DOUBLE SCISSOR LIFTS :

DS 249 - DS 259

OPERATION, SERVICE AND SPARE PARTS MANUAL

Translation of the original instructions

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Carefully read the instructions in this manual before using the equipment

THE FIRM

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1. DESCRIPTION AND MAIN FEATURES

The lift identified in this manual by the commercial name “DS 249 Lift” corresponds to model SXJS3519. The lift identified in this manual by the commercial name “DS 259 Lift” corresponds to model SXJS3210. All regulatory, technical and safety references contained in this manual refer to the above-mentioned original models. For the sake of clarity, throughout this manual the two lifts will hereinafter be referred to respectively as DS 249 and DS 259.

1.1. INTRODUCTION

This manual provides all the necessary information for the correct installation, use, and routine maintenance of the double scissor lift (DS 249 and DS 259) a hydraulic lifting system designed for professional workshops and body shops.
The lift adopts a scissor-type mechanical structure and uses hydraulic pressure to generate lifting force. The dual hydraulic circuit ensures stability: if one circuit fails, the other maintains the static load. Main advantages include:

- Simple structure and advanced technology.
- Easy operation and high safety standards.
- Ultra-thin design for ground installation.
- Extendable platforms suitable for vehicles of different lengths.

The lift is particularly suitable for wheel alignment, inspection, and general repair operations. It must be operated only by trained and authorized personnel. Improper use may result in damage or injury. It is not suitable for lifting people or for use as a parking system.

WARNING
Spanesi S.p.A. declines all liability for damage to persons, animals, or property resulting from failure to comply with the instructions in this manual.
The lift must be used only by trained and authorized personnel. Improper use may result in damage to the equipment or serious injury. The instructions in this manual must be followed carefully to ensure safe operation, optimal performance, and long service life of the equipment.

This manual is an integral part of the product and must be kept in a safe place for the entire life of the machine. Additional copies may be requested from the distributor.

1.2. WARRANTY

The lift is covered by a 12-month warranty from the date of purchase.

The warranty includes free replacement or repair of defective components, excluding electrical parts, as determined by the authorized technical service department.

The warranty becomes void in the following cases:

- Improper use or overloading.
- Insufficient maintenance or unauthorized modifications.
- Use of non-original spare parts or accessories.
- Failure to follow the instructions in this manual.

The warranty does not cover indirect damages, transport costs, or consumables. Warranty claims are valid only if the purchaser complies with the terms specified in the supply contract.

1.3. EC CERTIFICATION

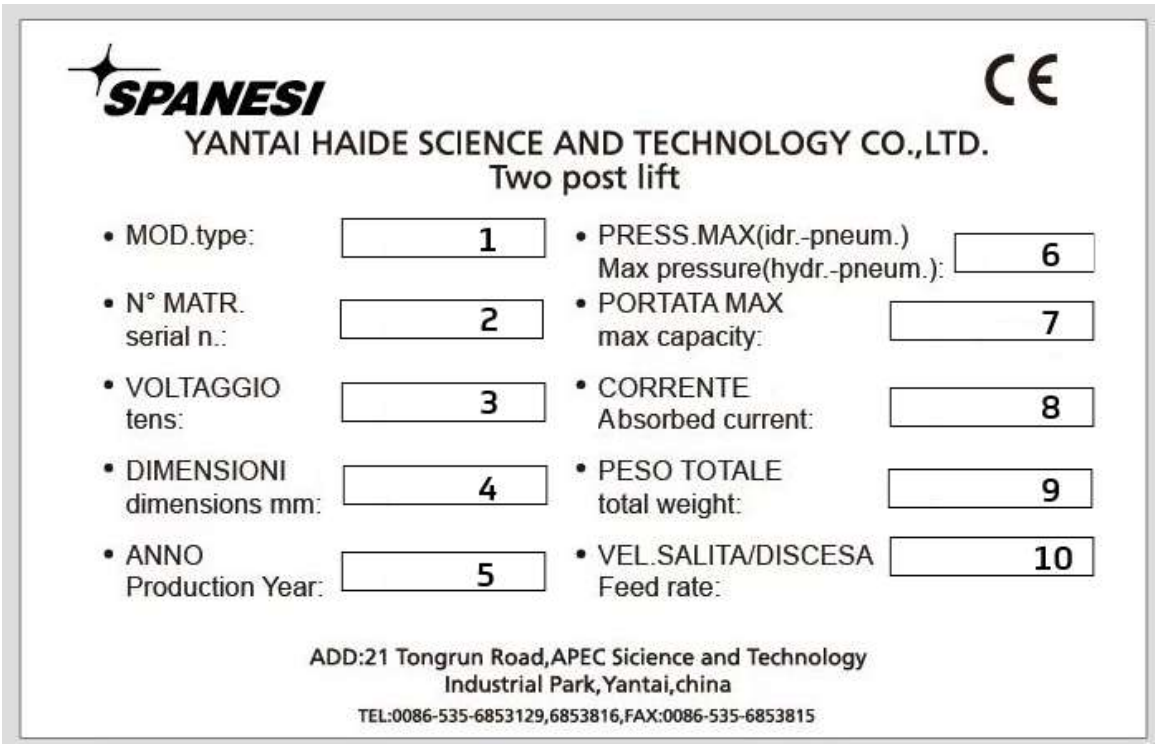
This equipment complies with the essential safety requirements of the Machinery Directive 2006/42/EC. A sample unit has been tested and certified by a notified body to ensure conformity with applicable European standards.

The lift is delivered with:

- CE marking;
- EC Declaration of Conformity;
- Instruction manual.

1.4. IDENTIFICATION

The Double Scissor Lift is provided with manufacturer identification plate containing the following information.



1) Model Type
2) Serial number
3) Voltage and frequency
4) Dimensions
5) Year of production
6) Max pressure (hydraulic and pneumatic pressure)
7) Max capacity
8) Absorbed current
9) Total weight of the lift
10) Feed rate.

1.5. APPLICATION

The Double Scissor Lift is designed exclusively for lifting motor vehicles to a height suitable for inspection, maintenance, and repair operations.

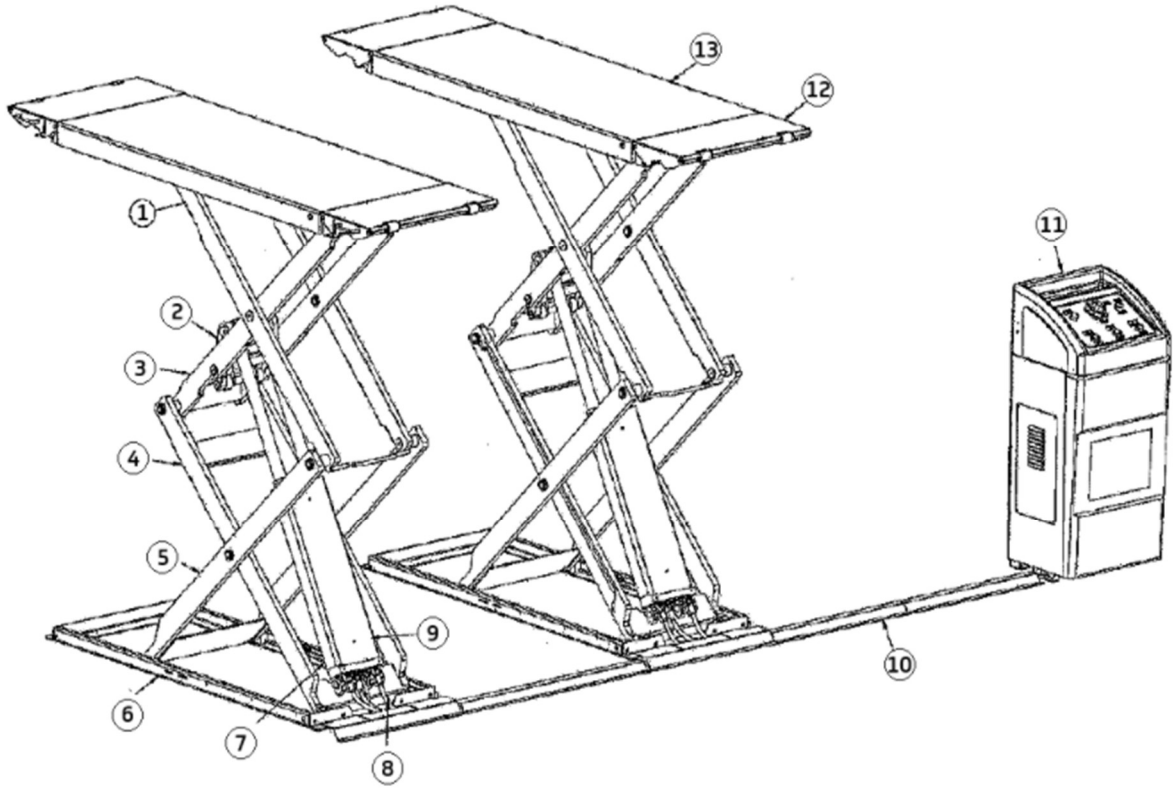
It is particularly suited for use in professional automotive workshops and bodyshops.

WARNING
This equipment is not suitable for lifting people. Any use other than that described in this manual is considered improper and strictly prohibited.
Spanesi S.p.A. declines all liability for damage to people, animals, or property resulting from failure to comply with these instructions.

The lift must be operated only by trained and authorized personnel. Improper use, unauthorized modifications, or failure to follow the safety instructions may result in serious injury or damage.

1.6. DESCRIPTION OF THE LIFT

Figure 1.1 – General view of the lift



The double scissor lift consists of two parallel lifting platforms (13) mounted on a robust base (6), designed to ensure stability and uniform load distribution. The platforms are equipped with access ramps (12) to facilitate vehicle positioning and feature an extendable structure, suitable for vehicles of different lengths.

The protective channel (10) runs along the base and shields the hydraulic and pneumatic lines. The control cabinet (11), positioned on the side, contains the control buttons and the signaling devices required for raising, lowering, and emergency operations.

DS 249

Each platform is supported by a two-level scissor mechanism composed of:

- upper outer arms (1),
- upper inner arms (3),
- lower inner arms (4),
- lower outer arms (5).

These arms work synchronously to ensure smooth and uniform lifting motion. The rocker structure (2) links the arms and allows the mechanism to open and close correctly during raising and lowering.

DS 259

Each platform is supported by a single-level scissor mechanism:

- the upper outer (1) and upper inner (3) arms are not present;

- only the lower inner (4) and lower outer (5) arms are present beneath each platform.

The motion is synchronized to ensure uniform lifting and lowering, with the same electro-hydraulic actuation logic.

Hydraulic system and actuation

For both models, the lifting force is generated by the main hydraulic cylinder (7) and the auxiliary cylinder (9), located at the base of each scissor group.

The cylinders are connected by high-pressure hydraulic pipes (8) and controlled by an electro-hydraulic system housed in the control cabinet (11).

Figure 1.2 A – DS 249 Dimensions Layout

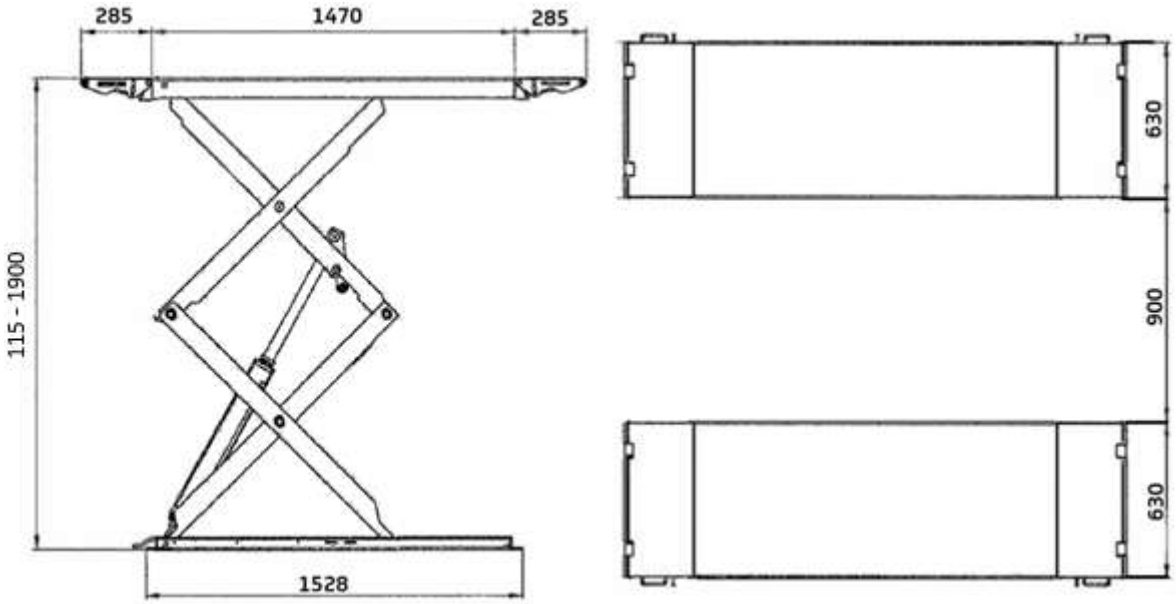
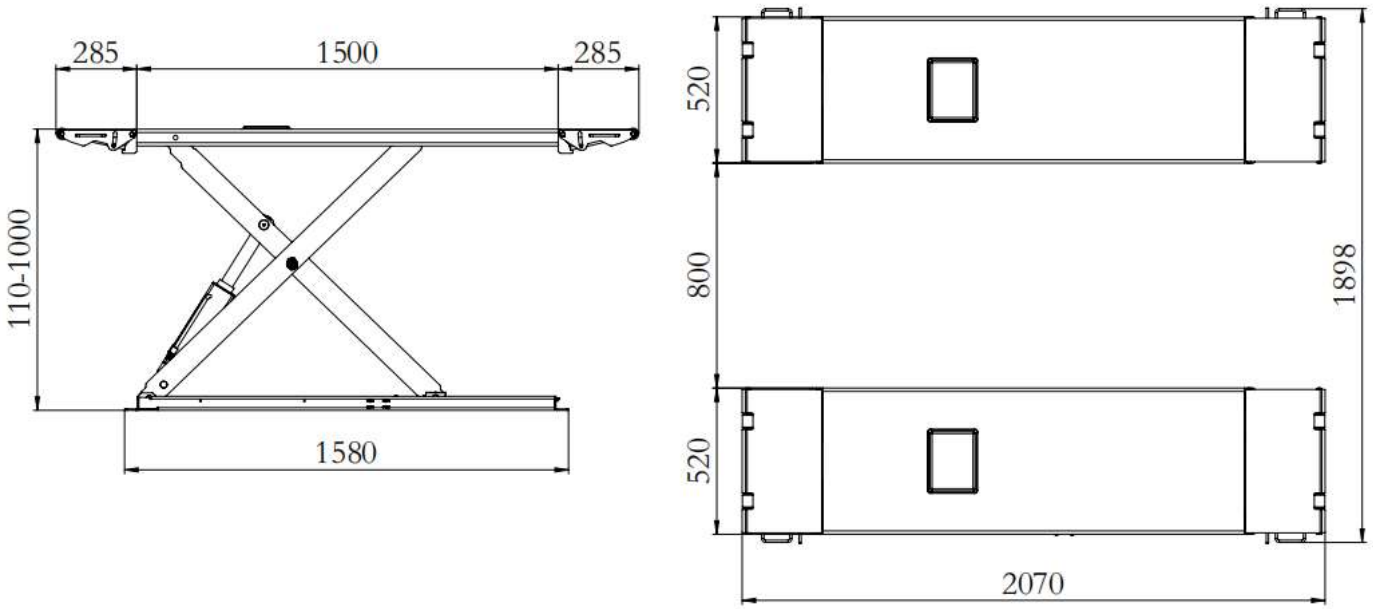


Figure 1.2 B – DS 259 Dimensions Layout



1.7. TECHNICAL SPECIFICATIONS

Basic specifications are given in the following table. For more detailed information on the product characteristics, contact Spanesi.

Model	DS 249		DS 259	
Lifting Capacity	3,500 kg	7,700 lb	3,200 kg	7,050 lb
Maximum Lifting Height	≤ 1,900 mm	≤ 74.8 in	≤ 1,000 mm	≤ 39 in
Platform Length	1,470-2,042 mm	57-80 in	1,500-2,070 mm	59-81 in
Platform Width	610 mm (each)	24 in (each)	520 mm (each)	21 in (each)
Overall Width	2,160 mm	85 in	1,898 mm	75 in
Overall Height (closed)	115 mm	4.5 in	110 mm	4.3 in
Hydraulic Pressure	25 MPa	3,625 psi	25 MPa	3,625 psi
Lifting Time	< 60 s	< 60 s	< 45 s	< 45 s
Power Supply*	380/220 V, 3Ph / 1Ph, 50 Hz	208–230 V, 3 Ph, 60 Hz	380/220 V, 3Ph / 1Ph, 50 Hz	208–230 V, 3 Ph, 60 Hz
Motor Power	3.0 kW	4 hp	2.2 kW	3 hp
Net Weight	~ 750 kg	~ 1,650 lb	~ 600 kg	~ 1,323 lb

*: Differents voltages and frequencies are available according to customer's request.

2.SAFETY PRECAUTIONS AND ACCIDENT PREVENTION

2.1. HAZARD LEVELS

Operator safety is the main concern of the machine manufacturer. When designing a new machine, the designer tries to take account of all possible hazards and risks connected with use of the machine, taking all suitable precautions to make the equipment as safe as possible. The number of accidents nevertheless remains very high due above all to careless and clumsy operator use. You are therefore advised to read this manual very carefully and this section concerning safety precautions, ensuring that you always use the machine correctly and follow the instructions provided:

WARNING
Read the following instructions carefully. Anyone who fails to observe them may suffer permanent injury, permanently injure other people or animals or damage property. SPANESI S.p.A. accepts no liability for direct or indirect damage caused by failure to observe the safety precautions and accident-prevention directions set out below.

Pay attention to the hazard warning sign when it appears in this manual and observe all safety provisions. There are three levels of hazard sign:

DANGER
This sign warns that if the operations described are not correctly performed, they will cause serious injury or death or involve long-term health risks.
WARNING
This sign warns that if the operations described are not correctly performed, they can cause serious injury or death or involve long-term health risks.
CAUTION
This sign warns that if the operations described are not correctly performed, the machine can be damaged.

These warnings apply to all models and versions (standard and recessed).

WARNING
SPANESI S.p.A. accepts no liability for damage caused by failure to observe the safety precautions and accident prevention directions set out below.

2.2. WARNING SIGNS

Warning signs are affixed to the lift to indicate potential hazards:

- Figure 2.1: Operator must not approach the lift while raising or lowering.
- Figure 2.2: Keep the area around the lift clean and free of oil stains.

For recessed versions, install additional signage to mark the pit and prevent falls.

Figure 2.1

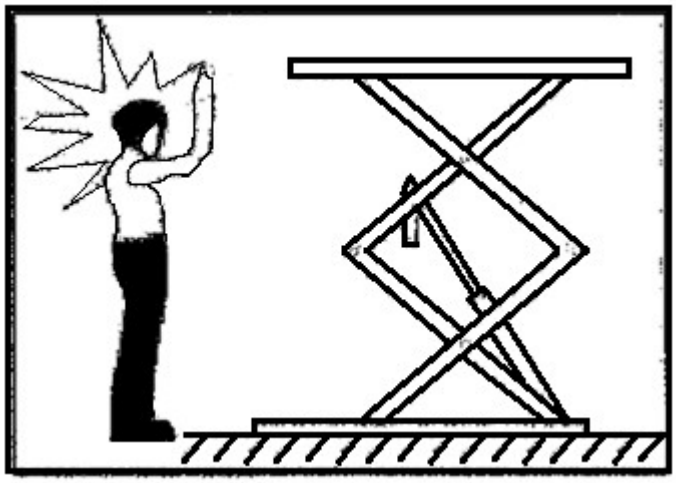
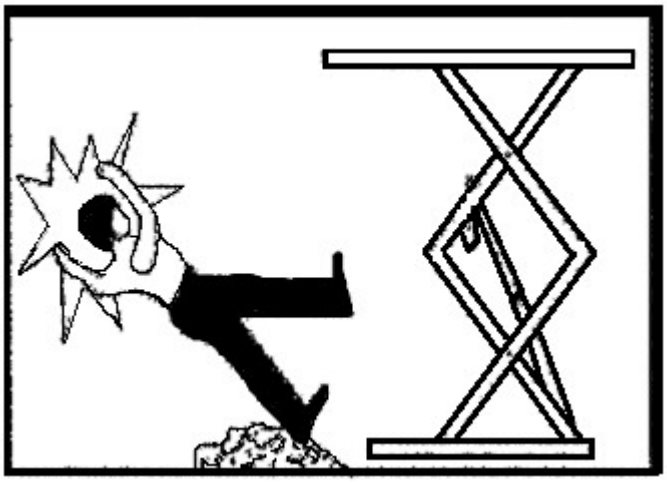


Figure 2.2



2.3. INSTALLATION SAFETY INSTRUCTIONS

WARNING
Please read this manual carefully before using the equipment. Operate strictly in accordance with the instructions, and do not operate at will.
Never modify relief or throttle valves; they are factory-set for safety.

- Only trained and qualified personnel are permitted to operate the lift.
- Before starting work, remove any obstacles from around and beneath the equipment.
- Before installation, verify that the designated location and available space comply with the lift's requirements by referring to the dimensional layout drawings (see Figure 1.2 A and Figure 1.2 B) and foundation plans (see Figure 3.2 A and Figure 3.2 B).
- Verify that the installation site meets the requirements: level concrete floor must have a capacity of 250 kg/cm2 and must be without expansion joints or cracks, minimum thickness 150 mm.
- Ensure adequate space around the lift (≥ 2 m from walls) and good lighting.
- Confirm the power supply specifications, including voltage and phase, as indicated on the motor nameplate.
- A qualified electrician must perform the electrical connection.
- Ensure the motor rotates in the correct direction when connected to the power supply.
- Perform levelling without any load on the lift.
- Do not stand on or beneath the lift at any time.
- Do not allow passengers to remain inside the vehicle while it is being lifted.
- Do not exceed the rated lifting capacity of the equipment (see the nameplate).
- Do not install near washing areas or corrosive substances.
- When raising the lift, maintain a safe distance from the equipment.
- When temperature is below 10°C, drain water from compressed air to prevent freezing of pneumatic components.
- Use appropriate lifting tools during handling and installation. Never stand under suspended equipment.
- Check all anchor bolts and ensure proper tightening before operation.
- When the lift is not in use for extended periods or overnight, lower it completely, remove the vehicle, and disconnect the power supply.
- For recessed versions, protect the pit with barriers during installation.
- If local voltage fluctuates beyond ±10%, install a voltage regulator.
- Comply with local regulations for electrical and environmental safety.

2.4. OPERATION SAFETY INSTRUCTIONS

WARNING
Please pay attention to the safety of electricity when troubleshooting and repairing. If necessary, please cut off the power supply.
Before starting, please read carefully and pay attention to the warning signs.

DANGER
Never attempt to bypass safety devices or operate the lift without proper safety checks.

- Only formally trained personnel or individuals with proven technical knowledge are authorized to perform electrical maintenance and troubleshooting.
- Before lifting, check that the platforms are clear of obstacles and the vehicle is correctly positioned.
- Operate the lift with caution in humid environments to prevent the risk of electric shock.
- Before energizing the lift, all personnel must remain at a safe distance.
- Do not exceed the rated capacity (3,500 kg for DS 249 e 3,200 kg for DS 259).
- Do not stand under the lift or remain inside the vehicle during lifting.
- Do not put hands or feet between the platforms during operation.
- Never modify relief or throttle valves; they are factory-set for safety.
- Do not use the lift in wet or humid environments or under rain.
- Do not leave the vehicle on the lift for extended periods.
- Always monitor both platforms during lifting and lowering.
- Do not open the electric control box unless it is necessary to inspect or service electrical components.
- Do not alter the electrical circuit unless explicitly authorized by the manufacturer.
- When replacing electrical components, ensure that each part complies with the required specifications, including wire colour coding.
- When working with electrical equipment, do not wear metallic items such as glasses, necklaces, or chains.
- Avoid wearing fragile or dangling accessories such as rings, watches, or bracelets that could pose a safety hazard.
- Do not modify the time relay factory setting: it ensures safe lowering sequence.
- In case of power failure, follow the procedure in Chapter 3.9 to safely lower the lift.
- For recessed versions, never leave the pit unprotected to prevent accidental falls.

2.5. MAINTENANCE SAFETY INSTRUCTIONS

WARNING
Maintenance work must be carried out only by qualified specialist personnel.
Maintenance must be performed with all due care, following the instructions in this manual and replacing worn or damaged parts.
The electricity supply must be disconnected before carrying out cleaning or maintenance work on the lift.
Do not perform maintenance while the lift is raised or loaded.

To ensure safe maintenance of the Double Scissor Lift, the following instructions must be observed:

- Disconnect power before performing any maintenance or part replacement.
- Perform maintenance only when the lift is unloaded.
- Never remove or tamper with the safety devices.
- Never carry out welding or blow torch cutting or drill holes on the bench structure.
- Never operate the lift even when only one safety sign is missing from the place where it was affixed by the manufacturer.
- Never operate the lift if it is not doweled to the floor.
- Never wet and never keep watered the Double Scissor Lift. For example, during operations of cleaning of the floor, after the lifting of a vehicle covered in snow, etc.
- Never cover indicator lights; ensure they are functional.
- Always follow the instructions written in this manual to lift correctly the load.
- Always use the recommended oil (hydraulic oil type is given in paragraph 4.3. “HYDRAULIC OIL”).
- Regularly check hydraulic oil level and replace oil every 6–10 months.
- Periodically check the tightening and seal of the screws and couplings.
- Periodically check that the safety devices are in perfect condition and work efficiently.
- Lubricate sliding components every 15 days.
- Inspect pneumatic filter and clean regularly.
- Traces of oil on the floor are very dangerous and must be completely and immediately removed.
- Original spare parts must be used for repairs and maintenance.
- Periodically check the voltage regulator if installed.
- Do not alter the time relay settings in the control cabinet.
- For recessed versions, ensure the pit is clean and free of obstacles before any intervention.

CAUTION
Learn and keep this instruction manual for the whole of the working life of the lift.

2.6. RESIDUAL RISKS

WARNING
SPANESI S.p.A. accepts no liability for damage to person, animal or property caused by failure to keep a proper work behavior, in good physical and mental condition, working with concentration and attention and after having carefully read and understood the User and Maintenance Manual.

After all safety design measures taken by Spanesi S.p.A., the implementation of an integrated control system and the application of warning signs, few risks can remain, forced by:

- lack of attention or forgetfulness of the operators or people around the workspace.
- not correct reading and understanding of the User Manual.
- failure to follow the safety directions in the User Manual.
- improper use of the Personal Protective Equipment (PPE).
- lack of concentration of the operators.
- installation of the lift on an uneven floor.
- altered mental and physical condition of the operators or people around the workspace (e.g. abuse of alcohol or medicines, use of drugs, etc.).
- weak health condition (e.g. low blood pressure, dizziness, fainting, flu, etc.).

2.7. CLOTHING

WARNING
Spanesi is not responsible for injuries occurring in the workplace suffered by workers not wearing PPE or not respecting national safety laws.

Operators must wear PPE (Personal Protective Equipment) during unpacking, assembly and maintenance of the machine, also while using the machine to lift a vehicle and to repair it, according to regional and national laws in force in the country where the machine is being used.

Spanesi recommends wearing:

- gloves.
- safety shoes.
- glasses.

Personnel must wear clothing suitable for the machine and working environment, such as coveralls or full body suits.

They do not have to wear the following clothes because they can get caught in the moving parts and accessories that must be avoided from the workplace:

- loose-fitting clothes.
- scarves.
- ties.
- chains.
- earrings.

If the country where the machine is being used prescribes specific noise emission limits, suitable protective equipment should be worn for compliance with the standards (ear plugs, headphones, etc.).

For electrical work or valve adjustment, use insulated gloves.

2.8. ECOLOGY AND CONTAMINATION

WARNING
The Double Scissor Lift must not be used for washing or degreasing vehicles: a dirty and slippery workplace is dangerous for the operator.
Before starting cleaning or maintenance work, remember to cut off the lift from the power supply.

The lift also can get damaged or can be ruined by corrosion if it is kept wet and dirty. The operator must clean and always dry the machine after it gets dirty, for example when oil stains can be noticed on the lift's parts.

Observe the laws in force in the country in which the lift is being used concerning use and disposal of the products used for cleaning and maintenance of the Double Scissor Lift in accordance with the manufacturer's recommendations.

When replacing worn-out parts or dismantling the lift, observe the antipollution laws of the country in which the lift is being used.

Central box's oil must be disposed correctly according to regional or national environmental laws. If oil stains or leaks can be seen in any phase since the unloading of the machine from the truck, follow all regional and national directives or laws concerning ecology and pollution to avoid contamination of the area. See section 8 "MAINTENANCE" to know oil's characteristics.

Dispose of electrical components (relays, regulators) properly as per environmental laws.

2.9. SAFETY DESIGN

The lift incorporates advanced safety systems:

Independent Dual Oil Circuit

The hydraulic system uses two independent circuits with two-way solenoid valves. This design ensures stability and mutual protection: if one circuit loses pressure, the other maintains sufficient support force, preventing sudden descent.

Anti-Explosion Valve

Each cylinder is equipped with an anti-explosion valve. In case of simultaneous pipe rupture, the valve closes instantly when pressure drops, slowing the descent and providing time for the operator to react safely.

Additional Safety Notes:

- Relief and throttle valves are factory-set; do not adjust.
- Pneumatic system must be filtered below 10°C to avoid freezing.
- The system includes a time relay to ensure safe lowering sequence.
- For recessed versions, check proper operation of mechanical locking devices.

See chapter 6 “SYSTEMS” for more information about hydraulic system and diagram.

3. INSTALLATION

3.1. PACKING

WARNING
When opening the package, maintain a safe distance and handle it with care.
Do not lose small components during unpacking.
If any damage is found on the packaging or parts, do not accept the delivery and contact the distributor immediately. Damaged packaging may indicate compromised components.
In the case of bad weather, such as rain, snow, storm, etc. during lifting or transportation, protective measures must be taken.

The lift is packed using a steel frame structure, fully enclosed with protective material to prevent damage during transport.

The control box and electrical components are packed separately in cardboard boxes and secured to the steel frame.

All parts are listed in the packing list included with the product.

3.2. HOISTING AND TRANSPORT

It is recommended to use lifting equipment with a minimum capacity of 2,000 kg to ensure safe handling of the lift during unloading and positioning. This includes forklifts, cranes or stackers suitable for industrial use.

Always verify the lifting capacity before proceeding with transport operations and ensuring the center of gravity is correctly identified. Only one unit may be lifted at a time.

Transportation Safety Notes:

- Select appropriate lifting tools to avoid injury or equipment damage.
- Always lift from the center of gravity.
- Do not lift the equipment in an unbalanced state (front/back or left/right).
- No personnel should stand under the equipment during lifting.
- Do not place heavy objects on the lift during transport or storage.

In case of rain or snow during lifting or moving, take appropriate protective measures.

3.3. STORAGE

The lift must be placed horizontally during storage in a dry, clean environment, and heavy objects Avoid direct sunlight and exposure to moisture.

Storage temperature must be between –10°C and +40°C.

Do not stack heavy items on the lift.

Ensure the lift is placed on a level surface and protected from dust and corrosion.

3.4. INSTALLATION CONDITIONS AND ENVIRONMENT

Installation must be carried out indoors, in a well-lit and clean area, free from dust and corrosive substances.

Avoid proximity to washing zones or areas with corrosive substances.

Ensure sufficient space around the lift for safe operation and maintenance:

- Minimum vertical clearance: ≥ 4 m
- Minimum distance from walls or obstacles: ≥ 2 m

Environmental Requirements:

- Air humidity: 30–90%
- Ambient temperature: –5°C to +40°C
- Power supply: 380V/220V, 50Hz/60Hz

The installation base must be made of reinforced concrete with a minimum compressive strength of 250 kg/cm², equivalent to RCK 250 or ≈ 25 MPa (≈3625 PSI).

The concrete must be poured and cured according to local building standards.

Minimum thickness: 150 mm (recommended: 180–200 mm).

Surface levelness tolerance: ≤ 5 mm.

If using an existing foundation, verify that its strength meets the above requirements.

3.5. INSTALLATION

DANGER
Installation must be performed only by qualified personnel. Improper installation may result in equipment failure or serious injury.

3.5.1. PRELIMINARY NOTES

- Check that the floor surface is free of defects.
- Mark the installation position using the layout dimensions.

Fig. 3.1 A: DS 249, Installation Dimensions

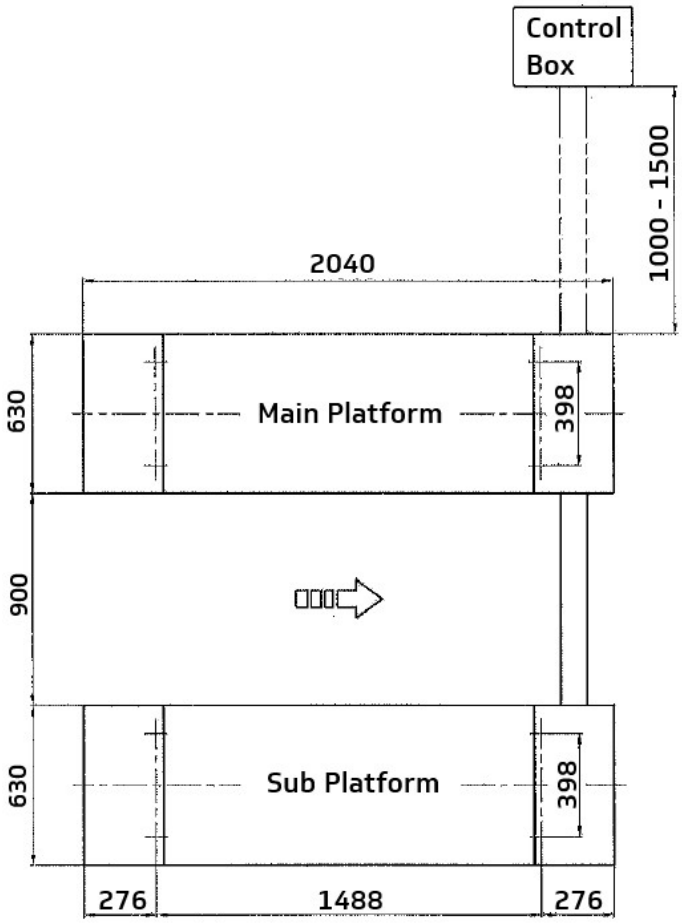


Fig. 3.1 B: DS 259, Installation Dimensions

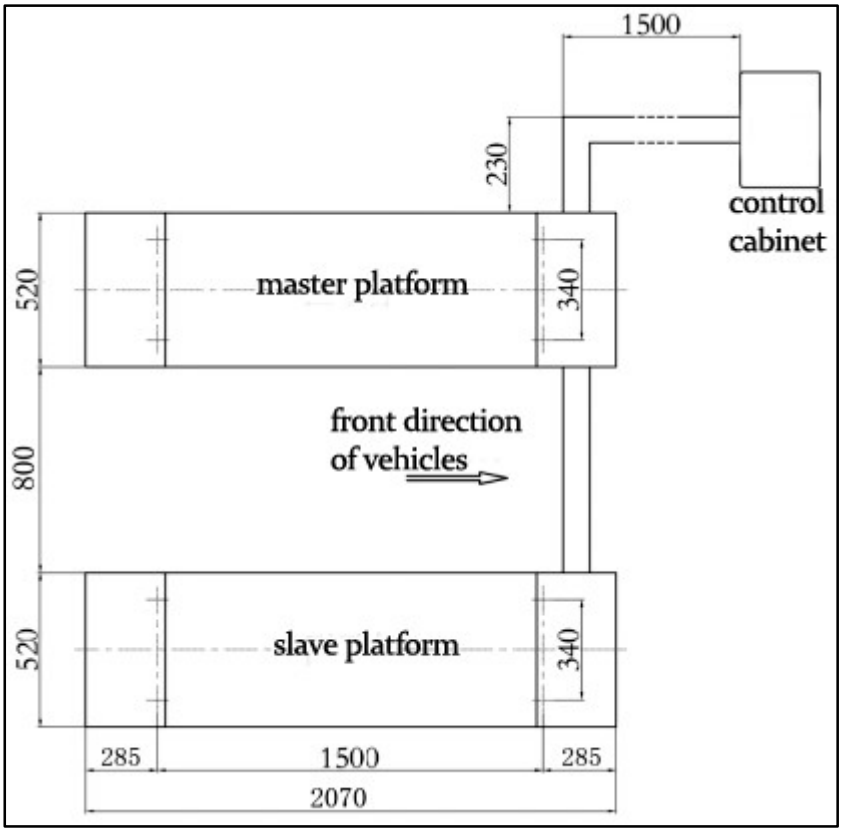


Fig. 3.2 A: Pit Layout for DS 249

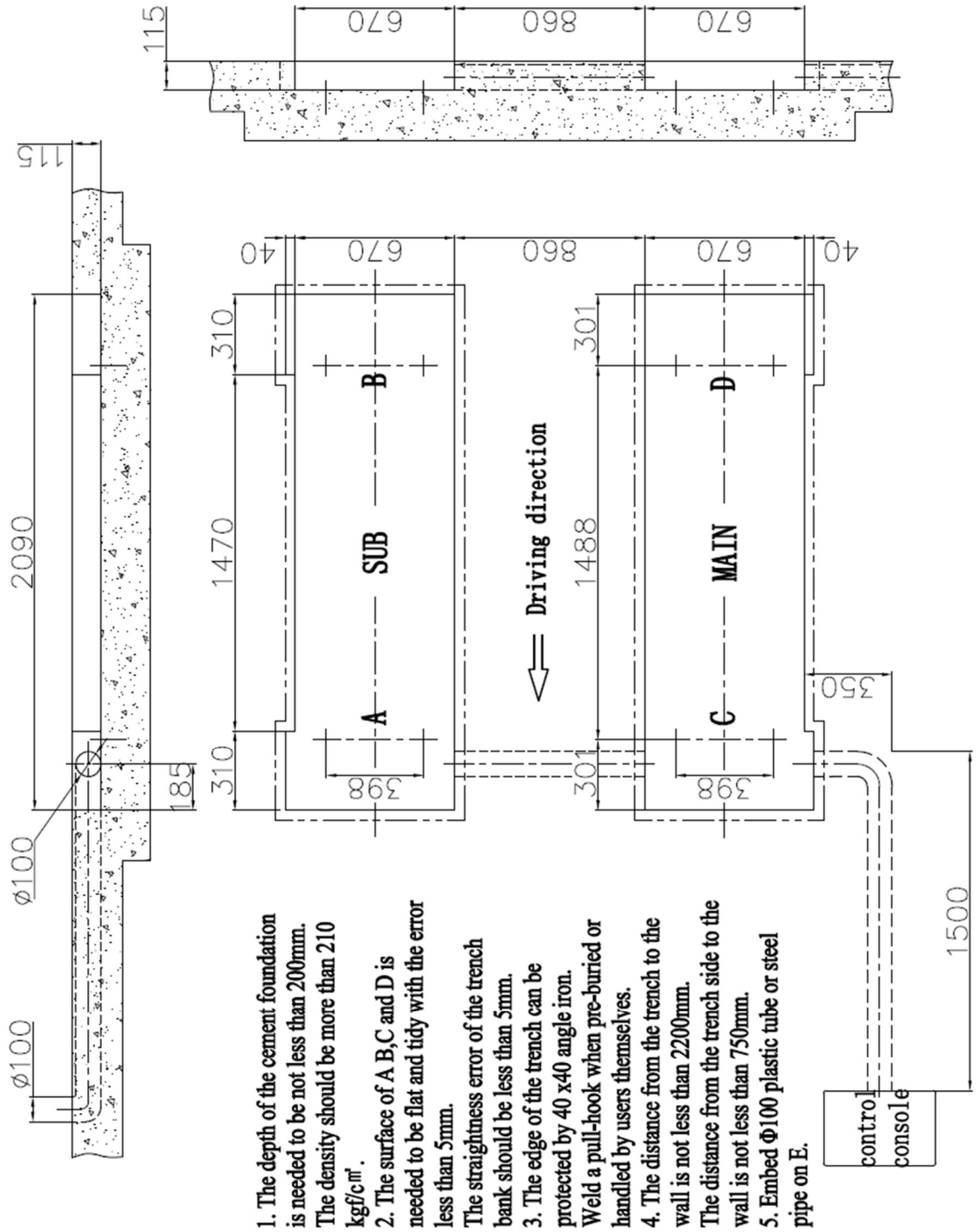
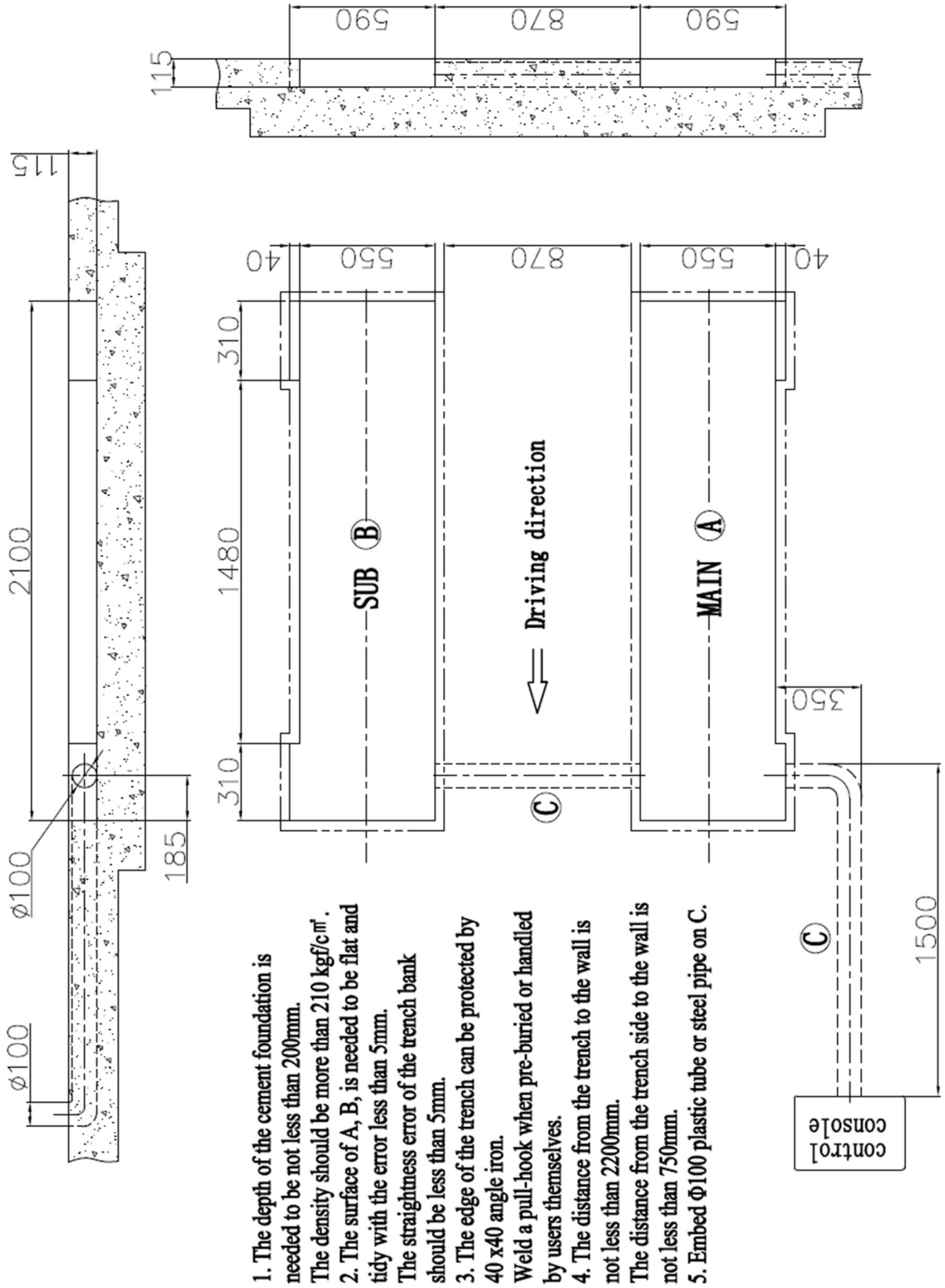


Fig. 3.2 B – Pit Layout for DS 259

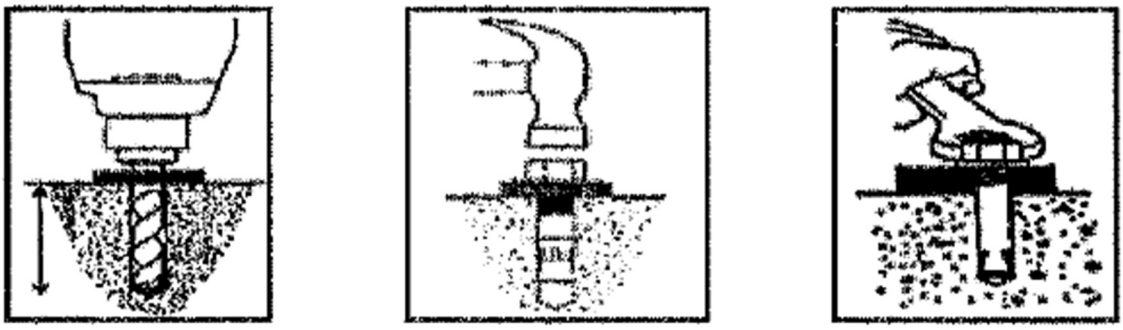


- Ensure surface levelness tolerance is less than 5 mm.
- Unpack and verify all components against the packing list.
- Required tools: impact drill (Ø16), hammer, spirit level, tape measure (3 m), adjustable wrench, hex key set, pry bars, chalk line, flat screwdriver, pliers, sockets, and electrical cable.

3.5.2. POSITIONING THE EQUIPMENT

- Place the main platform (with main cylinder) and sub platform (with auxiliary cylinder) in their designated positions.
- Protect oil and air pipes from damage and contamination during handling.
- Adjust the gap between platforms (tolerance ≤ 10 mm).
- Drill holes for anchor bolts and check horizontal alignment using a spirit level.
- Fill any gaps between the base plate and floor with steel shims or cement mortar.
- Hammer in the expansion bolts and tighten securely (see Fig.3.3).

Fig. 3.3 – Anchor Bolt Installation



WARNING

The distances shown in the layout drawings regarding the position of the control unit in relation to the lifting platforms refer to the minimum installation distances.

The length of the electrical cables and hydraulic hoses allows the control unit to be positioned up to approximately 3 m beyond the minimum distance indicated in the drawings, within the limits permitted by the system configuration.

If the cable or hose length exceeds the installation requirements, the excess length may be neatly coiled and secured near the control unit, taking care to avoid excessive bending, crushing or mechanical stress on the connections.

3.5.3. FILLING HYDRAULIC OIL

WARNING
No hydraulic oil is supplied with the lift.

Use ISO VG 46 hydraulic oil, also referred to as H46, such as NUTTO H46 or equivalent anti-wear high-pressure oils from certified manufacturers.

Approximately 14 liters are required for DS 249 and 6 liters for DS 259.

In cold environments, the high viscosity of ISO VG 46 may cause slow descent of the lift. If necessary, replace it with ISO VG 32 hydraulic oil to ensure proper operation.

Always use oil recommended by the manufacturer and avoid mixing different types.

Refer to Chapter 5 – Maintenance for oil replacement procedures and specifications.

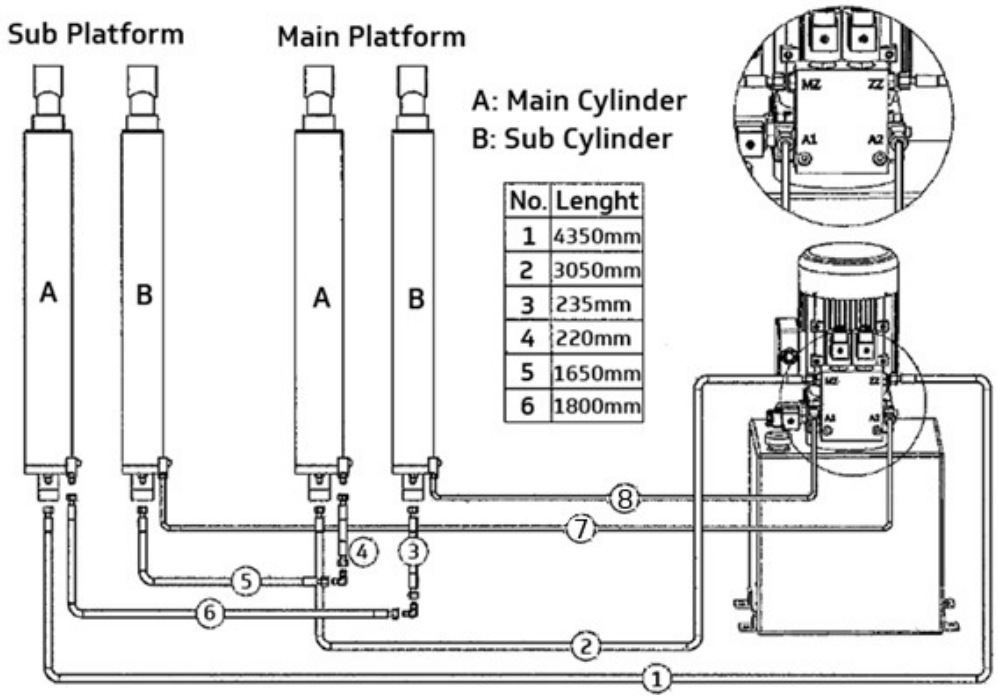
3.5.4. ELECTRICAL CONNECTION

- Connect power lines according to motor nameplate specifications.
- Ensure proper grounding of the control cabinet.
- For 220V motors: cable section ≥ 4 mm²
- For 380V motors: cable section ≥ 2.5 mm²
- Check motor rotation direction by pressing the UP button briefly (<3 seconds).
- If rotation is incorrect, swap two phases to reverse direction.

3.5.5. HYDRAULIC SYSTEM CONNECTION

- Connect oil pipes to the hydraulic pump using the correct fittings
- Ensure no cross-connections. Refer to the hydraulic piping diagram (see fig. 3.4).
- Check that all connections are tight and free from leaks before operation.
- Pipe 7 and 8 are transparent for oil recycling.

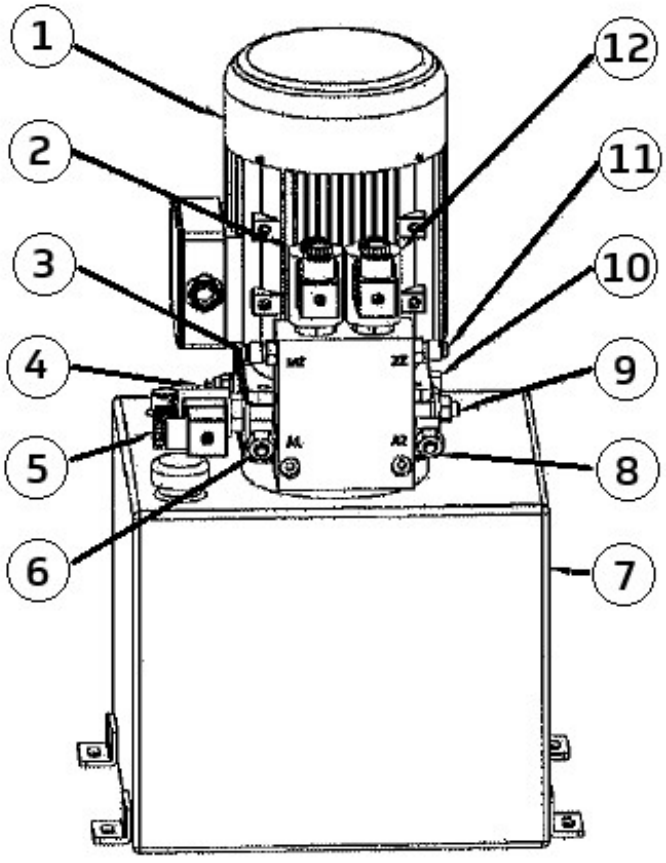
Fig. 3.4a – Hydraulic System Connection Diagram



3.5.6. HYDRAULIC PUMP STATION

- Connect the air source according to the pneumatic diagram.

Fig. 3.5 – Hydraulic pump station



No	Code	Name	Note
1	91040960814	Motor	
2	91040960820	Electromagnetic cut-off valve	
3	15030200021	Tubing interface	MZ
4	91040960816	Relief Valve	
5	91040960818	unloading valve	
6	14010300039	PU pipe interface	A1(MA)
7	91040960811	Oil tank	Some is round
8	14010300039	PU pipe	A2(ZA)
9	91040960817	throttle valve	
10	91040960815	One-way valve	
11	15030200021	Tubing interface	ZZ
12	91040960820	Electromagnetic check valve	

3.5.7. RELIEF VALVE ADJUSTMENT

WARNING
Installation must be performed only by qualified personnel. Improper installation may result in equipment failure or serious injury.

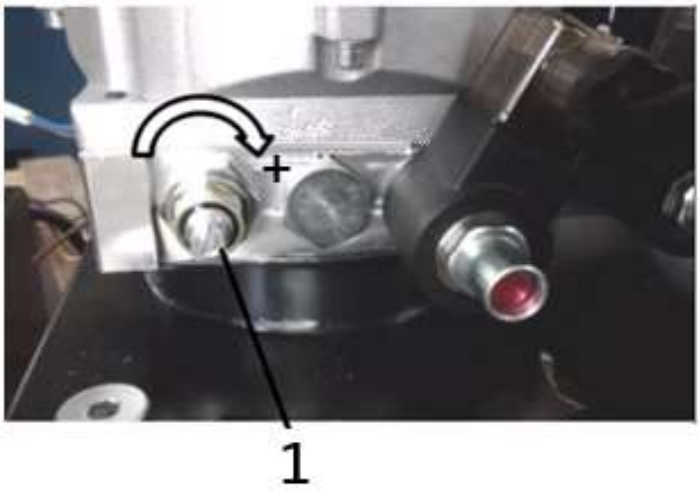
The relief valve ("1" figure 3.6 – "item 4" figure 3.5) controls the system pressure. The rated pressure is 25 MPa.

To adjust:

- Remove the plastic dust cap.
- Unscrew the nut to expose the valve spool.
- Turn the screw clockwise to increase pressure.
- Turn counterclockwise to reduce pressure (see Fig. 3.6).

Always restre the protective cap after adjustment.

Figure 3.6 – Relief valve adjustement



3.5.8. THROTTLE ADJUSTMENT

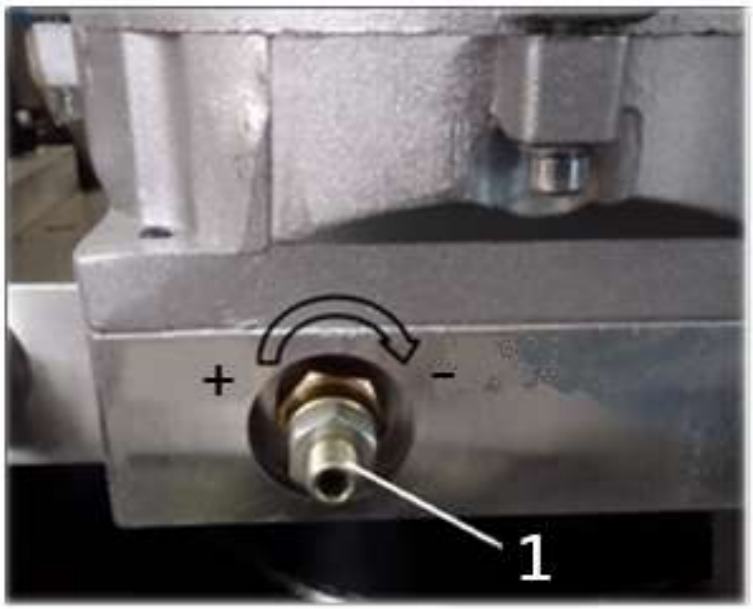
CAUTION
The throttle valve is factory-set to ensure safe lowering speed. Do not modify arbitrarily. Adjust only if necessary to correct descent speed.

In Figure 3.5, throttle valve (item 9) controls the lowering speed of the lift.

Turn counterclockwise to increase descent speed.

Turn clockwise to slow down the descent (see Fig. 3.7).

Figure 3.7 – Throttle adjustement



After adjustment, verify smooth and controlled lowering before resuming normal operation.

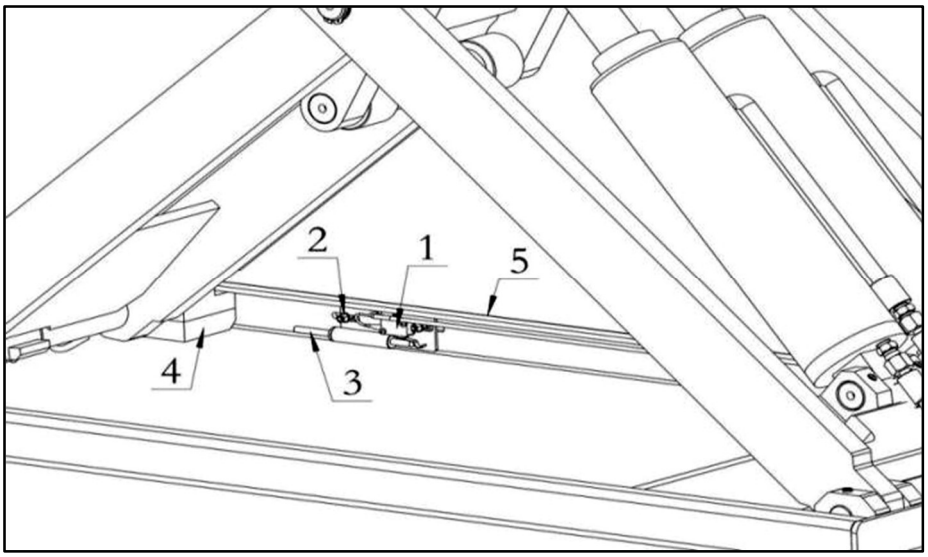
3.6. MICRO SWITCH ADJUSTMENT (RECESSED VERSIONS)

WARNING
This adjustment is required to ensure correct stop at maximum height and prevent scissor deformation.

Procedure:

1. Raise the lift to the maximum height.
2. Loosen the fixing screw (2).
3. Move the limit switch (1) forward until the actuator pin (3) touches the sliding block (4) and the limit switch is triggered.
4. Advance further by 5 mm and tighten the fixing screw (2).
5. Check proper operation by repeating the lifting cycle.

Fig. 3.8 – Micro Switch Adjustment for Recessed Version



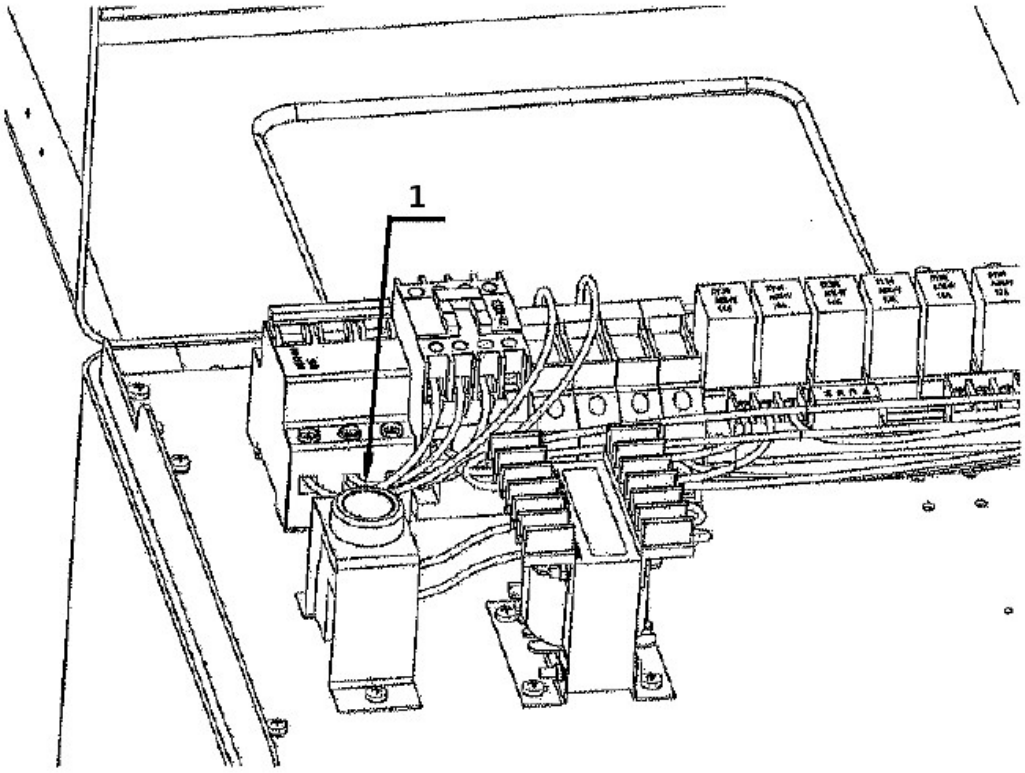
3.7. EXHAUST LEVELING

WARNING
Always perform leveling operations without load. Performing this procedure under load may cause hydraulic imbalance and damage.

This procedure ensures both platforms rise and descend evenly.

1. Press the UP button to raise the lift until the upper limit switch is triggered.
2. Open the control cabinet and press the adjustment button (1) to continue rising.

Fig. 3.9 – Adjustment Button



3. Observe the transparent return pipes connected to ports A1 and A2. When no air bubbles are visible, continue for about 10 seconds, then release the button.
4. Press the DOWN button to lower the lift.
5. Repeat steps 2–4 until levelling is complete.

Note: Exhaust leveling must always be carried out under no-load conditions.

3.8. LOAD TEST

WARNING
Do not perform load tests until all anchor bolts are fully tightened and the hydraulic system has been purged of air.

Before operating the lift, perform the following checks:

- Verify oil pipe connections.
- Ensure anchor bolts are securely fixed.
- Apply lubrication to all moving parts.

Test Procedure:

1. Perform 2–3 cycles of unloaded lifting and lowering.
2. If no abnormal noise or leakage is detected, proceed with loaded tests.
3. Check that both platforms reach the same height.
4. Verify control buttons and work cycle accuracy.
5. Confirm absence of oil leaks and unusual sounds.

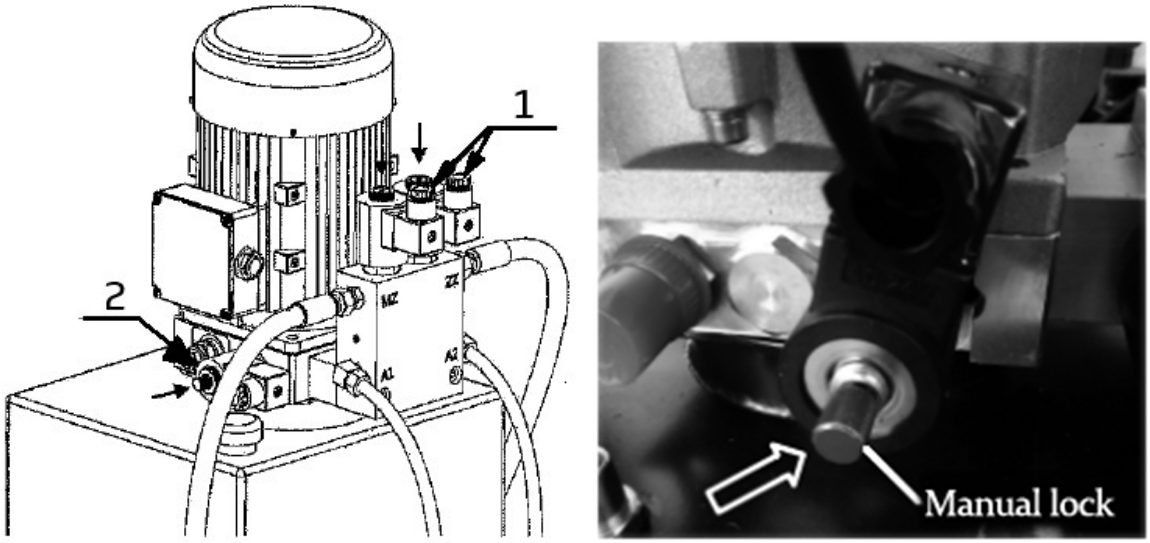
Once all tests are passed, the lift is ready for normal operation.

3.9. POWER FAILURE EMERGENCY OPERATION

WARNING
Before performing any emergency operation, make sure the area around the lift is clear of people and obstacles. Wear appropriate PPE (gloves, safety shoes).
DANGER
Never attempt this procedure while the lift is loaded with a vehicle or if you are not trained and authorized. Improper handling may cause sudden descent and serious injury.

This procedure must always be carried out under no-load conditions and without modifying or adjusting the valves beyond what is described. After completing the emergency lowering, inspect the hydraulic system for leaks or damage before resuming normal operation.

Figure 3.10 - Hydraulic System Principle



If a power failure occurs while the lift is raised, immediately switch OFF the main power switch to prevent unexpected power restoration. Then open the control cabinet and locate the cut-off valve (1) and the unloading valve (2) as shown in Fig. 3.8.

Using a suitable tool, press the spool of the cut-off valve (1) and at the same time press the end button of the unloading valve (2). The platforms will begin to lower slowly and evenly until they reach the lowest position.

Once the lift is fully lowered, release both spools to allow the valves to reset. Close the control cabinet and secure all components before restoring power.

4. OPERATION

4.1. GENERAL SAFETY WARNINGS

DANGER
Safety is the key during operation. Always check that the mechanical lock is engaged and functioning correctly before starting.
Never place hands, feet, or any part of the body between the platforms during lifting or before the mechanical lock is fully engaged.
Improper operation may result in serious injury or equipment damage.

WARNING
Do not use the lift to raise people or as a parking device.
Do not leave the vehicle lifted for extended periods.
Do not exceed the rated lifting capacity indicated on the nameplate.
Do not allow passengers to remain inside the vehicle while lifting.
Always check that the mechanical lock is engaged and functioning correctly before starting.

4.2. DS 249 OPERATION PROCEDURE

Fig. 4.1a – DS 249 Control Console (numbered elements)

1. Power Indicator Light – Shows when the lift is powered ON.
2. Main Power Switch – Turns the lift ON/OFF.
3. Buzzer – Sounds continuously during lowering to alert the operator. *(NOTE: This is a safety feature to warn personnel during descent.)*
4. UP Button – Raises the lift.
5. Key Switch for Photocell Activation – Turn left to activate the photocell, turn right to deactivate.
6. DOWN Button – Lowers the lift.

4.2.1. PHOTOCELL AND KEY FUNCTION (DS 249)

The photocell is a safety device that prevents the lift from lowering if an obstacle is detected in the descent area.

- Activation: Turn the key switch (5) to the left.
- Deactivation: Turn the key switch (5) to the right.

Always keep the photocell activated during normal operation for maximum safety.

Deactivate only for maintenance or troubleshooting when the area is clear.

4.2.2. LIFTING PROCEDURE

1. Turn ON the main power switch (2).
2. Check that the power indicator light (1) is ON.
3. Press the UP button (4) briefly to check synchronization of both platforms.
4. Drive the vehicle onto the platforms and position the rubber pads under the correct lifting points.
5. Press the UP button (4) to raise the lift to the desired height.
6. Release the button when the lift reaches the required position for repair or inspection.
7. Ensure the mechanical lock engages automatically.

4.2.3. LOWERING PROCEDURE

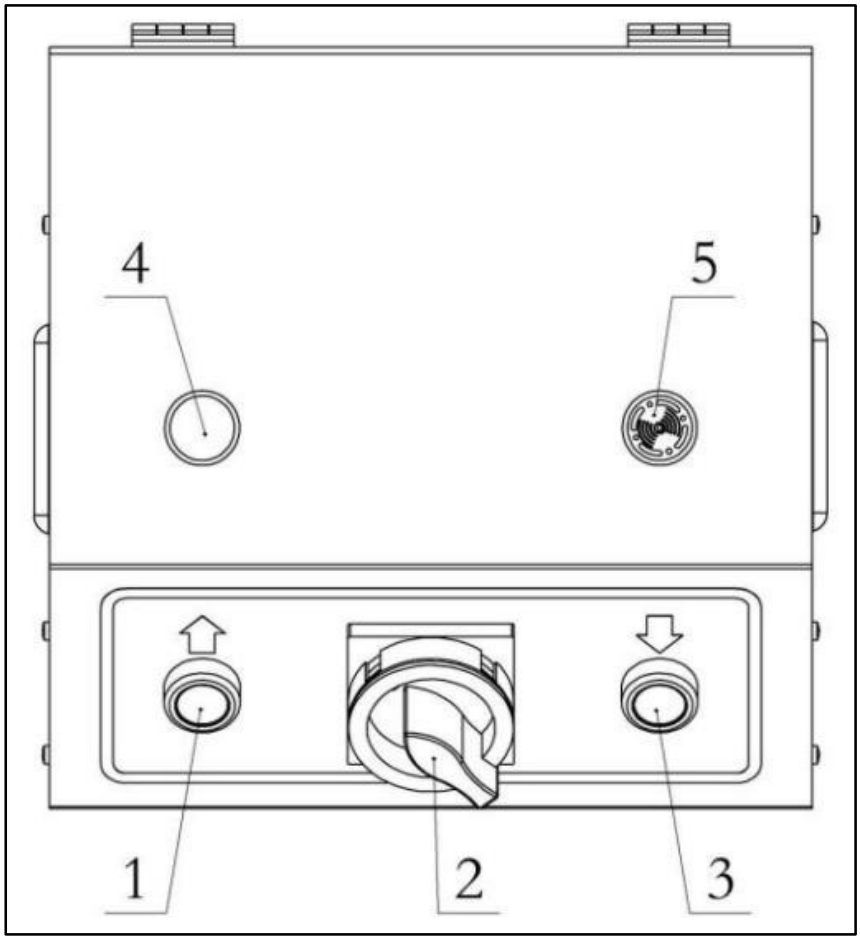
1. Remove all tools and obstacles from under and around the lift.
2. Ensure the photocell is activated using the key switch (5) and the descent area is clear.
3. Press the DOWN button (6) to lower the platforms completely.
4. The buzzer (3) will sound continuously during lowering to alert personnel.
5. Wait until the lift reaches the lowest position before driving the vehicle off.
6. Turn OFF the main power switch (2) and disconnect the air compressor.
7. Switch OFF the main electrical breaker.

4.2.4. SAFETY NOTES DURING OPERATION

- Never force the lift to operate beyond its design limits.
- Do not modify or disable safety devices.
- Do not open the control box unless necessary for authorized maintenance.
- Always face the lift during lifting and lowering operations.
- Do not use the lift in wet or humid conditions to avoid electrical hazards.

4.3. DS 259 OPERATION PROCEDURE

Fig. 4.1B – DS 259 Control Console (numbered elements)



1. UP Button – Raises the lift.
2. Main Power Switch – Turns the lift ON/OFF.
3. DOWN Button – Lowers the lift.
4. Power Indicator Light – Shows when the lift is powered ON.
5. Buzzer – Sounds continuously during lowering to alert the operator. *(NOTE: This is a safety feature to warn personnel during descent.)*

4.3.1. LIFTING PROCEDURE

1. Turn ON the air compressor and ensure it reaches the required working pressure (0.5–0.8 MPa).
2. Turn ON the electrical power supply and check that the indicator light is ON.
3. Press the UP button briefly to activate the hydraulic pump and check the height level of both platforms.
    i. If the platforms are not level, perform the exhaust leveling operation as described in section 3.7 “Exhaust Leveling”.
4. Press the DOWN button to lower the platforms completely to the lowest position.
5. Drive the vehicle onto the platforms and place the rubber pads under the correct lifting points.
6. Press the UP button briefly to check stability. If everything is correct, press the UP button continuously to raise the lift to the desired height.
7. Release the button when the lift reaches the position suitable for repair or inspection.
8. Begin repair or testing operations.

4.3.2. LOWERING PROCEDURE

1. After finishing repair or testing, check and ensure there are no obstacles under or around the lift.
2. Press the DOWN button to lower the platforms completely to the lowest position.
    i. Pay attention that both platforms descend simultaneously during operation.
3. Drive the vehicle off the lift.
4. Turn OFF the power supply and the air compressor.
5. Switch OFF the main electrical breaker.
6. The operation is complete.

4.3.3. SAFETY NOTES DURING OPERATION

- Never operate the lift without reaching the required air pressure.
- Do not allow untrained personnel to use the equipment.
- Always check synchronization of both platforms before lifting a vehicle.
- Ensure the working area is clear before lowering the lift.
- Do not modify or disable any safety devices.

5. MAINTENANCE

5.1. INTRODUCTION AND GENERAL WARNINGS

Regular maintenance of the double-scissor lift is essential to ensure safety, reliability, and long-term performance.

All operations must be carried out by qualified personnel, following the instructions in this chapter and complying with safety regulations.

General warnings:

DANGER
Before any maintenance work, disconnect the power supply and secure the lift in a safe position.
Do not modify original components or bypass safety devices.
In case of serious anomalies, do not use the lift and contact authorized technical service.
WARNING
Always use personal protective equipment (gloves, goggles, safety shoes).
Do not perform maintenance while the lift is raised or loaded.

5.2. CHECKLIST OF CONTROLS AND ACTIONS

5.2.1. SAFETY DEVICES

DANGER
Before performing these checks, make sure the lift is disconnected from the power supply.

- Check the correct operation of photocells and locking devices.
- Inspect the safety key and manual release system.
- Ensure that warning labels are legible and intact.

5.2.2. MECHANICAL COMPONENTS

DANGER
Do not stand under the lift while inspecting structural parts.

- Check condition of scissor arms, welds, and bolts.
- Verify absence of deformation or cracks on load-bearing structures.
- Tighten pins and screws every 15 days.
- Check whether hinge shaft set screws are loose and shafts are correctly positioned (every half month).
- Lubrication: apply lubricant to indicated points (hinges, pins) every 15 days.
- Keep rollers and sliders clean and lubricated.
- Replace sliders every year or more frequently if heavily used.

5.2.3. ELECTRICAL COMPONENTS

DANGER
All checks must be carried out with the electrical circuit disconnected.

- Inspect electrical cables for wear or damage.
- Verify the functionality of the control console and buttons.
- Check the control unit and internal connections.
- Keep the control panel dry and clean. Avoid dust entering the electromagnetic valve and hydraulic oil box.
- Do not place objects on the operation panel to prevent accidental activation and damage to buttons or indicator lights.

5.2.4. LUBRICATION AND CLEANING

WARNING
Use only lubricants and cleaning products compatible with the manufacturer's specifications.

- Keep surfaces clean from dust, oil, and residues.
- Avoid aggressive solvents that may damage paint or components.
- Clean oil filter every season using kerosene and a brush; replace if damaged.
- Clean pneumatic two-stage filter regularly.

5.2.5. HYDRAULIC OIL

- Use ISO VG 46 (H46) high-pressure anti-wear hydraulic oil from certified manufacturers.
- In cold environments, replace with ISO VG 32 to prevent slow descent.
- Quantity: approx. 14 liters for DS 249, 6 liters for DS 259.
- Replace oil every 3 months initially, then every 6–10 months depending on usage.
- Release used oil thoroughly before refilling.
- Check oil level regularly and refill when low. Do not allow foreign matter to enter the tank.

5.2.6. FUNCTIONAL TESTS

WARNING
Perform tests without load and in an area free of obstacles.

- Check the condition of scissor arms, welds, and bolts.
- Verify the absence of deformation or cracks on load-bearing structures.
- Check the tightening of pins and screws.

5.3. RESIDUAL RISKS

Despite all safety measures, residual risks remain, such as:

- Crushing during scissor movement.
- Falling of improperly positioned loads.
- Electrical hazards in case of improper maintenance.

To minimize these risks, strictly follow the instructions and use only original spare parts.

5.4. SAFETY CAUTIONS

- If local voltage fluctuations exceed 10%, install a voltage regulator.
- Do not damage hydraulic or pneumatic pipelines to avoid accidents caused by pressure loss.
- After installing or repairing the power supply for the first time, confirm motor rotation (see section 3.5.4 Power Connection). Reverse rotation is strictly forbidden to avoid pump damage.
- Locking operation must be performed before repairing or testing to ensure safety lock engagement.
- The time relay in the control cabinet should be set between 1.5 and 2 seconds. Do not change settings arbitrarily (some models do not have this configuration).
- In case of power failure when the lift is raised:
  1. Turn OFF the power switch to prevent sudden restart.
  2. Use the manual lock nut to slowly lower the platform.
  3. Tighten screws and cap nuts after lowering.
- Relief valve and throttle valve adjustments:
  1. Relief valve increases pressure when screw is turned in, decreases when turned out.
  2. Throttle valve slows lowering speed when screw is turned in, speeds up when turned out.

Note: Valves are factory-set. Do not adjust freely for safety reasons.

6. COMMON FAULTS AND SOLUTIONS

Breakdowns	Reasons	Solutions
1. The motor runs, but there is no hydraulic pressure.	1. Insufficient hydraulic oil in the pump. 2. The oil filter is clogged. 3. Air trapped in hydraulic lines or connections. 4. The relief valve is leaking.	1. Add sufficient hydraulic oil. 2. Clean the filter thoroughly. 3. Bleed the system, tighten leaking connections. 4. Replace the overflow valve seal.
2. No electrical power.	The motor is running in reverse or there is a missing phase.	Check the three-phase power supply and wiring.
3. Correct lowering procedure performed, but no response.	1. The control valve is jammed. 2. Unloading solenoid valve is blocked or damaged.	1. Remove and clean the control valve. 2. Clean or replace damaged solenoid valve.
4. Lift does not raise.	1. Faulty button. 2. Solenoid valve does not operate. 3. Control valve is jammed.	1. Inspect or replace the button. 2. Check the solenoid valve and wiring. 3. Remove and clean the control valve.
5. Hydraulic system pressure below 20 MPa (for DS 249), lift cannot raise vehicle. (18 MPa for SXSJ3520)	1. Seals of the Non-return Valve or relief valve are damaged. 2. Lack of hydraulic oil.	1. Inspect seals of non-return and relief valves. 2. Add hydraulic oil.
6. Lift shakes and it is difficult to level.	Air trapped in the hydraulic circuit.	Raise the main cylinder to the highest position and the auxiliary cylinder to the lowest, then disconnect pipe connections to bleed air.
7. Heavy vehicle cannot be lifted.	Insufficient hydraulic pressure.	The Common pressure is 18Mp. Adjust hydraulic system pressure to 21 MPa (DS 249) for heavy vehicles, then restore to normal after lowering. (25MPa for SXSJ3520)
8. The button does not work.	There is an open circuit	Check if circuit connections are loose.
9. The safety lock does not engage.	There is a short circuit	Inspect for short circuit in the control circuit.
10. Lift does not lower / safety lock not released.	1. Time relay (KT) incorrectly set. 2. Solenoid unloading valve (YA) malfunction. 3. Insufficient pneumatic pressure.	1. Check time relay setting (1.5–2 s, do not alter without authorization). 2. Inspect solenoid unloading valve and wiring. 3. Check air pressure and pneumatic filter.
11. Mechanical lock does not open.	1. Delay relay incorrectly set. 2. Damaged cylinder. 3. Broken pneumatic solenoid valve.	1. Adjust delay relay to 1.5–2 seconds. 2. Check cylinder operation. 3. Inspect pneumatic solenoid valve.

7. EC DECLARATION FAC-SIMILE

SUNSHINE **Yantai Haide Science and Technology Co., Ltd.**

Tel: 0086 535 6853129 Add: NO.14 Wuxi Road, Development Zone, Yantai city, Shandong, P. R. China

EC Declaration of Conformity

CE

THE EQUIPMENT WHICH ACCOMPANIES THIS DECLARATION IS IN CONFORMITY WITH

EUDIRECTIVE(S):

2006/42/EC Machinery Directive

MANUFACTURER:

Name: Yantai Haide Science and Technology Co., Ltd.

Address: NO.14 Wuxi Road, Development Zone, Yantai city, Shandong, P. R. China

DECLARE UNDER OUR SOLE RESPONSIBILITY THAT THE FOLLOWING QUIPMENT:

SMALL SCISSOR LIFT

Capacity 3500kg, dual platform chassis supporting scissor lit with load bearing platform extension and pneumatic safety catch, dual hydraulic supporting system.

MODEL: SXJS3519 **SERIAL NUMBER: xxxx**

25 mean the year, E mean the month of May, 66 mean the the Production serial number.

J mean the operator for Assembly.

TO WHICH THE PRESENT DECLARATION REFERS, SUITS THE ESSENTIAL HEALTHAND SAFETY REQUIREMENTS LAID DOWN IN DIRECTIVE 2006I42/EC AND THEFOLLOWING LEGISLATIVE RULES AND PRODUCT HARMONIZED NORMS:

- ***DIRECTIVE 2014/30/EU (ELETTROMANGETIC COMPATIBLY).***
- ***DIRECTIVE 2006/42/EC (MACHINES SECURITY)***
- ***DIRECTIVE 2014/35/EU (LOW VOLTAGE)***

SUNSHINE **Yantai Haide Science and Technology Co., Ltd.**

Tel: 0086 535 6853129 Add: NO.14 Wuxi Road, Development Zone, Yantai city, Shandong, P. R. China

THE FOLLOWING NORMATIVE DOCUMENTS AND TECHNICAL SPECIFICATIONS HAVE BEEN USED TO VERIFY THE COMPLIANCE WITH THE LEGISLARIVE RULES:

EN 1493:2010	EN ISO 13857:2019	EN ISO 13854:2019
EN 60947-5-1/AC:2020	EN ISO 13849-1:2015	EN ISO 4413:2010
EN ISO 12100:2010	EN ISO 3746:2010	EN 10025-2:2019
EN ISO 683-2:2018	EN IEC 61000-6-2:2019	EN IEC 61000-6-4:2021
EN 60204-1:2018	EN ISO 11202:2010	EN ISO 683-1:2018
EN ISO 13850:2015	EN ISO 4414:2010	

Place: Yantai
Production Date:_____

AUTHORISED SIGNATORY OF MANUFACTURER:
Yantai Haide Science and Technology Co., Ltd.

Mr. *Zhang Niankun*
General manager

Signatory:

FOR MD ANNEX IV MACHINERY

A sample of this machinery has been presented to a Notified Body for CE Marking No. 2834:

CCQS, Certification Services Limited

Block 1 Blanchardstown Corporate Park, Ballycoolin Road, Blanchardstown, Dublin 15, D15 AKK1,

Ireland.

who has issued an EC type-examination certificate.

The number is CE-MC-220301-007-16-5A, date 2022.07.

The equipment in respect of which this declaration is made conforms to the example to which that certificate relates, and that certificate remains valid."

SUNSHINE Yantai Haide Science and Technology Co., Ltd.
Tel: 0086 535 6853129 Add: NO.14 Wuxi Road, Development Zone, Yantai city, Shandong, P. R. China

EC Declaration of Conformity

CE

THE EQUIPMENT WHICH ACCOMPANIES THIS DECLARATION IS IN CONFORMITY WITH

EUDIRECTIVE(S):

2006/42/EC Machinery Directive

MANUFACTURER:

Name: Yantai Haide Science and Technology Co., Ltd.

Address: NO.14 Wuxi Road, Development Zone, Yantai city, Shandong, P. R. China

DECLARE UNDER OUR SOLE RESPONSIBILITY THAT THE FOLLOWING QUIPMENT:

SMALL SCISSOR LIFT

Capacity 3200kg, dual platform chassis supporting scissor lit with load bearing platform extension and pneumatic safety catch, dual hydraulic supporting system.

MODEL: SXJS3210 **SERIAL NUMBER: xxxxx**

25 mean the year, E mean the month of May, 66 mean the the Production serial number.

J mean the operator for Assembly.

TO WHICH THE PRESENT DECLARATION REFERS, SUITS THE ESSENTIAL HEALTHAND SAFETY REQUIREMENTS LAID DOWN IN DIRECTIVE 2006I42/EC AND THEFOLLOWING LEGISLATIVE RULES AND PRODUCT HARMONIZED NORMS:

- ***DIRECTIVE 2014/30/EU (ELETTROMANGETIC COMPATIBLY).***
- ***DIRECTIVE 2006/42/EC (MACHINES SECURITY)***
- ***DIRECTIVE 2014/35/EU (LOW VOLTAGE)***

SUNSHINE Yantai Haide Science and Technology Co., Ltd.
Tel: 0086 535 6853129 Add: NO.14 Wuxi Road, Development Zone, Yantai city, Shandong, P. R. China

THE FOLLOWING NORMATIVE DOCUMENTS AND TECHNICAL SPECIFICATIONS HAVE BEEN USED TO VERIFY THE COMPLIANCE WITH THE LEGISLARIVE RULES:

EN 1493:2010	EN ISO 13857:2019	EN ISO 13854:2019
EN 60947-5-1/AC:2020	EN ISO 13849-1:2015	EN ISO 4413:2010
EN ISO 12100:2010	EN ISO 3746:2010	EN 10025-2:2019
EN ISO 683-2:2018	EN IEC 61000-6-2:2019	EN IEC 61000-6-4:2021
EN 60204-1:2018	EN ISO 11202:2010	EN ISO 683-1:2018
EN ISO 13850:2015	EN ISO 4414:2010	

Place: Yantai
Production Date:_____

AUTHORISED SIGNATORY OF MANUFACTURER:
Yantai Haide Science and Technology Co., Ltd.

Mr. *Zhang Niankun*
General manager

Signatory:

FOR MD ANNEX IV MACHINERY

A sample of this machinery has been presented to a Notified Body for CE Marking No. 2834:

CCQS, Certification Services Limited

Block 1 Blanchardstown Corporate Park, Ballycoolin Road, Blanchardstown, Dublin 15, D15 AKK1,

Ireland.

who has issued an EC type-examination certificate.

The number is CE-MC-220301-007-16-5A, date 2022.07.

The equipment in respect of which this declaration is made conforms to the example to which that certificate relates, and that certificate remains valid."

8. PACKING LIST

Model No.: DS 249

No.	Component Name	Model	Quantity	Notes
1	Main Lifting Platform	DS 249	2	
2	Control Box	-	1	
3	Thick Rubber Pad	163x120x65	4	
4	Thin Rubber Pad	168x125x25	4	
5	Expansion Bolts	M16x120	8	
6	Expansion Screw	M6x50	24	With plastic expansion pipe
7	U-shaped Gasket	-	16	
8	Cable Ties	-	10	
9	Lubricant bag	-	1	
10	Oil Pipe Channels	900mm	1	
11	Oil Pipe Channels	650mm	3	
12	Oil Pipe Channels	590mm	2	
13	Manual	-	1	

Packed By:

Packing Date:

Inspected By:

Inspection Date:

Model No.: DS 259

No.	Component Name	Model	Quantity	Notes
1	Main lift	DS 259	2	
2	Motor		1	
3	Thick rubber pad	163*120*65	4	
4	Thin rubber pad	168*125*25	4	optional
5	Water separator		1	
6	Compound pad	Φ14	10	
7	Expansion bolt	M16x120	8	
8	Pad		16	
9	Plastic band		20	
10	Expansion bolt	M6x50	18	
11	Oil pipe cover		5	
12	Inspection report		1	
13	Manual	-	1	

Packed By:

Packing Date:

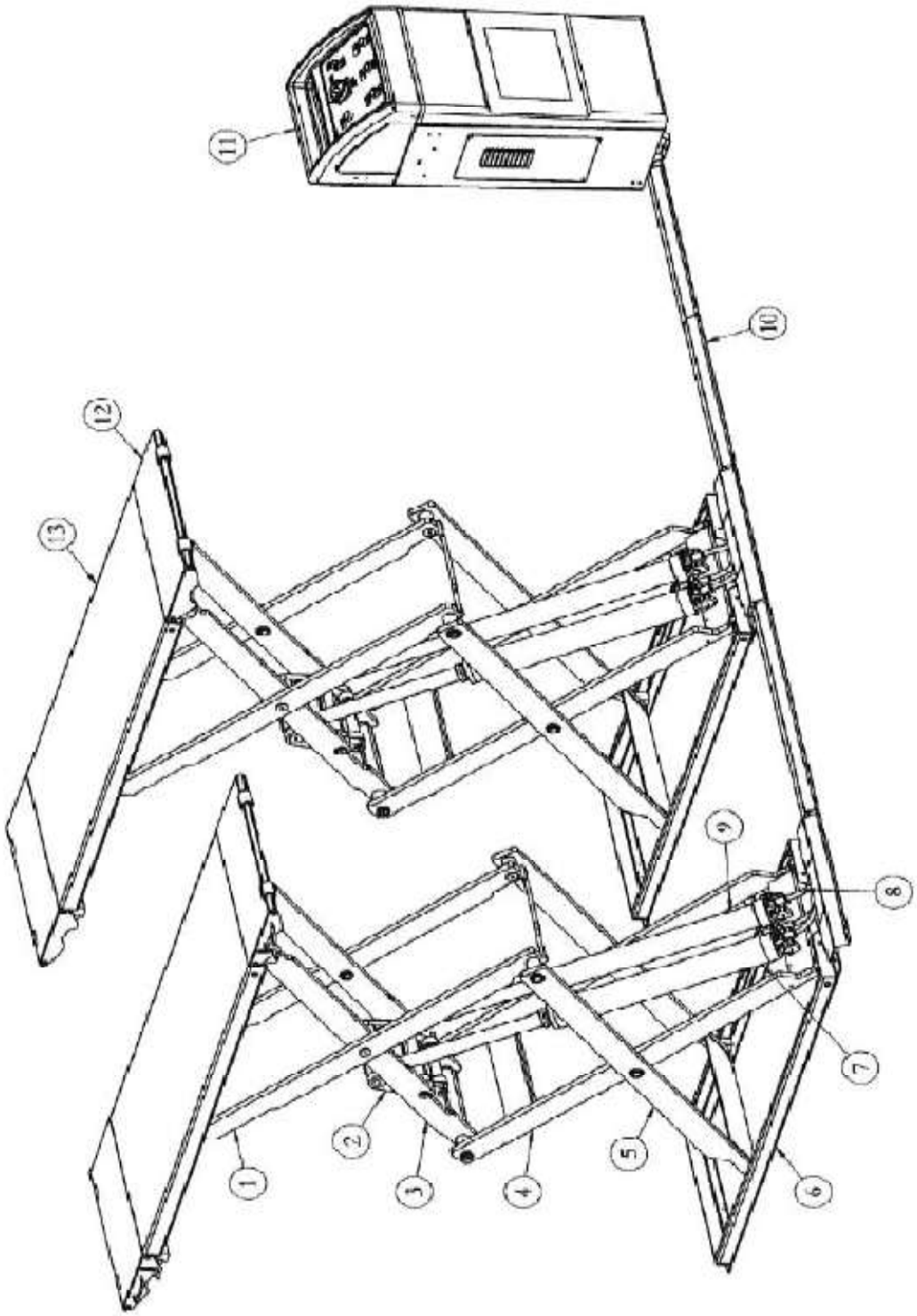
Inspected By:

Inspection Date:

9. EXPLODED DIAGRAMS:

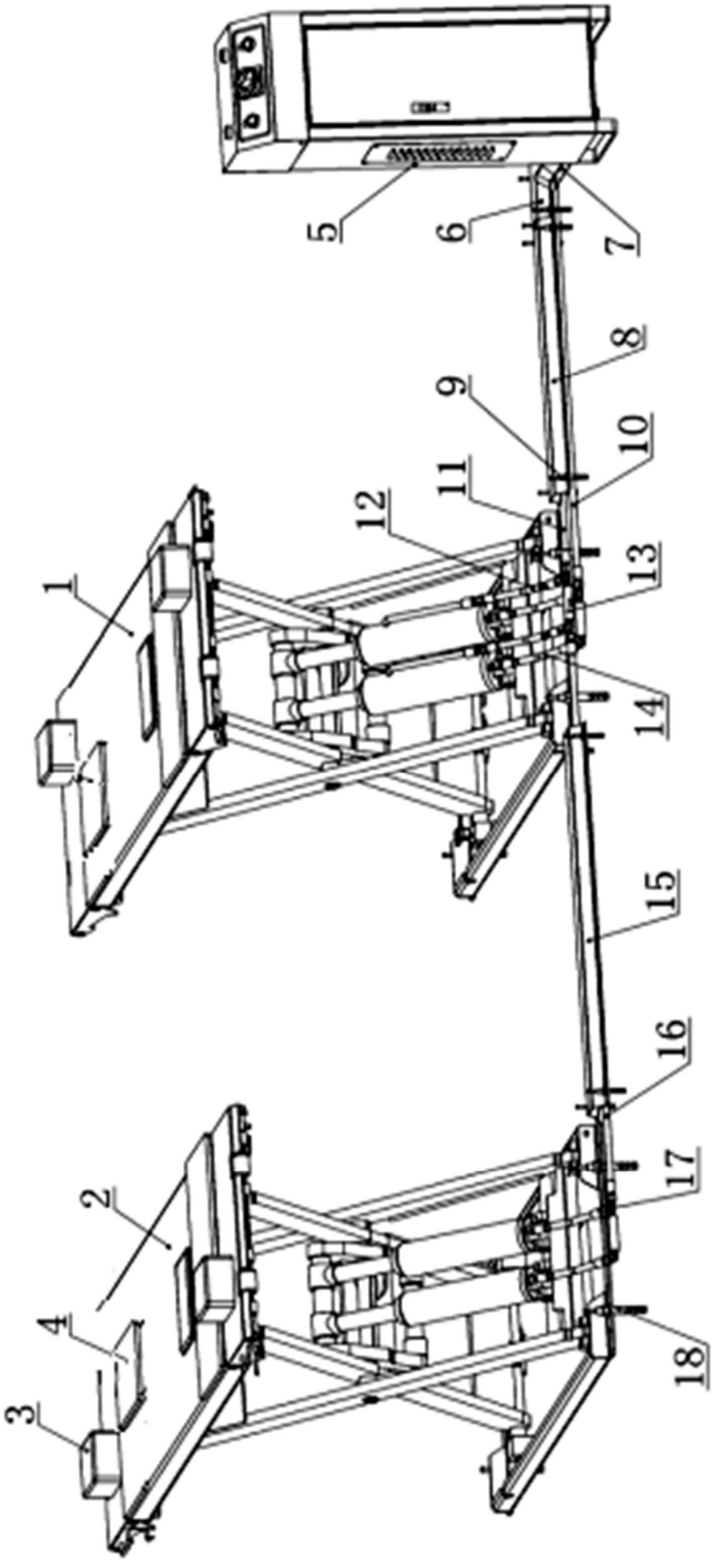
9.1. DOUBLE SCISSOR LIFT

Figure 9.1a: Exploded view of DS 249 model



No.	Code	Drawing No. / Specification	Name	Quantity	Note
1	91040720200	SXJS3519-06-00	Upper external shears	2	
2	g1040750800	SXJS3519-04-00	Flip frame	2	
3	91040720100	SXJS3519-07-00	Upper internal shears	2	
4	91040720300	SXJS3519-03-00	Lower internal shears	2	
5	91040720400	SXJS3519-02-00	Lower external shears	2	
6	91040730100	SXJS3519-01-00	Base board	2	
7	14020403007	D80xD38x553	Main cylinder	2	
8	91040750900		Hydraulic oil pipe	6	
9	14020403008	D70xD38x553	Sub-cylinder	2	
10	91040761103	SXJS3519-00-17	Cable protector 900	1	
11	16200402001	SXJS3019	Control cabinet	1	
12	91040750700	SXJS3519-09-00	Small ramp	4	
13	91040710100	SXJS3519-08-00	Lifting platform	2	

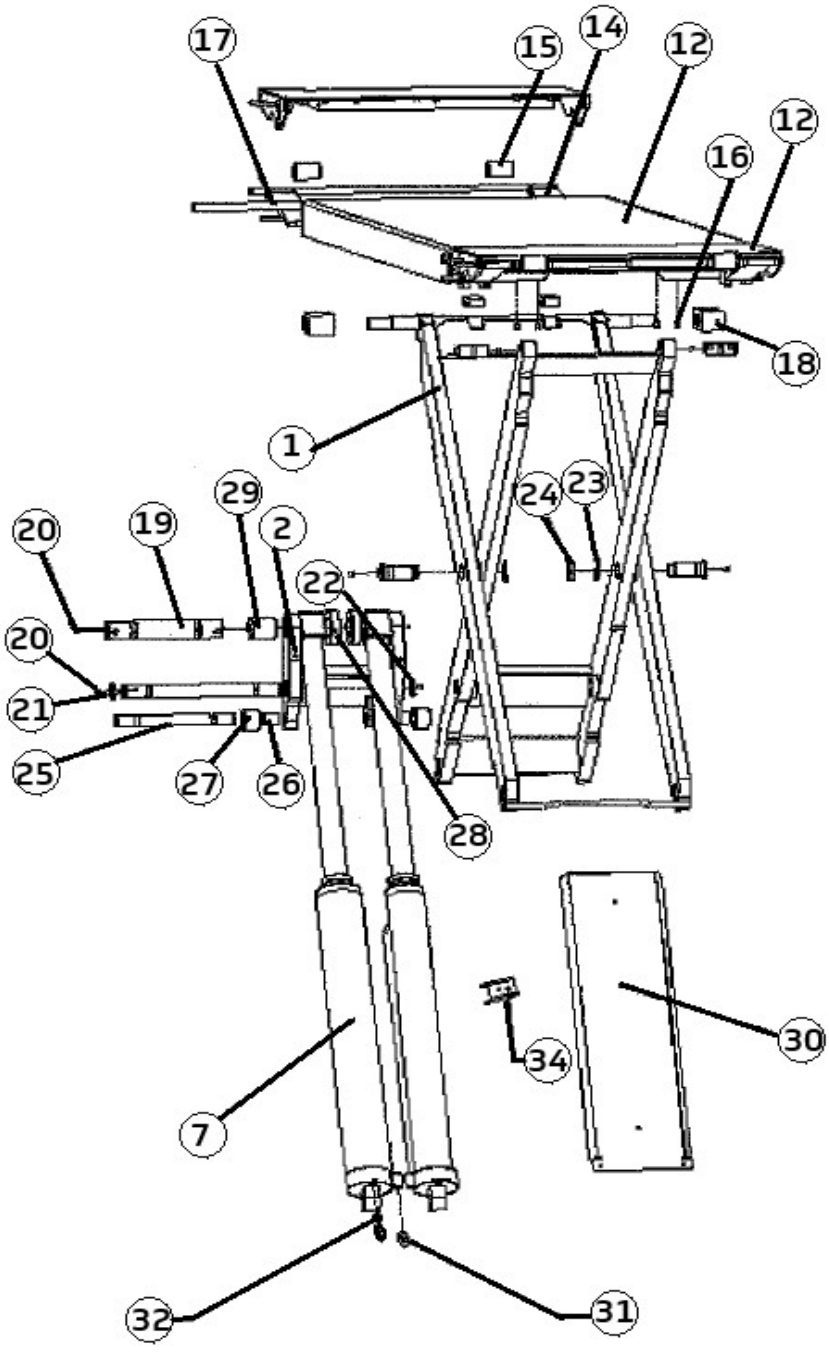
Figure 9.1b: Exploded view of DS 259 model



No	Material code	Specification	Name	Quantity	Remark
1	91040961401		Main platform	1	
2	91040961402		Sub platform	1	
3	16050400052	163*120*65	Thick rubber pad	4	
4	16050400053	168*125*25	Thin rubber pad	4	
5	16200402005	DS 259	Cabinet	1	
6	91040261107	SXJS3019-11-11	Oil pipe cover -right angle	1	
7	91040261102	SXJS3019-11-09-2	Oil pipe cover 800	1	
8	91040261101	SXJS3019-11-09-1	Oil pipe cover 650	1	
9	12030300006	M6x50	Expansion bolt	16	
10	14020201006	2800	Hydraulic oil pipe	1	
11	14020201006	2800	Hydraulic oil pipe	1	
12	14020204003	300	Hydraulic oil pipe	4	
13	15030100015	SXJS3019-00-80	Connector 60	1	
14	14020204028	320	Hydraulic oil pipe	2	
15	91040261103	SXJS3019-11-09-3	Oil pipe cover 900	1	
16	14020204004	1400	Hydraulic oil pipe	1	
17	15030300001	M14x1.5	T connector	4	
18	12030300002	M16*120	Expansion bolt	8	

9.2. PLATFORM/ UPPER SHEAR ARM AND OIL CYLINDER (DS 249)

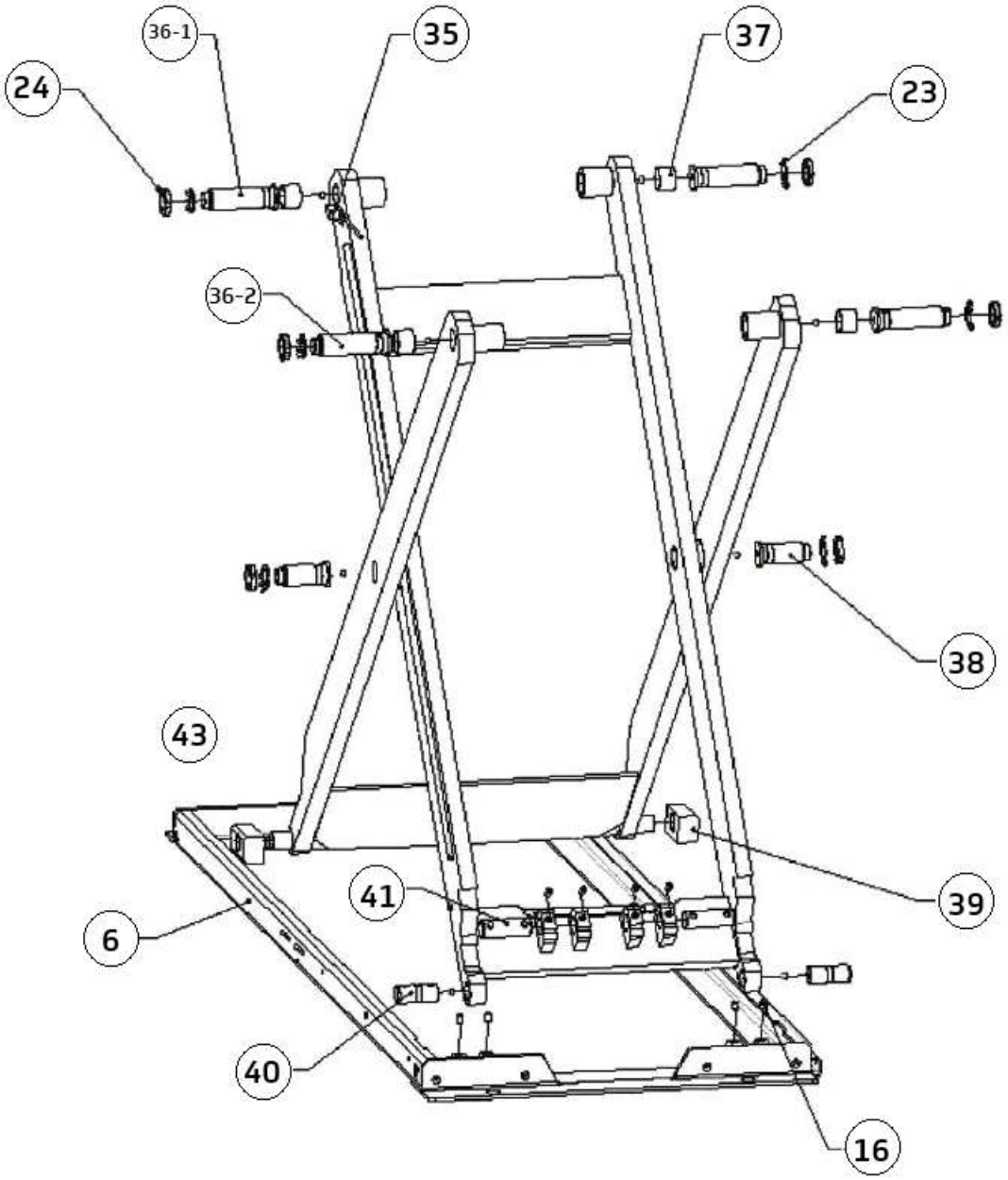
Fig.9.2: Exploded diagram of platform/ upper shear arm and oil cylinder



No.	Code	Drawing No. / Specification	Name	Qty
14	91040750500	SXJS3519-10-00	Ramp bracket	4
15	21060300007	SXJS3519-00-15	Ramp nylon roller	8
16	12020400034	M8x10	Hexagon flat end fastening screw	32
17	91040760110	SXJS3519-00-09	Ramp axle pin	8
18	91040760303	SXJS3519-00-11	Platform slider	4
19	91040760104	SXJS3519-00-04	Cylinder head shaft	2
20	14020100001	D8	Direct Pressure Oil Grease Cup	40
21	91040760103	SXJS3519-00-03	Flip frame middle axle	2
22	12090100004	D30X1/2	Elastic ring for shaft	4
23	12010400004	24x1	Stop gasket for round nut	16
24	12010300001	M24x1.5	Small round nut	16
25	91040760102	SXJS3519-00-02	Flip frame roller	2
26	91040762001	SXJS3519-00-22	Flip frame roller bearing	4
27	91040760601	SXJS3519-00-12	Flip frame roller	4
28	91040760602	SXJS3519-00-19-A	Cylinder head shaft auxiliary roller	4
29	91040760201	SXJS3519-00-14-A	Cylinder head shaft spacer	2
30	91040760701	SXJS3519-00-18-A	Oil cylinder cover plate	2
31	91040761303	SXJS3519-00-21-A	Barrel connector	6
32	21020300122	M14x1.5	Explosion proof - Valve	4
33	91040760108	SXJS3519-00-08-A	Upper shearing arm middle axle	4
34	91040760702	SXJS3519-00-27-A	Cylinder cover plate holder	4

9.3. BASE AND LOWER SCISSOR ARMS (DS 249)

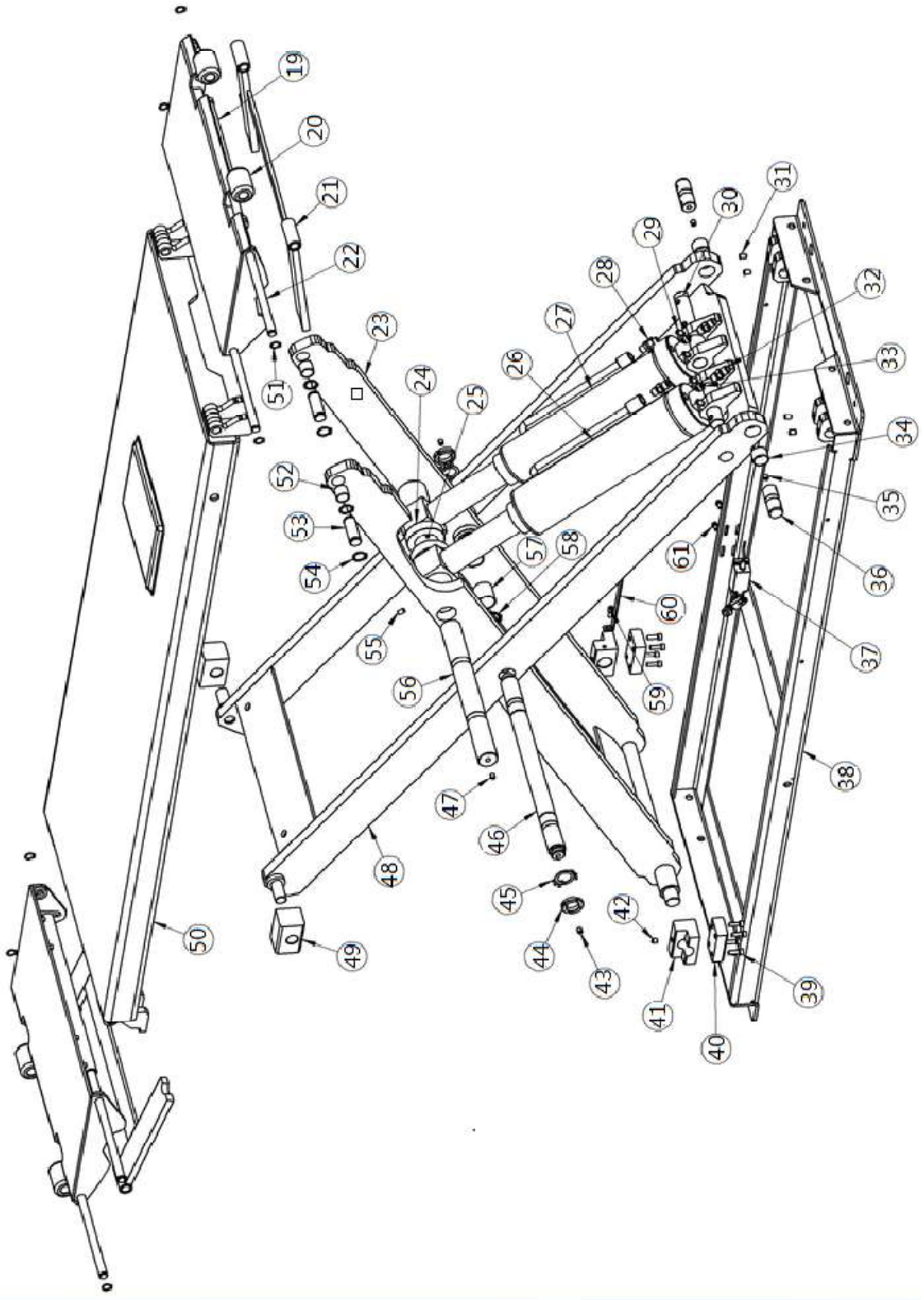
Fig.9.3: Explosive diagram of base and lower scissor arms



No.	Code	Drawing No. / Specification	Name	Qty	Note
35	11110100030	OS10-RCN6	Miniature photoelectric switch	1	
36-1	91040760105	SXJS3519-00-05-A	Connecting short axle – inner	4	
36-2	91040760106	SXJS3519-00-30-A	Connecting short axle – outer	4	
37	91040762002	SXJS3519-00-22-A	Shear arm connecting shaft bearing	8	
38	91040760109	SXJS3519-00-26-A	Lower shear arm axle	4	
39	91040760302	SXJS3519-00-10-A	Base slider	4	
40	91040760101	SXJS3519-00-01-A	Platform base hinge	8	
41	91040760107	SXJS3519-00-06-A	Cylinder base axle	4	

9.4. EXPLODED VIEW OF PARTS (DS 259)

Fig.9.4: Explosive view of parts

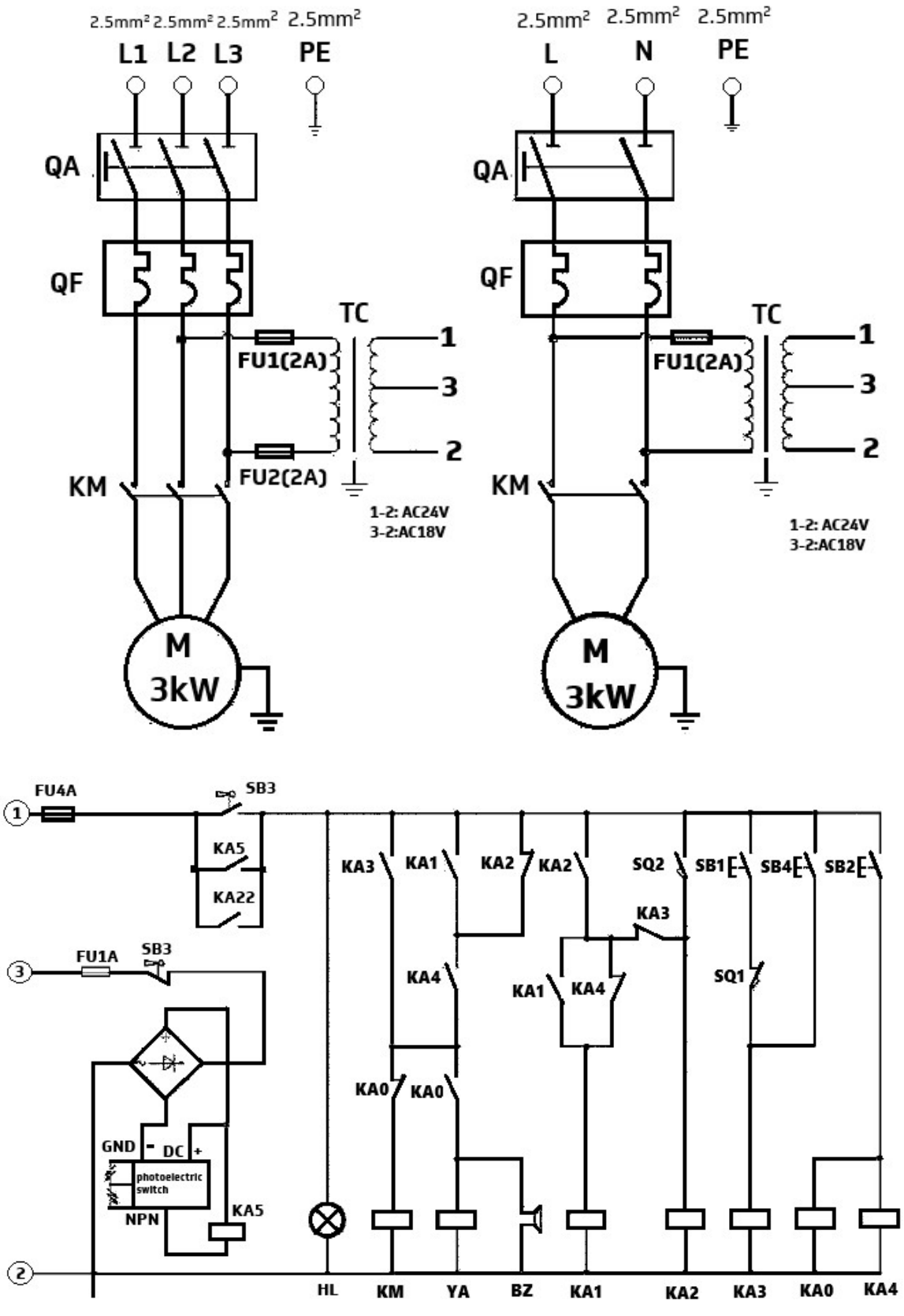


No	Material code	Specification	Name	Quantity
19	91040950700	SXJS3210X-05-00	Ramp	4
20	91040961310	SXJS4023-18-05	Ramp nylon roller	8
21	91040950500	SXJS3210X-06-00	Ramp support	4
22	91040960104	SXJS3210X-00-04	Ramp roller axis	8
23	91040920100	SXJS3210X-03-00	Inner scissor	2
24	91040961305	SXJS3210X-00-09	Ramp head axis roller	4
25	91040961304	SXJS3210X-00-08	Ramp head axis spacer	2
26	14020407017	ϕ75xϕ45x213	3210X main cylinder	2
27	14020407018	ϕ60xϕ45x213	3210X sub cylinder	2
28	15030100002	M14*1.5	Right angle connector	4
29	12020400013	M8*12	Inner hexagon bolt	8
30	91040960106	SXJS3519-00-06-A	Cylinder base axis	4
31	12020400013	M8*12	Inner hexagon flat lock bolt	8
32	15030100002	M14*1.5	Straight connector	4
33	21020300122		Anti explosion valve	4

No	Material code	Specification	Name	Q.ty
34	91040962002	SXJS3210X-00-22	Self lubrication bearing 282520	4
35	14020100001	ϕ8	Straight-through pressure oil cup	4
36	91040960105	SXJS3219-00-01-A	Platform base hinge	4
37	11110300004	8104	Limit switch	1
38	91040930100	SXJS3210X-02-00	Base	2
39	12020301020	M6*20	Inner round bolt	16
40	91040961302	SXJS3210X-00-06	Down slider inland nylon base	4
41	91040961303	SXJS3210X-00-07	Down slider inland nylon base	4
42	14020100001	ϕ8	Straight-through pressure oil cup	4
43	14020100001	ϕ8	Straight-through pressure oil cup	4
44	12010300001	M24*1.5	Round screw	4
45	12010400004	24*1	Round screw stop spacer	4
46	91040960102	SXJS3210X-00-02	Scissor middle axis	2
47	14020100001	ϕ8	Straight-through pressure oil cup	4
48	91040920200	SXJS3210X-04-00	Outer scissor	2
49	91040961301	SXJS3210X-00-05	Upper slider	4
50	91040910100	SXJS3210X-01-00	Lifting platform	2
51	12090100002	ϕ14x1	Retaining ring for shaft	16
52	91040962001	SXJS3210X-00-22	Inner scissor up axis Oil-free bearings	4
53	91040960103	SXJS3210X-00-03	Platform hinge shaft	4
54	12090100008	ϕ20x1	Circlips for axis	8
55	12020400013	M8*12	Inner hexagon flat lock bolt	4
56	91040960101	SXJS3210X-00-01	Cylinder head axis	2
57	91040962003	SXJS3210X-00-22	Inner scissor middle axis oil-free bearing	4
58	12090100004	ϕ30x1.2	Circle lip for axis	4
59	12020301031	M6*15	Inner hexagon round head bolt	8
60	91040961307	SXJS3210X-00-11	Limit switch board	1
61	12050201002	5	Flat washer	4

10. ELECTRICAL SCHEME

Fig. 10.1a: DS 249 Electrical Schematic Diagram

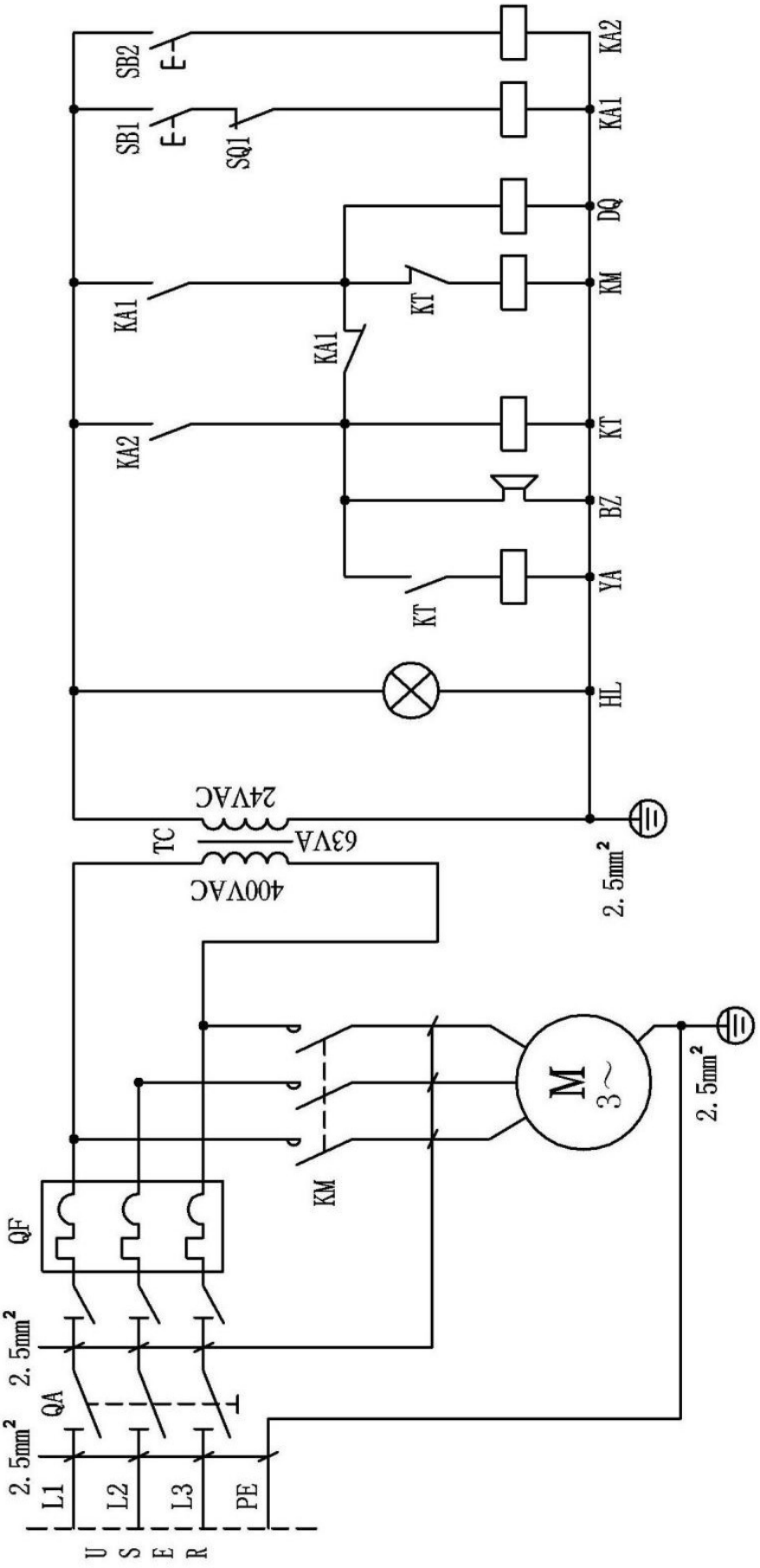


No.	Code	Description
1	QA	Main switch
2	QF	Circuit breaker
3	KM	AC contactor
4	TC	Transformer
5	HL	Indicator light
6	BZ	Buzzer
7	SB1	UP button
8	SB2	DOWN button
9	SB3	Latch button
10	SB4	Photoelectric switch knob
11	SQ1	Upper limit switch
12	SQ2	Lower limit switch
13	KA	Auxiliary relay
14	YA	Solenoid unloading valve
15	FU	Fuse

NOTES

- Ensure correct wiring for three-phase and single-phase circuits.
- Pay attention to polarity (Positive and Negative) when connecting the three-phase motor.
- The grounding connection of the entire circuit must be secure.
- Ground resistance must be less than 4 Ω.
- The input circuit for single-phase wiring must have a conductor diameter of at least 2.5 mm^2.

Fig. 10.1B: DS 259 Electrical Schematic Diagram



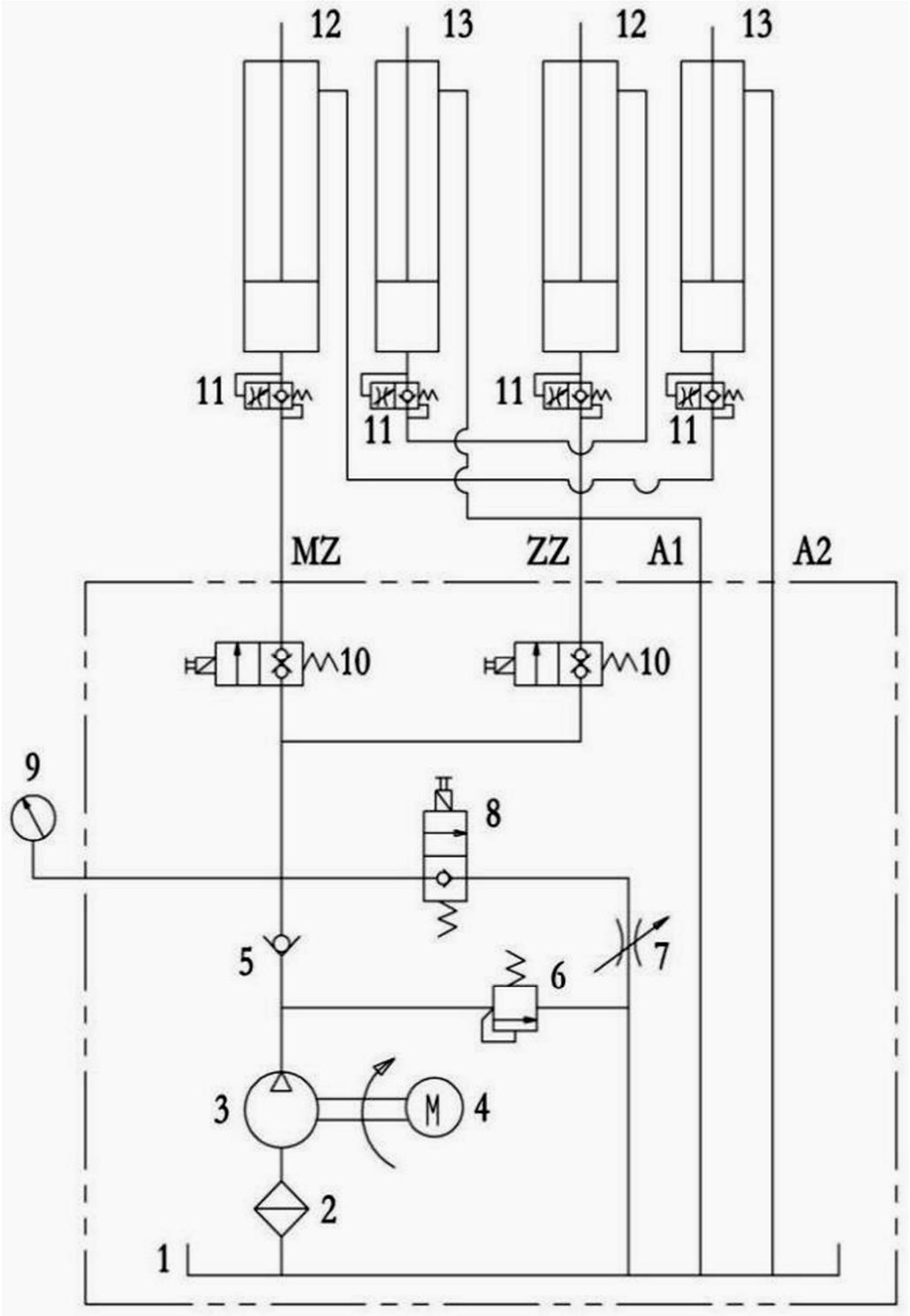
1. QA Combination switch
2. QF Air switch
3. SB1 Up button
4. SB2 Down button
5. KA Intermediate relay
6. KM AC contactor
7. KT Time relay
8. DQ Air valve coil
9. YA Relief valve coil
10. BZ Buzzer
11. TC Transformer
12. M Motor
13. HL Indicator light
14. SQ1 Limit switch

NOTES

- Ensure correct wiring for three-phase and single-phase circuits.
- Pay attention to polarity (Positive and Negative) when connecting the three-phase motor.
- The grounding connection of the entire circuit must be secure.
- Ground resistance must be less than 4 Ω.
- The input circuit for single-phase wiring must have a conductor diameter of at least 2.5 mm^2.

11. HYDRAULIC SYSTEM

Fig. 11.1: Hydraulic Diagram



No	Code	Name	Note
1	91040960811	Oil tank	
2	91040960812	Oil filter	
3	91040960813	Oil pump	
4	91040960814	Motor	
5	91040960815	One-way valve	
6	91040960816	relief valve	
7	91040960817	throttle valve	
8	91040960818	overflow valve	
9	91040960819	Pressure gauge	optional
10	91040960820	cut-off valve	
11	21020300122	Explosion proof valve	
12	14020407017	Main cylinder	
13	14020407018	Vice cylinder	

NOTES

- Ensure correct wiring for three-phase and single-phase circuits.
- Pay attention to polarity (Positive and Negative) when connecting the three-phase motor.
- The grounding connection of the entire circuit must be secure.
- Ground resistance must be less than 4 Ω.
- The input circuit for single-phase wiring must have a conductor diameter of at least 2.5 mm^2.
- For adjustment of the maximum valve and flow regulator, see sections 3.5.7 and 3.5.8.

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