

# RUNWAY SCISSOR LIFT

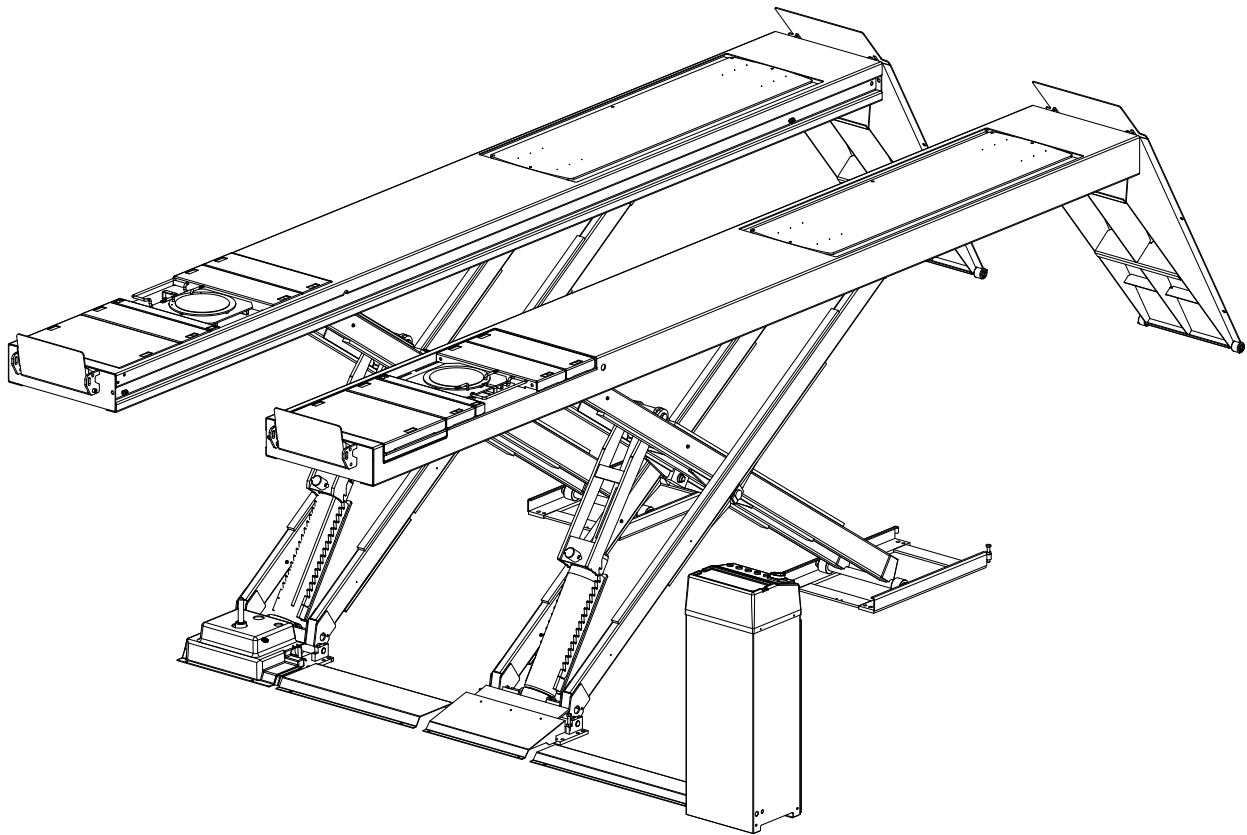
SURFACE AND FLUSH MOUNTED LIFT

(0000 SERIES)

14,000 lb. Capacity

(7,000 lbs. per axle)

INSTALLATION INSTRUCTIONS



## **⚠ IMPORTANT**

Reference ANSI/ALI ALIS,  
Safety Requirements for  
Installation and Service of Automotive Lifts  
before installing lift.

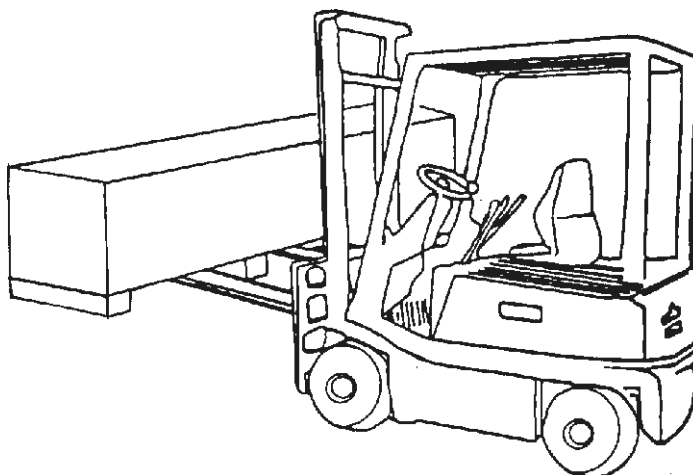
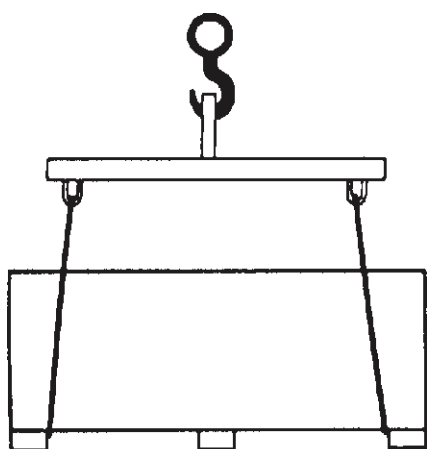
TECHNICAL SPECIFICATIONS	220V 60Hz 1Ph	220V 60Hz 3Ph	575V 60Hz 3Ph
Capacity	14,000 lbs (6,350 kg)		
Motor (kW)	3.6	3	3
Lifting time (") (with full load)	80	65	65
Descending time (") (with full load)	32	32	32
Weight (X14)	3,395 lbs (1,540 kg) 3,970 lbs (1,800 kg)		
Sound emission dB (A)	$\leq 70$		
Min. bay size	14' - 0" x 27' - 0" (4,267 x 8,230 mm)		
Air pressure	Min. 87 - Max. 145 psi (Min. 6 - Max.10 Bar)		
Max. oil pressure	3,916 psi (270 Bar)		

**Carefully hoist the different units and transport them to the position where lift will be unpacked.**

When moving the machine to the place of installation, or when re-locating it, make sure to follow these instructions:

1. Lift machine carefully with suitable equipment in good running order.
2. Use the pre-determined fixing points shown in Fig. 1.
3. Fit the prongs of the fork lift truck (of suitable capacity) centrally with respect to the length of the crate.
4. The prongs should project beyond the other side of the crate, so check that the rear of the package is free of obstacles.
5. Avoid sudden jolts and tugs, watch out for uneven surfaces, bumps etc.
6. Take special care with exposed parts: obstacles, difficult throughways, etc.
7. Wear suitable clothing and protective gear.
8. After removing the various packings, check that they are taken to special waste collecting areas inaccessible to children and animals where they will be disposed of.
9. On arrival, check that the packing has not been opened. Once unpacked, check that nothing has been damaged.

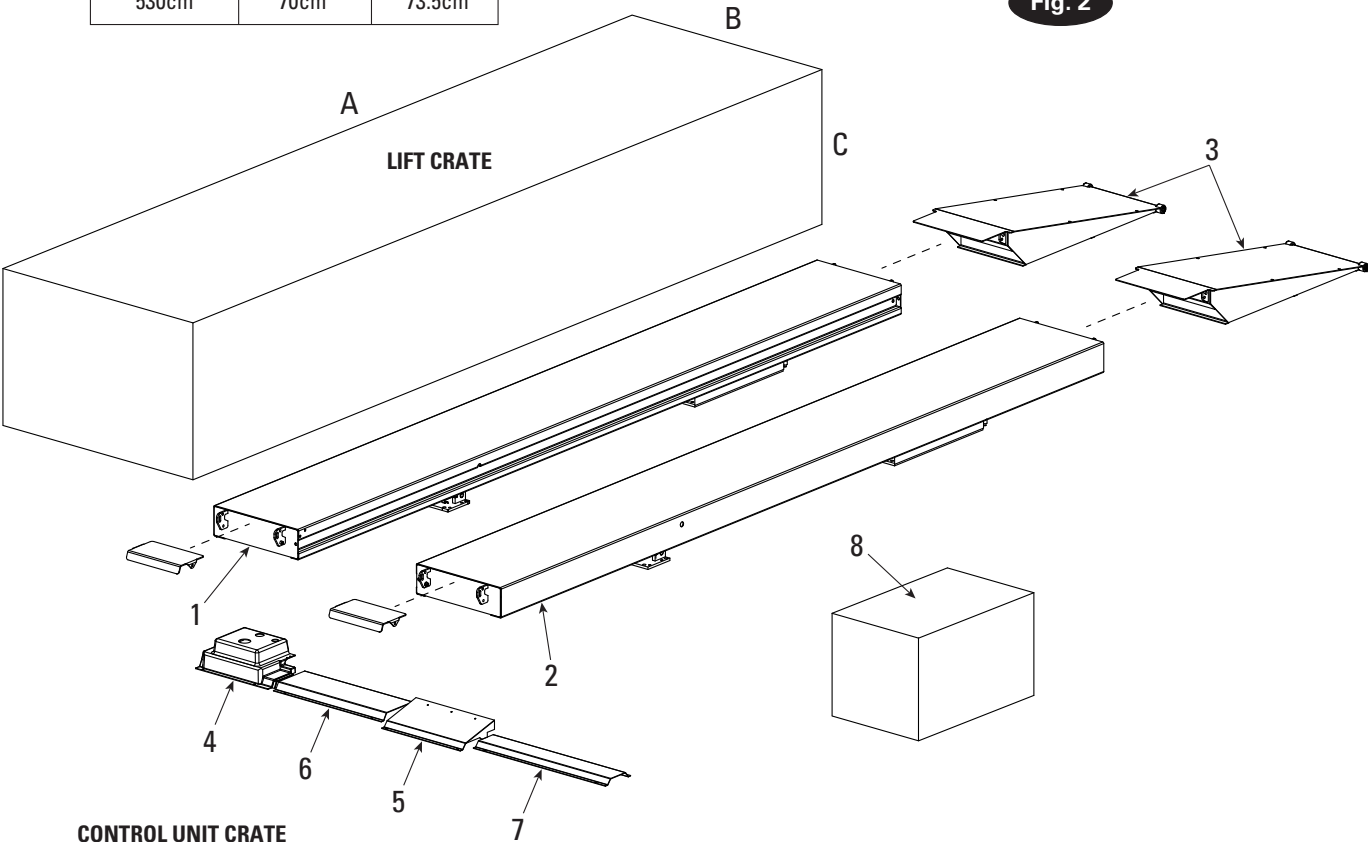
Fig. 1



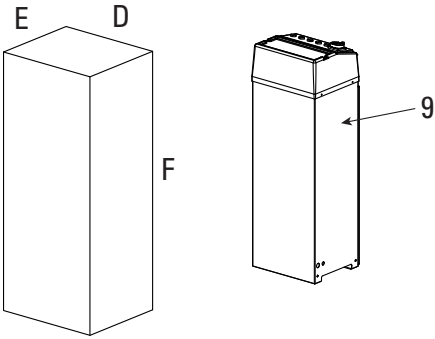
PACKING FOR SHIPMENT

A	B	C
17' 4-21/32"	2' 3-9/16"	4-15/16"
530cm	70cm	73.5cm

Fig. 2



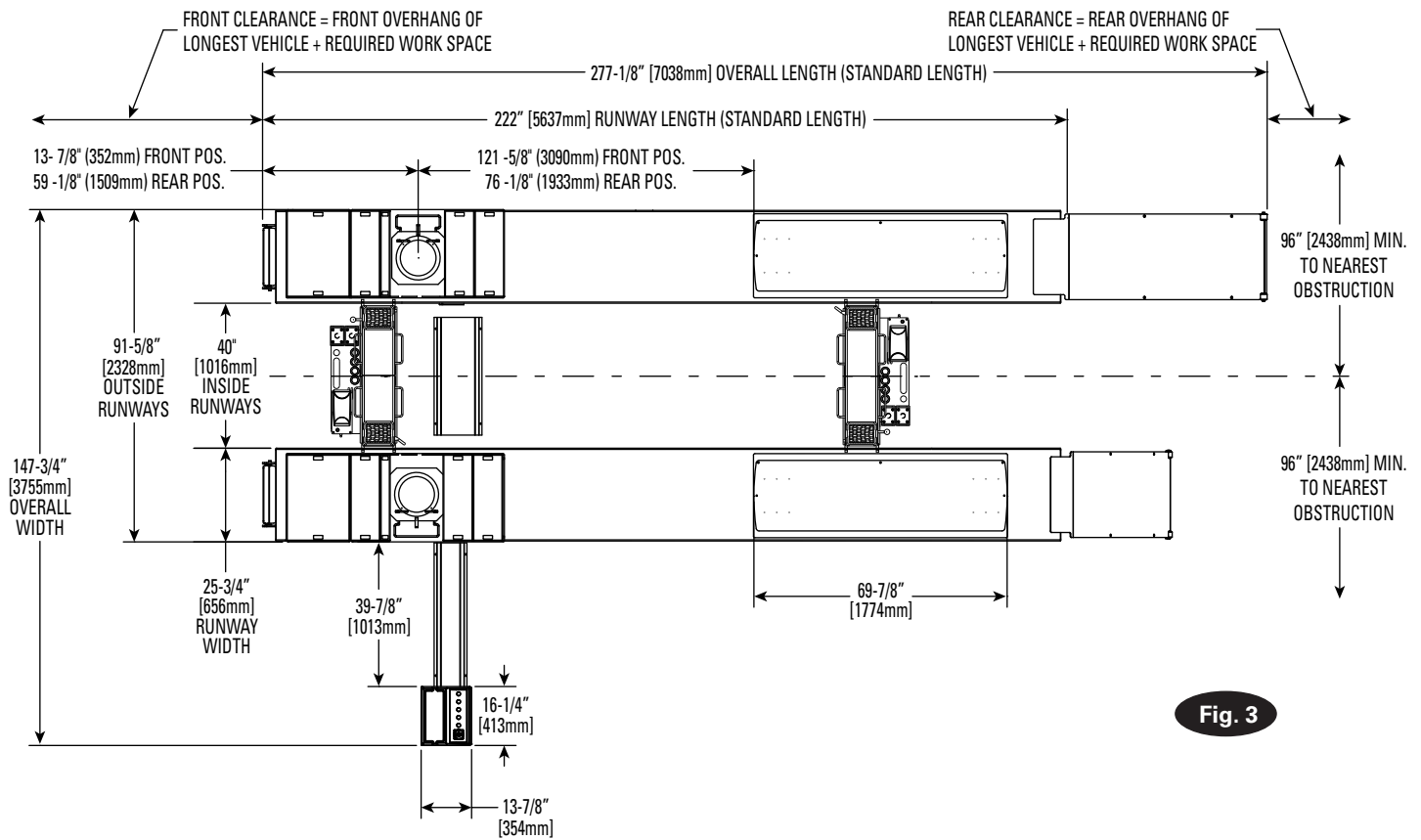
CONTROL UNIT CRATE



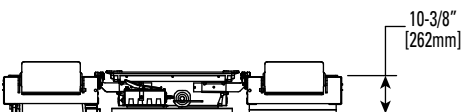
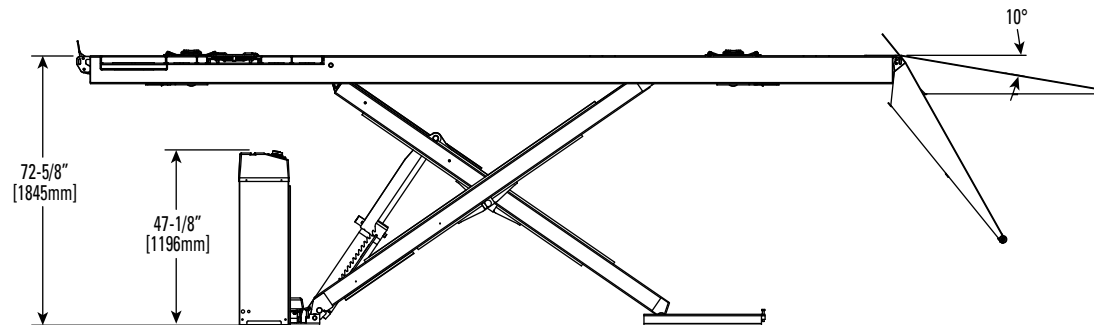
D	E	F
1' 3-3/4"	11-13/16"	2' 11-7/16"
40cm	30cm	90cm

LIFT CRATE		
REF.	QTY.	DESCRIPTION
1	1	R.H. lifting unit
2	1	L.H. lifting unit
3	2	Ramp
4	1	Right base cover
5	1	Left base cover
6	1	Inner cover
7	1	External cover
8	1	Component box

CONTROL UNIT CRATE		
REF.	QTY.	DESCRIPTION
9	1	Control unit

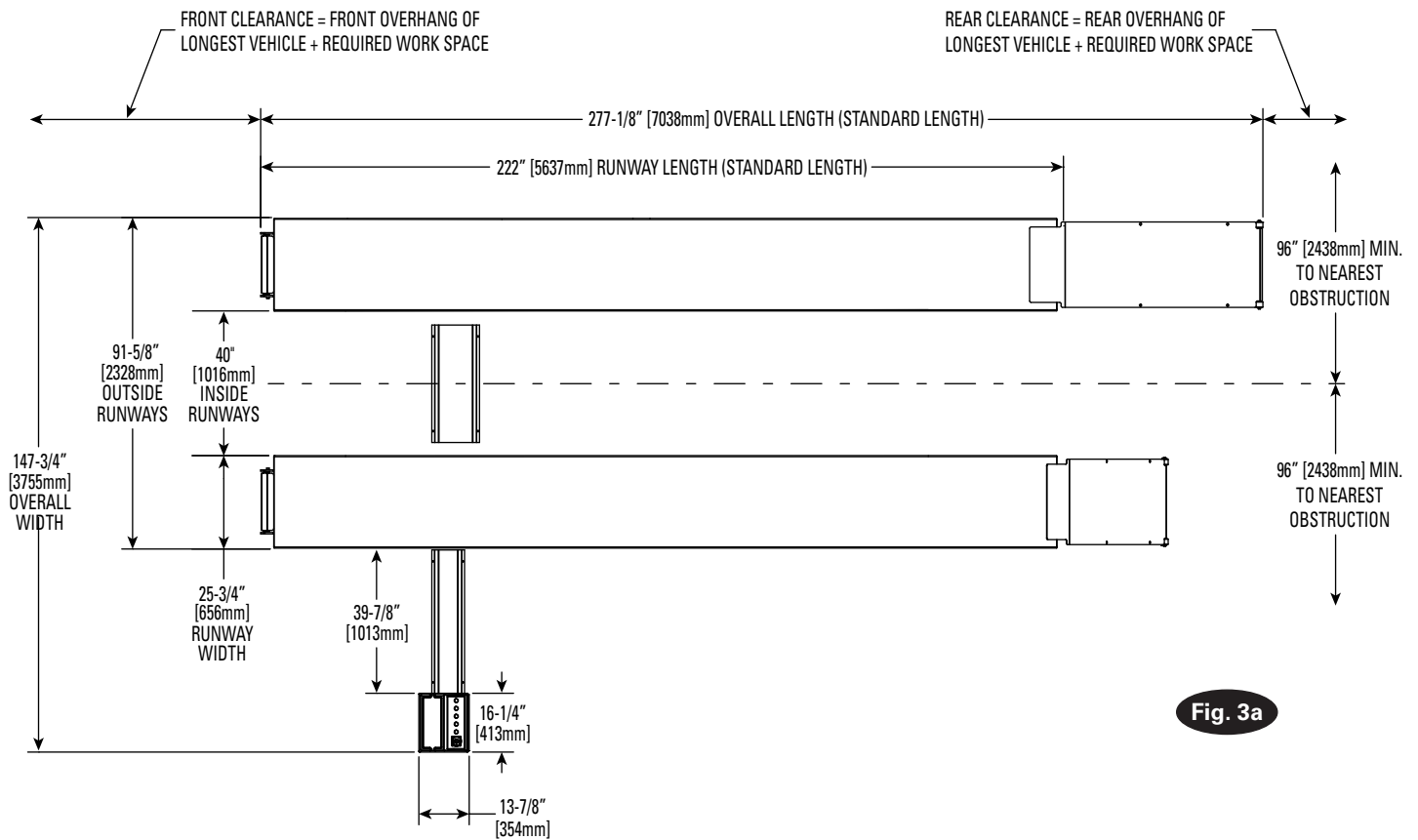


**Fig. 3**

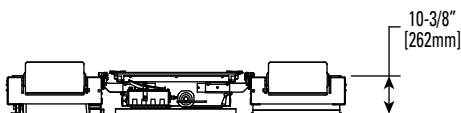
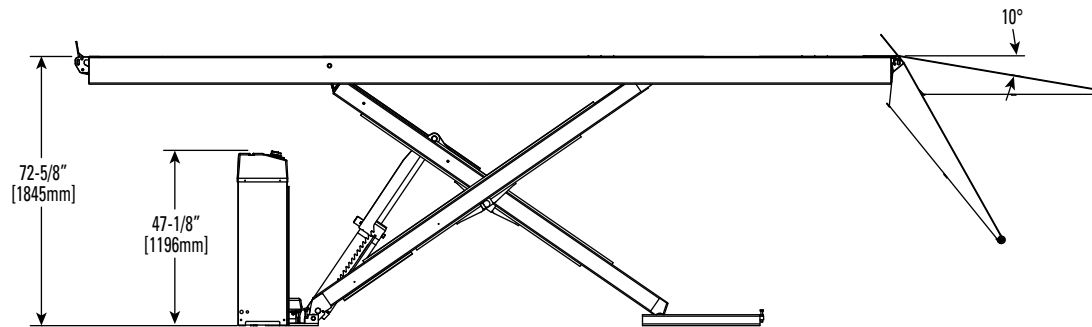


**XA14**

LIFT CAPACITY	14,000 LBS (6350Kg.)
MIN WHEELBASE	118 INCHES (2997mm)
LIFTING SPEED - RISE TIME (1in 60Hz)	APPROXIMATELY 75 SECONDS UNLOADED APPROXIMATELY 77 SECONDS AT RATED CAPACITY
MOTOR RATING OPTIONS	1 PHASE 230V 6Hz
OPERATING PRESURE	3889 PSI
OPERATING CURRENT	20.2 AMPS
WEIGHT (INCLUDING PACKAGING)	4,123lbs (1,870kg)
MECHANICAL SAFETY LOCKS	AUTOMATIC ALL POSITIONS
MECHANICAL SAFETY RELEASE	AUTOMATIC ALL POSITIONS
HYDRAULIC SAFETY SYSTEM	AUTOMATIC ALL POSITIONS
CYLINDERS	ONE MASTER, ONE SLAVE
SYNCHRONIZATION	SYNCHRONIZATION VALVE
MIN BAY SIZE	STANDARD LENGTH: 16' x 27' (4877mm) x 8230mm)



**Fig. 3a**



X14

LIFT CAPACITY	14,000 LBS (6350Kg.)
MIN WHEELBASE	118 INCHES (2997mm)
LIFTING SPEED - RISE TIME (1n 60Hz)	APPROXIMATELY 75 SECONDS UNLOADED APPROXIMATELY 77 SECONDS AT RATED CAPACITY
MOTOR RATING OPTIONS	1 PHASE 230V 6Hz
OPERATING PRESURE	3889 PSI
OPERATING CURRENT	20.2 AMPS
WEIGHT (INCLUDING PACKAGING)	4,123lbs (1,870kg)
MECHANICAL SAFETY LOCKS	AUTOMATIC ALL POSITIONS
MECHANICAL SAFETY RELEASE	AUTOMATIC ALL POSITIONS
HYDRAULIC SAFETY SYSTEM	AUTOMATIC ALL POSITIONS
CYLINDERS	ONE MASTER, ONE SLAVE
SYNCHRONIZATION	SYNCHRONIZATION VALVE
MIN BAY SIZE	STANDARD LENGTH: 16' x 27' (4877mm) x 8230mm)



Required Tools & Supplies List	
<b>Note: Graphics refer to XA14 alignment model. X14 installation is the same except for references to alignment equipment.</b>	
1.	208-230 Volt, 30 Amp Service
2.	Shop air
3.	12 quarts of ISOVG32 Hydraulic Oil
4.	Fork Lift – Minimum 4,000 lb capacity
5.	Dollies – Minimum of 4 - 26" Wide Minimum
6.	Hammer drill
7.	¾" hammer drill bit
8.	3/8" hammer drill bit
9.	Torque Wrench – Min 150 ft-lbs
10.	Laser Transit
11.	Tape Measure – Min 30'
12.	Chalk line
13.	2' Square
14.	Paint marker

15.	4' & 6" Level
16.	Band cutters
17.	Wire cutters/strippers
18.	Needle nose pliers
19.	Pry bar
20.	Sledge hammer
21.	Shop vacuum
22.	Hammer
23.	Full set of wrenches and sockets – Metric sizes
24.	Precision screw driver set
25.	Full set of screw drivers – Philips & standard
26.	½" tap
27.	12 ga wire for high integrity ground
28.	Volt meter
29.	Portable band saw

## Description of the lift

Electrohydraulic scissors lift for floor, Fig. 4.

XA models have recesses for turntables and rear slip plates (traverse and rotating) with pneumatic locking device.

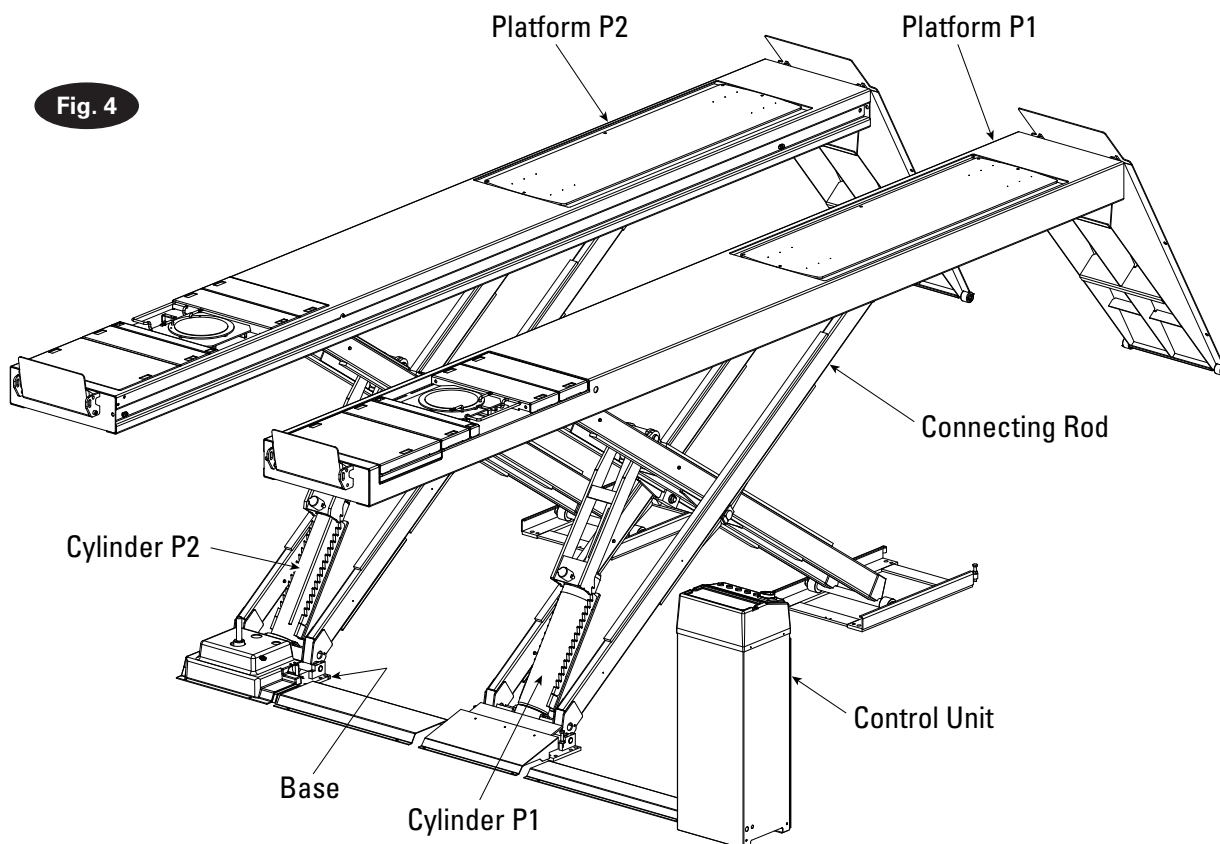
The control unit is usually placed on the left as regards the access direction, at about 1 meter from the platform. The control unit may be installed in another position using the kits available on request. The lift may be completed with an auxiliary cross-piece and lighting equipment supplied on request.

## Preparation for use

This product has been manufactured in compliance with the Standard ANSI/ALI ALCTV: 2017.

## Main technical characteristics

- Extra-long platforms to also accommodate long wheel-base commercial vehicles;
- Hydraulically synchronised platform movement, whatever the load distribution on the platforms;
- Automatic main lift platform re-alignment valve;
- Automatically engaged mechanical support device for maximum safety;
- Overload of hydraulic pipe breakage safety valves;
- Downward movement speed control valve;
- Electrohydraulic device for stopping downward movement in case of obstacles under the platform;
- Flexible pivots with self-lubricating maintenance-free bushes;
- Electrical system with insulation standard IP 54. Low-voltage control and safety circuit.





## **Installation**

To install the lift, follow the instructions indicated below or in the document ANSI/ALI ALIS "American National Standard for Automotive Lifts - Safety Requirements for Installation and Service".

### **Checking the minimum requirements for the installation site**

Check that the machine installation site has the following characteristics:

- Sufficient lighting (but without dazzling or bright lights).
- Protected from bad weather conditions.
- roomy and ventilated environment.
- an unpolluted environment.
- an airborne noise level lower than the limits indicated by the prevailing standards.
- The workplace must be out of the way of dangerous movements from other machines in operation.
- The machine installation site must not be used for storing explosive, corrosive and/or toxic material.
- Plan the installation layout considering that the operator must have a good view of the equipment and the surrounding area from the control position. In this area he must prevent access from unauthorised persons and objects which could cause danger.
- The minimum distance between lift and walls or any other obstacle shall be greater than or equal to 3'.

All installation operations concerning connections to external supplies (particularly electrical power supplies) must be done by professionally qualified staff. Installation must be done by authorised staff following any special instructions in this manual: in case of doubt, consult authorised service centres or authorised customer S.p.A services. Refer to ANSI/ALI ALOIM:2008 "Safety Requirements For Operation, Inspection And Maintenance" for installation.

### **Preparing the installation area**

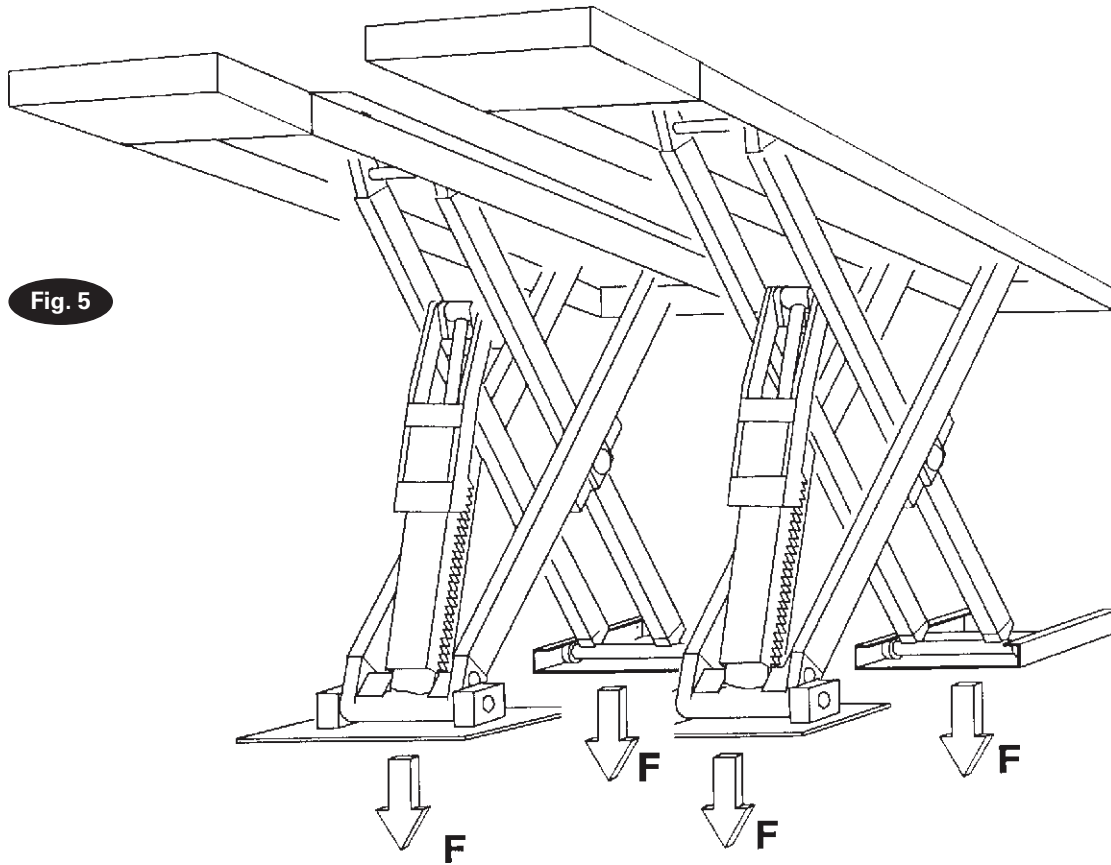
The lift must be installed on a floor with adequate resistance to the force placed on the support areas. This force, see Fig. 5, is equal to 6350 kg - 14000 lbs.

The capacity of the support area of the lift must be no less than 3000 psi.

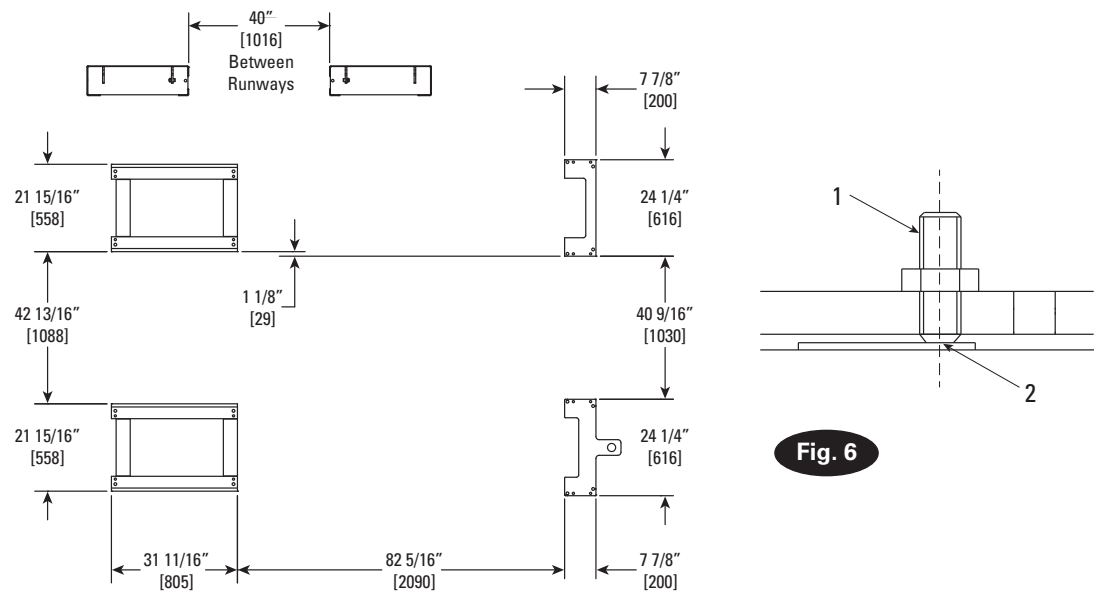
The minimum pad area must be at least 5.7 x 2.7 m (8'-10" x 18'-8"), without expansion joints or cuts which might interrupt the continuity of the pad.

The support areas must be flat and level with each other (+/- 0.5 cm. - 1/4").

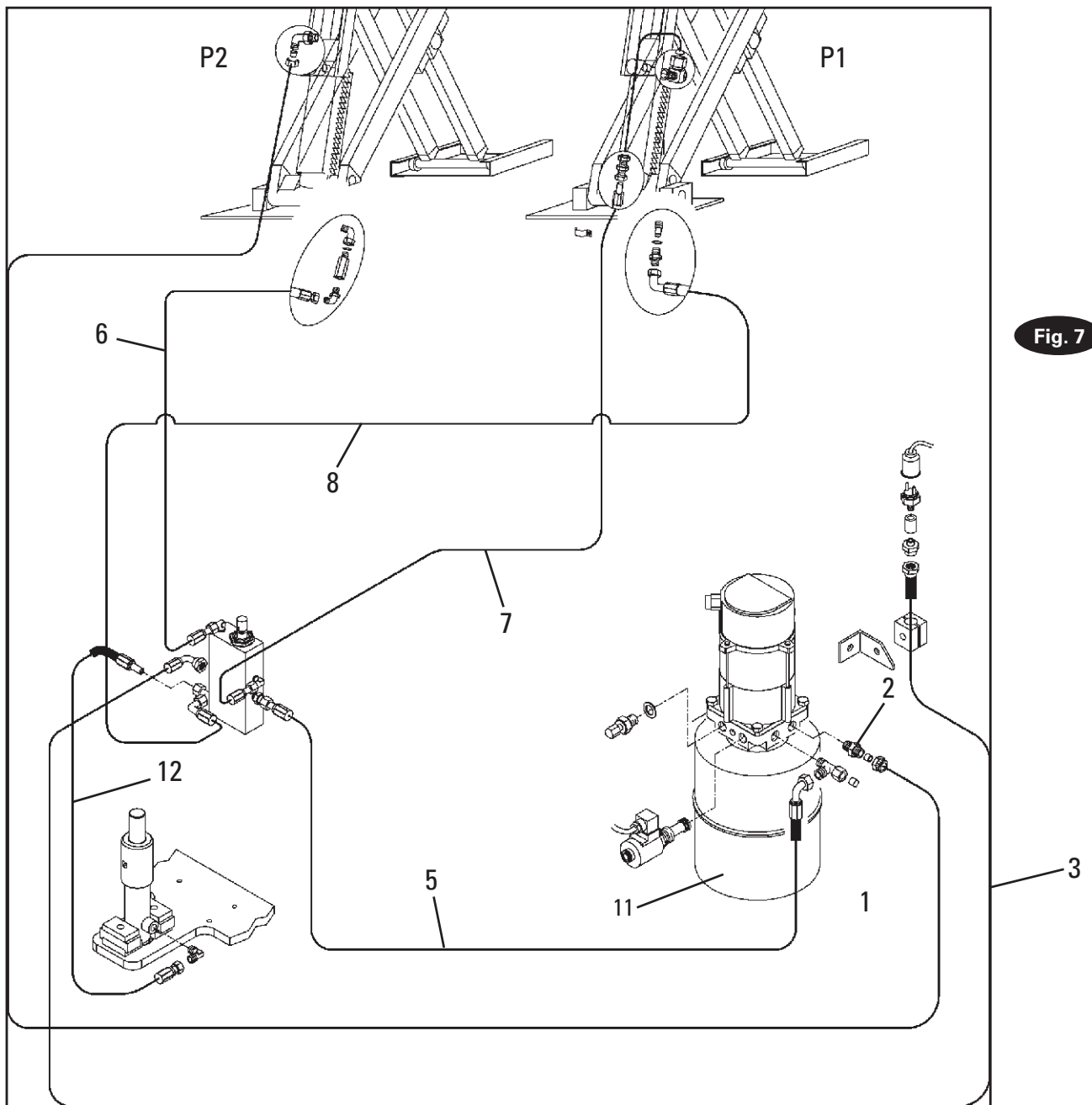
**!** A qualified person should be consulted to address seismic loads and other local or state requirements.



Max. Force = 6350 kg - 14000 lbs  
Req. Floor Strength = 3000 psi  
Min. Anchor Embedment = 3 1/4" (See pg. 20)



**Fig. 6**



**Fig. 7**

## Positioning the platforms and connecting the hydraulic system in the standard position

The lift is delivered with the hydraulic system in the following state, Fig. 6 and Fig. 7:

- Hoses (7-8) connected to the cylinder of platform P1.
- Hose (6) connected to the valve/cylinder.
- Hose (5) connected to the valve.
- Hose (3) connected to the pressure switch in the control unit.
- Hose (12) connected to the valve/cylinder.
- Oil tank (11) empty.

All unconnected couplings are plugged.

The connections should be done as follows:

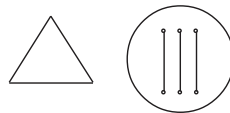
- Remove the packaging and place the platforms in the chosen area, respecting the measurements shown in Fig. 6, especially dimension 40" (1016mm) between the platforms, placing the shims (2) under the setscrews (1) of the base.
- Remove the unit from the control unit support and place in position.
- Connect pipes (3-7-8) onto the valves, pipe (5) to the control unit and the drainage pipe (1) to the coupling (2). For channel installation, lay the pipes before connecting them. Fill the tank (11) with ISOVG32 Hydraulic Oil.

**Note:** It is possible to connect the control unit to the other side of the lift.

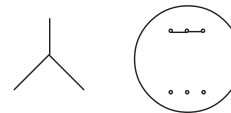
The wiring system is pre-set to work at the voltage shown on the serial number plate.

**Fig. 8**

**MOTOR  
CONNECTION**



220 V 60 Hz

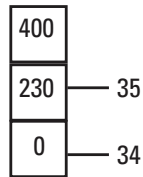


380 V 60 Hz  
575 V 60 Hz

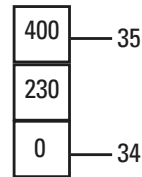
W2U2V2  
U1V1 W1

220 V 60 Hz

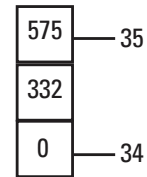
**CONNECTING THE  
TRANSFORMER**



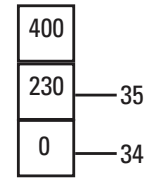
20A



12A



8A

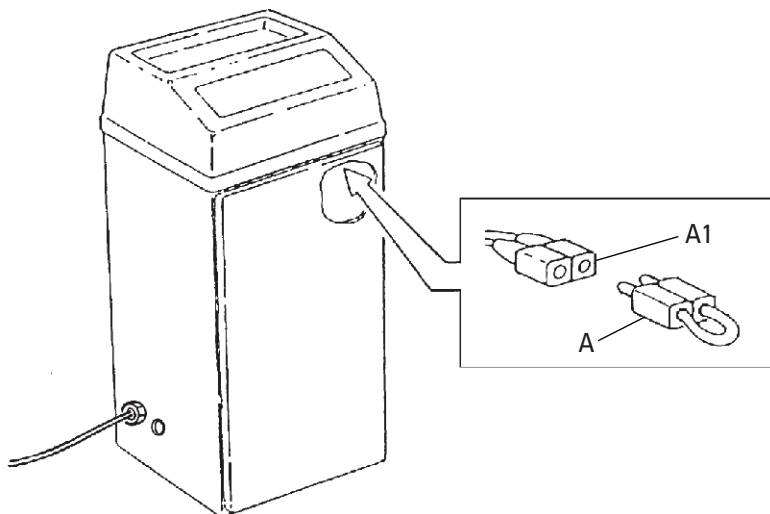


30A

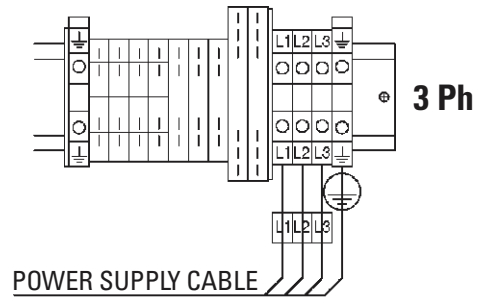
**FUSES**

**3Ph**

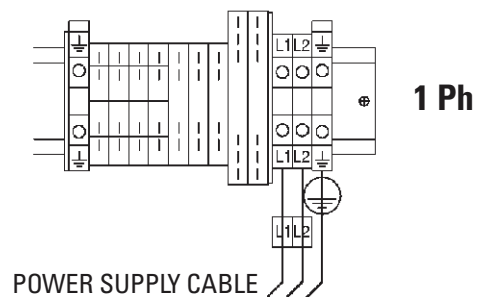
**1Ph**



**Fig. 9**



POWER SUPPLY CABLE



POWER SUPPLY CABLE

### Connecting to the mains

The minimum capacity required is:

3-phase motor version: Cable section  $\geq 4 \text{ mm}^2$  (AWG12)

- ELPROM 220V 60Hz I= 18,2 A
- ICME 220V 60Hz I= 14,5 A  
380V 60Hz I= 10,5 A  
575V 60Hz I= 7,7 A

Monophase motor version: Cable section  $\geq 6 \text{ mm}^2$  (AWG10)

220V 60Hz I= 20,5 A

Also check that there is an automatic break-off device upstream, to safeguard against overloads, fitted with 30 A protection.

In case of doubt, halt the installation procedure and telephone technical services.

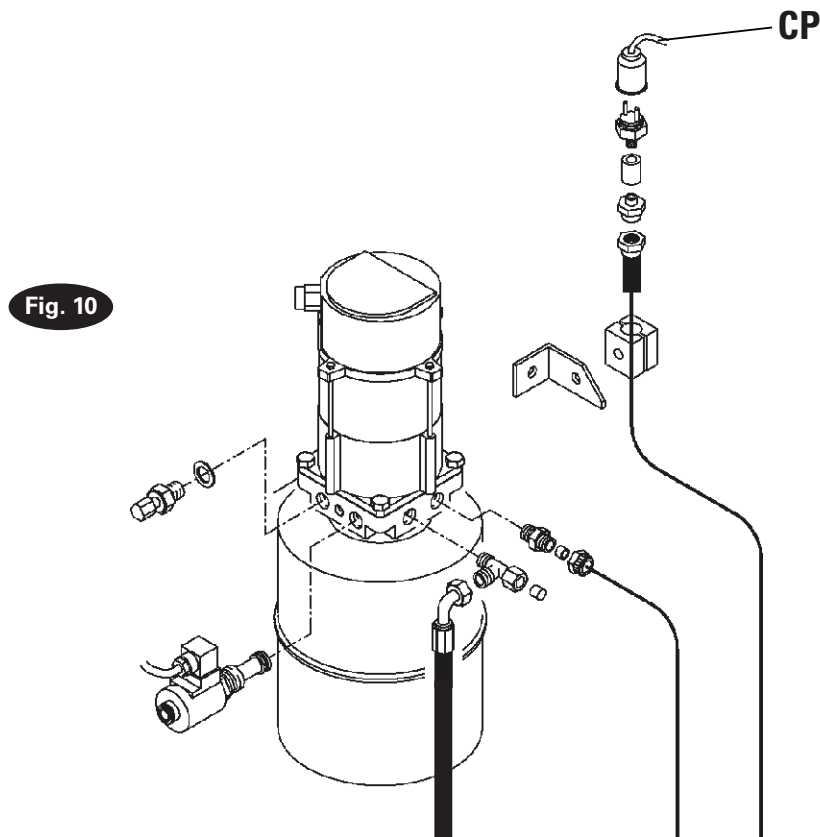
### Connecting the power cable

Pass the power cable through the cable clamp on the side of the control unit and connect the wires to the terminal board (see wiring diagram and Fig. 8-9) matching the numbers. Make sure plug (A) is fitted into terminal (A1). This disengages the lift pressure switch.

Switch on the mains power. Turn the master switch to position 1; press the up button and make sure the motor turns in the direction shown on the motor cover (counterclockwise); if this is not the case, switch over two phases in the power cable.

### Pressure switches connection

Connect the leads in the control unit to pressure switch (CP), Fig. 10.



**Compressed-air connection**

Prepare a pressure regulator max 10 bar (145 psi). The air must be filtered and lubricated. Press the up button and raise the platforms by 50-60 cm (2" - 2-3/8"). Minimum air supply pressure: 6 bar (87 psi).

**Connect the air supply, Fig. 11 and Fig. 12.**

Connect the pipes of the mechanical stop release cylinders to the union tees.

**Note:** Match up the pipe colors.

**IMPORTANT** Air must be filtered and set to a pressure between 87-174 psi (6 and 12 bar).

X14

Fig. 11

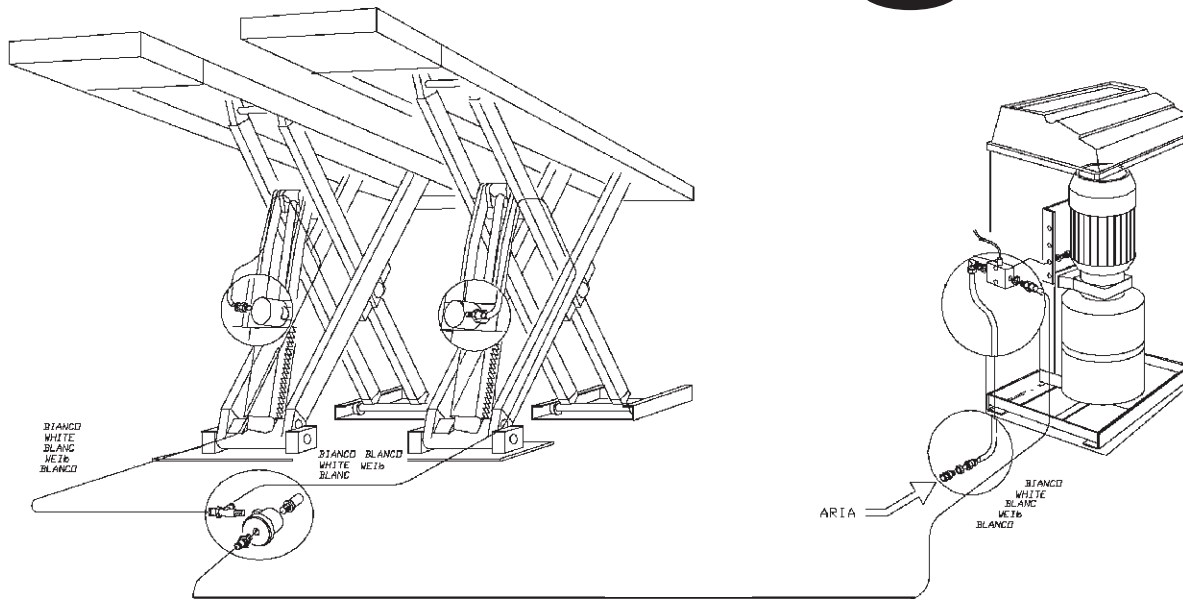
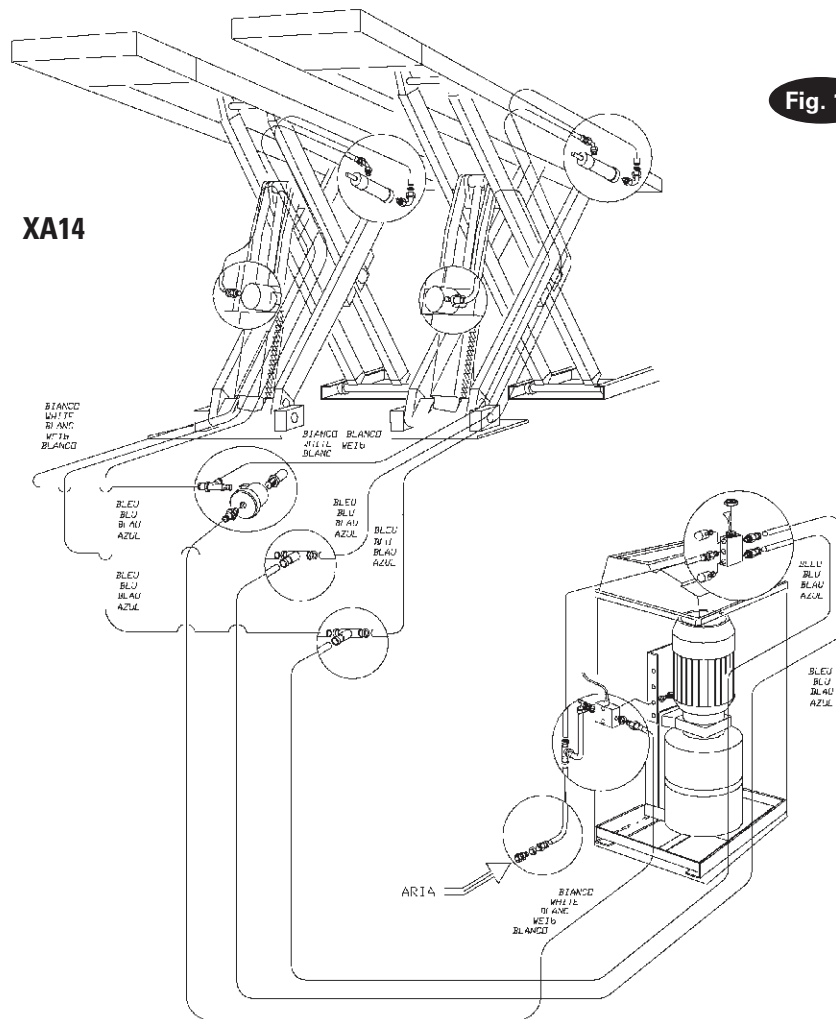
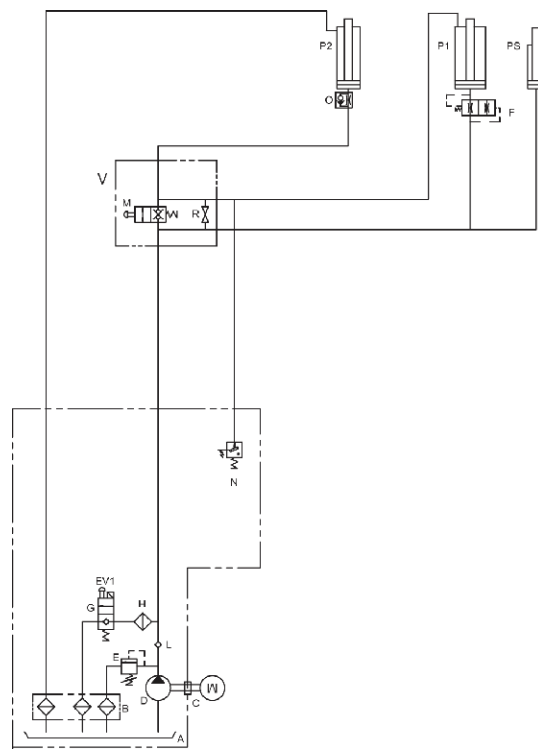


Fig. 12

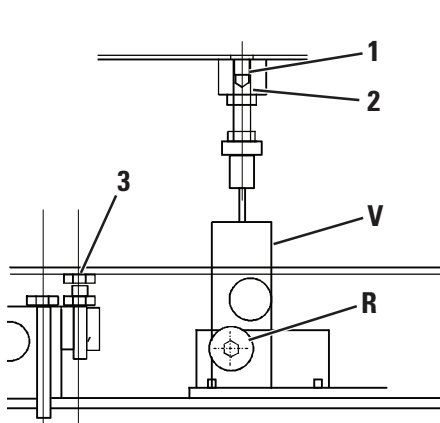
XA14



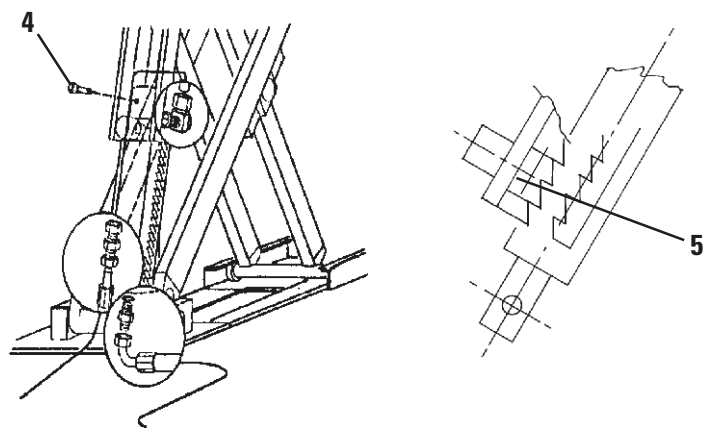




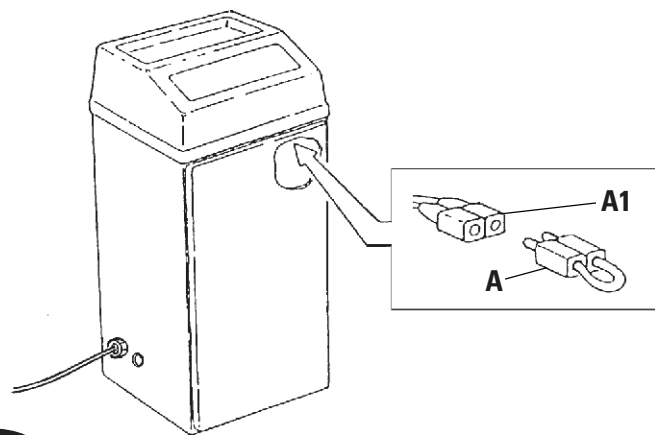
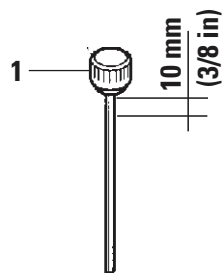
**Fig. 13**



**Fig. 14**



**Fig. 15**



**Fig. 16**

### **Platform alignment valve Fig. 13-15.**

The lift features an automatic alignment valve under platform P2 (Fig. 14 Part V). Ensure the pusher is in place on the bottom of platform P2, directly above the alignment valve. This valve must be adjusted if the platform leveling bolts (3) are adjusted. To adjust the platform leveling bolts (3) fully loosen locknut (2) and screw (1). After adjusting the height of the platform, tighten screw (1) until the platform begins to elevate, then unscrew by one turn and secure with the locknut (2).

### **Air bleeding**

During hose connection, a small quantity of air could enter the hydraulic system and hinder correct operation. To remove any air from the system, proceed with the following process Fig. 13-15.

1. Ensure that stopcock R closed and engage plug A.
2. Press the up button until platform P1 reaches the mechanical stop (the position of platform P2 is not important).
3. Loosen the bleeder screw (screw 4) on the cylinder in P1 to bleed any air out of the system (P2 may lower during bleeding).
4. Tighten the bleeder screw once the bleeding is complete.
5. With P1 fully extended, switch off the compressed air supply to prevent the locks from automatically disengaging.
6. Place a spacer (5) underneath the lock latch on P2 so that the locks do not engage and the platform is free to lower.
7. Open stopcock R and press the down button to lower P2 to the floor.
8. Then raise P2 again 3-4 times as far as 2-3 feet (50-70 cm) from the floor.
9. Check that the tank has not run out of oil. If it has, add more oil.
10. Raise P2 by 4' 7" (170 cm) and close stopcock R.
11. Remove the spacer (5) and switch on the supply of compressed air again.
12. Lower the lift by about 20" (50 cm).
13. Open stopcock R again.
14. Position P2 3/16-3/8" (0.5-1 cm) lower than P1.
15. Close stopcock R again and lock it with the lock nut.
16. Lower both platforms to the floor.
17. Disengage plug A.
18. The lift is working properly when P2 is 3/8-3/4" (1-2 cm) higher than P1 after reaching a height of 4" (10 cm) from the ground.

**Note:** During normal operation, plug A must be disengaged from terminal A1 (Fig. 16).

### **Checking the oil level**

Lower the platforms to the ground.

Check the oil level using the dipstick fitted in the plug 1, Fig. 16.

### **Starting and checking the safety devices**

Remove the plug A shown in Fig. 16 from the terminal A1 to activate the pressure switch.

**Note:** In operating conditions, the plug A must be removed from the terminal A1.

## Securing the lift to the ground and checking alignment of platforms

It is therefore essential to secure the lift correctly, keeping of the thrust bases platform levelness under control.

### Checking base levelness

- Lift platforms approximately by 1 m (3' 3-3/8").
- Lock pawls.
- Ensure that platforms are parallel one to each other, squared and have an inner distance between rail edges of 40". If not, adjust bases still keeping their alignment and longitudinal distance.
- Move platforms down to the ground and check that inner distance is 40".
- Lift the platforms to their maximum height.
- Check bases for perfect levelness and keep roller sliding surfaces 1, Fig. 17, and con-rod fulcrum block bearing surfaces 5 as locating points. Turn levelling screws 2, if necessary. Should this case be, the lift base must fully rest onto the ground so to avoid possible deflection of the bases. Use shims, if necessary. Do not shim higher than 1/2".

**IMPORTANT** If the lift needs to be shimmed greater than 1/2", indicated by leveling bolts bottoming out. Longer leveling bolts will need to be used and either optional full base plate shims or grout must be used instead of the supplied shims. A 6,000 psi or greater compressive strength grout must be used.

**ATTENTION** **DO NOT** exceed 2" of shims or grout. Pour new concrete pads if shim height exceeds 2". Contact lift supplier for concrete pad instructions.

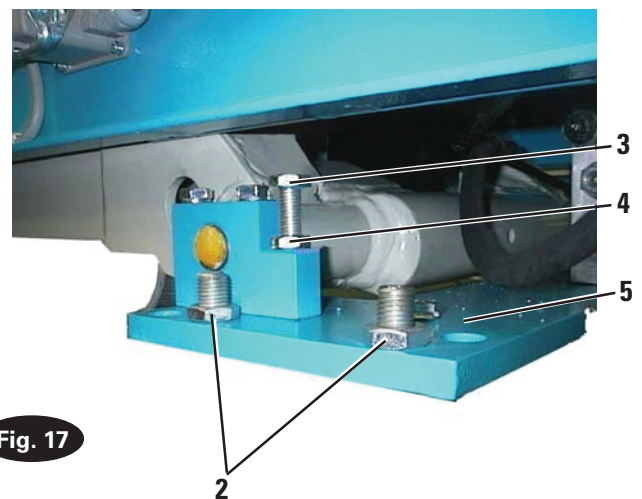
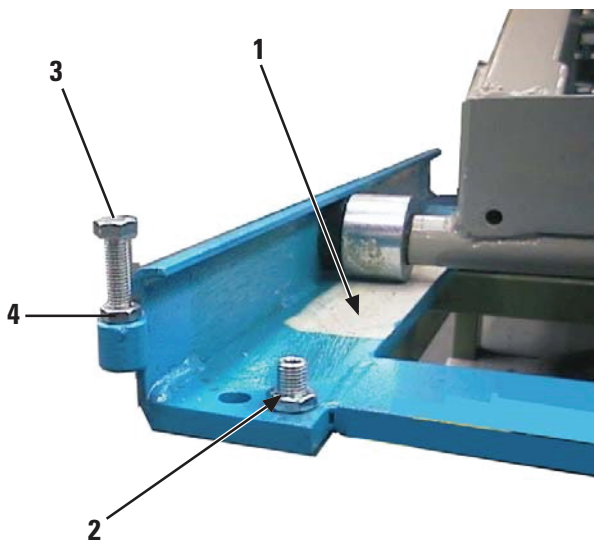


Fig. 17

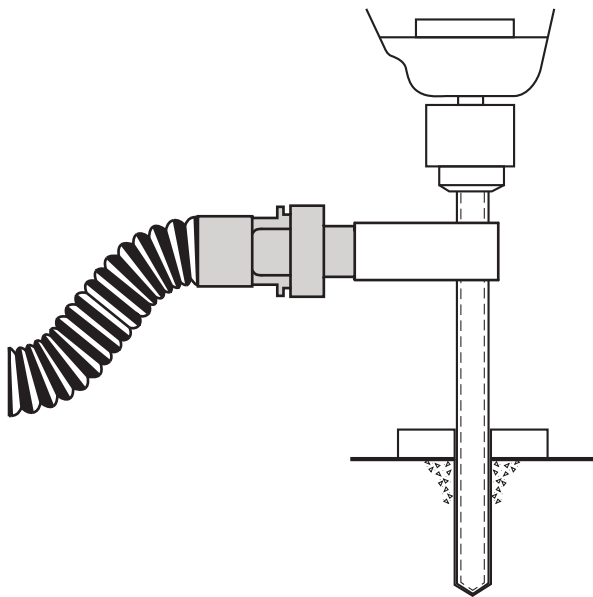
### Anchoring lift bases

- Carry out a complete up/down cycle. Check for proper base position and regular sliding movement of rollers; they should not rub against anything or stop in any way.
- Drill holes using a 12 mm (1/2") drill and use bases as templates. Drill to a depth of 150 mm (6"). Clean the holes and then tap gently onto the anchors to seat them into the holes. Tighten the anchor bolts with a torque wrench set to 5 kgm (36 ft-lbs).

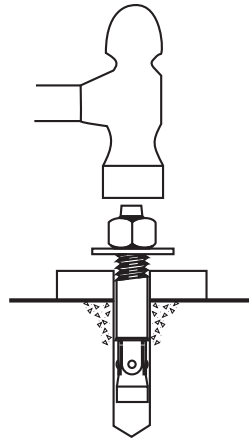
**Suggested expansion anchor HILTI Kwik Bolt III 1/2" x 5 1/2" or equivalent.**

Check for proper base levelness once again. Ensure that base anchoring has not caused any changes.

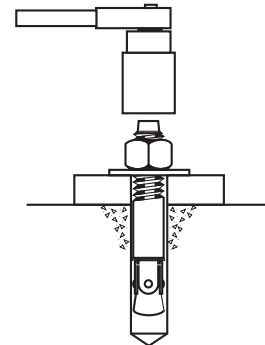
**Note:** a proper base anchoring is essential for proper leveling and therefore, anchoring must be carried out with maximum precision.



Drill holes using 1/2" carbide tipped masonry drill bit per ANSI B212.15-1994 (R2000). Contruction dust collected per OSHA 29 CFR 1926.1153.



Run nut down just below impact section of bolt. Drive anchor into hole until nut and washer contact base.



Tighten nut with Torque wrench to 40 ft.-lbs.

CONCRETE AND ANCHORING REQUIREMENTS		
STANDARD	ANSI/ALI ALCTV	SEISMIC
Minimum Floor Thickness	4-1/4"	Varies by location consult with your structural engineer and manufacturer's representative.
Anchor	Hilti Kwik Bolt III* 1/2" x 5-1/2"	
Minimum Concrete Strength	3000 PSI	
Minimum Anchor Embedment	3-1/4"	
Minimum Distance to Concrete Edge, Crack, Expansion Joint, Abandononed Anchor Hole	4-1/2"	
<p><b>*The supplied concrete fasteners meet the criteria of the American National Standard "Automotive Lifts - Safety Requirements for Construction, Testing, and Validation" ANSI/ALI ALCTV-2011, and the lift owner is responsible for all charges related to any additional anchoring requirements as specified by local codes.</b></p> <p><b>Contact customer service for further information at: 800.445.5438</b></p>		

### Checking platform levelness when fully lowered

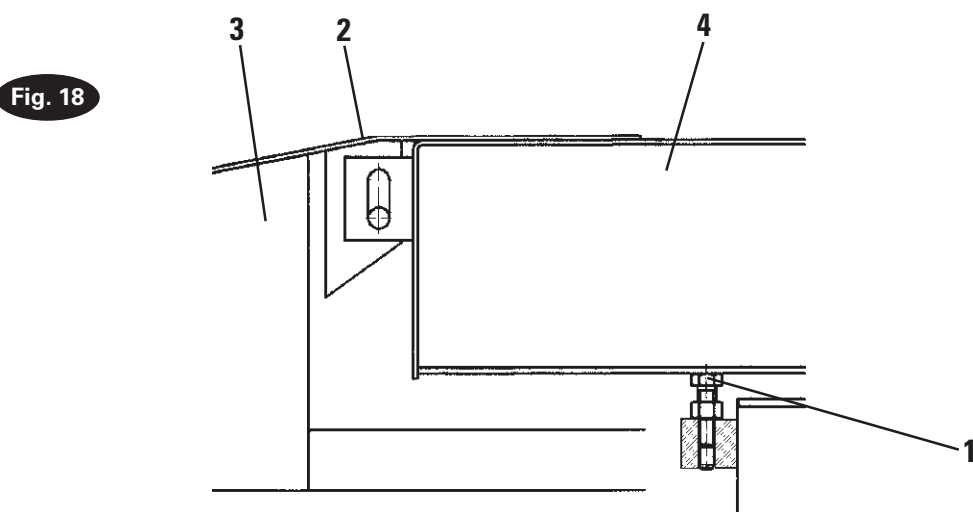
- Move platform fully down
- Check for proper levelness on thrust points of the platforms on the bases.

Turn the adjusting screws 3, Fig. 17, if necessary. When finished, lock in position with check nuts 4.

#### **IMPORTANT**

- If the lift is moved to a different place and then installed, all above checks should be carried out;
- Check lift anchoring after moving it up and down at full load for a dozen times: also check tightening torque of anchors. Check at least every three months.

Proceed as above, checking when levelling the lift with screws (1) that the vehicle blocks (2) rest on the ramp (3) and on the footboard (4) as in Fig. 18.



### Checking the safety devices

After assembly, the safety devices installed on the lift should be checked with care.

#### a. Checking pressure switch operation

To make sure the pressure switch is operating properly, place any object underneath platform P2 during downward movement. If everything is working correctly, the lift will stop. At this point, to drop down further, the lift will have to be raised (the only operation permitted) so the object can be removed and the lift can drop again.

#### b. "Deadman" controls

The lift features a "deadman" operating system. Up and down movements are controlled by push-buttons and the lift will come to a halt as soon as such buttons are released.

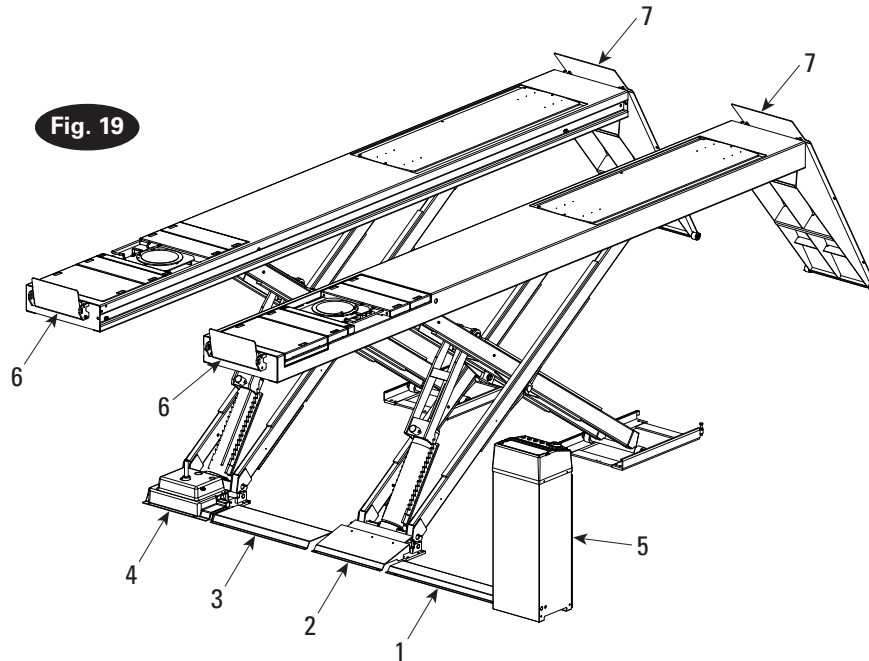
### Fastening covers and control unit

Positioning the covers (1-4) and the control unit (5). Using the existing holes as templates, drill with a 9 mm (3/8") bit to a depth of 50 mm (2"), Fig. 19.

Fasten with the plugs supplied and refit the unit onto the control unit.

### Fitting the stops and ramps

Attach the front stops (6) and ramps (7) using provided pins.



### Dismantling the integrated lift

To dismantle the integrated lift, repeat all the operations described so far in the opposite sequence.

### Operation of the lift

Demonstrate the operation of the lift to the owner/operator and review correct and safe lifting procedures using the ALI/SM07-1 "Lifting It Right" booklet as a guide.

### LIFTING A VEHICLE

- 1) Position vehicle on lift runways by having another person guide you onto the runways. Make sure that load is evenly distributed (vehicle centre of gravity must be perfectly equidistant from platform ends).
- 2) Set vehicle parking brake.
- 3) Press up the button to raise lift until platform runways clear floor.
- 4) Stop and check for vehicle movement and vehicle weight distribution. If secure raise to desired height.
- 5) Press park pedal (platform position is automatically levelled off on mechanical supports).
- 6) Never work under a lift that is not in the locked position.

### LOWERING A VEHICLE

- 1) Clear all obstacles from under lift and vehicle, and ensure only lift operator is in the lift area.
- 2) Press up the button to lower lift.
- 3) Continue lowering vehicle until platforms stop on ground. It is important to fully lower the lift to release hydraulic pressure on the system.
- 4) Ensure lift is fully lowered, and having another person guide you, carefully unload the lift by driving off of the lift runways.

NOTES:

## ATTENTION INSTALLER:

Please return this booklet to literature package and give to lift owner/operator.

Trained Operators and Regular Maintenance Ensures  
Satisfactory Performance of Lift.

Contact Your Nearest Authorized Parts Distributor for Genuine Replacement Parts. See Literature  
Package for Parts Breakdown.

**Vehicle Service Group<sup>SM</sup>**  
2700 Lanier Drive  
Madison, IN 47250, USA  
1-800-640-5438  
[www.vsgdover.com](http://www.vsgdover.com)



© **Vehicle Service Group<sup>SM</sup>**  
All Rights Reserved. Unless otherwise  
indicated, **Vehicle Service Group<sup>SM</sup>**,  
and all other trademarks are property  
of Dover Corporation and its affiliates.