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Vehicle lift belongs to the machinery listed in Annex IV of Directive 2006/42/EC, so the EC-type examination is required before affixing the CE mark and placed on European market. EC-type examination has been performed by a third party notified body: ISTITUTO GIORDANO S.P.A. (notified number 0407).

EC type-examination performed by IG, notified number 0407_Four post lift

For conformity assessment with EN regulations, IG engineer carried out EC type examination for sample machine of four post lifts, representative type is TLT 440WA. Following testing was considered.

Overload dynamic test

The test load shall be 115% of rated load, 4000kg, and actual test load is 4600kg.

All movements with the test load can be carried out at accelerations and decelerations appropriate with safe control of the load.

During the overload dynamic test the vehicle lift can be capable of stopping and sustaining the test load(s) smoothly.

Overload static test

The test load shall be 150% of rated load, and actual test load is 6000kg.

After removing the test load the vehicle lift shows no permanent deformation occurred.

Functional test

1) With rated load 4000kg

The vehicle lift can operate smoothly for all motions at the rated speed, such up, down and normal stop.

The safety devices work correctly.

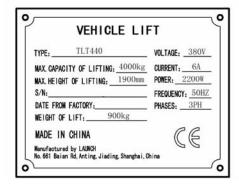
Not exceed maximum permitted lowering or lifting speed 0.15m/s.

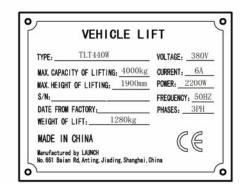
2) Without load condition

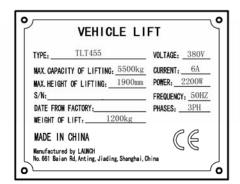
Arm locking system can resist a stipulated value, according to standard, this value should be 4.5% of rated load but not less than 1500N. In this case, test load uses 1800N.

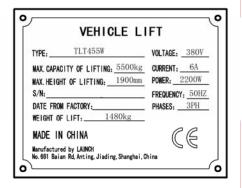
After testing, no permanent deformation occurred.

Name plate:

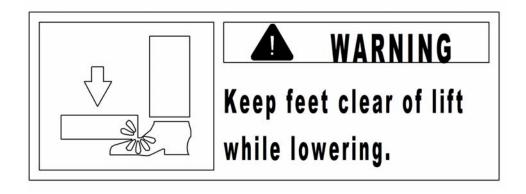








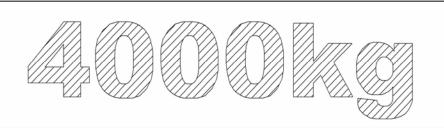
The warning label affixed on the machine





Maintenance Instruction:

- 1. Clear area when raising or lowering vehicle.
- 2. Daily inspect the safety block mechanism to ensure the safe operation. Adjust or repair the safeties immediately if find abnormalities.
- 3. Daily inspect the working condition of steel rope and replace the damaged rope immediately.
- Daily inspect the pulley and lubricate the pulley if necessary. Replace the worn pulley immediately.



5500kg





PRECAUTION

WARNING



- This instruction manual is an essential integral part of this product. Please read all instructions.
- Properly keep this manual for use during the maintenance.
- Use only manufacturer's recommended adapters.
- This equipment is only used for its clearly designed purpose, and never use it for other purposes.
- The manufacturer is not responsible for any damage caused as a result of improper use or use it for other purposes.

IMPORTANT SAFETY

INSTRUCTIONS

When using your garage equipment, basic safety precautions should always be followed, including the following:

- Only the qualified personnel having undergone special training can operate this machine. Without the permission of the manufacturer or not following the requirement of the manual, any changes in the machine part and in the usage scope may cause direct or indirect damage to the machine.
- Don't keep the lift in the extreme temperature and humidity environment. Avoid installation beside the heating equipment, water tap, air humidifier or stove.
- Prevent the lift from contacting large amount of dust, ammonia, alcohol, thinner or spray adhesive, and prevent it from rain shower.
- Always disconnect equipment from electrical supply when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
- To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.

- To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
- During the machine operation, non-operators should be kept away from the machine.
- Do not operate equipment with a damaged cord or the equipment has damaged or lost parts, until examined by a qualified serviceman.
- The lift can't be overloaded. The rated load of the lift is already marked on the nameplate.
- Please don't raise the lift when there are people in the vehicle. During the operation, the customer and spectators should not be in the lifting area.
- Keep the lifting area free from obstacle, grease, machine oil, garbage and other impurities.
- Contact the lifting point as recommended by the manufacturer.
- For some vehicles, the parts dismantling (or installation) will cause severe deviation of the center of gravity, leading to unstable vehicle. The support is needed to keep the balance of the vehicle.
- Before moving the vehicle away from the lifting area, please position the rolling jack in front of the runway to avoid blockage during the movement.
- Use appropriate equipment and tools as well as safety protection facilities, e.g. working uniform, safety boot, etc.
- Pay special attention to various safety marks attached to the machine body.
- Keep hair, loose clothing, fingers, and all parts of body away form moving parts
- Pay special attention not to dismantling the safety devices of the machine or making it not functioning.
- The hydraulic oil used for this lift is N32 or N46.
 Please refer the safety data of grease and oil shown in the manual.

Launch Shanghai is dedicated to improve the product quality and upgrade the technical spec. They are subject to change without notice.

Caution labeling exemplify

(1) Read operating and safety manuals before using lift!



(2) Lift can be used by trained operators ONLY!



(3) Proper maintenance and inspection is necessary for safe operation!



(4) Don not operate a damaged lift!



(5) Authorized personnel only in the lift area!



(6) The vehicle should be chocked while lifting and lowering



(7) Keep the area clear when there is risk of vehicle falling.



(8) Keep away from any moving parts of the lift while lifting or lowering the vehicle.



(9) Don't adjust the hydraulic pressure without permission.



(10) Keep the feet away from the lift while lowering the lift!



(11) When lifting or lowering the runways, don't stand on the lift or under the lift.



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Chapter 1 General

1.1 Model description

Model	Description
TLT440 Four-Post Lift	4-T (9000 lbs) Economy Four-Post lift
TLT440W Wheel Alignment Four-Post Lift	4-T (9000 lbs) Wheel Alignment Four-Post Lift
TLT455 Four-Post Lift	5.5-T (12000 lbs) Economy Four-Post lift
TLT455W Wheel Alignment Four-Post Lift	5.5-T (12000 lbs) Wheel Alignment Four-Post Lift

1.2 Purpose

This machine is used for lifting of various small and medium-sized vehicles with total weight below 4.0t/5.5t in garage and workshop.

1.3 Functions and features

- Designed based on the international standard, meeting the demand of the garage and workshop.
- Driven by hydraulic cylinder in stable lifting and lowering.

- Offering full-range mechanical safety protection by using the safety latches.
- Connected by four steel cables; forced synchronized movement of the lift in order to effectively prevent the sloping of the vehicles.
- Equipped with rolling jack, turntable and sideslip, suitable for wheel alignment. (440W, 455W)
- The minimum lifting height of TLT440 is 170mm, TLT440W is 220mm, TLT455 is 200mm, TLT455W is 250mm.
- Adjustable distance between runways to accommodate different wheel track.

1.4 Technical specifications

Style Parameter			TLT440W			TLT455W	
		TLT440	First grade raising	Second grade raising	TLT455	First grade raising	Second grade raising
	Load capacity(T)	4	4	2	5. 5	5. 5	2. 7
	Lifting height(mm)	1850	1850	250	1900	1900	250
Equ.	Raising time(s)	t≤60	t≤60		t≤70	t≤70	
Equipment parameter	Lowering time(s)	20≤t≤40	20≤t≤40		20≤t≤40	20≤t≤40	
par	Power(kw)	2. 2	2. 2		2.2	2. 2	
cameter	Passing width(mm)	3045	3045		3045	3045	
,	Equipment width (mm)	3445	3445		3445	3445	
	Equipment height(mm)	2172	2172		2172	2172	
Aut	Runway length(mm)	4240	4240		5600	5600	
to alig	Runway width(mm)	500	500		550	550	
gning p	Max wheel base(mm)	1950	1950		2100	2100	
Auto aligning parameter	Min wheel base(mm)	950	950		1000	1000	
ter	Lowest height(mm)	170	220		200	250	

Noise

Operating noise: ≤ 75dB (A)

Hydraulic unit

Working pressure: 16MPa **Electrical parameters:**

Motor:

Voltage: The motors of different voltages can be selected

based on customer's requirements.

Single phase: 110v/60Hz 2.2KW; 220V/50Hz

2.2Kw

Single phase: 220V/60Hz, 2.2KW Three phase: 380V/50Hz, 2.2Kw

1.5 Environment requirements

Operating temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ Relative humidity:

Temp. +30 °C , relative humidity 80%

Transportation/storage temperature:-5 °C

+40 °C Applicable altitude: no more than 2000m

Chapter 2 Structure of lift

TLT440,TLT455

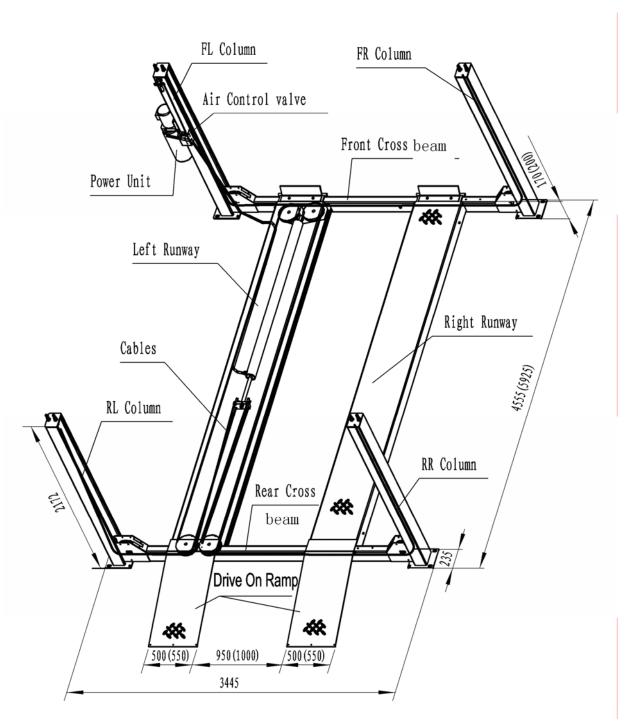


Fig.1

TLT440W,TLT455W

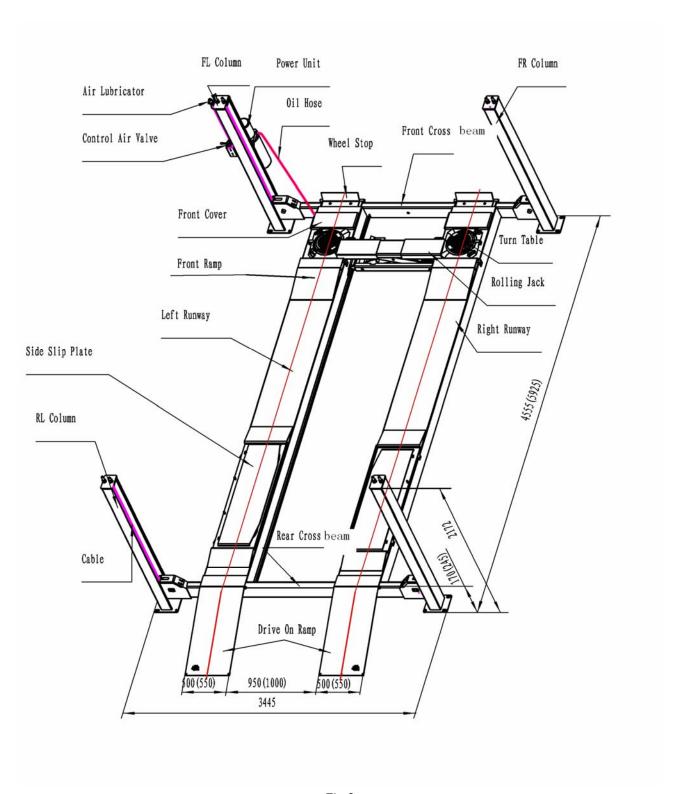


Fig.2

Chapter 3

Operating instruction

3.1 Precautions for Operation

- The gravity position and wheel distance are different for various vehicles. When the vehicle drives on the lift, try best to put its gravity in the middle of the lift. When doing the turntable operating, put the front wheel in the middle of the turntable.
- Carefully read the warning decals.
- The hydraulic valves have been properly adjusted before ex-works, so the users shall not make unauthorized adjustment, otherwise, all the consequences shall be borne by user.
- Based on the production demand, some parameters in the instruction manuals may be modified.

3.2 Operating preparation

- Lubricate the all moving parts in the front and rear cross beams and the rolling jack mechanism.
- The power unit oil tank shall be filled with 12 L
 N32 or N46 applied for hydraulic system.

3.3 Inspection before Operation

- Check to see if the power supply is installed properly.
- Check to see the compressed air supply.
- Check to see if all the bolts are fastened.
- Check to see if the cable tension is well adjusted.
- Check to ensure no air or hydraulic leakage in the lift.

3.4 Lifting the vehicles

- Remove the foreign articles around the lift.
- Lower the lift to the bottom.

- Move the vehicle to the middle of the lift.
- Press the start button on the power unit to lift the vehicle slowly in order to ensure the loading balance and then raise the lift up to the required height.
- Release the start button.
- Press the lowering handle to lock the lift, then the vehicle can be repaired.



Notes:

- When lifting the vehicle, the chocks must be used to block the wheel.
- Prior to the lifting of the vehicle, check for the oil leakage of all the hoses and joints. In case of leakage, the lift shall not be used. Dismantle the leaking joints for resealing. Re-mount the joint and recheck for the oil leakage.
- ♦ When the vehicle is lifted, please confirm the safety devices are under working conditions.

3.5 Lowering the vehicle

- Remove the obstacles from under
- For lowering the lift, If the locking latches are engaged, lift must be raised enough for all 4 latches to clear the latch plates slots inside the columns. Actuate the air control valve to disengage all 4 locking latches and push the lowering handle on the power unit to lower the lift.
- Lower the lift down to the bottom and release the lowering handle.
- To lower the rolling jack, raise jack and release locking latch by lifting release handle, and then depress lowering valve.

Chapter 4 Solutions to FAQ

Symptom	Causes	Solutions
The motor doesn't run	 Check the fuse or the circuit breaker Check for the voltage supplied to the motor Check all the wiring The motor winding is burnt out 	 Replace the burnt fuse or reset the circuit breaker Supply the correct voltage to the motor Repair and isolate all the wirings Replace the motor
The motor runs but doesn't lift the lift	 Reverse rotation of motor Lowering valve normally open Air into the hydraulic pump Air suction pipe goes off the hydraulic pump Low oil level 	 Change the motor rotation direction by converting the lead wire of the motor Repair or replace the lowering valve Tighten all the air suction piping connections Replace the air suction pipe Add oil into the oil tank
Motor is running, the lift can be raised without load, but the vehicle can't be raised	 Motor operating under low voltage Impurities inside the lowering valve Incorrect adjustment of the safety valve Overloading of lift 	 Supply the correct voltage to the motor Remove the impurities inside the valve Adjust the safety valve Check the weight of the vehicle and/or balance the weight of the vehicle on the lift
The lift is lowering slowly without pressing the lowering valve	 Existence of impurities on the seat of the lowering valve External oil leakage Check-valve leckage 	 ◆ Clean the lowering valve ◆ Repair the external leakage ◆ Replace the check-valve
Slow lifting speed or oil flowing out of the oil cap	 Mixture of air and oil Air and oil sucked air mixed Loosening of oil return pipe 	 Replace the hydraulic oil Tighten all the connections for the air suction pipe Re-install the oil return pipe
The lift can't rise horizontally	 ◆ The 4 cables is not well-adjusted ◆ The lift is installed on the floor where levelness can't meet the requirements 	 ◆ Adjust the cables to the proper tension ◆ Shimming the columns to level the lift, If exceeding 12mm, pour new concrete floor and make it leveled. Refer to installation description
The anchor bolt is not tightened	 Oversized drilled hole Insufficient thickness or tightening force of the concrete floor 	 Pour the fast curing concrete into the big hole and reinstall the anchor bolt, or use new drill to drill the hole for re-positioning the lift Cut open the old concrete and make new concrete slab for the lift. Refer to installation description.

Chapter 5 Repair and

Maintenance

Keep clean

- The working environment of this unit should be clean.
 In case of dust in the working environment, it will speed up the parts wearing and shorten the service life of the lift.
- This unit should be cleaned with dry cloth frequently to keep it clean. Before cleaning, first switch off the power to ensure the safety

Daily:

 Before the operation, carefully check the safety mechanism of the lift to ensure the lock and release action is proper, and the safety latch is in good condition. When finding any abnormal situation, make adjustment, repair or replacement immediately.

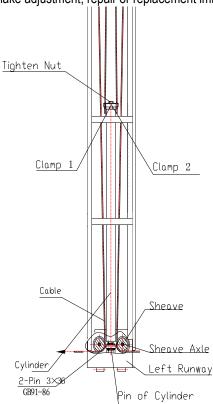


Figure 3

 Check for the normal connection between the hydraulic cylinder and the cylinder runway front plate, and whether the lock nuts and the connections of the

- oil cylinder are loosened off or not. See Figure 6.
- Check whether the steel cables are in normally condition and whether the tension is under the optimum conditions. Replace the worn or damaged cables immediately.

Monthly:

- Re-tighten the anchor bolts.
- Lubricate the shaft and wheel of each rotating part.
- Check all the connection bolts and pins in order to ensure correct installation.
- Check for the wear and damages of the hydraulic hoses

Note: all the anchor bolts shall be completely tightened; in case of failure of the anchor bolts, the lift shall be stopped until the replacement of the anchor bolts.

Every six months:

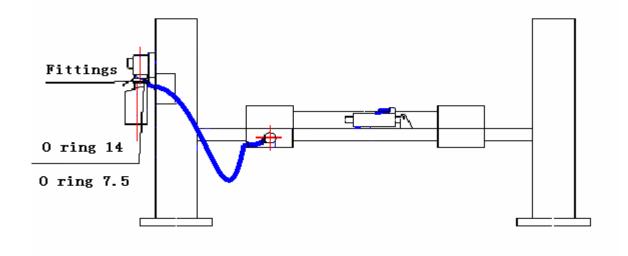
- Check for the wear, interference or damage to all the moving parts.
- Check for the lubrication of all the sheaves. In case of hauling of the sheaves occurring during the lifting and lowering operation, suitable amount of lube oil shall be added to the axles.
- If necessary, check and adjust the balancing tension in order to maintain the horizontal lifting and lowering.
- Check the verticality of the column.

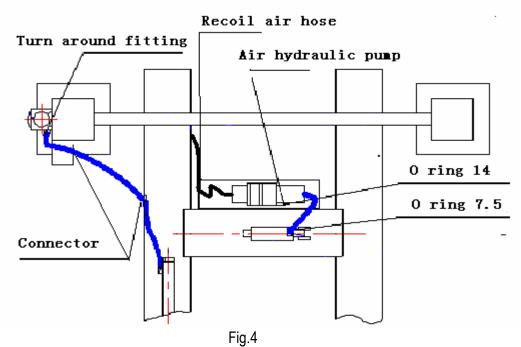
Maintenance and preservation of the hydraulic system:

- Cleaning, replacing the oil
 After six months upon the initial operation of this machine, the hydraulic system shall be cleaned once a year and the oil shall also be changed.

 See Figure 4.
- Replacing the sealing parts

After certain time use of this machine, if the oil leakage is found, careful check shall be conducted; if the leakage is caused due to the wear of the sealing materials, the timely replacement shall be made based on the original specification. See Figure 4.





List of wear parts

No.	Title	Model	Specification	Qtv.	Comments
1	"0"rubber sealing ring	GB3452.1-92	69×5.3	1	
	"0"rubber sealing ring	GB3452.1-92	53×5.3	1	
2	"0"rubber sealing ring	GB3452.1-92	14×2.65	4	
3	"0"rubber sealing ring	GB3452.1-92	7.5×1.8	9	
4	Dust proof ring		DH40	1	
5	Dust proof ring		DH40	1	
6	Axle seal ring		UHS70×80×6	1	
7	Axle seal ring		UHS53×63×6	1	

Chapter 6 Storage and scrap

6.1 Storage

When the equipment requires long-time storage:

- Disconnect the power supply
- Lubricate all the parts requiring lubrication etc.
- Empty all the oil/liquid storage units

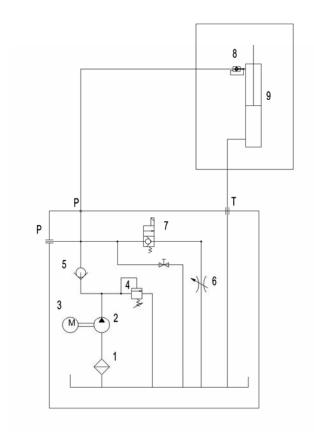
• Put the plastic cover over the equipment for dust protection.

6.2 Scrape

When the equipment service life is expired and can no longer be used, disconnect the power supply, and properly dispose of as per relevant local regulations.

Chapter 7 Hydraulic system, electrical system and pneumatic system

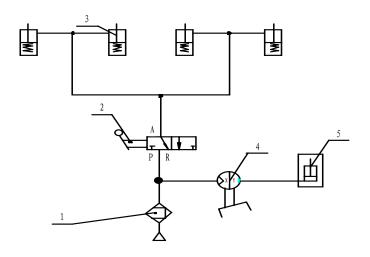
7.1 Diagram of hydraulic system:



- 1. Filter; 2. Gear pump; 3. Motor; 4. Safety valve; 5. Check valve; 6. Flow control valve;
- 7. Direction-change valve; 8. Anti-explosion valve; 9. Cylinder

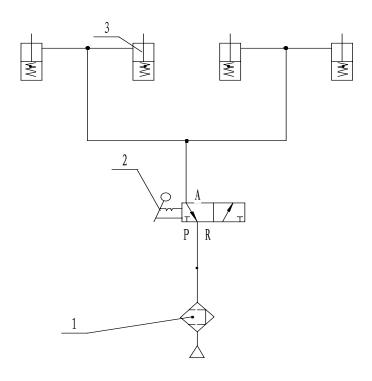
7.2 Diagram of Pneumatic system:

TLT440W, TLT455W



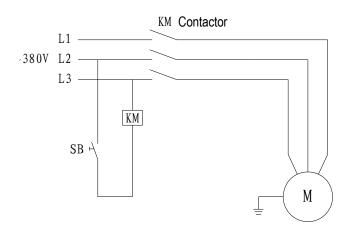
1. Air Source 2. Air Control Valve 3. Air Cylinder 4. Pneumatic Pump 5. Cylinder

TLT440, TLT455



1. Air Source 2. Air Control Valve 3. Air Cylinder

7.3 Diagram of electrical system:



Safety datasheet for lift oil and grease

No.2 lithium lubricating grease

Items	Quality index	
Coning (1/10mm)	278	
Dripping point °C	185	
Corrosion (T2 copper strap, 100 ℃, 24h)	No change on copper straps	
Oil distribution by copper wire mesh (100°C, 22h) %	4	
Evaporation (100°C, 22h) %	2	
Oxidation stability (99°C, 100 h)	0.2	
Anti-corrosiveness (52°C, 48)	Level 1	
Impurities (by adopting telescope) / (pcs/cm³)		
Above 10µm not more than	5000	
Above 25µm not more than	3000	
Above 75µm not more than	500	
Above 125µm not more than	0	
Similar viscosity (-15°C , 10s-1) ,/(Pa·s) not more than	800	
Water spraying loss (38°C, 1h) (%) Not more than	8	

N32 Hydraulic oil (used under low ambient temperature)

Items	Quality index	
Moving viscosity 40°C	28.8~35	
pour point /°C not higher than	-15	
Flash point /℃ not lower than	175	

N46 hydraulic oil (used under high ambient temperature)

Items	Quality index	
Moving viscosity 40°C	41.4~50.6	
pour point /°C not higher than	-9	
Flash point /°C not lower than	185	

Warranty clause

This warranty clause is only applicable for the users and distributors who purchase Launch products through normal sales procedure.

Within 12 months from the date of goods delivery, Launch will make warranty on its mechanical and electrical components due to material or process defects. The equipment or parts damage caused as a result of abuse, unauthorized change, not used for the product designed purpose, operation not in accordance with method stipulated in this manual will be outside the scope of this warranty. The compensation for the automobile damage caused because of our equipment defect is only restricted to repair, and Launch doesn't undertake any indirect or incidental loss. Launch will judge the equipment damage attribute based on its stipulated inspection method. None of Launch's distributors, staffs or commercial representatives has the right to make any confirmation, prompting or commitment related to Launch's products.

Disclaimer

The above warranty clause can replace any other forms of warranty clauses.

Order notice

The parts and optional accessories that can be replaced can be directly ordered with suppliers authorized by Launch. When placing the order, please indicate:

Order quantity

Parts number Parts name

Customer service

In case of any problems during the operation of the equipment, please call: 86-21-69573179 or toll free number 8008206369.

No. 661 Baian Road, International Automobile City Auxiliary Parts Park, Anting Town, Jiading District, Shanghai City

Launch Shanghai Machinery Co., Ltd.

Postcode: 201805

LAUNCH

Launch Shanghai Machinery CO., LTD. NO.661, Bai'an Rd, Anting, Jiangding, Shanghai, P.R.CHINA.

Tel: 86-21-69573368 Fax: 86-21-69573167 Launch.sh@cnlaunch.com www.cnlaunch.com

EC DECLARATION OF CONFORMITY

According to the following EC Directives:

-2006/42/EC Machinery Directive: -2006/95/EC Low Voltage Directive ϵ

The undersigned, Louis Liu on behalf of the following manufacturer:

Manufacturer Name: Launch Shanghai Machinery CO., Ltd.

Manufacturer Address: NO.661 Bai'an Road, Anting, Jiading, Shanghai, P.R.China

declares that the machines mentioned hereafter:

Product Name: FOUR POST LIFT

Product Models: TLT440,TLT440W,TLT440WA,TLT440JA,TLT455,TLT455W,TLT455WA

Comply with the essential health and safety requirements of Directive 2006/42/EC and Directive 2006/95/EC, and the provisions of the following standards:

EN 1493:1998+A1:2008 Vehicle lifts:

EN 60204-1:2006 Safety of machinery - Electrical equipment of machines-Part 1: General requirements;

Notified body which carried out the EC type-examination referred to in Annex IX of 2006/42/EC machinery directive:

Name: ISTITUTO GIORDANO S.P.A.

Address: Via Rossini, 2 -47814 - Bellaria (RN), Italy

Identification number: 0407

Number of the EC type-examination certificate: Person authorised to compile the technical file:

Name: Burkhard Schetting

Address: Heinrich-Hertz-Str. 10, D-50170 Kerpen, Germany

Manufacturer 's legal representative:

Signature:

Qualification: Chairman of the Board

Place: Launch Industrial Park, Banxuegang, Bantian, Longgang District, Shenzhen, Guangdong, China.

Date: 20/0. 1. 22