8. Tools for Installation and Adjustment

To ensure proper installation and adjustment, please prepare the following tools:：

Tool	Model
Leveling instrument	Carpentry type
Chalk line	Min 4.5m
Hammer	1.5kg
Medium crescent wrench	40mm
Open-end wrench set	11mm-23mm
Ratchet socket set	
Flat Screw driver	150mm
Rotary hammer drill	20mm
Concrete drill-bit	¢ 19mm

9. Unpacking

Open the packing box; remove the packing materials and inspect the lift for any sign of shipment damage. Check by packing list to see if the main parts and accessories are complete.

Keep the packing materials away from the children to avoid danger; if the packing materials cause the pollution, they shall be treated properly.

10. Installation

10.1 Important notice

- The wrong installation will cause the lift damage or personal injury. The manufacturer will not undertake any responsibilities for any damage caused due to incorrect installation and usage of this equipment, whether directly or indirectly.
- The correct installation location shall be "horizontal" floor to ensure the horizontal lifting. The slightly slope floor can be corrected by proper shimming. Any big slope will affect the height of the lifting pad when at the bottom or the horizontal lifting. If the floor is of questionable slope, consider a visual inspection, or pour a new horizontal concrete slab if possible. In short, under the optimum horizontal lifting status, the level of the lifting relies on the level of the floor where it is installed. Don't expect to compensate for the serious slope.
- Don't install the lift on any asphalt surface or any surface other than concrete. The lift must be installed on concrete floor conforming to the minimum requirement showed in this manual. Don't install the lift on the concrete with seams or crack and defect. Please check together with the architect.
- Without the written approval of the architect, don't install the lift on a second floor with basement.
- Overhead obstruction: The lift installation area can't have any overhead obstruction, such as heater, building support, electrical pipe, etc.
- Concrete drilling test: The installation personnel can test the concrete thickness at each site by drilling test. If several lifts are installed at one place, it is preferred to make drilling test in each site.
- Power supply: Get ready the power supply before the installation. All the electric wiring and connecting should be performed by a certified electrician.

10.2 Installation Procedure

10.2.1 Selecting installation site

Selecting installation site based on the following conditions:

- Lift can only be installed on concrete slab, which must have a minimum thickness of 250mm and should be aged 7days at least .
- The concrete slab shall have reinforcement by steel bar.
- The concrete slab must be leveled.
- If the thickness of the whole ground concrete is greater than 250mm, the lift can be installed directly
- Check the possible obstruction, e.g. low ceiling, top pipeline, working area, passage, exit, etc.
- The front and back of the lift should be reserved with sufficient space to accommodate all the vehicles (Fig. 8).(evaluating from the center line ,each edge should be about 4m)

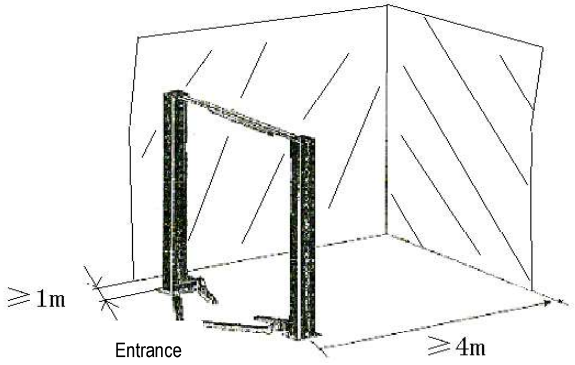

Fig. 8

10.2.2 Base plate layout

TLT235SC(U) symmetric installation is shown in Fig.9a,, TLT235SC、TLT240SC symmetric installation is shown in Fig. 9b, TLT235SB、TLT240SB symmetric installation is shown in Fig.9c:

- With total width (A) as the basis, draw two parallel lines (#1 and #2) on the concrete slab, with the error within 3mm.
- Determine the power side column location on any chalk line, and mark the total width (B) of the base plate. Mark the points 3 and 4.
- Starting from point 3, draw one diagonal line (C) ,forming a triangle. In this way, the vertical lines can determine the location of the two columns.

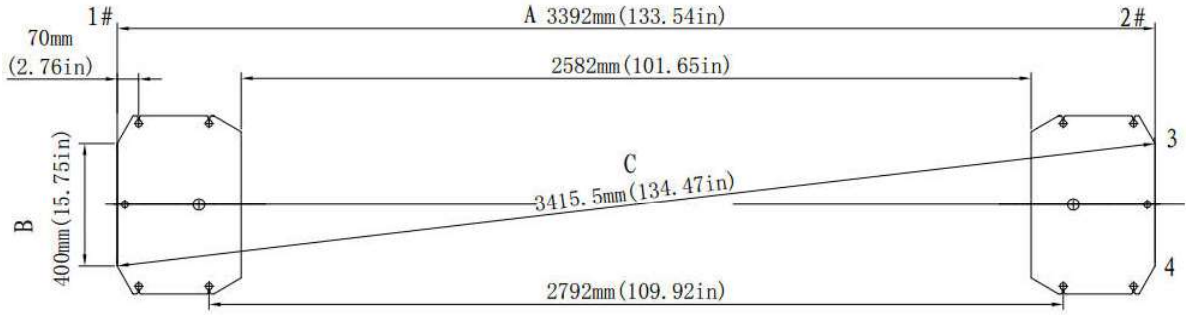

Fig.9a

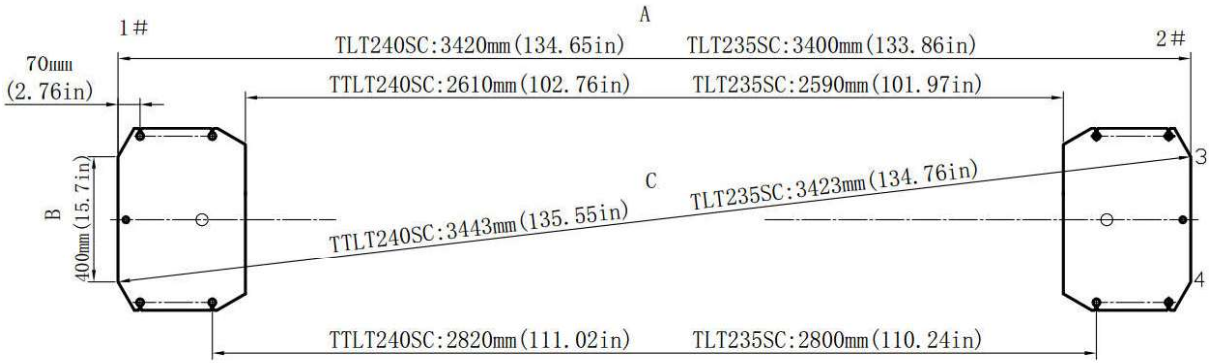

Fig.9b

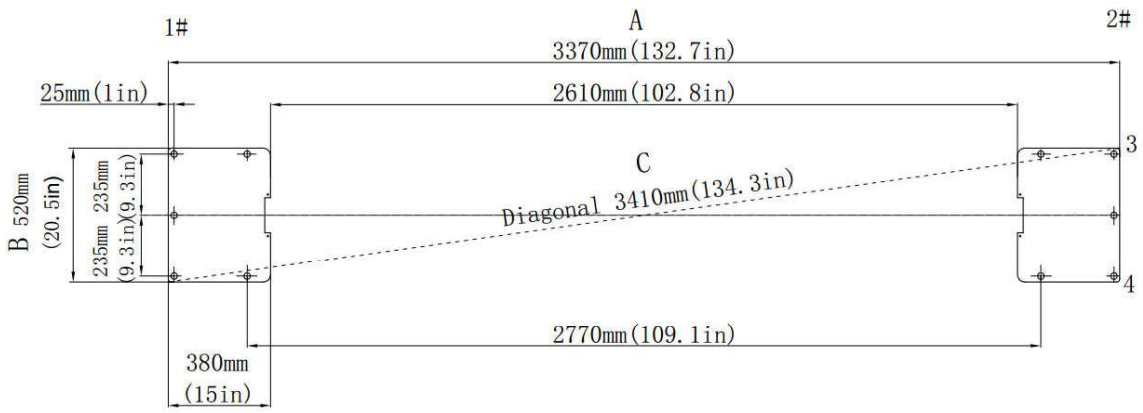

Fig.9c

TLT235SC(U) asymmetric installation is shown in Fig.10a，TLT235SC、TLT240SC asymmetric installation is shown in Fig.10b：

- With total width (A) as the basis, draw two parallel lines (#1 and #2) on the concrete slab, with the error within 3mm.
- Determine a point B at any point on chalk line #1, based on point B, move down 131mm, then move right 228mm to get point C. Based on point B, draw #1's vertical line M with a length of A to get point D .Based on point C, draw line M's parallel line N with a length of L to get point E. With four points B,C,D,E, each post's position can be decided.

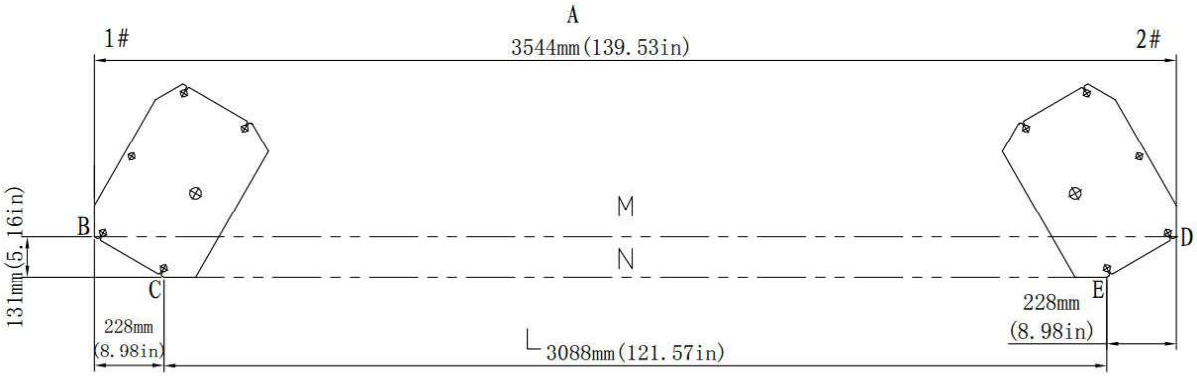

Fig.10a

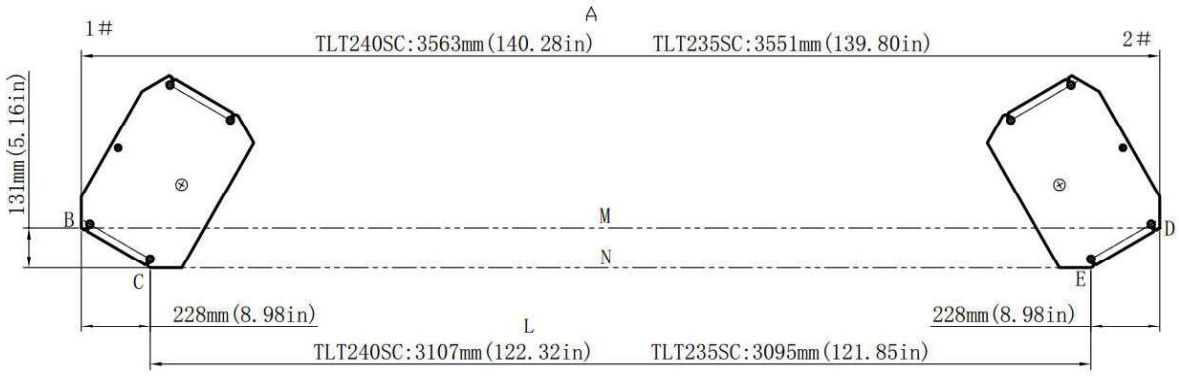

Fig.10b

Note:

- ***All the dimensions are based on the external border of the base plate.***
- ***Ensure the overall error is controlled within 6mm. In this way, the difficulties in the final assembly, or early wear or non-alignment of the chain can be eliminated. The marking and layout is very important. If it is inaccurate, there will be problems during the final assembly and operation.***

10.2.3 Install the power side column

For clear-floor two post lift ,first install extension column with column, then use lifting equipment to place power side column upper right to the location. Align the base plate of column with the chalk line layout. Guided by holes on the base plate of the column, use 5 concrete anchor bolts to fix it onto the ground. Drill and install anchor Bolt s at one time, during the drilling process, ensure no movement of the column.(Fig.11a) .

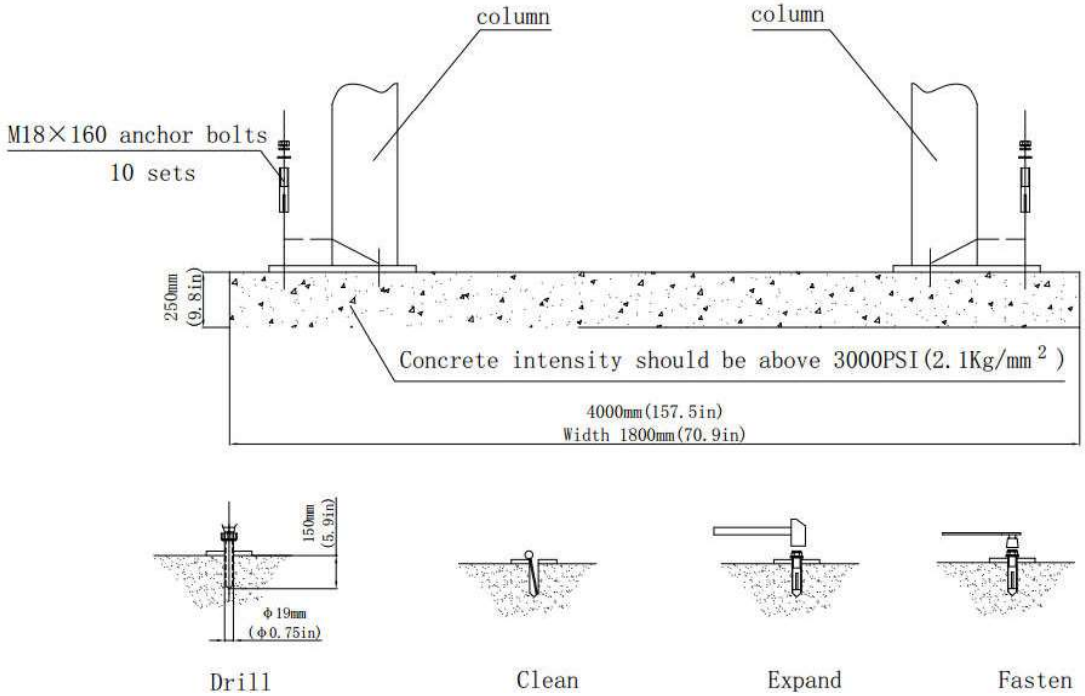

Fig.11a

For floor-plate two post lift , use lifting equipment to place power side column upper right to the location. Align the base plate of column with the chalk line layout. Guided by holes on the base plate of the column, use 5 concrete anchor bolts to fix it onto the ground. Drill and install anchor Bolt s at one time, during the drilling process, ensure no movement of the column.(Fig.11b) .

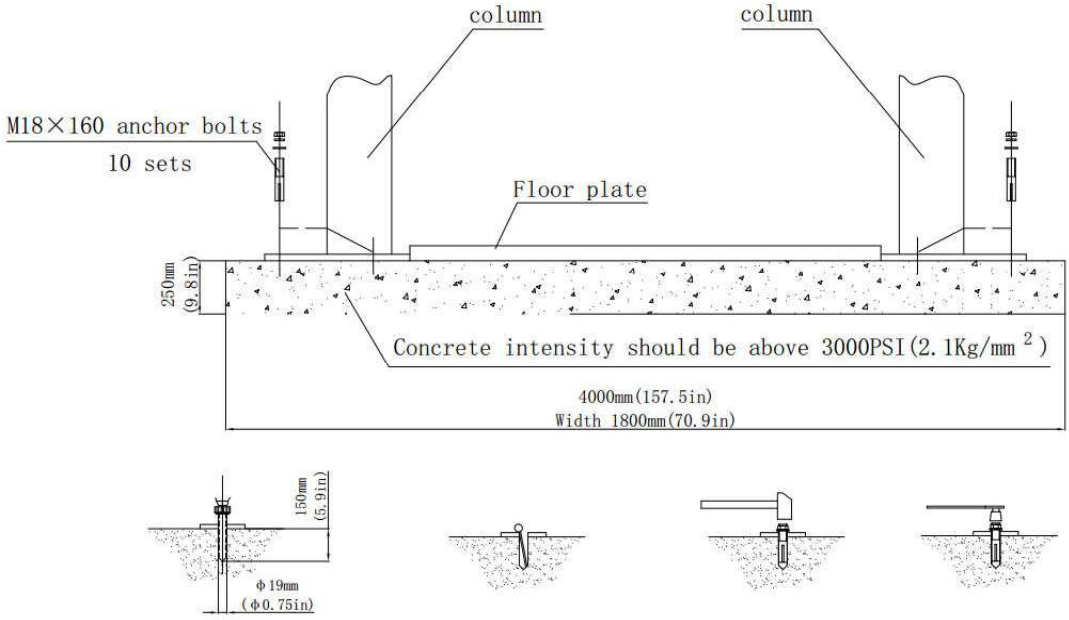

Fig.11b

Note：

- ***Use sharp Φ19mm concrete drill-bit to drill the holes so as not to drill the hole too large,. Use proper pneumatic tool to remove the dust from the hole. The depth of the hole is the same as that of the anchor Bolt . Insert the anchor Bolt and make the washers lean against the base of the column.***
- ***Only use torque wrench instead of impact tools to fasten anchor bolts.***
- ***Insert proper steel shim under the base seat of column to plumb the column.***

Note: The thickness of shims shouldn't exceed 5mm.

To get the correct and safety installation, please follow the following installation steps.

- Wear the safety goggles
- Use hard alloy drill-bit.
- Don't use the drill-bit with wearing exceeding the tolerance.
- The drill and concrete surface should be kept perpendicular.
- Let the drill work itself. Don't apply the extra force, and don't ream the hole or allow the drill to wobble.
- The drilling depth of hole is based on the length of anchor Bolt .The distance from the Bolt head to the concrete floor should be more than twice of the Bolt diameter.
- Remove the dust from the hole.
- Gently tap the Bolt into the hole till the washer rests against the base plate of column.
- Fasten Bolts

10.2.4 Install the floor plate, top beam

10.2.4.1 Install the top beam

Position the offside column at the designated chalk location. Lift the top beam to its high position, and use four M12 Bolt s, washers and lock nuts to fix it with the columns (as shown in Fig.12). When installing the top beam, ensure the above micro switch support bracket adjacent to the power side column. In Fig12:The symmetric top pulleys are to be installed at position 1、1",asymmetric top pulleys are to be installed at position 2、2".