moving units (idle wheel and hydraulic vehicle)
3. Lifts (2 hydraulic cylinders + power unit)
4. Control Station
5. Safety devices

Photo.3 illustrates the different parts of the elevator.



1.1 FIXED STRUCTURE

The frame and arms are connected to steel plates, which are the basic components of the movable hoist.

1.2 MOVABLE UNITS

Each unit consists of:

Six idle wheels. Four are mounted at the base angle of the frame arms; The other two (slightly larger) are mounted on the bottom of the hydraulic moving vehicle. Connection - Pin shaft between the moving vehicle and the lower frame beam.

1.3 LIFTING UNIT

It consists of:

1. 2 hydraulic cylinders to lift the frame.
2. 2 Control unit, mounted on the mobile trolley.

1.4 HYDRAULIC POWER PACK

A hydraulic power unit consists of:

1. Electric motor
2. Gear Transmission Hydraulic Pump
3. Descent Manual Valve Equipped with Manual Oil Drain Valve
4. Pressure Control Valve
5. Two oil cylinders
6. Oil tanks

7. Hydraulic Hoses for Oil Delivery

Note: The pressure in the oil supply pipe must not be less than 40MPa

1.5 BOX SAFETY CHECK

The panel in which the electrical control box is located contains the following components:

1. Main switch (power plug)
2. Buttons (up, down, lock)



1.6 SAFETY DEVICE

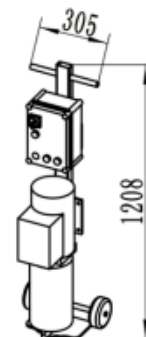
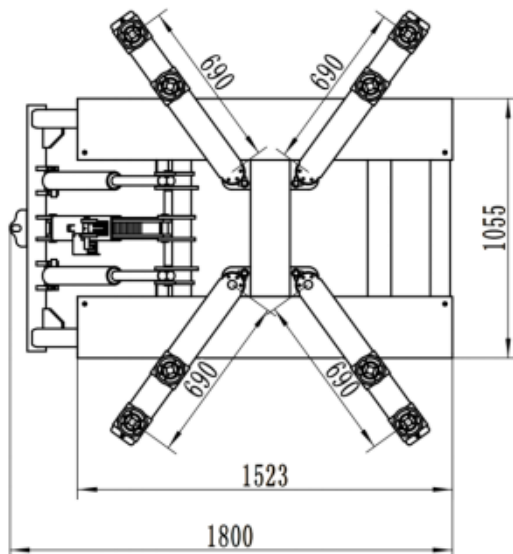
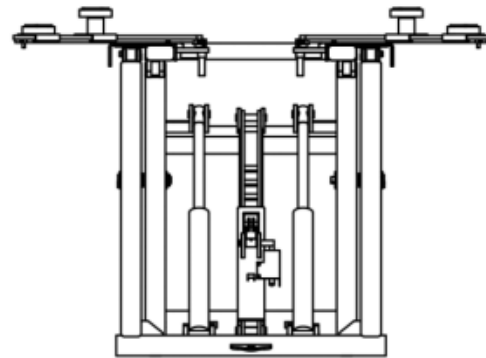
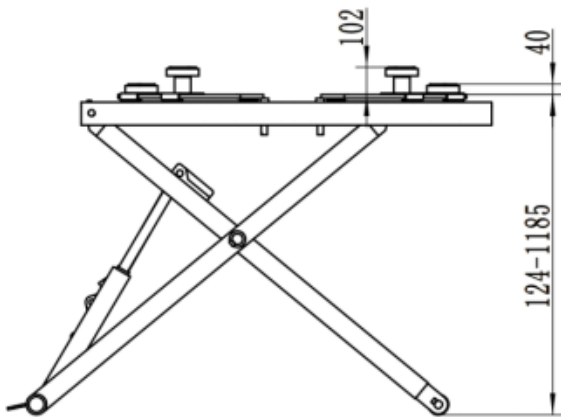
Safety devices include:

1. Arm locking system
2. Mechanical safety interlock
3. Safety Valve

CHAPTER TWO – TECHNICAL SPECIFICATIONS

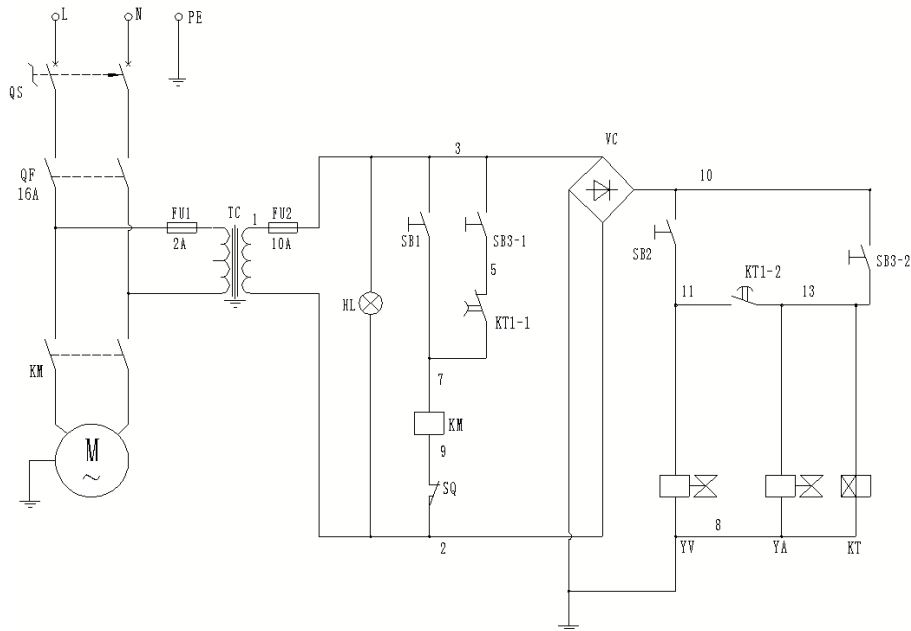
Capacity	3000kg
Maximum Lift Height	1185 mm (without lifting pad)
Min. height	124 mm
Rise time with three-phase motor	25 seconds
Rise time with single-phase motor	30 seconds
Descent time	30 seconds
Gross weight	430kg
Net Weight	420kg
Noise	≤70dB
Temperature	-10°C - +50°C
Relative humidity	90% at 20°C

2.1.1 OVERALL DIMENSION



2.1.2 ELECTRICAL CIRCUIT DIAGRAMS

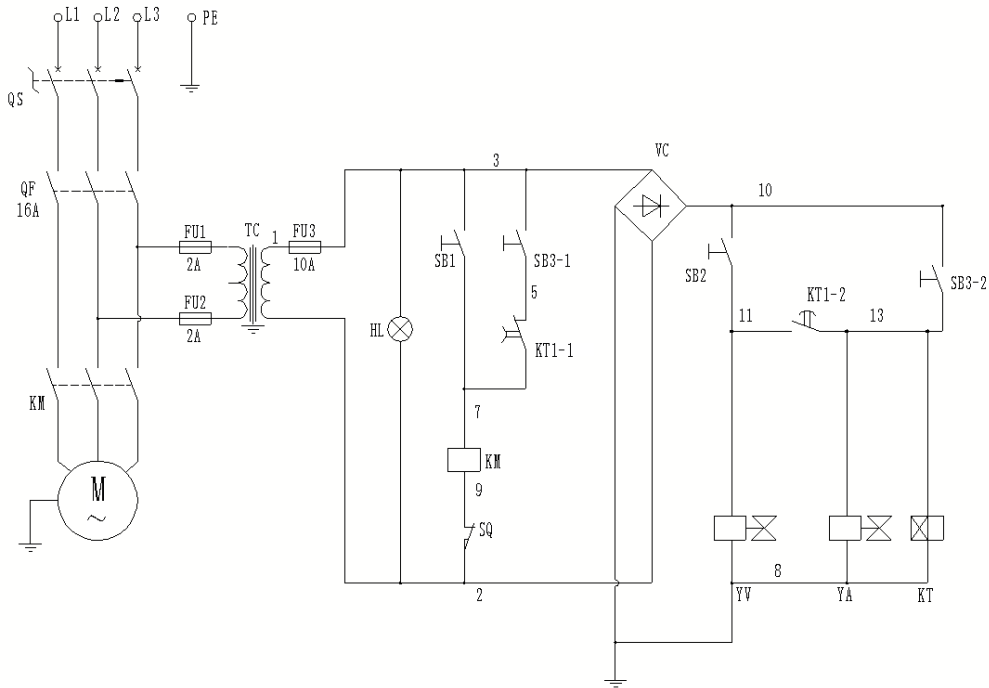
Electricity schematic diagram(230V)



KM	Contactors
YA	Electromagnet
YV	Release valve
HL	Lamp
SB	Button
KT	Time relay
TC	Transformer
VC	Bridge
FU	Fuse
QS	Power switch
QF	Breaker
SQ	Limit switch
M	Motor

SINGLE-PHASE

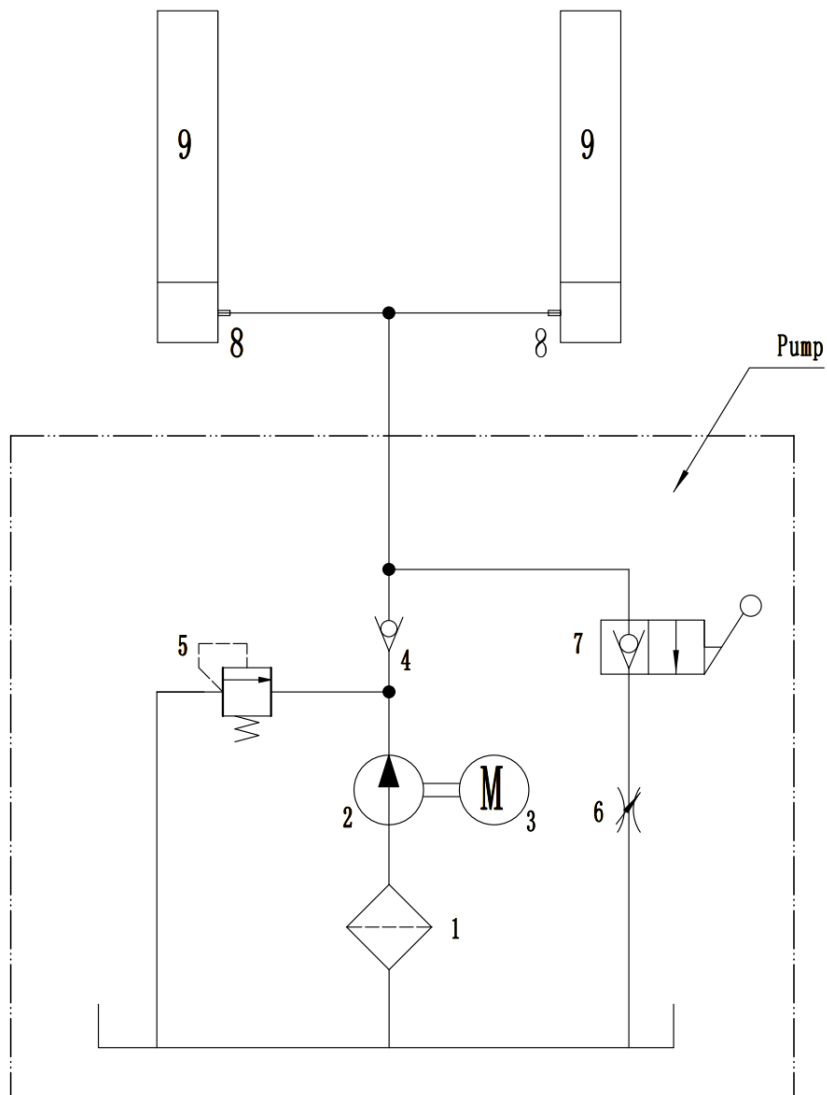
Electricity schematic diagram(400V)



KM	Contactors
YA	Electromagnet
YV	Release valve
HL	Lamp
SB	Button
KT	Time relay
TC	Transformer
VC	Bridge
FU	Fuse
QS	Power switch
QF	Breaker
SQ	Limit switch
M	Motor

THREE-PHASE

2.2 HYDRAULIC CIRCUIT DIAGRAMS



9	Cylinder
8	Throttle valve
7	Lowering solenoid valve
6	Lowering speed control
5	Pressure overload valve
4	Non return valve
3	Motor
2	Gear pump
1	Oil filter

2.3 HYDRAULIC OIL

The oil tank contains hydraulic mineral oil in accordance with ISO/DIN 6743/4 with a degree of contamination in accordance with ISO 4406, for example Valvoline Ultramax 32 or equivalent.

2.4 LIFTING WEIGHT

The weight of the lift is 3000 kg.

2.5 MAXIMUM DIMENSIONS OF LIFTABLE VEHICLES

Maximum width	2400 mm
Maximum wheelbase	3000 mm

The chassis of low headroom cars may interfere with the elevator structure. Particular attention should be paid to sports cars with a low body.

Always keep the lifting capacity of the elevator in mind. The dimensions of the vehicle will determine the SAFETY area.

The following diagrams provide criteria for determining the limits for the use of the lift.

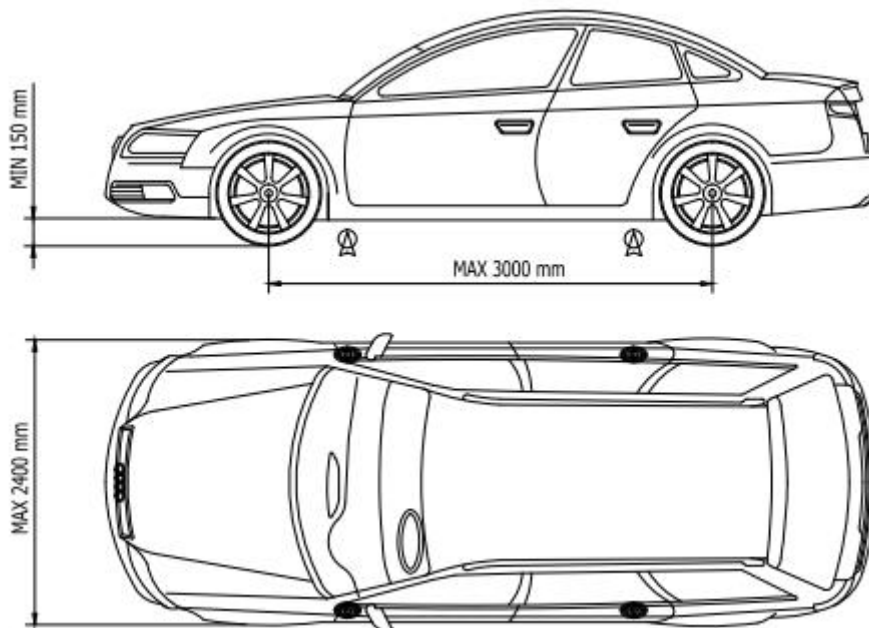


Fig.8 Minimum and maximum dimensions

CHECK THE MAXIMUM PAYLOAD AND LOAD DISTRIBUTION FOR LARGER VEHICLES. MAXIMUM WEIGHT OF THE LIFTED VEHICLE

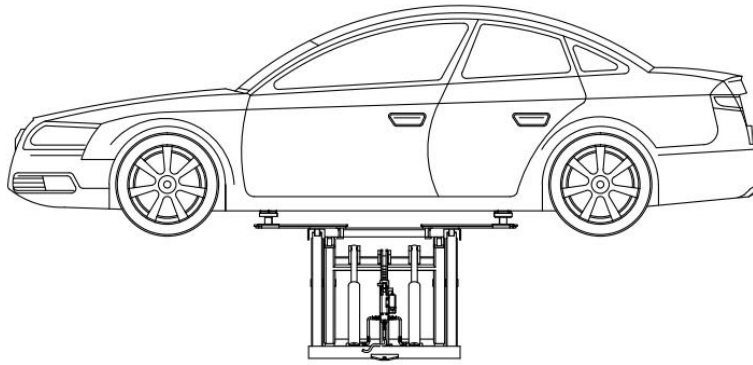


Fig.9 Mass distribution

CHAPTER 3 – SAFETY

It is very important that you read this section of the manual carefully from start to finish, as it contains important information regarding the hazards that the operator and installer may face if the lift is used incorrectly.

The following text provides clear explanations regarding some of the risk or danger situations that may occur during the operation or maintenance of the lift. The safety devices installed and the correct application of such operating systems and procedures, including general and specific precautions, eliminate the potential danger.



WARNING

The lift was designed and built to lift vehicles and hold them in an elevated position in an enclosed workshop. All other uses are unauthorized; In particular, the elevator is not suitable for:

- Vehicle washing
- Creating elevating platforms or raising staff
- Use as a makeshift press for crushing
- Use as a freight elevator
- Serves as a lift for partial lifting of vehicles

THE MANUFACTURER AND ITS DISTRIBUTORS DISCLAIM ANY LIABILITY FOR INJURY TO PERSONS OR DAMAGE TO VEHICLES AND OTHER PROPERTY CAUSED BY INCORRECT AND UNAUTHORIZED USE OF THE LIFT.

During the lifting and descending movements, the operator shall remain at the command post as specified in Figure 10. Persons in the danger zone indicated in the same figure are strictly prohibited. The presence of people under the vehicle during operation is only allowed if the vehicle is parked in an elevated position.

THE JACK MUST NOT BE USED WITHOUT SAFETY DEVICES OR WITH THE SAFETY DEVICES BLOCKED. FAILURE TO COMPLY WITH THESE REGULATIONS COULD RESULT IN SERIOUS INJURY TO PERSONS AND IRREPARABLE DAMAGE TO THE JACK AND THE VEHICLE BEING

LIFTED.

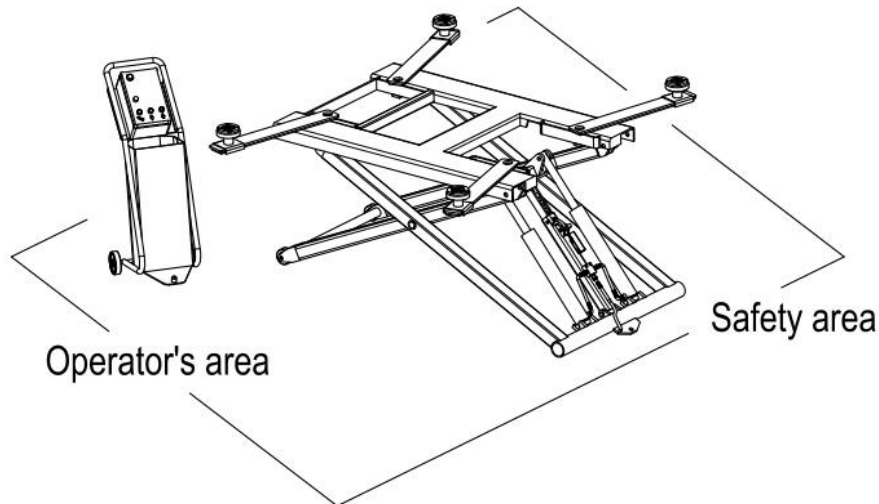


Fig.10 safe operating zone

3.1 GENERAL MEASURES

The maintenance operator and installer are required to comply with the accident prevention regulations of the country where the lift is installed.

In addition, the operator and maintenance installer must:

1. Always work in the scheduled workspace as shown in the manual
2. Never remove or deactivate guards, mechanical, electrical, or other safety devices.
3. Read the safety notices posted on the machine and the safety information in this manual.

3.2 RISK OF ELECTRIC SHOCK

See the safety notices posted on the lift in areas where the risk of electric shock is particularly high.

3.3 HAZARDS AND PROTECTIVE DEVICES

We will now examine the risks that the operator and maintenance installers may face when the vehicle is immobilized in the raised position, along with the safety devices adopted by the manufacturer to reduce all such risks.

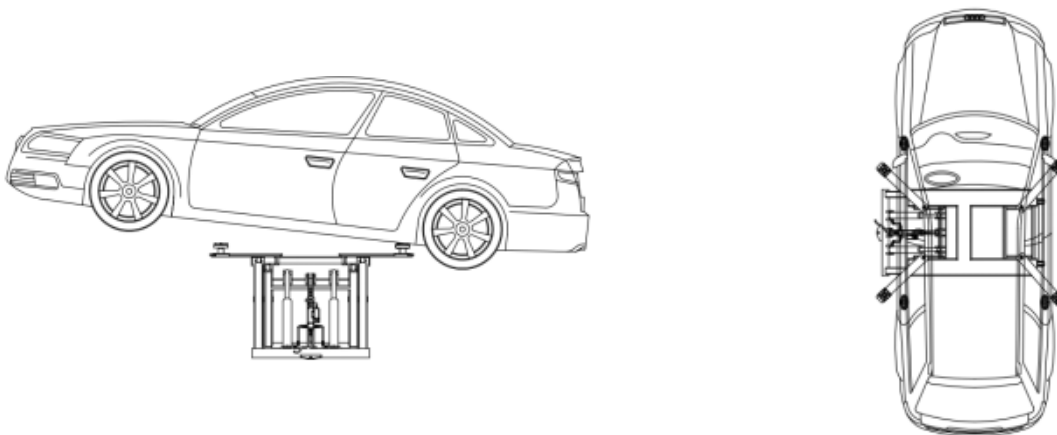


Fig.11 Risk of falling of the vehicle Fig.12 Properly loaded vehicle

3.4 LONGITUDINAL AND LATERAL MOVEMENT

The equipment chosen must be suitable for safe lifting and handling, taking into account dimensions and weight. Do not move the load backwards and forwards or left and right after reaching the height, which will cause the vehicle to fall and tilt.



WARNING

DO NOT ATTEMPT TO MOVE THE TABLE AND VEHICLE SUPPORT WHILE LIFTING.

It is important to position the vehicle on the jack so that the weight is distributed correctly.

For the safety of people and equipment, it is important to:

1. People remain in the safety zone when lifting the vehicle
2. The motor is off and the safety interlock is on
3. The vehicle is positioned correctly. (Fig.12).
4. Only authorized vehicles are lifted without exceeding the permissible load capacity and dimensions.

3.5 HAZARDS WHEN LIFTING THE VEHICLE

The following overweight protection devices and

Hardware failure:

1. The thermal relay in the electrical box will trip if the motor is overloaded.
2. The pressure regulating valve, located on the hydraulic oil pack, will shut off if the jack is overloaded.
3. In the event of a hydraulic failure in the hydraulic circuit (broken pipe), the locking valves at the bottom of each cylinder will operate.

3.6 HAZARDS TO PERSONNEL

This section illustrates the hazards that an operator, maintenance worker, or anyone in the vicinity of the lift's work area may be exposed to if the equipment is misused.

3.6.1 RISK OF CRUSHING (OPEARATOR)

The operator controlling the lift must remain in a specific position on the control panel when the platform and vehicle descend. The operator must never be partially or completely under a moving structure. During this phase, the operator must remain in the command zone. (Fig.13)

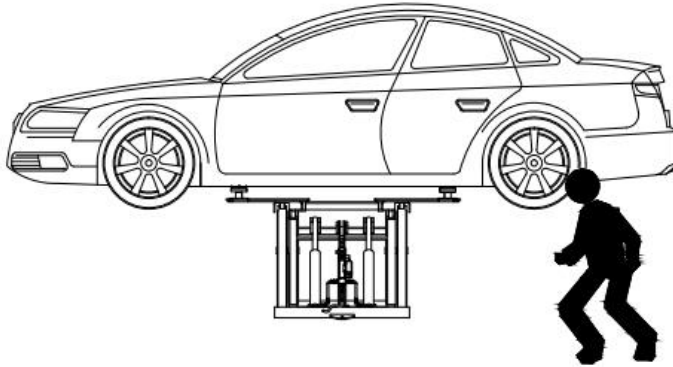


Fig.13 Risk of crushing

3.6.2 RISK OF VEHICLE FALLING FROM ELEVATOR

Use caution when positioning your vehicle. Make sure the vehicle is correctly positioned on the platter carrier plates in relation to the jack. Make sure that the vehicle's center of gravity is correctly positioned.

NEVER GET INTO THE VEHICLE AND/OR START THE ENGINE WHILE THE JACK IS RAISED.

NEVER LEAN OBJECTS AGAINST POSTS OR LEAVE THEM WHERE MOVING PARTS ARE LOWERED

Doing so may make it difficult to lower or cause the vehicle to fall from the trunk.

3.6.3 SLIPPAGE

This risk can arise due to spillage of lubricants in the area.

ALWAYS KEEP THE AREA AROUND THE LIFTER CLEAN BY CLEANING UP ALL SPILLED OILS.

To avoid the risk of slipping, use the recommended personal protection (non-slip footwear).

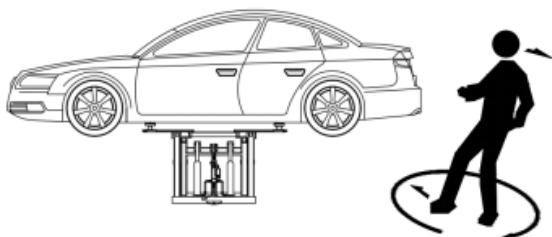


Fig.15 Risk of electric shock

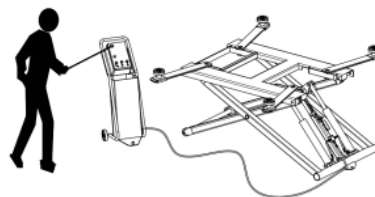


Fig.14 Risk of slipping

3.6.4 RISK OF ELECTRIC SHOCK

To eliminate the risk of electric shock, do not use jets of water, steam (high-pressure cleaners) or solvents near the electrical enclosure. Do not paint in the immediate vicinity of the elevator. Particular care must be taken to ensure that such substances are not kept away from the electrical control panel (Fig. 15)

3.6.5 RISKS ASSOCIATED WITH IMPROPER LIGHTING.

The operator and maintenance fitter must ensure that all areas of the lift are adequately and evenly illuminated in accordance with the optics principle and the regulations applicable at the installation site.

3.6.6 RISK OF COMPONENT FAILURE DURING OPERATION

The manufacturer has used appropriate materials and construction techniques in relation to the specific application of the lift in order to produce a reliable and safe crane. However, please note that the lift must be used in accordance with the manufacturer's directions and the inspection and maintenance intervals recommended in section 6 "**MAINTENANCE**" **must be observed.**

RISKS ASSOCIATED WITH IMPROPER USE

Personnel shall not stand or sit on platforms during a lifting manoeuvre or when the vehicle is in a raised position. (Fig. 16) Any use of the lift other than that for which it was designed could lead to serious accidents involving persons working in the immediate vicinity of the lift. It is therefore necessary to scrupulously comply with all use, maintenance and safety regulations in this manual.

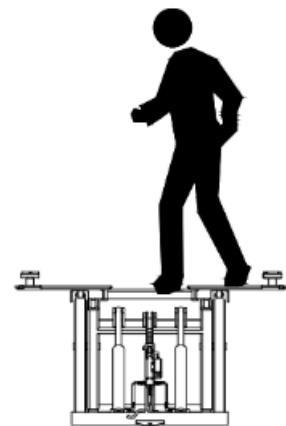


FIG. 16 RISK of

CHAPTER 4 - INSTALLATION

TO AVOID INJURY TO PERSONNEL OR DAMAGE TO THE LIFT, EXPERIENCED/QUALIFIED INSTALLERS MUST PERFORM THE FOLLOWING.

4.1 INSTALLATION REQUIREMENTS

The Lift can be operated both indoors and outdoors, although it cannot be used in wet conditions. It is also considered that the installation site must be well clear of areas to be washed or painted and away from areas where solvents or paints are stored or areas where there is a risk of potentially explosive atmospheres.

4.2 INSTALLATION

The installation of the elevator is very simple.

1. Remove the shipping packaging and inspect the components.
2. Put up a frame
3. After installing the frame, which includes the extendable arm, safety lock, idlers and so on, check whether it is loose or not.
4. After mounting, connect the hydraulic station and oil line, then turn on the power. But first, check the voltage. If it is not the same as the elevator requirement, please replace the voltage. Then find the right plug for the elevator.
5. The motor must be installed by a fully licensed electrician.

4.3 TEST AND VERIFY TO BE DONE BEFORE COMMISSIONING

4.3.1 MECHANICAL TESTING

1. Fastening and tightening of fittings and connections
2. Moving parts freely
3. Clean condition of various machine parts
4. Position of the safety device
5. The arms and lifting vehicle and other parts should be filled with lubricating oil.

4.3.2 ELECTRICAL TESTS

1. Connections must conform to the schemes
2. Machine grounding connections

4.3.3 SUPPORT FOR THE FOLLOWING DEVICES

1. A rod for inserting a mechanical lock.
2. Electromagnets of the safety device
3. Hydraulic oil solenoid valve

4.3.4 HYDRAULIC OIL TEST

- Sufficient oil in the tank
- No leakage
- Cylinder Operation

NOTE: If no oil is present, fill the power unit tank with the necessary amount of oil.
See procedure in chapter 6: MAINTENANCE

4.3.5 DIRECTION OF ROTATION TEST

The motor should rotate in the direction of the arrow located on the power generator pump; check with short starts (each start must last a maximum of two seconds). If problems occur in the hydraulic oil system, refer to the "Troubleshooting" table in Section 7.

4.4 ASSUME



WARNING

**THESE OPERATIONS MUST ALWAYS BE PERFORMED BY THE AUTHORIZED
TECHNIQUE
THE SERVICE CENTER INDICATED AT THE BEGINNING OF THIS MANUAL**

4.4.1 MOUNTING THE CONTROL UNIT

Mount the command post

Mount the hydraulic station on the command post, with the hydraulic station mounted on the mounting panel.

CHAPTER 5 OPERATIONS AND USE

The lifting commands (control box) are shown in fig.17:

5.1 OPERATION

5.1.1 THE "UP" BUTTON

When pressed, it activates the electric motor and the trolley's lifting mechanisms.

5.1.2 THE "DOWN" BUTTON

If the handle moves, the overload valve will release the system press. The elevator has to go down.

5.2 OPERATIONAL SEQUENCE

Position the linkage frame in the two axles provided for the vehicle, setting the discs at the same height. Each time the bogies are lowered to the ground, check the position of the discs under the vehicle chassis before lifting the bogies again.

5.2.1 LIFTING

Press the Up button until you reach the required height. When the trolleys are lifted, the safety wedges are automatically inserted into each restriction block.

Fig.17 Control Unit

For information on lifting limits and safety devices, see **"HAZARDS WHEN LIFTING THE VEHICLE"**.

5.2.2 CLOSING

Once the required height is reached, press the "LOCK" button. The movement is stopped automatically when the safety lock is in the safe position of the first gap they come into contact with when lowering the trucks. See "increasing risk".

5.2.3 LOWERING

Before lowering the trolleys, pull out the safety wedges. Slide the descending handle. The lowering speed is regulated by the "flow control valve" in the pump. Adjust the throttle to do this

with a speed of 25~30 sec. When assembling the jack, do not readjust as this has been done. The lowering stops when the hydraulic cylinders are completely unloaded.

CHAPTER 6. MAINTENANCE

6.1 PRECAUTIONS



WARNING

Maintenance must only be carried out by qualified personnel who are very familiar with the lift.

When performing maintenance on the lift, all necessary precautions must be followed to prevent accidental starting of the lift:

1. Disconnect the power supply and pull the plug out of the socket.
3. When maintaining the machine, always be aware of all major possible hazards and the safety instructions indicated in section 3 "Risk of electric shock" on the terminal block of the machine power supply.

IT IS FORBIDDEN TO MAKE ERRORS IN THE MAINTENANCE OF THE OIL CYLINDER. IF DAMAGED, IT MUST BE REPLACED.



VALID

1. Only use original spare parts and tools that are suitable for the job and in good condition;
2. Follow the maintenance schedule indicated in the manual: these frequencies are indicative and should always be considered as general rules to be followed.
3. Good preventive maintenance requires constant attention and continuous supervision of the machine. Quickly find the cause of any abnormalities such as excessive noise, overheating, leaking fluids, etc.

Particular attention should be paid to:

1. Condition of lifting parts (cylinder, power unit);
2. Safety devices (oil cylinder and safety wedges)

To carry out the maintenance correctly, please refer to the following documents provided by the manufacturer of the lift:

1. Complete functional diagram of electrical appliances and auxiliary equipment with indication of power connections
2. Hydraulic diagram with parts lists and max. Pressure values
3. Exploded drawings with the data needed to order spare parts
4. List of possible causes of malfunction and recommended solutions (chapter 7 of the manual)

6.2 MAINTENANCE



WARNING

Maintenance must ONLY be operated **by an authorized person**

When performing maintenance on the lift, all necessary safety precautions must be followed

FROM ACCIDENTAL STARTING:

1. The main switch on the control box must be locked in POSITION 0 by LOCK (left position)
2. The lock main switch must be kept by the MAINTENANCE INSTALLER
3. When maintaining the machine, always be aware of all the main possible hazards and the safety instructions indicated in section 3.6.4 "Danger of electric shock" on the terminal block of the machine power supply.

IT IS FORBIDDEN TO PERFORM MAINTENANCE ON THESE PARTS, SUCH AS OIL CYLINDER, AIR CYLINDER AND GEAR PUMP. IF THESE PARTS ARE DAMAGED, THEY MUST BE REPLACED.

6.2.1 OPERATING FREQUENCY

In order for the lift to operate at full capacity, the indicated maintenance schedule must be followed. The manufacturer is not responsible and will not honor the warranty as a result of failure to follow the instructions indicated above.



NOTE

The frequency indicated refers to normal operating conditions; Different frequencies will

apply specifically to server conditions.

ALL MAINTENANCE MUST BE PERFORMED WITH THE LIFT STOPPED OR THE MAIN SWITCH SET TO THE "O" POSITION.

Once the device is installed, check:

- 1 The opposite arms of the wagons are located on the same level
- 2 Oil level in the power unit. Add oil to the appropriate level if necessary

6.2.2 MONTHLY

HYDRAULIC POWER UNIT

- 1 Check the oil level in the tank using a special dipstick that is attached to the filler cap. If necessary, add oil through the cap to reach the required level. For information on the type of oil, please refer to "TECHNICAL DATA".

- 2 After the first 40 hours of operation, check the oil contamination level in the press. (Clean the filter and change the oil if there is a high level of contamination).

3

HYDRAULIC CIRCUIT

Check for oil leaks in the circuit between the power unit and the cylinder and in the cylinder itself. If this occurs, check the condition of the seals and replace them if necessary.

HYDRAULIC POWER PACK

Under normal operating conditions, check whether there is a change in the noise of the motor and gear pump, and check whether the corresponding ones are properly tightened.

SAFETY SYSTEMS

- 1 Check the working status and efficiency of the safety devices.
- 2 Use a torque wrench to check that the anchoring bases of the posts are properly tightened to the ground as well as the connecting ones.
- 3 Clean and lubricate the side guides and carriage guides.
- 4 Check that they are all tightened
- 5 Check that the locking system is working properly.
- 6 Lubricate all moving parts.

6.2.3 EVERY 6 MONTHS...

HYDRAULIC

Check the degree of contamination or aging of the oil. Contaminated oil is the main cause of valve malfunction and leads to short gear pump life.

6.2.4 EVERY 12 MONTHS...

General inspection: visual inspection of all structural parts and mechanisms to ensure that there are no problems or irregularities.

Electrical installation: qualified electricians (contact the service center) should test the power station, including the power unit motor and control box.

HYDROLIC VEGETABLE OIL

Change the oil by following the instructions below:

1. Lower the lift to the minimum height (on the ground)
2. Make sure the hydraulic cylinder is at the end of its stroke

3. Disconnect power from the lift rack.
4. Drain the oil from the hydraulic circuit by unscrewing the cap located at the bottom of the power unit tank.
5. Close the drain plug
6. Fill the oil cylinder of the hydraulic station with oil through the plug located at the top of the hydraulic station.

The oil must be filtered.

The characteristics and types of oil are given in the technical specifications.

1. Close the filler cap
2. Charge the elevator

Go through two or three up-down cycles (for a height of about 20-30 centimeters) to put the oil into the circumference.

3. When changing the oil: use only the recommended oil or its equivalent; do not use spoiled oil that has been in storage for a long time. The oil should be disposed of as indicated in Appendix 'A'.

AFTER EACH MAINTENANCE OPERATION, THE MACHINE MUST RETURN TO ITS INITIAL STATE, INCLUDING THE DISMANTLED SAFETY AND SAFETY DEVICE.

To ensure good maintenance, it is important to:

1. Use only tools that are suitable for the job and original spare parts
2. Follow the indicated minimum maintenance schedule
3. Immediately find the cause of any abnormalities (excessive noise, overheating, leaking fluids, etc.)
4. Pay special attention to lifting parts (cylinders) and safety devices
5. Use all documentation provided by the manufacturer (wiring diagrams, etc.)

CHAPTER 7 - TROUBLESHOOTING

7.1 TROUBLESHOOTING GUIDE

Troubleshooting and possible repairs require absolute compliance with ALL SAFETY PRECAUTIONS indicated in Chapter 6 "MAINTENANCE" and Chapter 3 "SAFETY"

7.2 TROUBLESHOOTING CHECKLIST

Problem	Possible cause	Solution
The engine does not turn.	Bad contact The electrical switch does not work.	Check and replace a good cable. Check and replace the switch.
The motor rotates, but the elevator	Damaged gear pump Hydraulic oil is not enough.	Replace the gear pump. Supply hydraulic oil.

does not rise.		
You can't go down.	The safety lock shaft is not extended. Solenoid valve is not open	Pull out the shaft Check and replace – solenoid valve.
Oil Leak	Loose binding. The bonding oil seal is damaged	Screw the binding Replace the oil seal.
Two oil cylinders do not work Synchronously.	Oil Leak Blocked oil line	Check and eliminate Clean the oil line.

7.3 DISPOSAL OF USED OIL

The used oil that is removed from the oil tank and the system during the oil change must be treated as a polluting product, according to the legal regulations of the country where the lift is installed.

7.4 DISMANTLING OF MACHINERY

WHEN DISASSEMBLING THE MACHINE, OBSERVE ALL SAFETY PRECAUTIONS DESCRIBED IN CHAPTER 3, WHICH ALSO APPLY DURING ASSEMBLY.

The machine must be inspected by authorized technicians, as is the case with assembly. Metal parts can be scrapped as iron. In any case, all demolition materials must be disposed of in accordance with the applicable standards of the country in which the rack is installed. Finally, it should be recalled that for tax purposes, demolition must be documented; Submission of complaints and documents in accordance with the current regulations in the country where the rack is installed at the time of dismantling of the machine.

7.5 REPLACEMENT PARTS

When replacing parts and making repairs, follow ALL SAFETY PRECAUTIONS described in Section 6 MAINTENANCE and Section 3 SAFETY

Take all necessary precautions to **AVOID STARTING THE JACK ACCIDENTALLY**

1. The switch on the control box must be locked.
2. The key to the lock must be kept by the maintenance installer during maintenance operations.

SPARE PARTS ORDERING PROCEDURE

To order replacement parts:

1. Provide the serial number of the lift and the year of manufacture
2. Indicate the code of the item you want
3. Indicate the quantity required.

WARRANTY CARD

Lift Type serial no.

1. TIP-TOPOL Sp. z o.o. guarantees trouble-free operation of the device for a period of months from the date of commissioning of the device.
2. During the warranty period, the Guarantor provides free parts in case of failures covered by the warranty.
3. Your Obligations:
 - i. The user of the device undertakes to comply with the rules of use contained in the "User Manual" provided with the device
 - ii. You agree to notify Warrantor of any failure. The user can report a failure to the TIP-TOPOL headquarters in Pobiedziska tel. (0****61 8152 200)
 - iii. The completed "Warranty Card" documents the right to warranty and should be stored at the place where the device is installed and made available to TIPTOPOL service staff for the purpose of making annotations about repairs and possible extensions of the warranty period
 - iv. The user undertakes to perform maintenance inspections in accordance with applicable regulations and instructions.**
4. The warranty **expires** if:
 - i. the serial numbers of the device have been deleted,
 - ii. the appliance has been operated for other than its intended purpose or in conditions and in a manner other than specified in the operating instructions
 - iii. the damage was caused by the fault of the user or as a result of fortuitous events
 - iv. no technical inspections have been carried out => no entries in the maintenance log by a person authorized to perform inspections and maintenance of the lift**
5. The guarantor provides free repairs during the warranty period at the headquarters of TIP-TOPOL located in Pobiedziska after the device has been delivered by the user at his expense.

I declare that I have read the warranty conditions set out in this Charter.

Company stamp

Date and legible user signature

Repair annotations.

No.	Date Notification	Date Repair	Repair activities performed, replaced components, annotations about warranty extension	Signature service technician

Environmental information

Thank you for choosing our products. As a company that is not indifferent to the issue of environmental protection, we ask you to read the following tips on how to deal with used products.



If the product has a crossed-out bin symbol on the rating plate  , the following removal procedure must be followed

This product may contain substances hazardous to the environment or to health if not properly disposed of. This information is provided to prevent the release of hazardous substances into the environment. Electrical and electronic components must never be disposed of in municipal waste bins. Dispose of all equipment in accordance with applicable regulations at the place of installation. By doing so, you can avoid dangerous consequences for the environment and health.

According to the current regulations in a given country, disposing of the product in a way other than described above will be punished. It is also recommended to segregate other waste: recycling the outer and inner packaging of the product and used batteries and accumulators (if the product requires them). Your assistance is very important to reduce the amount of raw materials needed for the production of equipment, minimize the use of landfills and improve the quality of life by reducing the amount of potentially dangerous substances in the environment.

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