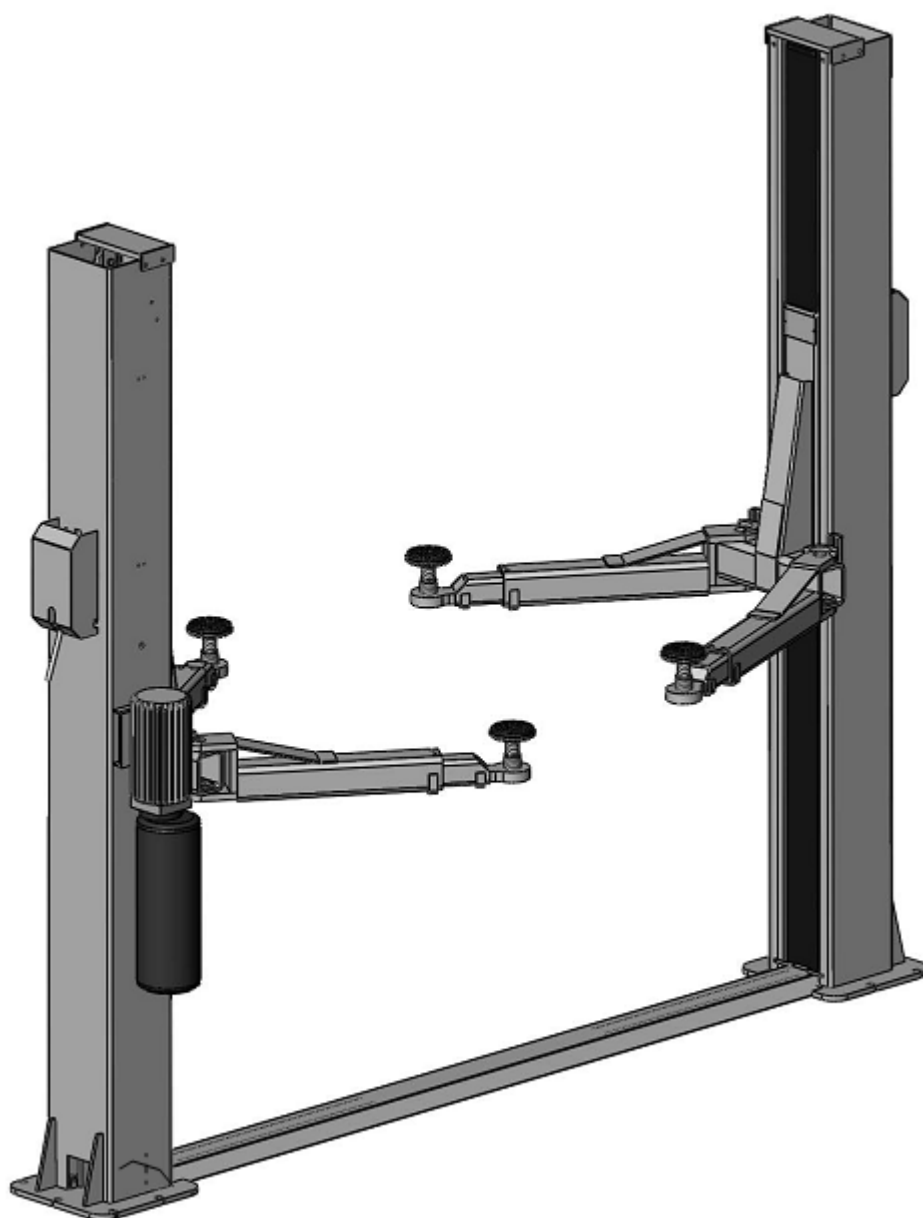


Forward this manual to all operators. Failure to operate this equipment as directed in this manual may cause injury.

OPERATION MANUAL



CONTENTS (2 POST HOIST)

-Precaution for users

-Contents

Warranty

Safety Instruction

Designated use of lift

Danger and warning

Introduction of lift

Characteristics of lift

Specification

Parts list

Overall assemble and the parts name

Post

Hydraulic Power unit

Hydraulic cylinder

Control Box

Platform support cross beam

Wire & hydraulic line layout

Hydraulic line diagram

Electrical diagram

Operation of lift

Caution during operation

Checklists before operation

Preparation

How to operate control panel

Operation tip for lift

Diagnosis and What to do

Emergency lowering during emergency

Circumstance

Preparation before lowering lift

Procedure for manually lowering

After completion of emergency lowering

maintenance

Product Warranty

This lift is warranted by **Maker** to be of satisfactory quality, fit for its purpose and comply with applicable **Maker** specifications for the period of sixty months from the date of installation (Verified by reference to your proof of purchase).

Exclusion of Warranty

This warranty does not apply if the lift has:

- 1 been mishandled, misused, willfully damaged, neglected, improperly tested, repaired, altered or defaced in anyway
- 2 a defect arising as a result of any failure to follow instructions either in the manual or product specification
- 3 a defect arising from the use of non- **Maker** approved parts or ancillary items attached to or in connection with the lift.
- 4 Malfunctioning or damage arisen out of natural disaster such as earthquake, flood and so on.
- 5 Installation by unauthorized personnel.

Warranty does not affect your statutory rights as a consumer.

Warranty conditions may vary depending on the country in which you bought the lift.

CAUTION!!!

This lift is unfit for outdoor exposure, hence any problems or accident occurs resulting from outdoor application will not be covered under warranty

How to claim

(Please make sure you have your address details, lift serial number, purchase date and problem details at hand before contacting nearest agent.)

Contact the person or agent whom you have purchased the lift from.

SAFETY INSTRUCTION

Designated use of lift

This lift is built for servicing or repairing vehicles only. Do not use the lift other than the designated purpose.

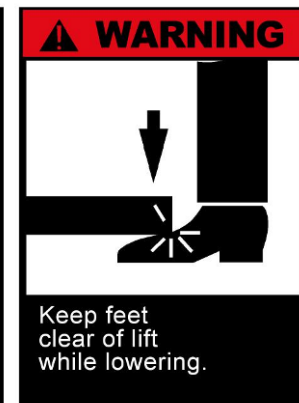
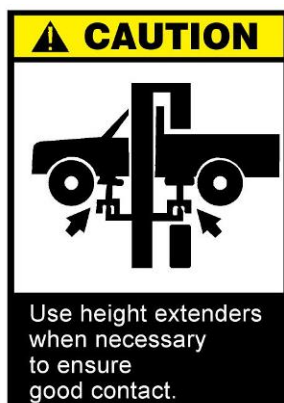
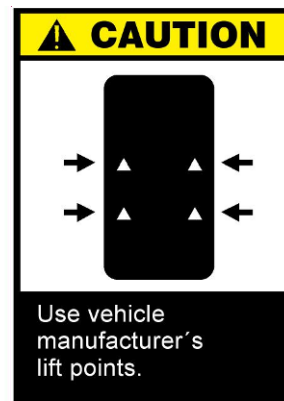
Danger and Caution

Please read the following content carefully to use the lift safely

General Warning





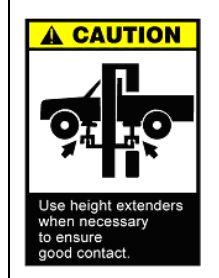
1. Please read users manual thoroughly
2. Operator of the lift should have a through understanding of dangers which may arise due to improper use.
3. Regular inspection and maintenance must be observed according to manual.
4. When abnormalities found in using the lift, refrain from using the lift until the problem is inspected and rectified.
5. Use lift only for servicing and repairing vehicle.








WARNING SIGNS ON LIFT



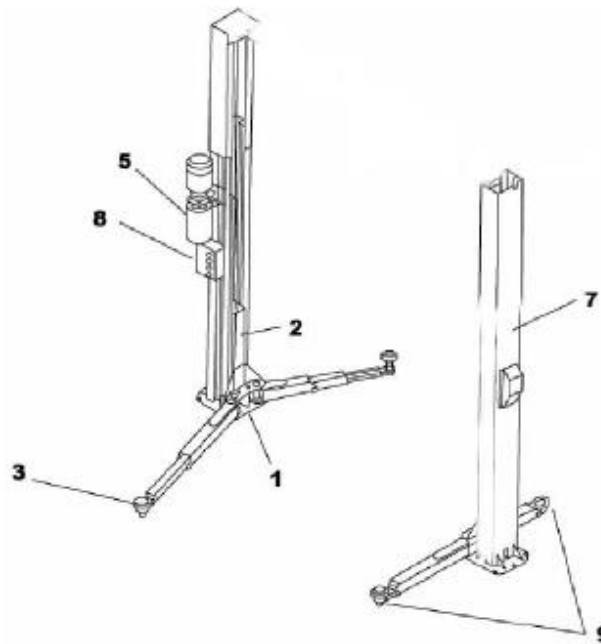


INSTRUCTION OF WARNING SIGNS

 <p>Lift to be used by trained operator only.</p>	<p>Only trained personnel should operate the lift. If not, it may cause danger to the inexperienced operator or the inexperienced operator may cause damage to the lift under improper manner.</p>
 <p>Authorized personnel only in lift area.</p>	<p>Only Authorized personnel should operate the lift. Persons that not be allowed should be away from the lift in case of danger appears.</p>
 <p>Use vehicle manufacturer's lift points.</p>	<p>Make sure where the four points of the vehicle are to let the lift arms touch the four points properly.</p>
 <p>Always use safety stands when removing or installing heavy components.</p>	<p>Safety stands shall be used under front and back end of the vehicle when removing or installing heavy components. Vehicle might incline or fall and cause injury if there are no safety stands under.</p>
 <p>Use height extenders when necessary to ensure good contact.</p>	<p>If lifting arms can not touch the lifting points of the vehicle, select proper height extenders to the arm to reach the lifting points of the vehicle.</p>

 <p>Auxiliary adapters may reduce load capacity.</p>	<p>Auxiliary tools, shelf for example, may reduce the load capacity of the lift.</p>
 <p>Do not override self-closing lift controls.</p>	<p>Should not lift the vehicle over the limited lifting height, which means the lift should stop the lifting activity when the vehicle touches the limit switch. If not, the vehicle will burst the crossbeam overhead.</p>
 <p>Keep feet clear of lift while lowering.</p>	<p>Keep feet clear of lift while the lift is lowering as it may injure the feet.</p>
 <p>Clear area if vehicle is in danger of falling.</p>	<p>There should be adequate space for personnel's escaping in case the vehicle is in danger of falling.</p>
 <p>Position vehicle with center of gravity midway between adapters.</p>	<p>Position vehicle with center of gravity midway between adapters. Otherwise the vehicle may lose its balance and fall.</p>
 <p>Remain clear of lift when raising or lowering vehicle.</p>	<p>Personnel should be away from lift when it is raising and lowering to avoid possible injury.</p>
 <p>Avoid excessive rocking of vehicle while on lift.</p>	<p>Do not rock the vehicle excessively while it is on lift. Vehicle may fall under violent rocking condition.</p>

INTRODUCTION OF LIFT



CHARACTERISTICS OF LIFT

DOUBLE CYLINDER SEAL PACK USED FOR MAXIMUM POWER AND DURABILITY.

UTILISATION OF 2 CYLINDERS AND TWIN ROPES DISTRIBUTE BALANCED PRESSURE ON EACH POST THUS, ALONG WITH DOUBLE POST SAFETY LOCK, MAKES THIS PRODUCT ACCIDENT PROOF HOIST.

LIFT MAINTAINS APPROPRIATE LOWERING SPEED DEPENDING ON THE WEIGHT OF VEHICLE FOR SAFE USE.

CABLE REMOTE CONTROL PROVIDE USER CONVENIENCE.

SMART AND ADVANCED DESIGN ALONG WITH DURABLE POWDER COATING FINISHED PAINT ENHANCES THE CLASS OF LIFT AND ITS APPEARANCE FOR LONG TIME.

MODULAR PARTS CHANGE MINUMISE DOWN TIME

1. AUTOMATIC ANTI ARM SWING LOCK IS ADAPTED TO PREVENT VEHICLE FALLING FROM THE LIFT IN CASE OF SUPPORT ARM SWINGS OUT DUE TO MISPLACEMENT OF VEHICLE ON LIFT.

2. FRICTION RESISTING ENGINEERED PLASTIC BEARING ON CARRIER REDUCES NOISE AND WEAR ON THE POST.

3. TELESCOPIC SADDLE PAD FOR VANS AND LIGHT TRUCK WILL ENHANCE THE APPLICATION OF THE LIFT TO THOSE LIGHT TRUCKS AND VANS.

4. ROOF HEIGHT LIMIT SWITCH PROTECT VEHICLE ROOF TOP.

5. ITALIAN POWER PACK IS PROVIDED FOR RELIABLE OPERATION

6. CARRIAGE LIMIT SWITCH PRESERVES LONGER LIFE OF CYLINDER

7. POST STEEL FORMY PROVIDE INCREDIBLE STRNGTH FOR LONG LASTING OPERATION.

8. 3 BUTTON CONTROL BOX PROVIDES MORE OPTIONS IN OPERATING HOIST

9. 3 STAGE FRONT AMRS SHORT FRONT ARM AND 2 STAGE LONG REAR ARM ALLOW VEHICLE DOOR TO BE OPENED WIDE.

DOUBLE THE THICKNESS OF LOAD ARMS ENSURE PIECE OF MIND & EXTRA SAFETY

SPECIFICATION

MAX CAPACITY	11,000 lbs.
POWER & MOTOR	2.2kw x 220v x 60hz,Single phase
LIFTING TIME	Appro x 50second
LOWERING TIME	Appro x 30second

INSTALLATION:

Here we list the criteria and the prescription for a proper installation of the lift and the preliminary operation to perform a safe first use of the machine.

1. PACKING TYPE, SHIPPING, HANDLING, HOISTING POINTS

The machine is supplied conveniently packed.

Check that all the content corresponds to what agreed when ordering and that the packing has not been damaged during the transport. In the event an anomaly was found, do not proceed with the assembly and immediately contact the authorized National Auto Tools, Inc. Triumph Lift Dealer.

The standard package content is the following:

- Control Post(1 unit)
- Long Arms(4 units)
- Hydraulic Power Unit(1 unit)
- Slave Post(1 unit)
- Accessory Pack(1 unit)
- Base Cover Plate(1 unit)

Pay particular attention to the handling of the packed lift and use a lifting device whose capacity is greater to the weight to be moved and/or raised. The posts should only be handled with a hoist & appropriate sling, and must be accompanied by a second person to prevent dangerous swinging. The equipment chosen must be suitable for safe lifting & moving, taking into consideration the dimensions & weight.



DANGER

Always load, unload and handle the lift package paying the utmost attention to possible hazards, in particular make sure that there are no persons or things in the range of the lifting device.

2. STORAGE

If the machine, before being unpacked, needs a temporary storage, keep it in a covered dry place.

3. UNPACKING

Once positioned the load close to the point in which the machine shall be installed, remove the eventual packing.



DANGER

Execute any maintenance, installation and assembly operation on the lift wearing proper protective devices (gloves, shoes...).



ATTENTION

All the packing material shall be properly scrapped in respect of the enforced norms in matter of scrapping of refusals.

4. FOUNDATIONS



DANGER

Before proceeding with the assembly and installation of the machine, verify that the floor is of a suitable type to stand the load consequence of the use of the lift. Only install the lift on a horizontal floor, free from obstacles

The floor where the machine is to be installed shall be constituted from un-fissured concrete, leveled, at least 20cm of thickness, built with a resistance of 25Nm/mm², allowing the fixing to the ground of the lift with the aid of M19x160 dowels given with the machine.

If these conditions are not satisfied, proper foundations will have to be prepared with a gravel floor with a minimum thickness of at least 50 millimeter; on the gravel floor the user shall lay a steel electro-welded mesh with quadrant of 10cm and with a wire diameter equal or greater to 8 millimeter. On top of the mesh a concrete layer with a thickness of at least 180 millimeters shall be placed.



DANGER

Verify that all around the machine there is sufficient space in order to guarantee the correct and safe use of the machine.

ASSEMBLY

In order to guarantee an easy and correct installation and a safe use of the machine, the lift is delivered pre-assembled. There are however some detached parts that need to be assembled in the final location.

1. AUTHORISED PERSONNEL

Only a person qualified, competent and acquainted to all the enforced norms in safety matter shall be allowed to install the lift.



DANGER

In order to properly install NT11 lift, read carefully this manual first and refer only to somebody qualified by National Auto Tools, Inc. for the help.

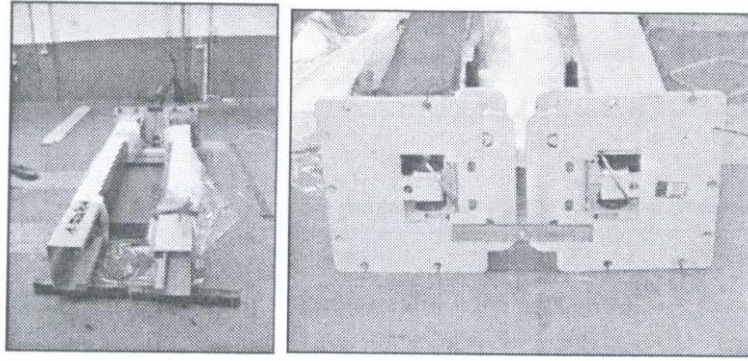
2. NEEDED TOOLS

Beyond the common workshop equipment, the following tools will be necessary:

- 1) A drill with $\phi 19$ -L=160mm (minimum) width tap and dynamometric wrench
- 2) A lifting device, such as a crane or fork lift, with a minimum admissible load of 1500kg
- 3) Hydraulic Oil with a viscosity of 46 Cst at 40°C according to ISO3448-ISO VG46 norms

3. POSITION OF THE WORKSTATION

After having positioned the lift in proximity of the chosen place for a installation, lift the column with raising device, as shown in the following pictures.



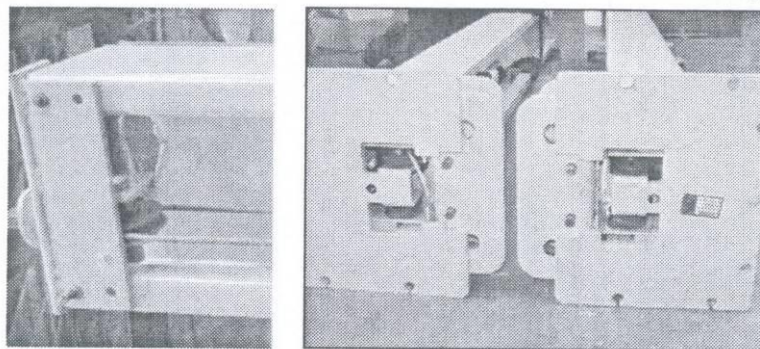
Carefully remove transit plates from base of posts & all packaging.



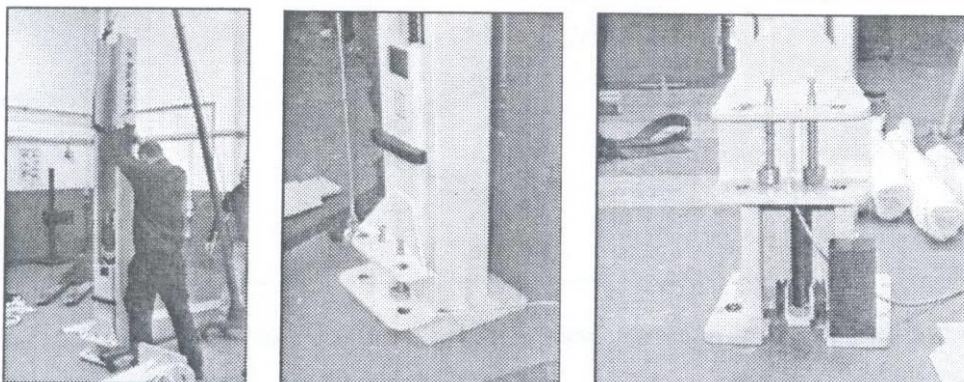
DANGER

Make sure that while raising the column, the load is always properly held. To install the lift is preferable to use a crane; using a fork lift is acceptable, but in this case oversized forks shall be installed, positioning them as close as possible to the load

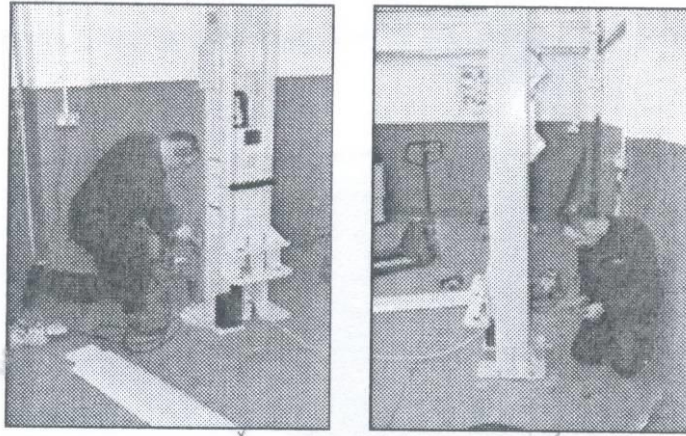
Before moving posts ensure cables are not trapped below base plate. Fit top plate to both posts prior to moving.



Position & align 1st post into position and raise carriage to engage on ratchet and locate safety block to ensure it can't drop.



Drill holes (3/4" x 6") & remove any dust & debris before inserting bolts. It is permissible to use "packing" washers if necessary - Max. 10mm. Fix post into position using bolts & tighten to specified torque (163-165 Nm). Align 2nd post with 1st post using a "chalk line" & position as specified and then repeat previous steps.



Fix the lift to the ground using the M19 bolts supplied with the machine. Lock the bolts with the dynamometric wrench, verifying that the tightening torque is equal to 80Nm.



DANGER

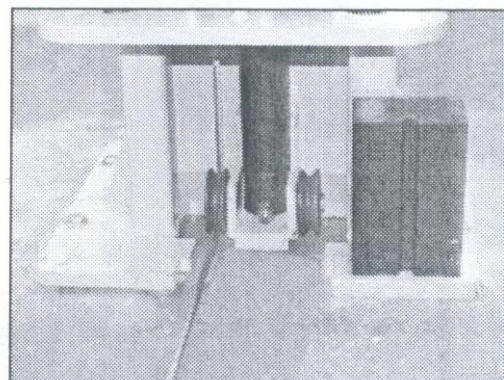
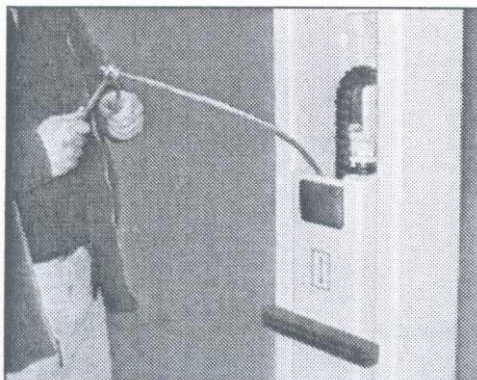
Verify that all the bolts are properly tightened before proceeding with the installation of the machine. It is prohibited to use or even test the lift if only one of the dowels has not been correctly positioned or if the tightening torque of all of them has not been verified.

4. CONNECTION OF THE SYNCHRONISATION SYSTEM

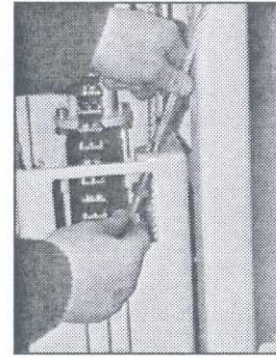
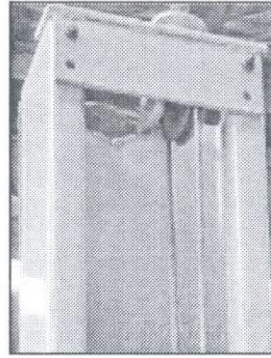
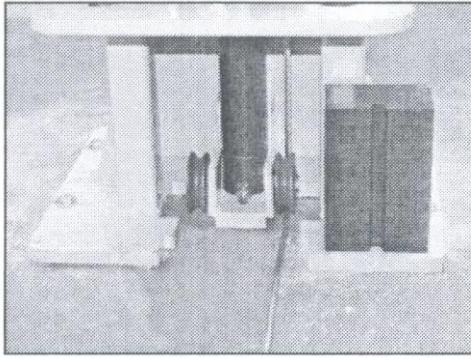
In order to synchronize the position of the load supporting devices during the vertical movement, avoiding dangerous losses of balance of the load, the two carriages are mechanically connect by two steel ropes.

Install the synchronization cables as per the following instructions:

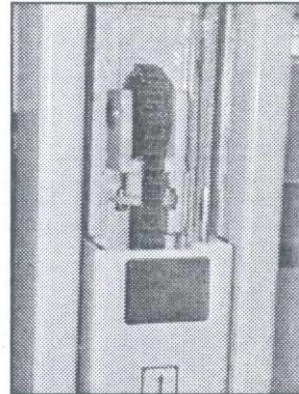
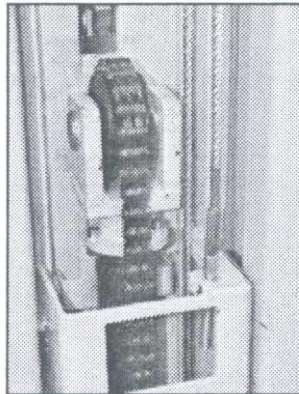
- Position the adjusting nut on cable to approximately halfway along thread, it must be ensured that the locking nut is also tightened to prevent the adjusting nut becoming loose in use.
- Pass cable around pulley at the bottom of post
- Run the cable along floor between the posts & pass cable around pulley at the bottom on the opposite post. Run cable over the top pulley. Adjust nut to tension cable and make sure that the locking nut is also tightened to prevent the adjusting nut becoming loose in use. Pass cable around pulley at the bottom of post, run the cable along floor between the posts & pass cable around pulley at the bottom on the opposite post and run cable over the top pulley.



- Verify that the cable tension switch, installed on the top of each post, is operative and that it is forced open by the sensor device if the cable is not fully pulled.
- Adjust nut to tension cable and make sure that the locking nut is also tightened to prevent the adjusting nut becoming loose in use.



- Check that cable is fully tensioned and install the plastic cap.
- Repeat previous steps for second cable.



DANGER

Verify that the synchronization system and the safety device controlling the tightness of the steel cables operate correctly before using the lift. It is absolutely forbidden to modify or to by-pass the synchronization system and/or any safety device.



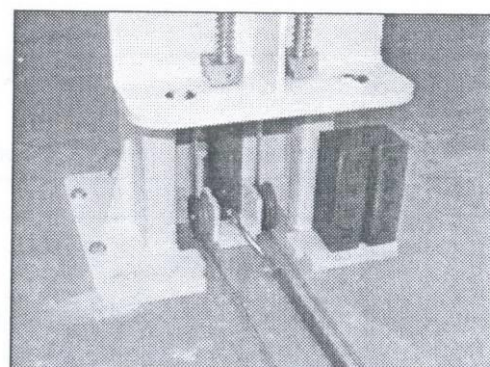
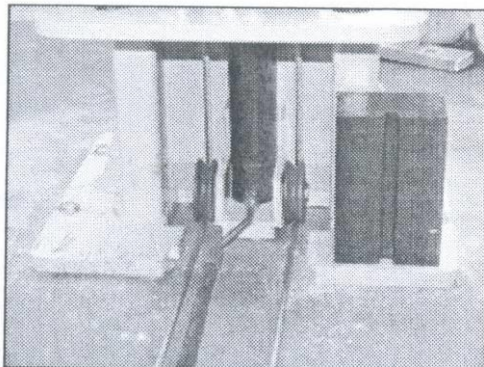
DANGER

Only use original replacement parts approved by National Auto Tools, Inc. for the specific use with the NT11 lift.

5. CONNECTION OF THE HYDRAULIC CIRCUIT:

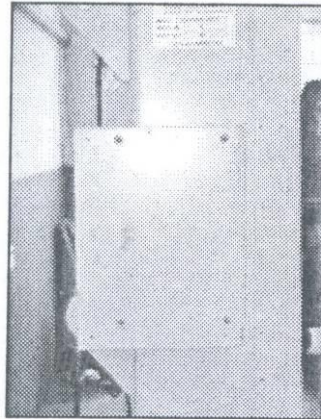
Before using the lift, it is necessary to fill up the tank of the oil, verify the correct assembly of the hoses connecting the hydraulic power unit to the master cylinder and the master cylinder to the slave.

Connect hydraulic pipe between posts, taking care to ensure the elbow connection is positioned to prevent damage when fitting the base cover plate later.

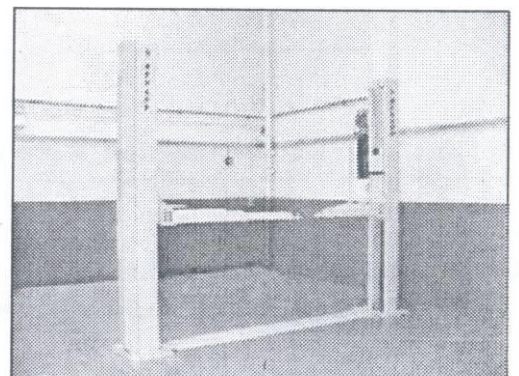
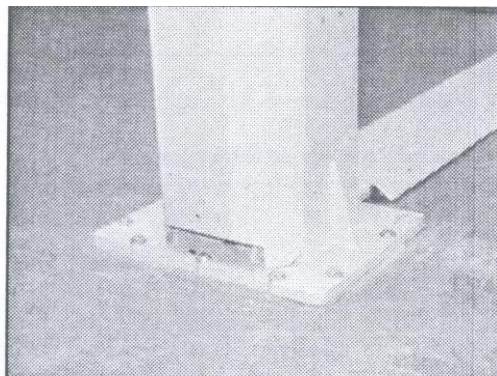
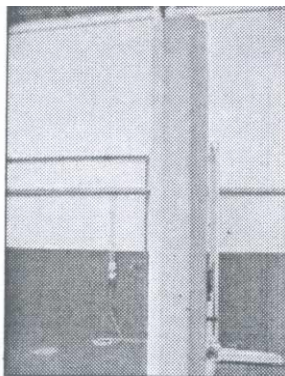


6. CARRIAGE & COVER ASSEMBLY

- Assemble long & short arm to the carriage on each post as shown, it must be ensured that each arm is securely located using the Arm Pivot Pins & locked in position using the provided circlips.



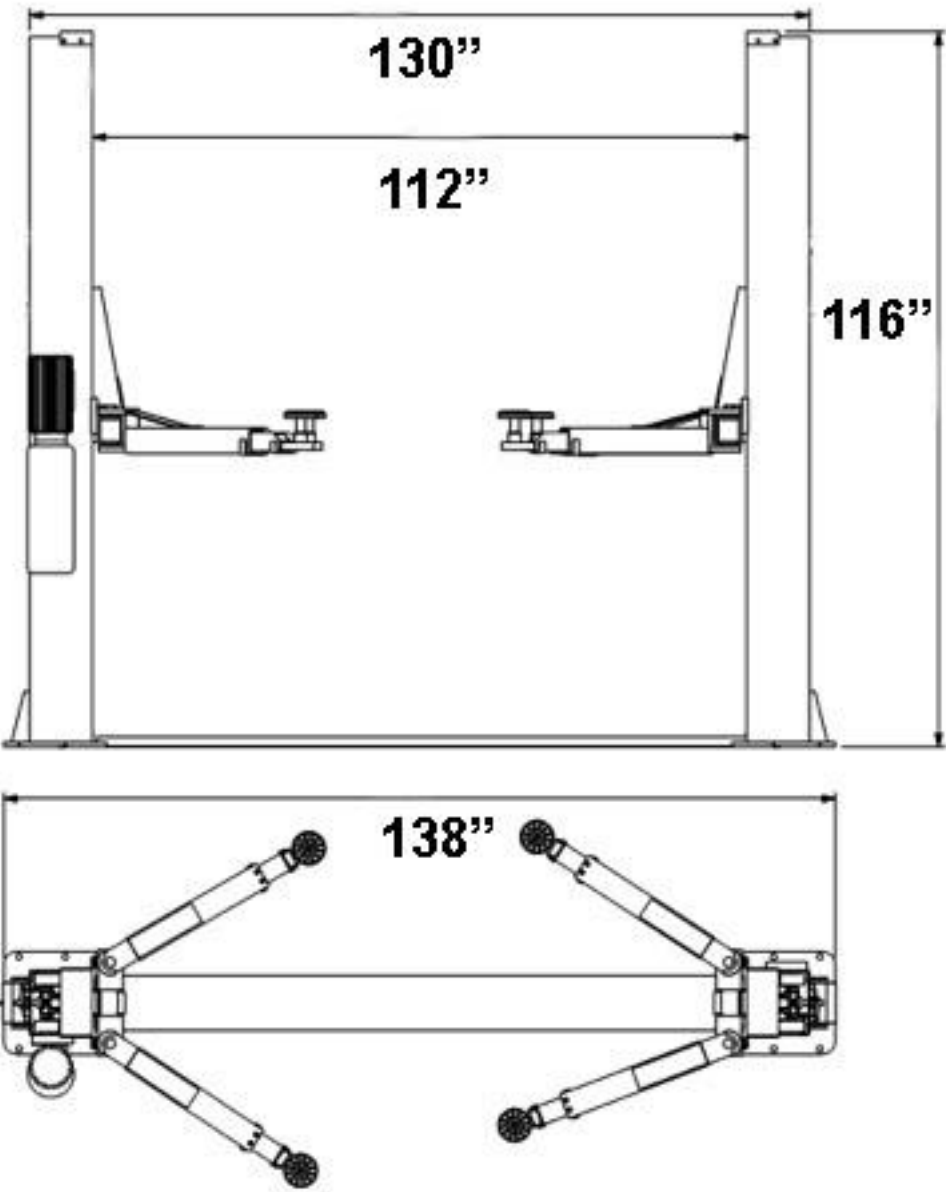
- Securely affix full length post covers to posts, ensuring that wiring & hydraulic pipes are not trapped during assembly. Position base cover plate between posts ensuring that wiring & hydraulic pipes are not trapped during assembly.



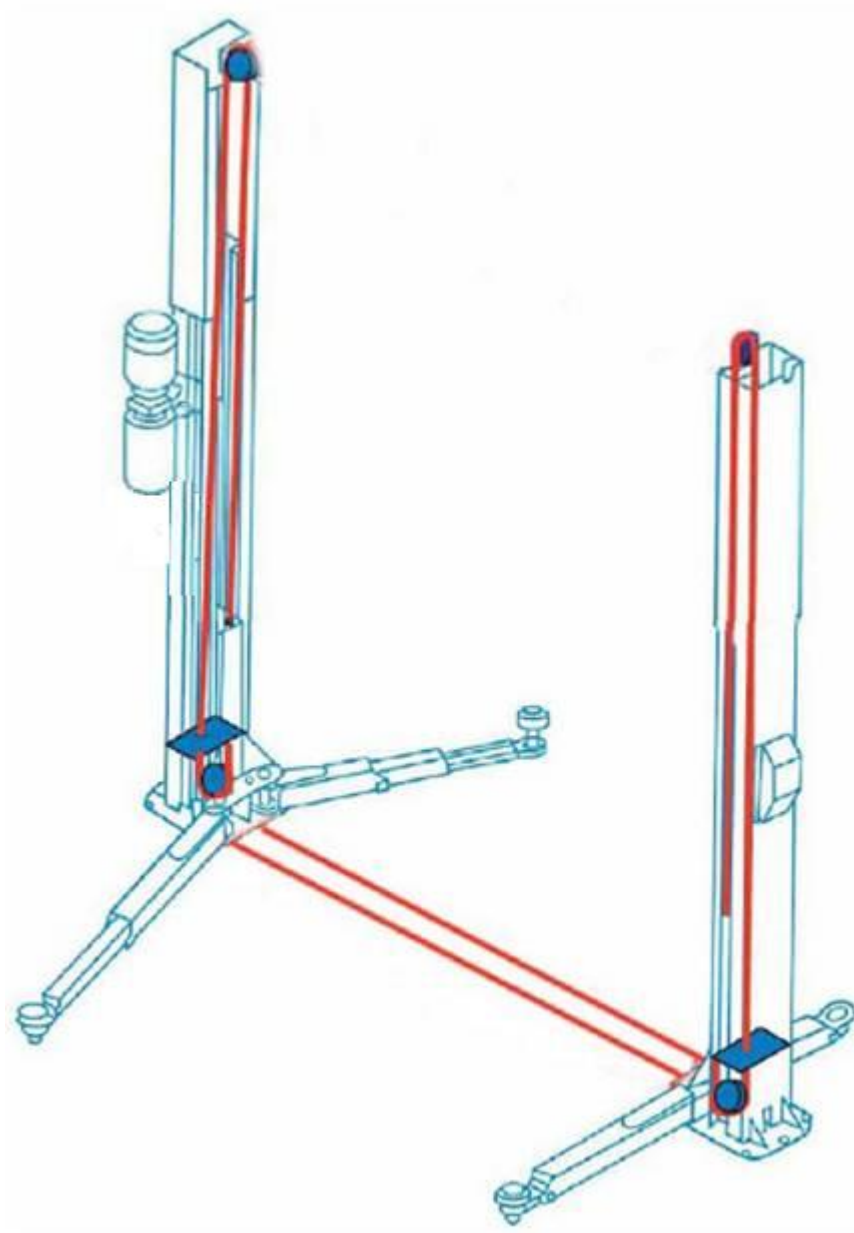
ATTENTION

Ease of routine maintenance & servicing the base cover plate is designed to be positioned between the posts & located in the cutouts of the post base plate, without fixing to floor

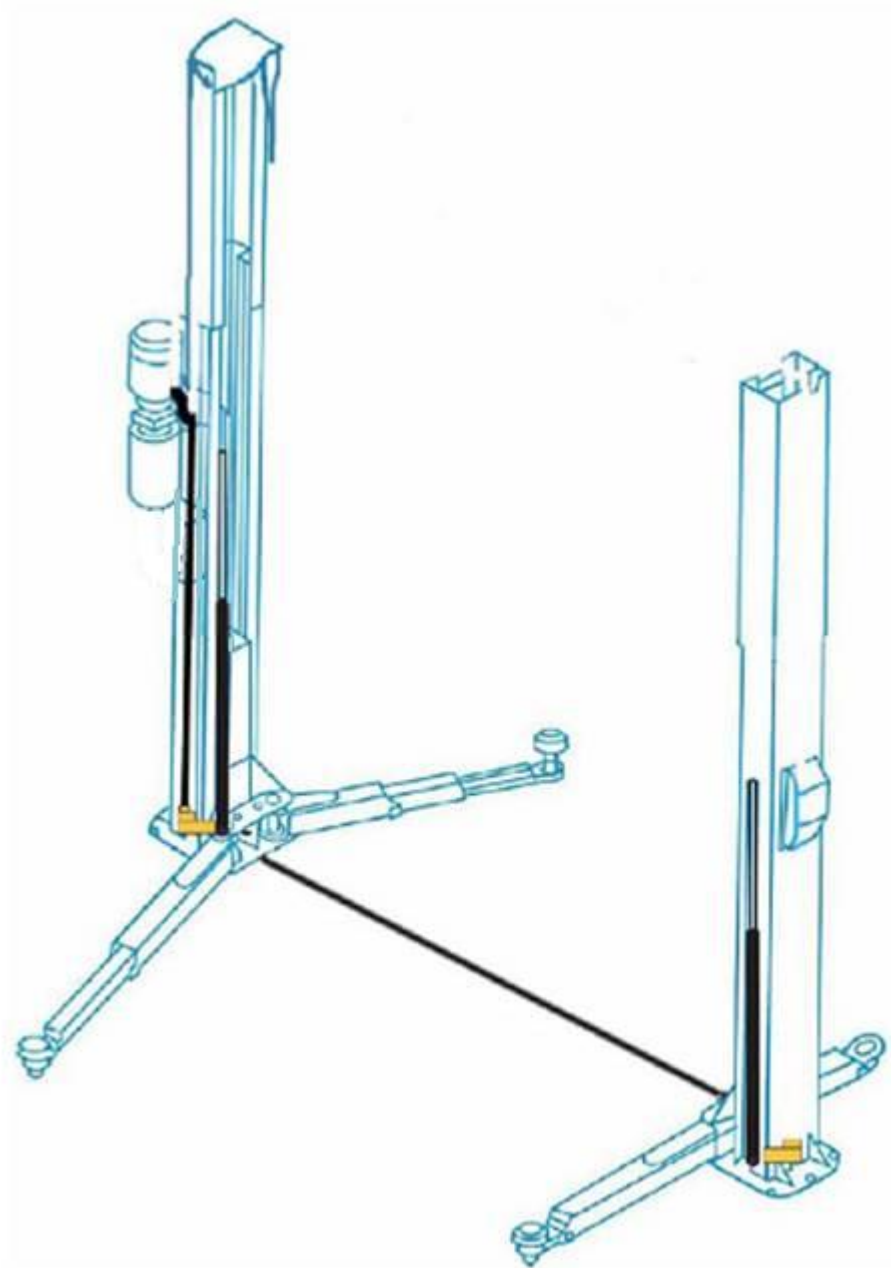
DRAWING



WIRE ROPE DIAGRAM



HYDRAULIC LINE DIAGRAM



HOW TO OPERATE LIFT

CHECK LIST BEFORE OR DURING OPERATION

UP & DOWN SWITCH IS WELL OPERATING?

ANY ABNORMAL NOISE IS HEARD DURING OPERATION?

IS THERE ANY LEAKAGE FROM HYDRAULIC CONNECTION LINE?

DOES SAFETY DEVICE MAKE CLICKING SOUND WHILE RAISING LIFT?

IS THERE ANY LOOSE BOLT OR NUTS?

IS ELECTRICAL FITTINGS ARE SAFELY SECURED?

IS MOVING PART OF LIFT CLEAR FROM ANY EXCESSIVE DIRT OR OTHER SUBSTANCE?

PLACING VEHICLE ON LIFT

MAKE SURE THAT LIFT IS FULLY LOWERED

TRY TO PLACE THE WEIGHT CENTRE OF VEHICLE CLOSE TO THE CENTER OF LIFT

MAKE SURE THAT THE HAND BRAKE IS ON BEFORE GETTING OUT OF VEHICLE

IF OPTIONAL ADAPTER KIT IS TO BE USED, MAKE SURE THE SADDLE PAD IS SECURELY CONTACTING VEHICLE'S RAISING POINT

EMERGENCY DESCENDING

CIRCUMSTANCES

ELECTRICAL FAILURE OR HYDRAULIC LINE LEAKAGE

PREPARATION BEFORE PROCEEDING

- 1) CLEAR OBSTACLES FROM UNDERNEATH OF THE LIFT
- 2) TURN THE POWER SWITCH OFF
- 3) NEVER ENTER UNDER THE LIFT DURING THE PROCEDURE.
- 4) MAKE SURE BOTH POST SAFETY LOCK IS DISABLED
- 5) IF THE SAFETY DEVICE IS ON LOCKED POSITION, USE GARAGE JACK TO LIFT THE ARM CARRIER AND DISABLE THE DEVICE

PROCEDURE

IF YOU HAVE ANY DOUBT FOR PERFORMING THIS OPERATION, YOU MUST CONTACT TRAINED PERSONEL.

- 1) USE 19MM SPANNER TO UNDO HEXAGON BOLT ON THE SIDE OF HYDRAULIC MOTOR UNIT
- 2) TURN THE EMERGENCY CORK TO COUNTER CLOCK WISE SLOWLY UNTIL THE LIFT IS FULLY LOWERED.

** Quick release of valve may cause sudden drop of vehicle from lift.

AFTER COMPLETION

REPOSITION EMERGENCY COCK TO ITS ORIGINAL POSITION.

PROBLEM DIAGNOSIS & REPAIR

- If following symptoms appear, inspect checkpoint to rectify problems. If it is not rectifiable by the operator, call service from the authorized repairer.

	Symptoms	Check point	Action
WIRE ROPE & LOCKING	Carrier is not level when lift is ascending	1. Wire rope is loose	1. Adjust bolt holding wire rope to tighten them
	Carrier is not level when lowered on to safety lock position	1. Loosened lock rail bolt 2. post locking device is not engaging on carrier (cancelled)	1. Tighten bolts after readjusting level 2. Make sure post lock is freely moving and it make clicking sound
	Carrier is inclined during lowering	1. Some locking device still locked 2. Eccentric brake is on 3. Limit switch is on 4. Bad grease supply	1. Adjust level of carrier and lock rails. 2. Re-raise lift then lower it. 3. Move limit switch 20mm upwards 4. Adjust timer setting (2seconds up)
	Locking device is not operating during ascending and lowering	1. Wire or wire connector is not good 2. Solenoid malfunctioning 3. Foreign substance is hindering operation 4. Grease condition is not good	1. Connect them temporarily and call service 2. Replace 3. Clear the substance 4. Regular greasing (monthly)
CYLINDER & MOTOR UNIT	Motor noise	1. Lifting over weight limit 2. Relief pressure adjustment is low 3. Shortage of hydraulic oil	1. Lift within rated capacity 2. Adjust outputs of valve to 140kg/cm square. 3. Add up hydraulic oil and relieve air in hose line
	Hydraulic oil leakage	1. Defect in hose 2. Leakage from connections 3. Bad cylinder packing	1. Replace hose 2. Tighten the loose connection 3. Contact A/S
	Contaminated hydraulic oil	1. Moist and other substance	1. Regular change of oil (1 every year) . First oil change . After 2month of initial operation
	Ascending malfunction	1. Oil leakage & defective motor or pump. 2. erratic movement 3. Pressure relief valve on	1. Contact A/S 2. Release air out of hydraulic system 3. Check pressure of valve (140kg/cm ²)
	Descending malfunction	1. Safety locking device problem 2. Electrical problem	1. Try raising lift & lower again. 2. Call A/S
ELECTRICAL	Motor is not turning Noise from Motor	1. Defective motor 2. Blown fuse 3. Push button not contacting 4. Up limit switch is on 5. Not enough amp supply to motor	1. Replace motor 2. Find cause and replace fuse 3. Replace push button 4. Lower lift manually and fix limit switch 5. Supply enough Amp (Electrician only)
	Circuit breaker is clicking	1. Bad contact on solenoid wire 2. Bad contact on timer PCB 3. Low Amp circuit breaker used 4. Damaged wire	1. Replace 2. Replace 3. Check capacity of circuit breaker and change 4. Check damaged area and replace wire
	Motor is turning but lift is not raising	1. Motor is turning wrong direction 2. Hydraulic hose is not connected properly	1. Change the phase of wire and re operate 2. Check hose connection from motor and other connection area