Chinese Listed Company
Stock Code: SZ 300986

GETO®
FORMWORK & SCAFFOLDING EXPERT

GT18

Self Climbing Platform

(Intelligent Building Construction Protective Platform)

INSTALLATION
USER MANUAL

GETO Group

Headquarters:
Greater Bay Area—No. 13 Heqing Road, Tsuihang New District, Zhongshan City, Guangdong Province
Southern China Production Base Ⅰ：
Cuishan Lake Science and Technology Park, Kaiping, Jiangmen City ,Guangdong Province
Southern China Production Base Ⅱ：
Huizhou Industrial Transfer Industrial Park, Huizhou City, Guangdong Province
Eastern China Production Base Ⅰ：
Guangchang Industrial Park, Fuzhou City, Jiangxi Province
Eastern China Production Base Ⅱ：
Baizhong Industrial Park, Minqing , Fuzhou City, Fujian Province
Central China Production Base：
Hi-tech Industry Development Zone, Xianning City, Hubei Province
Northern China Production Base：
China Aluminium Industrial Park, Linqu, Weifang City, Shandong Province
Southwest China Production Base：
Modern Manufacturing Industrial Park, Tongnan High-Tech District, Chongqing City
Northwest China Production Base：
The Circular Economy Park, Anding District, Dingxi City ,Gansu Province
Hainan Production Base:
Gold Medal Port Industrial Park, Lingao County, Hainan Province
ASEAN Production Base：
Negeri Sembilan, Malaysia

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GETO Website
www.getoformwork.com

20230501V1

We insist on providing customers with the highest
cost-effective formwork and scaffolding solutions and services.

Company Profile

GETO is a comprehensive service-oriented joint-stock enterprise focusing on aluminum formwork, self-climbing platform, infrastructure construction and precast concreate components. The company started at the old revolutionary base Guangchang of Jiangxi Province. The global management headquarter was set in Tsui Hang New District of Zhongshan in Guangdong, the back-land of the Greater Bay Area. Our products sell well in more than 30 countries and regions around the world. Southern China production base is located in Jiangmen, Guangdong province; eastern China production base is located in Guangchang, Jiangxi province; central China production base is located in Xianning, Hubei province; northern China production base is located in Weifang, Shandong province; Hainan Free Trade Port prefabricated construction base is located in Lingao Jinpai Port; ASEAN production base is located in Negeri Sembilan, Malaysia. GETO is the first batch of super-qualified enterprises in the industry to realize scale, specialization, and intelligence, focusing on research and development, design, production, lease and sales, and technical services of aluminium formwork and assembly system. We are dedicated to providing customers high-quality products beyond expectation.

Our company's products cover typical floor aluminium formwork , basement aluminium formwork, untypical floor aluminium formwork, roof layer aluminium formwork, anti-hollowing formwork, integrated tunnel formwork, self-climbing platform, climbing formwork, tower-type scaffolding, ring lock scaffolding, one-side wall support, cantilever and other full range of formwork and scaffolding products, as well as precast component products, and the "N+1" one-stop service strategy mode has been realized.

In the future, we will further depend on the improved information basis and apply the industrial big data, artificial intelligence and IoT technologies to create the whole-industry-chain ecological circle system and actively promote the transformation of the traditional construction to a green and intelligent construction industry.

Jiangmen	Hubei	Jiangxi	Shandong	Hainan	Malaysia
200,000 square meters	340,000 square meters	200,000 square meters	270,000 square meters	120,000 square meters	30,000 square meters

GETO Milestone

2011
Jiangxi GETO was set up in 2011.

2013
GETO was rated as AAA-level credit enterprise in the industry in 2013.

2014
GETO was rated as National High-tech Enterprise in 2014.

2014.03
GETO’ s first overseas order was signed in March 2014.

2015
Malaysia GETO Company was registered and founded in 2015.

2015
GETO was selected as the Executive Director Unit of China Formwork-Scaffold Association, and took the lead in formulating aluminum alloy formwork standards in the industry and participated in the formulation of industry standards for aluminum formwork products as the main sponsor in 2015.

2016
GETO was officially listed on the New Third Board in 2016.

2016
In 2016, it was selected as the Vice-Chairman Organization in China Formwork and Scaffold Association, and ranked first in the selection of Top 100 Enterprises in the Industry.

2016
GETO products passed the Singapore BCA Band-2 certification in 2016.

2017
Shandong GETO was established in 2017.
Singapore GETO was set up in 2017.

2018
GETO registered the first overseas trademark in 2018.
Hubei GETO was established in 2018.

2018
GETO Greater Bay Area Management Headquarter was founded in 2018.
Jiangmen GETO was established in 2018.

2019
Cambodia GETO was registered and established in 2019.

2020
GETO New Material passed the IPO meeting smoothly in 2020.

2021
Hainan GETO was founded in 2021.

2021
GETO was listed on the Shenzhen Stock Exchange in 2021.

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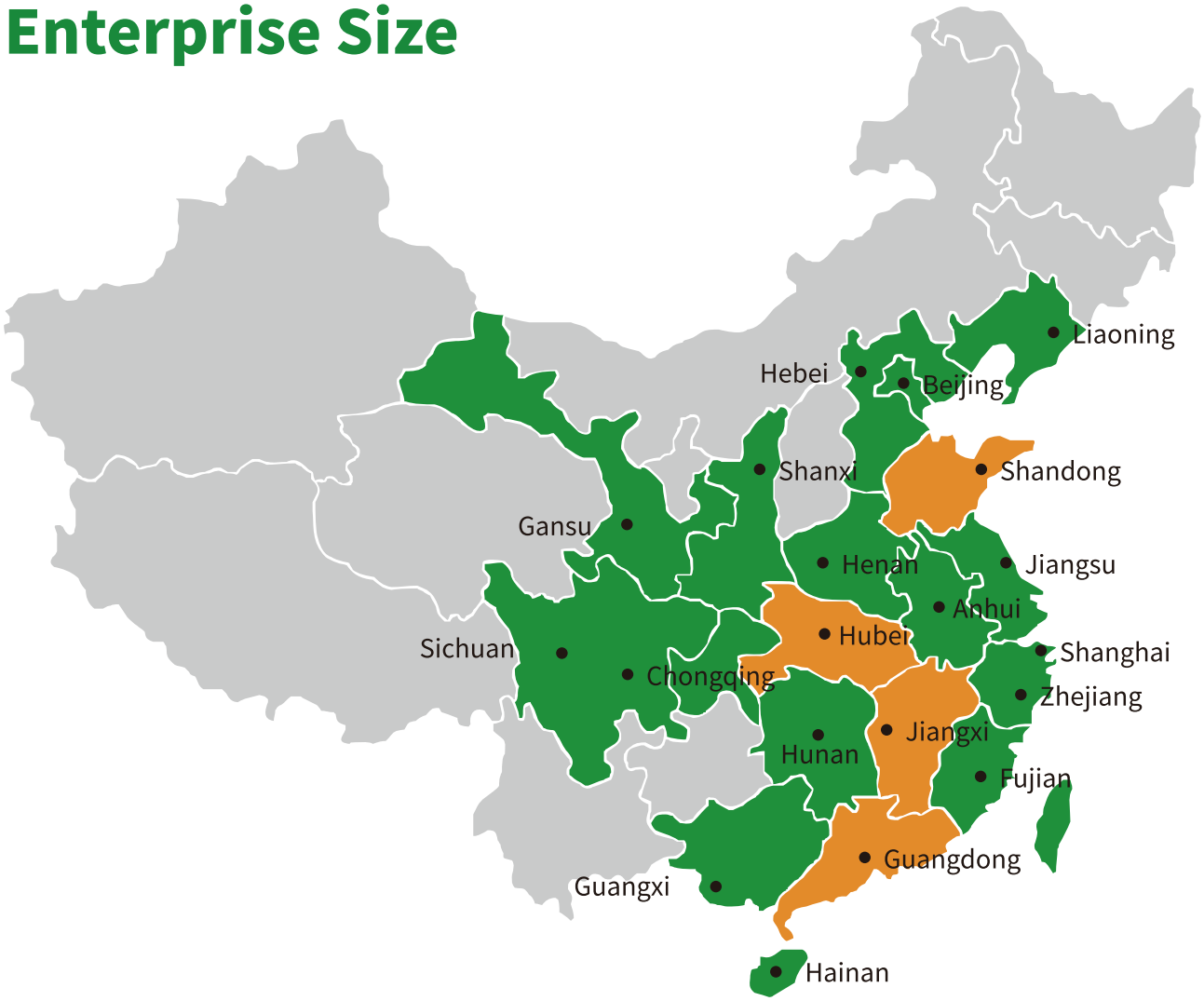
Enterprise Size



GETO Production Base:

South China Production Base:
Jiangmen, Guangdong, China

East China Production Base 1#:
Guangchang, Jiangxi, China
East China Production Base 2#:
Guangchang, Jiangxi, China

Central China Production Base:
Xianning, Hubei, China

North China Production Base:
China aluminium formwork industrial park,
Weifang, Shandong, China

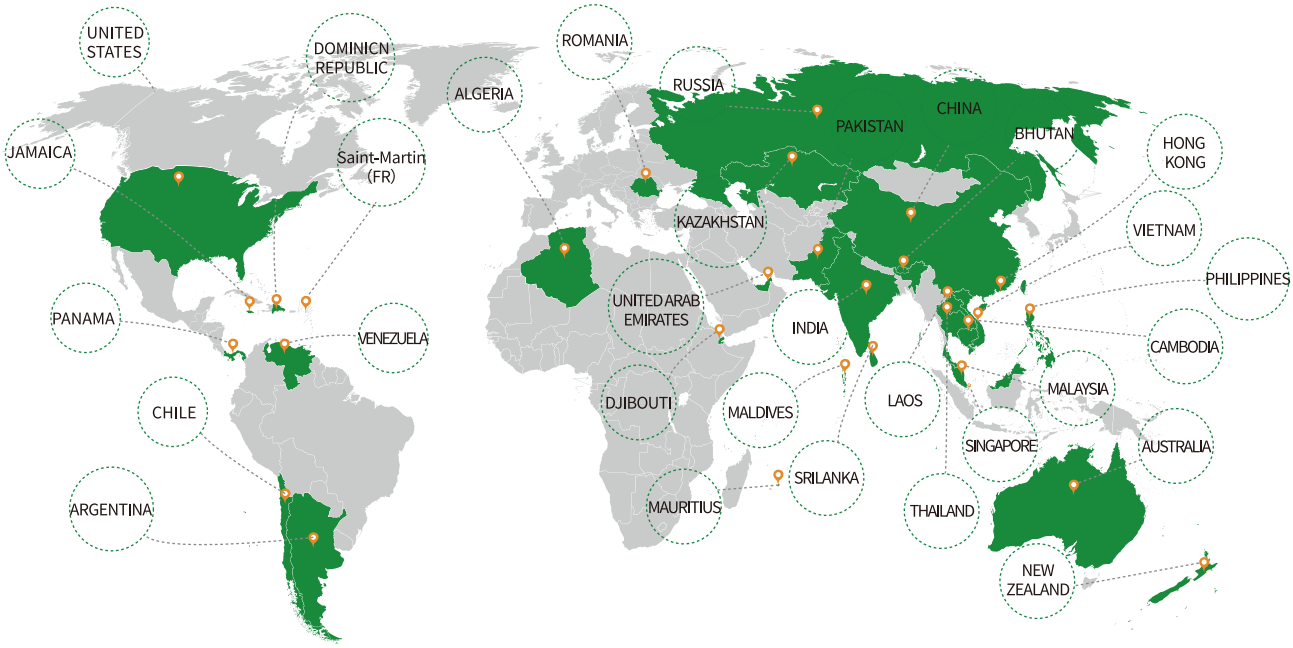
Hainan Free Trade Port Prefabricated Construction Base:
Lingao, Hainan, China

Malaysia Production Base:
Lot 143, 145, Jalan Permata 1/5, Arab Malaysian
Industrial Park, 71800 Nilai, Negeri Sembilan

Cooperation Area

With a spirit of craftsmanship and perfection, under the call of national “ Belt and Road”,and adhering to the service tenet of "creating value for customers", we have established long-term partnership with China Top 10 construction companies, such as CSCEC, CREC, MCC, ZHONGTIAN Group, and Country Garden, Vanke, Greenland, Poly, Evergrande Group, etc

Overseas Markets



Headquarter

Tsui Hang New District, Zhongshan, Guangdong-Hong kong-Macao greater bay area, China

Singapore GETO

Blk 808 French Road #05-157 Kitchener Complex, Singapore

India GETO

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Pin Code 400066

Malaysia GETO

No 1-2 (Second Floor), Jalan Anggerik Vanilla BF 31/BF, Kota Kemuning, 40460 Shah Alam, Selangor Darul Ehsan, Malaysia

We insist on providing customers with the highest cost-effective formwork and scaffolding solutions and services.

1
Product Reviews

Summary For GT-18 Self Climbing Platform

GT-18 Self Climbing Platform is a new scaffolding system developed in recent years, which is predominantly suitable for high-rise buildings and super high-rise buildings. It can rise along with buildings. This system is a technological innovation in the field of scaffolding. For instance, it is not necessary to overhang i-steel for numerous times. Next, it exempts the disassembly and assembly process of the scaffolding.
(After one round of assembly, it can be used until the construction ended). Likewise, it is not limited by the height of the building. Hence, this greatly saved the usage of human resources and materials. GT-18 has more safeguards and plays a greater advantage in high-rise buildings by comparing it with the traditional method of scaffolding.

Components of Self Climbing Platform

Lifting System

Frame System

Lightning Protection System

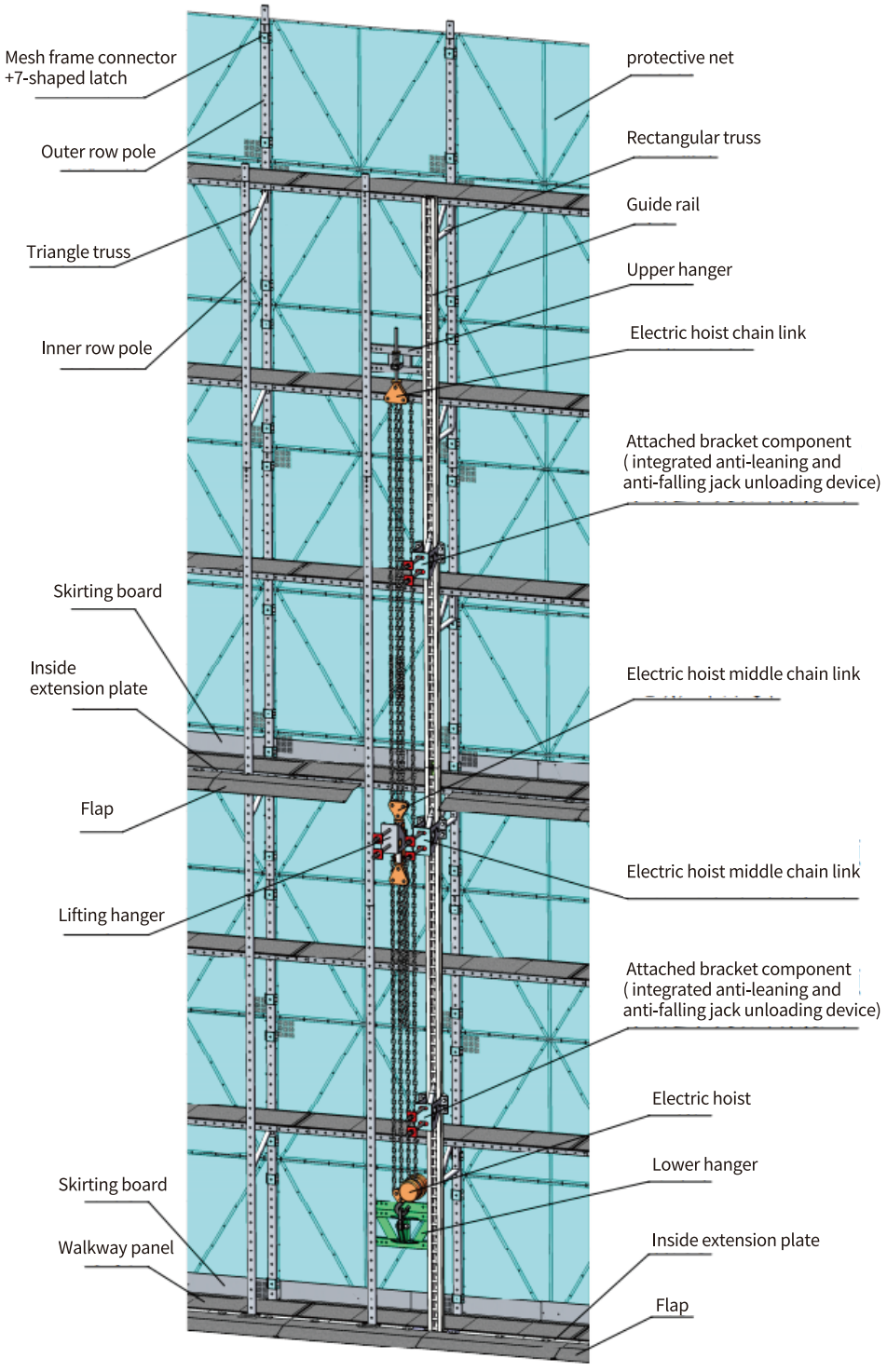
Attached Support System

Control System

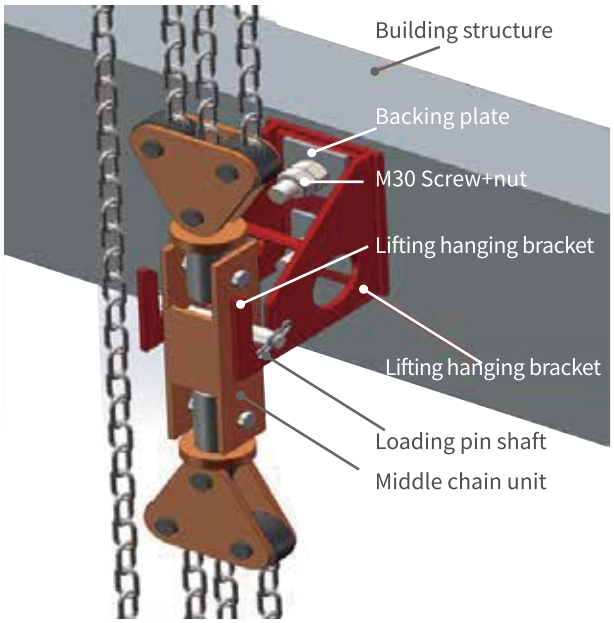
1.1 Lifting System

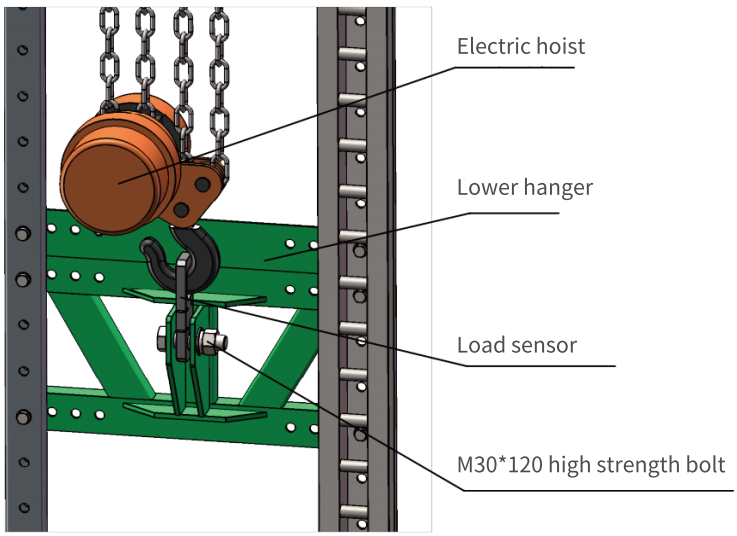
Self Climbing Platform
(commonly known as: climbing frame) is the extension and development of the external scaffolding. It is a complete set of construction equipment developed from the traditional concept of building turnover materials. It possesses all the functions of traditional scaffolding,specifically suitable for high-rise buildings and super high-rise buildings. The lifting system consists of slideway, lifting hanging bracket, lower hanger frame, electric
chain hoist, and over hanger frame.

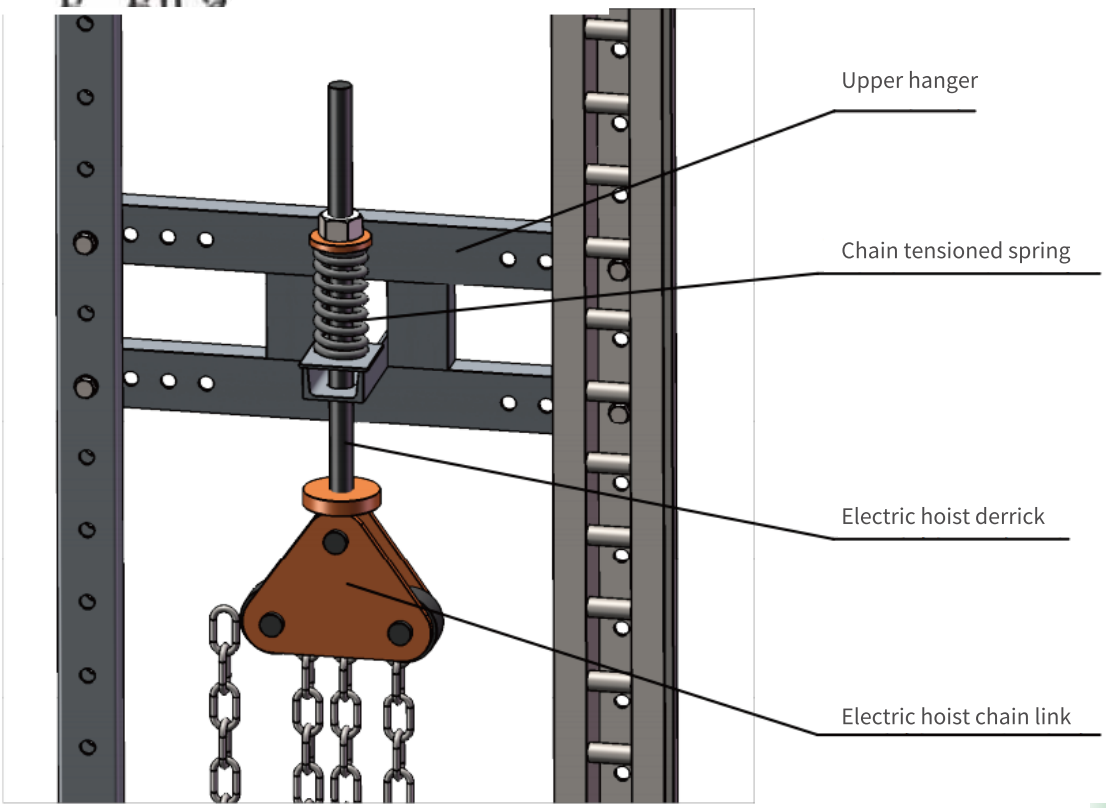
GT-18 Self Climbing Platform is one unique kind of scaffolding. It consists of frame system, attached support system, lifting system, control system and lightning protection system. GT-18 Self Climbing Platform is suitable for high-rise and super-high-rise buildings with frame or shear wall structures. Through the application in different sites, it has been proved that its performance is excellent, safe, reliable, stable operation, economic and practical, which brings great convenience to the construction and production formost users.



The lifting system consists of slideway, lifting hanging bracket, lower hanger frame, electric chain hoist, and over hanger frame.

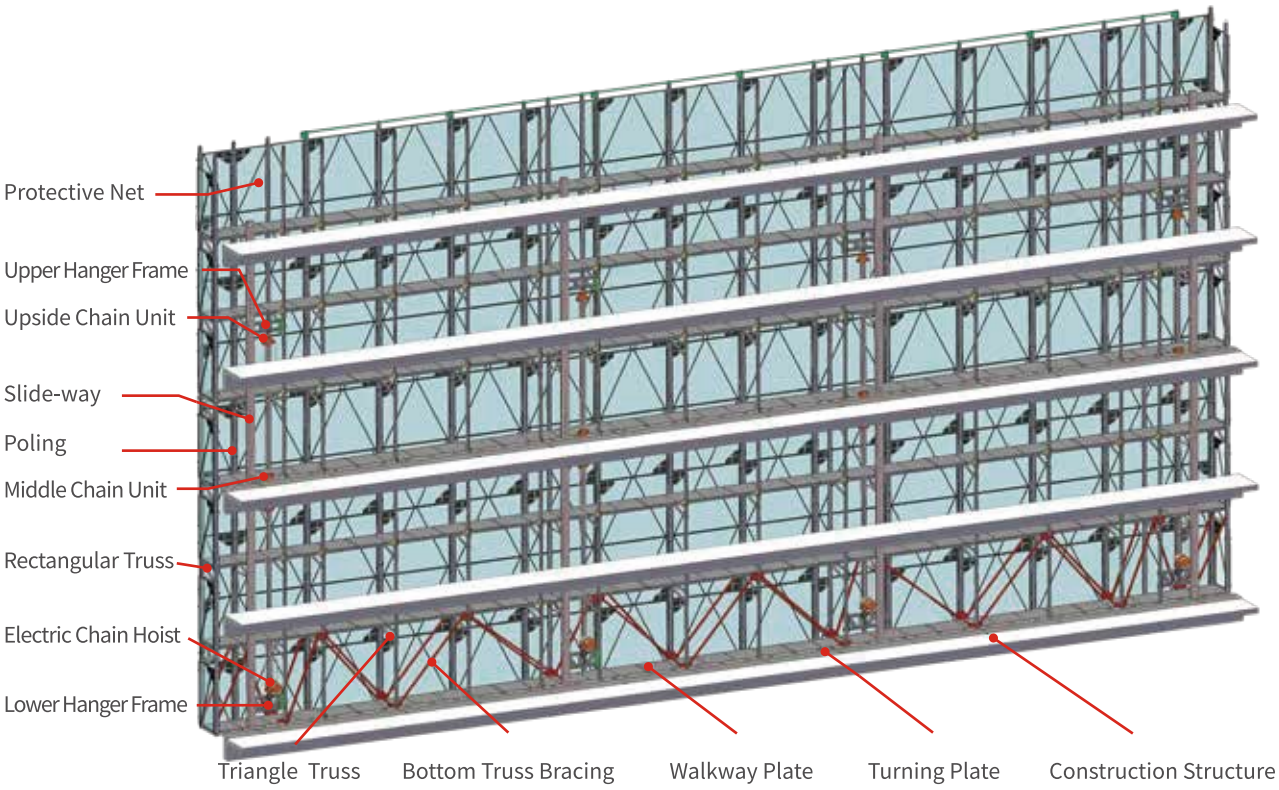






1.2 Frame System

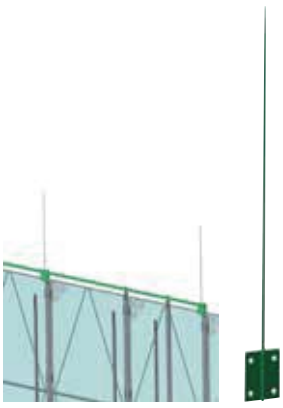
Frame system is the main component of attaching lifting scaffolding, and also the safe operation platform for constructors. The frame structure is mainly composed of walkway plate, poling, protective net, truss, turning plate etc.



1.3 Lightning Protection System

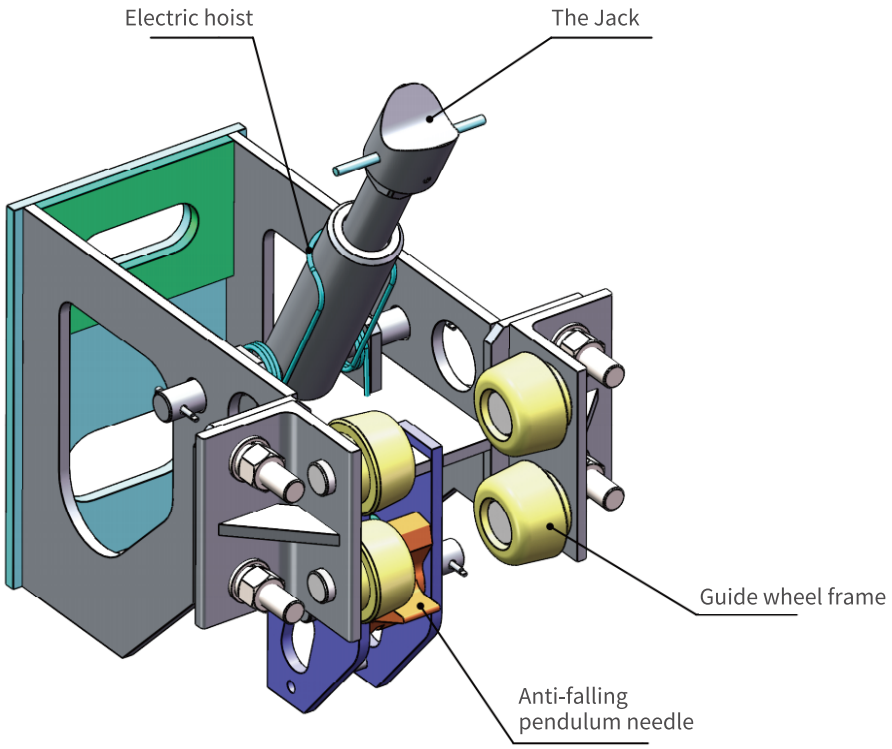
The system consists of air termination, grounding grid and grounding wire.

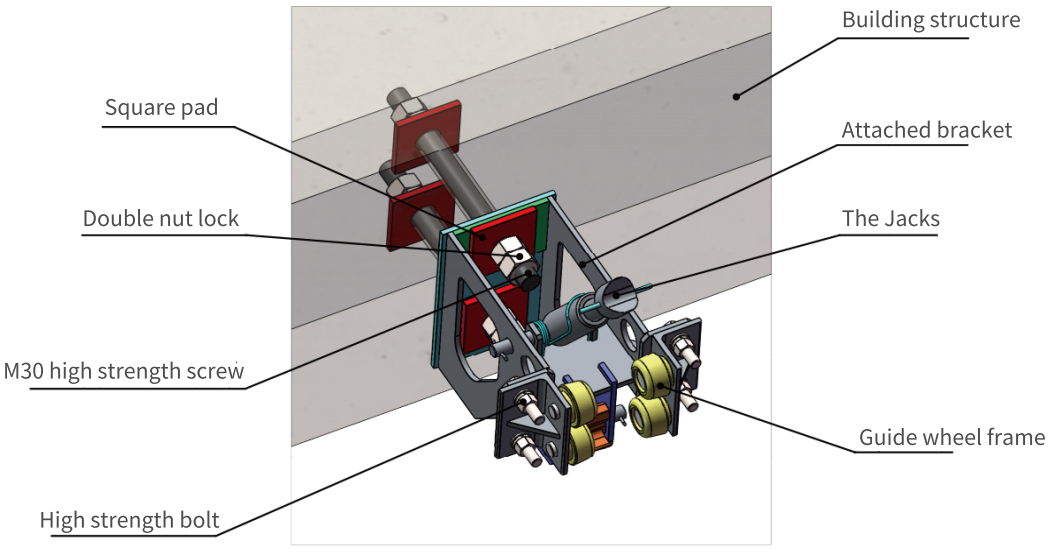
Note: The high-rise construction lifting platform type high-rise metal frame, which is close to the reinforced concrete structure, is extremely vulnerable to lightning strikes, so lightning protection measures are very important. Every time the frame body is lifted, the grounding cable connecting the frame of the high-rise construction lifting platform and the main body of the building must be removed, and then lifted. After the lifting is completed, connect the frame and the building with a grounding cable of not less than $\phi 16mm^2$.



1.4 Attached Support System

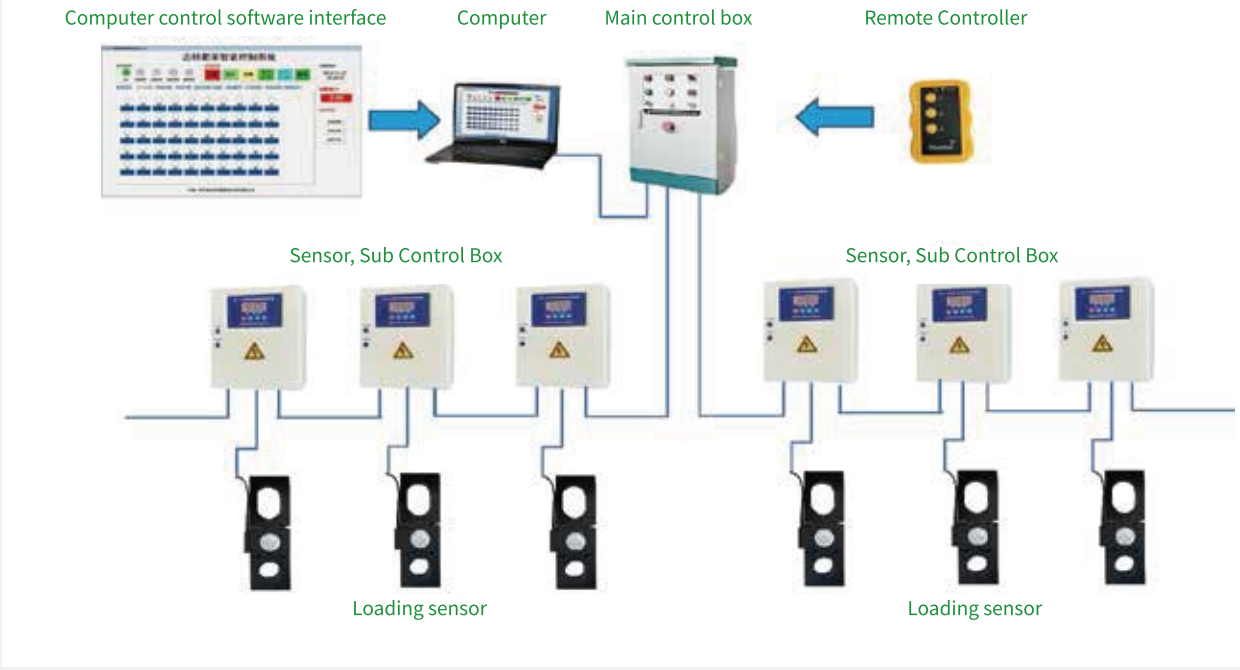
The attached support system is a supporting structure that is directly attached to the building structure and connected to the vertical main frame to withstand and transmit loads. With support, anti - fall, anti - capsize function.





1.5 Control System

To form the control system, some essential components are computer,mobile phone, tablet PC, remote controller, sensor main control box, sub-control box, cable line and loading sensor.



Application Scope and Condition

2.1 Application Scope

Suitable for industrial and civil (frame, shear wall structure) high-rise buildings

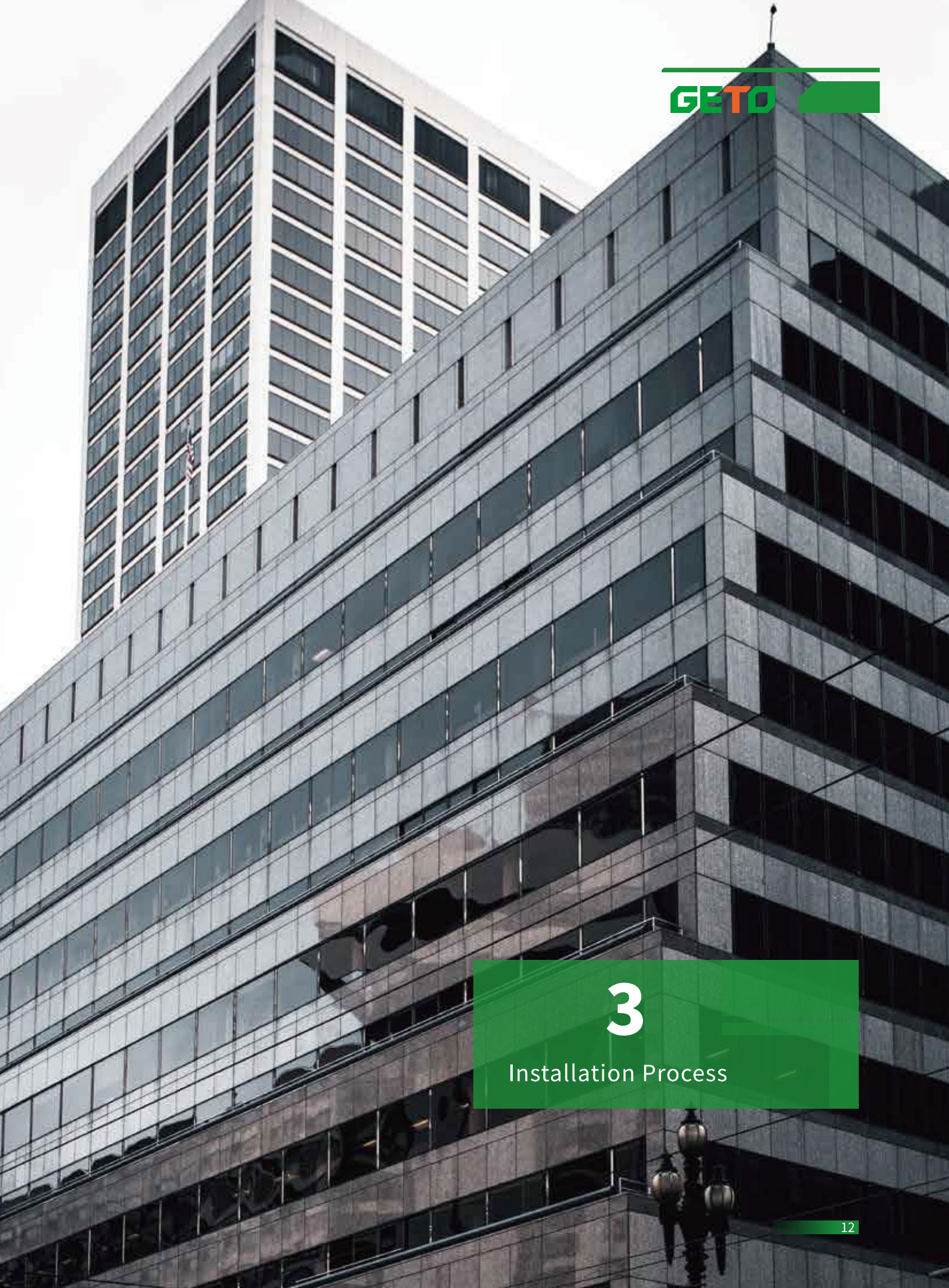
2
Application Scope and Condition

2.2 Application Condition

Each project is necessary to design the subject construction method statement.

Each project must meet the requirements of "Technical Standard for Safety of Construction Tool Scaffolding".

GT-18 Self Climbing Platform is prohibited from lifting operations in gale above grade 5 (including grade 5), heavy rain, heavy snow, foggy days and nights .

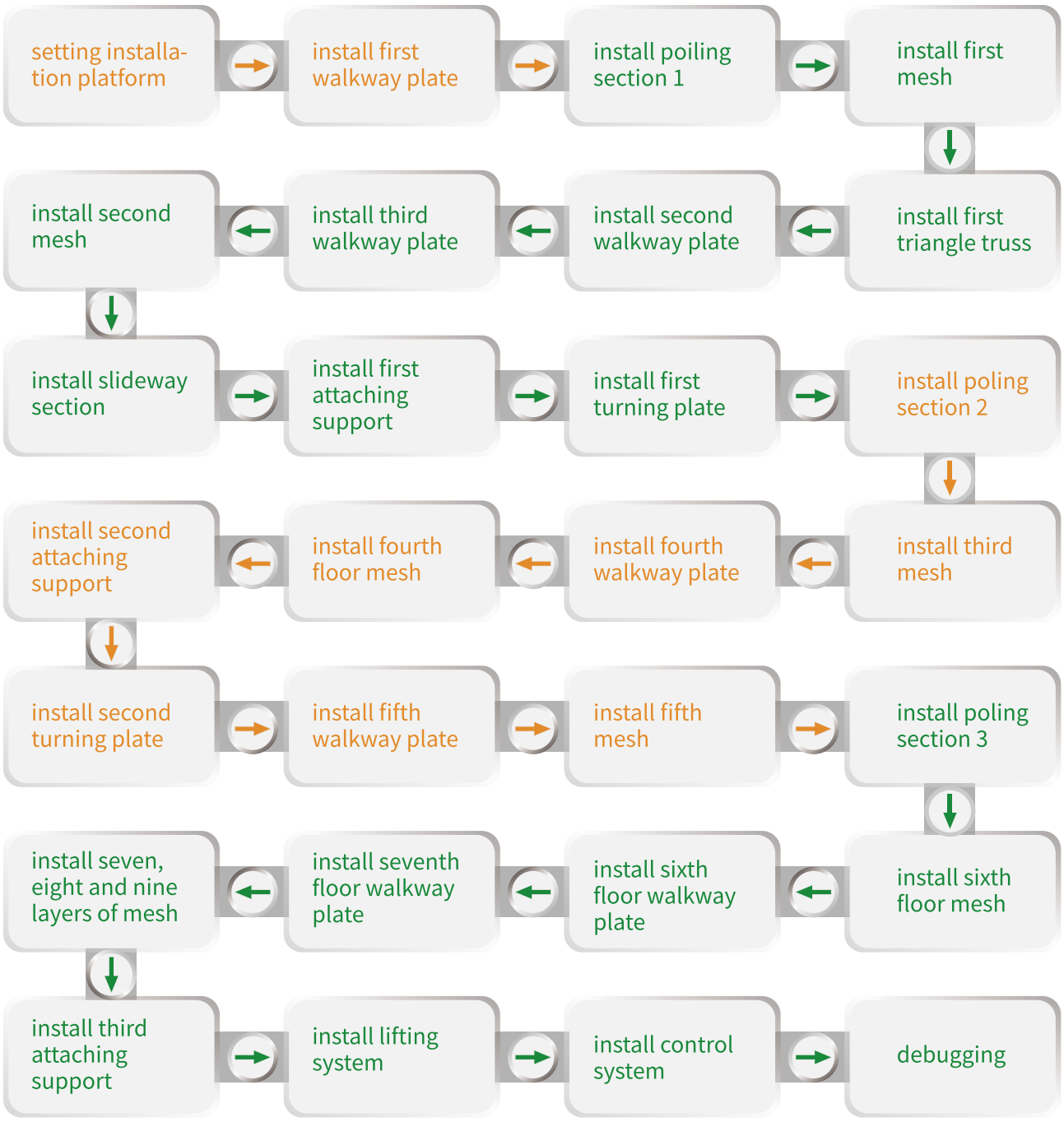


3

Installation Process

Installation Process

Site Installation Process Of Climbing Scaffolding



4

Illustration Of Frame System Installation

Setting Installation Platform

4.1 Setting Installation Platform

Party A assemble a platform by steel pipe and clamp on the installed flat(Party A assembled according to our requirements and need to pass our acceptance).

Assemble standard:(1) installation platform shall start form the typical floor,platform width need to be control within 1.2M-1.5M.

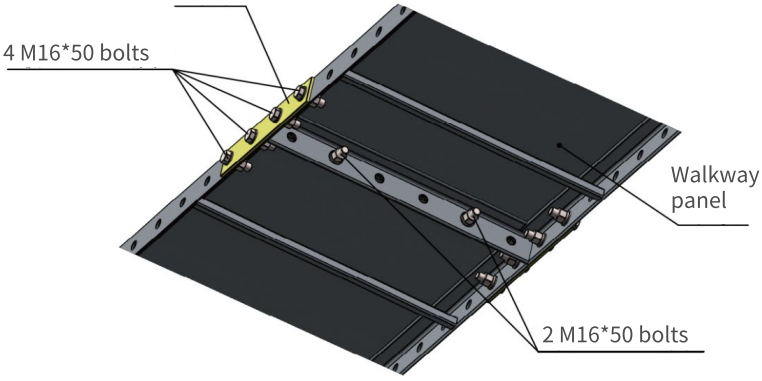
The distance between the installation platform and the pole is not more than 1.5m, the step of the large crossbar is not more than 1.4m, and the inner row is 0.2m to 0.3m from the outer edge of the building structure.

Reinforcement measures shall be taken when the platform is set up. A set of horizontal tie rods every three meters shall be set at the top of the platform or the position of the lower step frame to unload and reinforced. (Fig.4.1.1)

(Fig. 4.1.1)

4.2 Install First Walkway Plate

4.2.1 Assemble on the ground leveling site or erect directly on the platform. Place the bottom walkway board on the bottom of the platform and bolt it together as shown in the figure (Fig. 4.2.1).



(Fig. 4.2.1)

4.2.2 Set up bottom joint of frame:

Installation standard: wearing safe belt. The connected walkway board is placed in parallel with the structure, the distance between the edge of the walkway board and the wall is installed according to the distance requirement of the shop drawing, and the walkway board is fixed on the installation platform by clamp and cross bars. After installing the pole, no less than 2 wall-attaching joint per 20m.(Fig. 4.2.2)

(Fig. 4.2.2)

Marterials and Tools

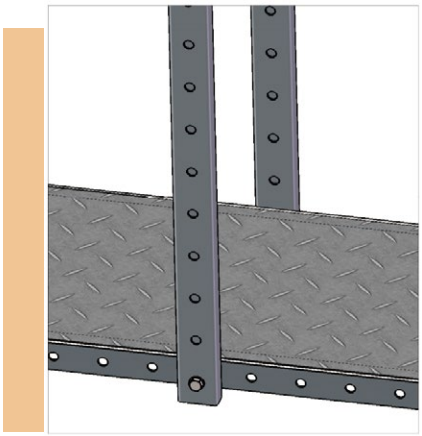
S/N	Description	Model No.	Qty	Remark
1	Walkway plate	Standard specification	Configure as request	
2	Connecting plate	Standard specification	Configure as request	
3	Electric wrench	XL-80032	1	One person standard
4	Sleeve	22mm、24mm	Each 1	Use with electric wrench
5	Manual wrench	24mm	1	One open-ended and plum combined wrench (one person standard)
6	Matching hexago-nal bolts	M16×50	Configure as request	1 bolt +1 nut+1 spring washer+2 flat washer=1 set

4.3 Installation of Poling

4.3.1 Installation of interior poling

According to the shop drawing marked size install the poling fixing on the walkway plate (Fig.4.3.1), using M16 x 100 hex bolt with flat washer, spring washer, nut connecting the poling fixing part on the first and second hole of poling bottom.

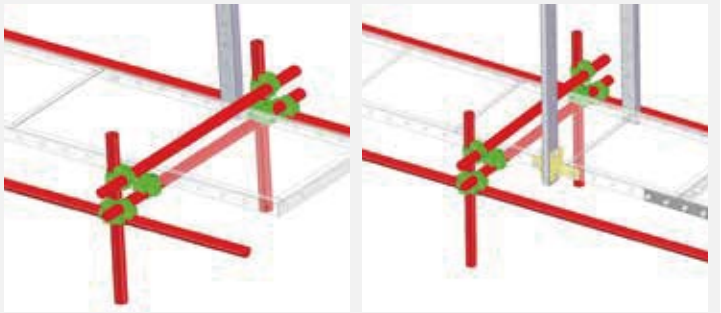
Bolt installation standard:
wearing safe belt. 1 spring washer, 2 flat washer, 1 M16 x 100 bolt and 1 nut consist 1 set. Ensure that at least 3 teeth are exposed during installation.



(Fig. 4.3.1)

4.3.2 Installation of exterior poling

According to the construction drawing marked size install the exterior poling, The first hole of the poling bottom use M16 X 70 bolt with flat washer and nut connecting with walkway plate, interior and exterior poling connecting by angle truss, it is for temporary reinforcement, In this step, the internal and external bolts of the truss are not tightened, and maintained a little force. After the installation of the second floor walkway plate, the truss is removed and the triangle truss is re-installed according to the construction shop drawings.



(Fig. 4.3.2)

Installation standard:
wearing safe belt. 1 spring washer, 2 flat washer, 1 M16 x 70 bolt and 1 nut consist 1 set. Ensure that at least 3 teeth are exposed during installation. Without the first attachment support, at least one fixed connecting rod should be reserved in four positions during erection to maintain the stability of the frame.

(Fig. 4.3.3)

Materials and Tools

S/N	Description	Model	Qty	Remark
1	Poling	3m/4.5m	Configure as request	
2	Electric wrench	XL-80032	1	One person standard
3	Sleeve	24mm	1	Use with electric wrench
4	Manual Wrench	24mm	1	One open-ended and plum combined wrench(one person standard)
5	Matching Hex bolt	M16×80	Configure as request	1 bolt +1 nut+1 spring washer +2 flat washer=1 set
6	Fixed connecting rod	Φ48	Configure as request	

4.4 Installation of Second Walkway Plate

Installation of interior poling
According to the shop drawing marked size install the poling fixing on the walkway board (Fig.4.3.1), using M16 x 100 hex bolt with flat washer, spring washer, nut connecting the poling fixing part on the first and second hole of poling bottom.

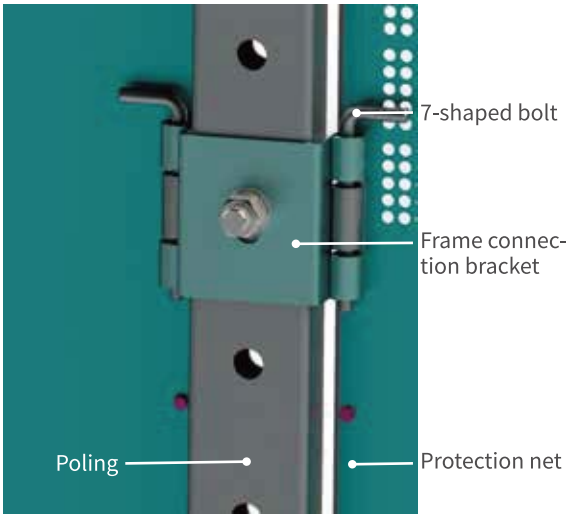
Installation standard: Wearing safe belt, M16 *100 bolts are used for the erection of the poling fixed and the poling. M16 *40 bolts are used for the connection between the walkway board and the poling fixed. M16 *70 bolts are used for the connection between the walkway board and the external poling. M16 *40 bolts are used for the connection between the walkway board and the walkway board. Walkway boards are installed on both sides of the connecting plate, and M16 *40 bolts are used for the connection between the walkway board and the connecting plate. 1 spring washer, 2 flat washer, 1 M16 bolt and 1 nut consist 1 set. Ensure that at least 3 teeth are exposed during installation. (Fig.4.4.1)

(Fig. 4.4.1)

4.5 Installation of Protective Net

According to the construction shop drawing, use the M16×70 bolt to reinforce the frame connection bracket on the corresponding position on the pole. Do not lock it first, then fix the protection net on the frame connection bracket through the 7-shaped bolt, and then lock it.

Installation standard:
Wearing safe belt,1 spring washer, 2 flat washer, 1 M16 bolt and 1 nut consist 1 set. Ensure that at least 3 teeth are exposed during installation. The frame connector is straight and the 7-shaped bolt is spread out on both sides.
(Fig.4.5.1)



(Fig. 4.5.1)

Materials and Tools

S/N	Description	Model	Qty	Remark
1	Electric wrench	XL-80032	1	One person standard
2	Sleeve	24mm	1	Use with electric wrench
3	Manual Wrench	24mm	1	One open-ended and plum combined wrench(one person standard)
4	Matching Bolt	M16×80	1	1 bolt +1 nut+1 spring washer +2 flat washer=1 set
5	Protection Net	Standard specification	1	QTY for single protection net
6	Frame connection bracket	Standard specification	4	QTY for single frame connection bracket
7	7-shaped Bolt	Φ10×120	4	QTY for single frame connection bracket

4.6 Set up Inside Closed Turning Plate

In the bottom of GT-18 Self Climbing Platform and the third floor of the uniform structure (also according to the requirements of the scheme), a turning plate and an extension plate are installed between the inside of the walkway plate and wall. The extension plate and the walkway board are connected by M16 *40 bolts, and the turning plate is connected by standard parts and plate hinge.(Figure 4.6.1)

Installation standard:

1. Wearing safe belt.
2. When installing the inner extension plate and turning plate, it can be cut on the site according to the actual situation when necessary.
3. The extension plate and turning plate should be set continuously along the external structural plane of the building.
4. Ensure that the frame and the structure close sealing after the installation of the extension plate and the turning plate is completed, and prevent accidents such as falling persons and objects.
5. The extension plate is fixed on the walkway board with M16 *40 bolt in the field. The turning plate is installed within 10 mm from the outer edge of the extension plate. Hexagonal flange self-tapping nail (ST4.8 x 19) is used to fix the hinge on the extension plate.

(Fig. 4.6.1)

Material and Tools

S/N	Description	Model	Qty	Remark
1	Extension plate		Configure as request	
2	Turning plate	1.5M	Configure as request	
3	Hexagonal flange self-tapping nail	ST5.5×25	Configure as request	
4	Matching bolt	M16×50	Configure as request	1 bolt +1 nut+1 spring washer +2 flat washer=1 set
5	Electric Wrench	XL-80032	1	One person standard
6	Sleeve	24mm、8mm	Each 1	Use with electric wrench
7	Manual Wrench	24mm	1	One open-ended and plum combined wrench(one person standard)
8	Angle grinder	S1M-HS1-100	1	Equipped one box of cutting slices

4.7 The end of the Frame Fragment Protection

(Fig. 4.7.1)

The fragment are protected by shaped protective net, and the protection net at the corridor entrance without permission after installation.(Fig. 4.7.1)
Installation standard:
Wear safe belts for installation. For convenience, it is preferable to install the 7-shaped bolt on the outer side of the rack, and then install the 7-shaped bolt on the inner side of the rack.

Materials and Tools

S/N	Description	Model	Qty	Remark
1	End protection net	700×1500	Configure as request	
2	7-shaped bolt	Φ10×120	Configure as request	

4.8 Installation of Skirting Board

(Fig. 4.8.1)

To installed skirting board between the walkway plate and protection net when set turning plate in the frame.
Installation Standard:
Wear seat belts for installation. The installation of the skirting board should be tight, and the outer side should be close to the protective net, and the gap no more than 10 mm. When encountering interference with the pole, the opening can be avoided according to the situation to ensure the outer side is tightly closed. Under the skirting board, fix it on the outside of the skirting board with ST4.8 19 self-tapping nails.Skirting board shall be installed in a smooth way without warping and deformation (as shown in Fig. 4.8.1).

Materials and Tools

S/N	Description	Model	QTY	Remark
1	Skirting board	1.41M	Configure as request	
2	Electric Wrench	XL-80032	1	One person standard
3	Sleeve	8mm	1	Use with electric wrench
4	Hexagonal flange self-tapping nail	ST5.5×25		
5	Angle grinder	S1M-HS1-100	1	Equipped one box of cutting slices

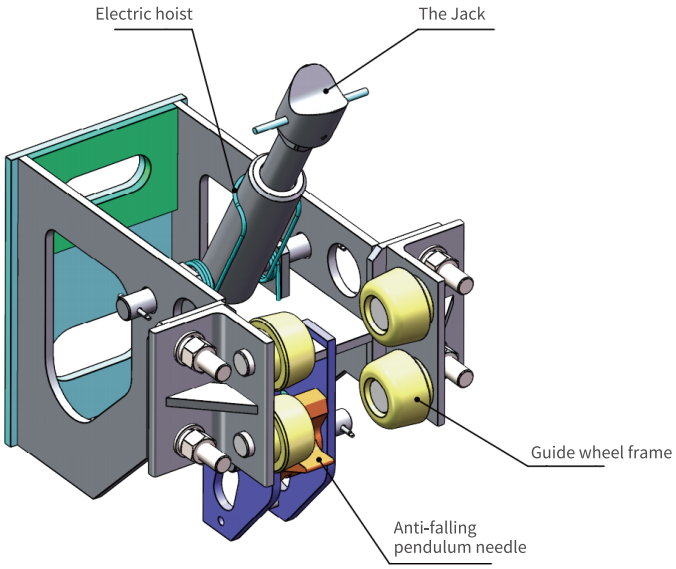
5

Installation of Attaching Support Base Jack System

Installation of Attached Support System

5.1 Installation of Attached Support

Before erecting section 2 slide-way, attaching support base jack shall be installed on the frame. Firstly, inspect the pre-embedded holes are on the right position, and then the attachment support is installed in the pre-embedded holes of the structure with M30 high strength screw. Each end of the screw is equipped with one 100 x 100 x 10 Square backing plate and 2 nuts. The splints on both sides are clamped into the slide-way, and the splints are installed on the upper and lower splints of the attaching support base jack through the pin shaft of ϕ16×55 (Fig. 5.1.1). The top support and double torsion spring are installed on the surface of the attaching support base jack to make the top support stick to the slide-way. Adjust the adjusting screw of the top support to make the top support pressed on the selector.



(Fig. 5.1.1)

Installation Standard:

Wear seat belts for installation. Attachment support is installed on the outer side of the wall. The center line of the embedded hole is aligned with the center line of the slide-way, and the horizontal deviation is less than 10 mm. The movable attachment support adjusts the relative position of the attachment support and the slide-way. The tie rod nut through the wall can be tightened only after the support and cushion plate are attaching to the wall. The tie rod is forbidden to be unloaded or falsely loaded. After the backing plate is filled with the structure, the nut must be tightened to prevent loosening. The double toe rod fixed on each attachment support, and the square backing plate must be positioned horizontally. Double nuts on both sides of the tie rod, expose 3 buckle teeth or no less than 10mm. After installation, butter lubrication is applied on the contact surface between the splint and the slide-way. 3 attaching support base jack should be installed in the vertical direction of each slide-way in operation mode, and no less than 2 in lifting or descending operation mode.

(Fig. 5.1.2)

Materials and Tools

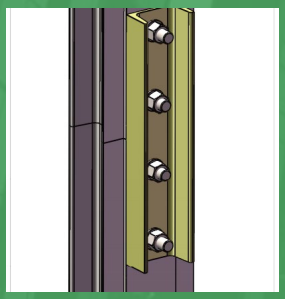
S/N	Description	Model	Qty	Remark
1	Matching manual wrench	One open-ended and plum combined wrench	1	2 persons standard
2	Attaching support base jack	Configure as request	3	
3	Top support	Configure as request	3	
4	High Strength tie rod	M30XL	6	1 tie rod+ 2 backing plate+4 nuts=1 set
5	Guide wheel frame	Configure as request	6	
6	Pin shaft	Φ16×55	12	

6.1 Installation of slide-way

According to the Framing Module layout requirements, the first hole at the lower end of the slide-way is connected with the position hole of the slide-way of the walkway plate by M16 *40 hexagonal bolt. When the two slide-way are connected, the connecting plate is needed to reinforce them.

6

Installation of Lifting System



(Fig. 6.1.1)

Installation Standard: Wear seat belts for installation. M16 *40 bolts are used to connect the walkway plate with the slide-way; M16 *70 high strength bolts are used to connect the slide-way with the slide-way, and double nuts are used; M16*40 bolts are used to connect the slide-way with the connecting plate. Due to the excessive weight of the slide-way itself, pay attention to safety during installation. 1 spring washer, 2 flat washer, 1 nut(use double nut in connect place of 2 slide-way) and 1 M16 bolt consist of 1 set, Make sure that at least 3 buckle teeth are exposed during installation. After installation, butter is applied on the contact surface between slide-way and splint. (Fig. 6.1.1)

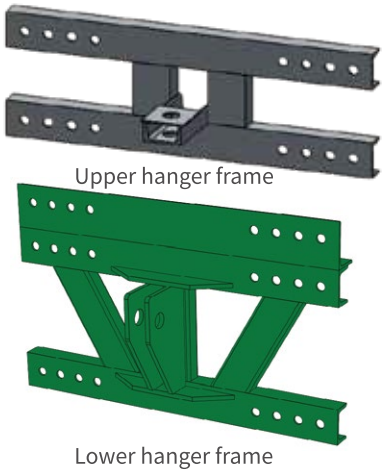
Matrials and Tools

S/N	Description	Model	Qty	Remark
1	Slide-way	4.5m/6m	Configure as request	
2	Electric wrench	XL-80032	1	One person Standard
3	Sleeve	24mm	1	Use with electric wrench
4	Manual wrench	24mm	1	One open-ended and plum combined wrench(one person standard)
5	Matching hex bolt	M16×50	Configure as request	1 bolt +1 nut+1 spring washer +2 flat washer=1 set
6	High strength bolt	M16×70	Configure as request	1 bolt +2 nut+1 spring washer +2 flat washer=1 set

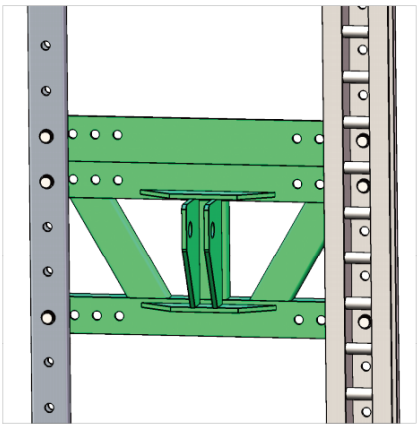
6.2 Installation of Upper and Lower Hanger Frame (Fig6.2.1)

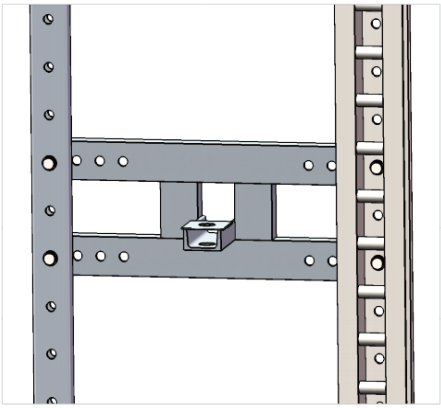
Installation of Lower Hanger Frame: According to the drawing design, the hanger fixing piece and the lower hanger are reinforced together by M16 bolts and filled with bolts (as shown in Figure 6.2.2).

Installation of Upper Hanger Frame: According to the drawing design, the hanger fixing piece and the upper hanger are reinforced together by M16 bolts and filled with bolts (as shown in Figure 6.2.3).



(Fig. 6.2.1)


(Fig. 6.2.2)


(Fig. 6.2.3)

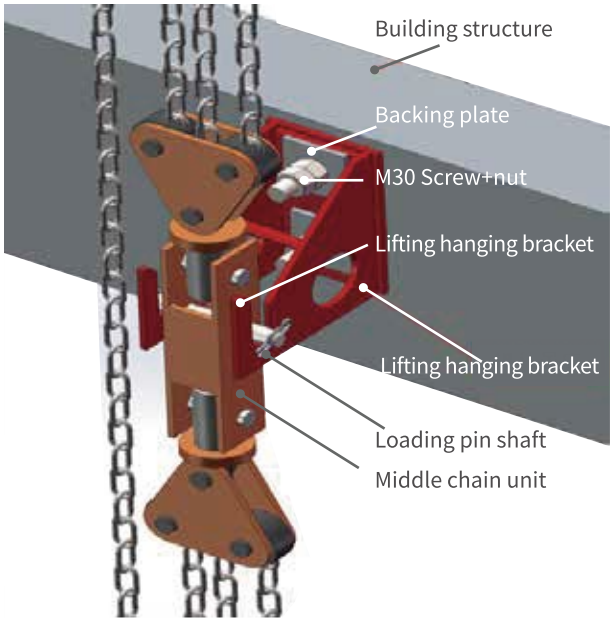
Materials and Tools

S/N	Description	Model	Qty	Remark
1	Electric wrench	XL-80032	1	One person Standard
2	Sleeve	24mm	1	Use with electric wrench
3	Manual wrench	24mm	1	One open-ended and plum combined wrench(one person standard)
4	Matching hex bolt	M16×50	Configure as request	1 bolt +1 nut+1 spring washer +2 flat washer=1 set
5	Lower hanger	Configure as request	1	QTY for single framing module

6.3 Installation of Lifting Hanging Bracket

Fix the lifting hanging bracket on the building structure with 2 high-strength screw, tighten the nut internally after adjusting the position, and tighten the external nut. The two ends of the screw leak out of the double nut at least 3 buckle teeth(no less than 10mm) (Fig. 6.3.1).

Installation Standard: Wear safty belts for installation. Installation to ensure that the lifting hanging bracket is vertical, both inside and outside are equipped with 100 x 100 x 10 backing plate, screw inside and outside must have 2 nuts.



(Fig. 6.3.1)

Materials and Tools

S/N	Description	Model	Qty	Remark
1	Matching manual wrench	One open-ended and plum combined wrench	2	2 persons standard
2	High strength screw	M30XL	2	1 bolt+ 2 backing plate + 4 nut=1 set
3	Lifting hanging bracket	Standard specification	1	
4	Loading pin shaft	24mm	1	attaching split pin

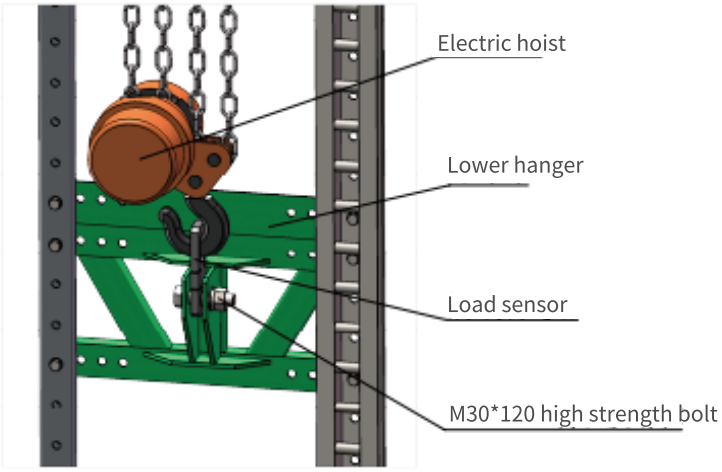
6.4 Load Sensor and Electric Chain Hoist Installation

Load sensor is installed at the hanging point of the lower hanger frame, which is tightened and strengthened with M30 *120 high strength standard bolts, nuts, spring washer and flat washer. (Figure 6.4.1)

The electric chain hoist hook is hung in the hanging hole above the sensor, and the upside chain unit of the electric chain hoist is installed on the upper hanger. (Figure 6.4.2)

Installation Standard:
Wear seat belts for installation. When the electric chain hoist is suspended, the wire that binds the chain is not allowed to be dismantled. After the complete installation, the chain should be dismantled. The chain should be straightened out. There should be no phenomenon of chain flipping, twisting, knotting and crossing rings that affect the operation. After the installation, butter should be applied to the chains, springs, screw and other positions.

(Fig. 6.4.1)



(Fig. 6.4.2)

Materials and Tools

S/N	Description	Model	Qty	Remark
1	Matching Manual wrench	46mm/41mm	2	One end 46mm and another end 41mm (2 persons standard)
2	Load sensor	10T	1	
3	Electric chain hoist	7.5T	1	
4	High strength screw	M30×120	1	1 bolt+ 2 backing plate + 4 nut=1 set

7

Installation and Use of Control System

Installation and Use of Control System

Installation of Electrical Control System

The electrical installation of GT-18 Self Climbing Platform should strictly comply with the provisions of "Code for Safety of Power Supply in Construction Site" GB50194 and "Technical Code for Safety of Temporary Electricity Use in Construction Site" JGJ46.

7.1 The cable is protected by special PVC groove, fixed on the protective network of the lower side of the second walkway board, and the main cable is distributed within the same height. The reserved length of the cable should meet the requirement of raising the height of one layer. The cable joint must be securely tied by insulating waterproof tape, and the connection should be firm and reliable, so as to avoid false connection and leakage connection.

7.2 Main Control Box and Sub-control Box should be waterproof. The main control box and sub-control box shall meet the safety requirements of grounding and leakage protection, and the main control box and sub-control box shall be installed in the first step of the frame.

7.3 The control mode of electrical system is divided into automatic control (remote control) and manual control.

Automatic control refers to the use of remote to control the main control box, so as to achieve the controlling the rotation of each electric chain hoist. Manual control refers to the failure of some positions, which affects the overall lifting of the whole rack. At this case, it is necessary to control the operation of a certain position separately, eliminate the failure and ensure the overall lifting of the rack.

Connecting the wire-controlled air plug with the air socket of the control box, the remote controller can be used to control the forward, reverse and stop of the electric chain hoist.

Materials and Tools

S/N	Description	Model	Qty	Remark
1	Mai control box	Standard specification	Configure as request	
2	Sub-control box	Standard specification	1	QTY for single framing module
3	Cable	Standard specification	Configure as request	
4	PVC groove	Standard specification	Configure as request	
5	Cable ties	5X400	Configure as request	
6	Controller	Standard specification	1	
7	Electrician knife	10-225-23	1	
8	Multimeter	3280-10F	1	
9	Test pencil	MNT -111302	1	
10	Insulating waterproof tape	25x500mm	10	Insulation before waterproof tape
11	Electrical insulating tape		10	
12	Vice	FO-2603A	1	
13	Wire stripper	LA815138	1	
14	Slot type screwdriver	JX-0189	1	
15	Phillips screwdriver	JX-0189	1	
16	Scissors	45-degree angle scissors multifunctional electrical trough scissors universal PVC scissors		
17	Electric Box Installation Auxiliary Frame			

8

Lightning Protection System Installation

Lightning Protection System-Installation

8.1 The Lightning Protection System Consists of A Lightning Receptor, Lightning Protection Net and Grounding Wire.

8.1.1 Lighter (i.e. lightning rod)
Made of ϕ12 × 1200 galvanized steel.


Lighter

8.1.2 Lightning protection net
All the lightning receptors on the uppermost layer are connected by 40×4 galvanized flat iron to form a lightning protection net.

8.1.3 Ground wire
Set a grounding wire within 50m of the continuous length of the climbing frame, and meet the requirements of the transition resistance of the climbing frame ⩽10Ω and the grounding resistance ⩽ 20Ω at the farthest point from the grounding wire. A grounding wire is arranged under the pole, and the grounding wire is connected to the lightning protection grounding point of the construction structure by a grounding cable with a diameter of not less than 16 mm2.


Ground wire

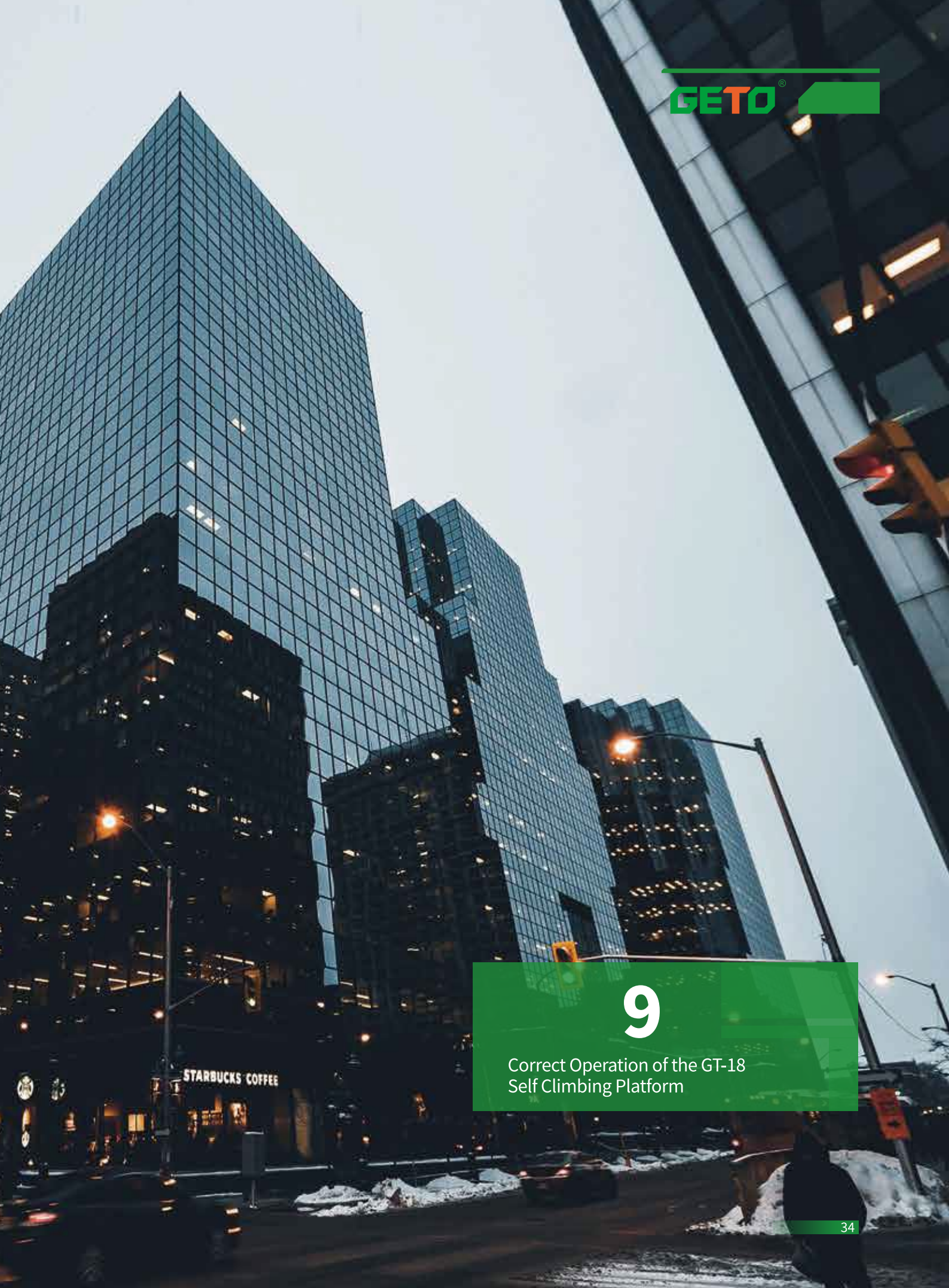
8.2 Attention When Setting Lightning Protection Devices

1、After the frame is installed, the lightning protection measures and lightning protection devices during the thunderstorm season should be done.

2、The grounding mode and position selection, lightning protection net and grounding wire arrangement, material selection, connection method, fabrication and installation shall be installed in accordance with the “Lightning Protection Design Code for Buildings” GB50057-94. After installation, the resistance meter shall be used for determination, see whether it meets the "Technical Specifications for Building Lightning Protection Devices".

3、The position of the grounding wire should be selected where people can't easily touch it to avoid and reduce the risk of stride voltage, prevent the grounding wire from being mechanically damaged, and keep the grounding wire at a safe distance of 3m or more from other metals or cables.

4、In case of thunderstorm during construction, the personnel on the frame should be evacuated immediately (to prevent personal injury caused by lightning strikes).

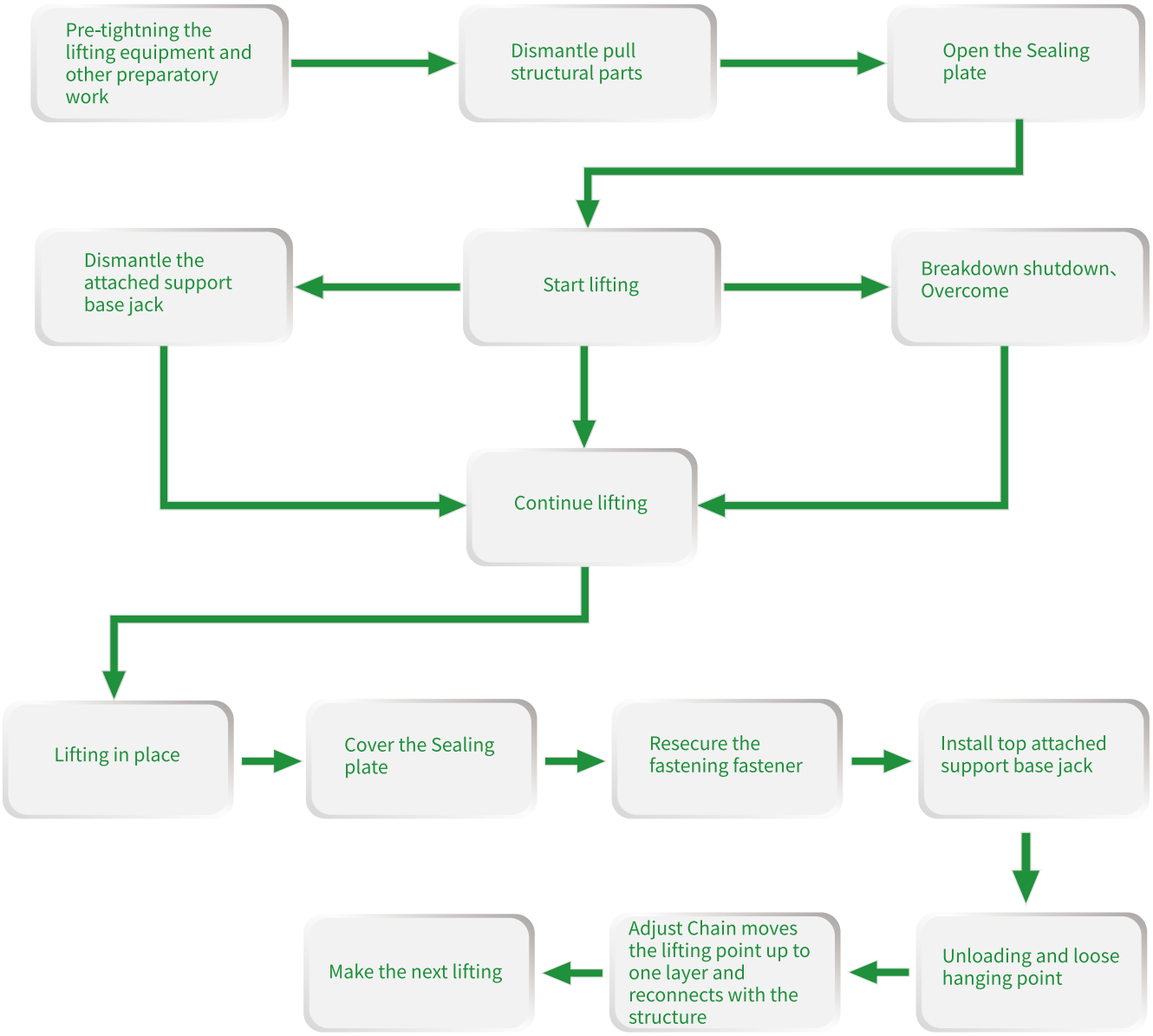


9

Correct Operation of the GT-18 Self Climbing Platform

Correct Operation of the GT-18 Self Climbing Platform

9.1 GT-18 Self Climbing Platform lifting process



9.2 After The Installation of the Frame Is Completed, Notify Party A To Check and Accept

For specific matters, check the "GT-18 Self Climbing Platform First Installation Inspection Acceptance Form"

Project				Construction area (m^2)	
Structure		Structure floor		Maximum height (m^2)	
Number of machine		promotion and demotion grouping		Usage	
Main contractor				Project manager	
Client				Project manage	
Special program editing production company				Project manager	
Installation company				Project manage	

S/N	Inspection items	Inspection contents	Inspection result
1	Scaffolding Size	Frame height≤5 times storey height, Frame width≤1.2m	
2		Support span (straight type)≤7 m Support span (the distance outside the fold line or curved frame) ≤ 5.4m	
3		Full height of the frame × support span ≤110 m2	
4		Horizontal cantilever length ≤ 2m, and ≤ 1/2 adjacent support span	
5		The poling, the longitudinal horizontal bar and the transverse horizontal bar intersect with the major node.	
6		Poling spacing and cross bar spacing are in accordance with the specifications and current relevant standards.	
7	Vertical main frame	Component layout conforms to the instructions	
8		The specifications and dimensions of the rods are in conformity with the instructions for use.	
9		Each joint is welded or bolted.	
10		The vertical deviation ≤5‰, and ≤60mm.	
11		The height difference of adjacent vertical main frames≤20mm	

S/N	Inspection items	Inspection contents	Inspection result
12	Horizontal support	Component layout and specification conforms to the instructions	
13		Each joint is welded or bolted.	
14		Poling spacing is in accordance with the specifications and current relevant standards	
15	Frame structure	Component layout and specification conforms to the instructions and current relevant standards	
16		No missing parts of the frame and reliable connection	
17		The poling, the longitudinal horizontal bar and the transverse horizontal bar intersect with the major node.	
18	Scaffold-ing	Connecting nodes conform to specifications and current relevant standards	
19		Bearing capacity and deformation of scaffoldings conform to special safety construction scheme	
20		The bottom is laid tightly, and there is no gap with the building.	
21		The operation layer is covered and laid firmly, the diameter of the tangential circle in the hole <25mm, and the length of the scaffolding probe ⩽150mm.	
22	Attaching support base jack	Attachment support shall be provided for each floor covered by the vertical main frame.	
23		Attachment support shall be connected with building structure by no less than two bolts, and the bolt diameter meets the design requirements.	
24		attaching support base jack and building structure are tightly combined and fastened	
25		The age compressive strength of concrete at the joints meets the design requirements and ⩾15MPa	
26		Distance from center of bolt hole to bottom of beam (>150 mm)	
27		The exposed length of the bolt is more than 3 times the pitch and more than 10 mm. Size of backing plate (> 100 x 100 x 10 mm)	
28		It has anti-tilt and guiding functions.	
29		Using operation mode, the frame body is fixed on the attachment support	
30	Bridging	Facade full of bridging	
31		The horizontal angle of the scissors is 45°~60°; it is reliably connected with the frame rod	
32		When the steel mesh frame is used to replace the bridging in the diagonal bar, the rigidity and strength of the diagonal bar are not lower than the rigidity and strength of the bridging, and the connection with the frame body should be ensured.	

S/N	Inspection items	Inspection contents	Inspection result
33	Anti-overturning equipment	Anti-overturning rails are reliably connected to the vertical major frame	
34		For lifting conditions, the minimum distance between the uppermost and lowermost guides is ⩾ 2.8m, or ⩾ 1/4 height; the working condition, the spacing between the uppermost and lowermost anti-tilt devices is ⩾ 5.6m, and ⩾ 1 2 frame height.	
35		The gap between the guide and the guide rail is ⩽5mm	
36	Anti-drop devices	Each machine position is not less than a set of anti-drop devices, and can be used in both use and lifting conditions.	
37		anti-drop devices has dustproof and anti-pollution measures, and is sensitive and reliable	
38		When only one anti-drop device is provided for one position, the anti-drop device should be connected to the different wall support with the lifting device.	
39		The steel boom of the boom-type anti-drop devices is determined by calcula - tion and diameter is⩾ 25 mm.	
40	Synchronizer	Tooled scaffolding with restricted load control system	
41		It has the functions of controlling lifting and lowering, automatic alarm and stop of overload and load loss, real-time display and storage of load, and self-fault alarm.	
42	Protective equipment	The dense mesh safety net is ⩾2000 mesh/100cm², and ⩾3.5kg/sheet;Metal plate vertical mesh aperture ⩽ 6mm.	
43		The facade is protected tightly and without gaps.	
44		When the dense mesh is used as the safety net, it has 1.2m high protective railing and 180mm high-grade foot-board. When the framed metal mesh is used as the safety net, the metal frame should be reliably connected with the frame and can withstand 1.0kN horizontal load. Destruction occurred.	
45		When the working floor is more than 2.0 meters away from the floor, a 1.2 m high protective railing is installed inside the frame.	
46		The frame is broken or has a protective barrier at the opening or closed with a vertical net	
47		The diameter of the inscribed circle of the mesh of the metal scaffolding board should be less than 25mm; the scaffolding board at the bottom of the frame body should be completely closed with the building structure;	

Inspection conclusion	Acceptance	
	Rectification contents	After rectification, acceptance

Inspector's signature	Main contractor	Client	Special program editing production company	Construction company

Date:

9.3 Scaffolding Lifting (Or Lowering) Must Be Approved By Party A

Details refer to GT-18 Self Climbing Platform Pre-Lift inspection and acceptance form

Project				Operational type	hoist
Working layer		hoist height (m)		hoist grouping	
Main contractor				Project manager	
Client				Project manager	
Special program editing production company				Project manager	
Construction company				Project manager	

S/N	Inspection Item	Inspection content	Inspection result
1	Concrete strength at the attaching support base jack	Reach the calculated value of the safety special construction plan, and ⩾15MPa	
2	Scaffolding condition	Frame height⩽5 times storey height, Frame width⩽1.2m	
3		The frame has no structural changes, missing components, and damage.	
4		The components of the frame are connected without missing and the connection is reliable.	
5		The unloading device at the vertical major frame shall not be less than 2, and can not use fastener or wire rope shall be used as the unloading device.	
6		The safety protection facilities are not damaged.	
7	Attaching support base jack	attaching support base jack for each existing floor covered by the vertical major frame	
8		The anti-drop, anti-roll and guide devices on the attaching support base jack are intact.	
9		attaching support base jack adapt double nut to reinforced.	
10	Lifting equip-ment	The lifting device is set up at the vertical major frame	
11		Lifting support adapt double nut to reinforced.	
12		The connection of the lifting system components is not cracked, damaged, and the connection is firm.	
13		The lifting system is cleaned, maintained and runs smoothly	

S/N	Inspection items	Inspection contents	Inspection result
14	Lifting equip-ment	The power equipment complies with the instruction manual and the current relevant standards, and the suspension is correct, the connection is reliable, the startup is sensitive, and the operation is normal.	
15		The control cabinet and control equipment are working properly and fully functional.	
16	Anti-over-turning equipment	Each machine position is not less than one set of anti-overturning equipment, and it can function in both use and lifting conditions.	
17		Anti-overturning equipment completed, Working condition is normal	
18		After cleaning, inspection and maintenance, it is easy to operate, sensitive and reliable.	
19		The installation position is correct and the stop is effective.	
20	Anti-drop device	For lifting conditions, the minimum distance between the uppermost and lower-most guides is ⩾ 2.8m, or ⩾ 1/4 height; in the working condition, the minimum distance between the uppermost and lowermost guides is ⩾ 5.6m, Or ⩾1/2 height.	
21		The cantilever height of the frame is ⩽ 2/5, and ⩽ 6m	
22	Obstacle	Obstacles and restraints of unobstructed scaffolding are lifted	
23	Constraint removal	All the wall bars on the frame are removed	
24	Operators	Hold a certificate and have a Safety and Technology Training record	
25	Command, communi-cation, security alert	Unified command, personnel in place, clear responsibilities, equipment working properly	
26		Lifting action sound and light prompts work normally	
27		Have a security guardianship area and have a dedicated person	
28	Cable line and switch box	It meets the calculation requirements for line load in JG46 of the current industry standard "Safety Technical Specifications for Temporary Use of Construction Sites"; set a special switch box.	

Inspec-tion conclu-sion	Acceptance				
	Rectifi-cation contents	After rectification, acceptance			
Inspector's signature		Main contractor	Client	Special program editing produc-tion company	Construction company
Date:					

"GT-18 Self Climbing Platform Pre-Down Inspection and Acceptance Form"

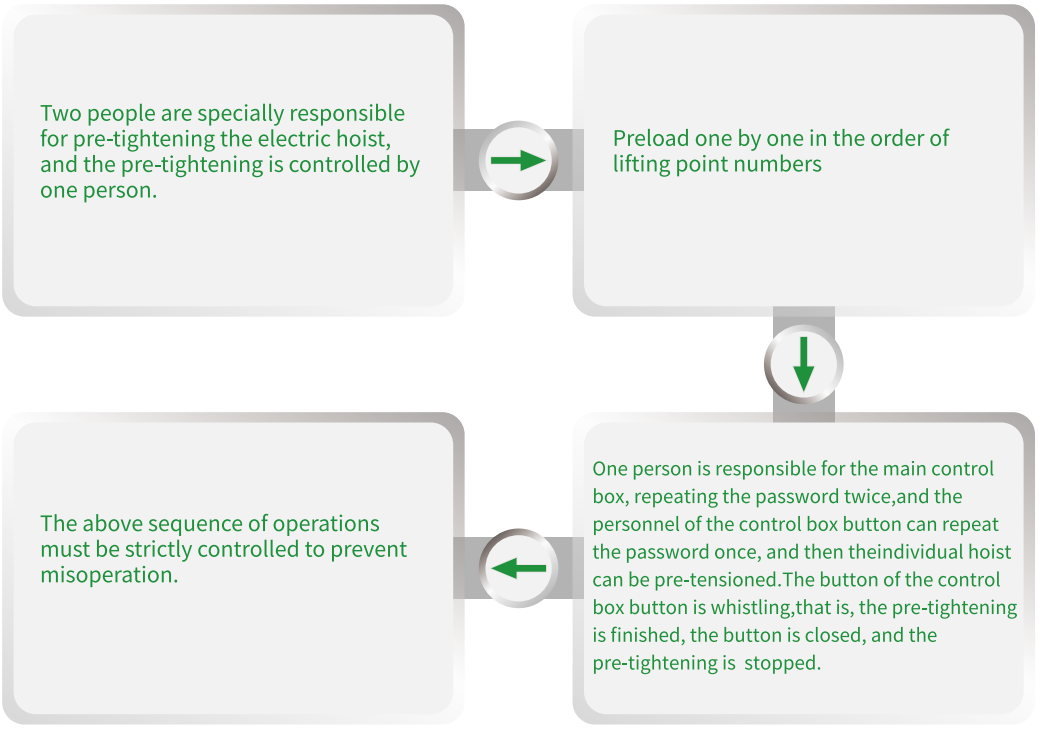
Project				Operational type	hoist, decline
Working layer		Decline height (m)		Decline grouping	
Main contractor				Project manager	
Client				Project manager	
Special program editing production company				Project manager	
Construction company				Project manager	

S/N	Inspection Item	Inspection content	Inspection result
1	Concrete strength at the attaching support base jack	Reach the calculated value of the safety special construction plan, and ⩾15MPa	
2	Scaffolding condition	Frame height⩽5 times storey height, Frame width⩽1.2m	
3		The frame has no structural changes, missing components, and damage.	
4		The components of the frame are connected without missing and the connection is reliable.	
5		The unloading device at the vertical major frame shall not be less than 2, and can not use fastener or wire rope shall be used as the unloading device.	
6		The safety protection facilities are not damaged.	
7	Attaching support base jack	attaching support base jack for each existing floor covered by the vertical major frame	
8		The anti-drop, anti-roll and guide devices on the attaching support base jack are intact.	
9		attaching support base jack adapt double nut to reinforced.	
10	Lifting equipment	The lifting device is set up at the vertical major frame	
11		Lifting support adapt double nut to reinforced.	
12		The connection of the lifting system components is not cracked, damaged, and the connection is firm.	
13		The lifting system is cleaned, maintained and runs smoothly	

S/N	Inspection items	Inspection contents	Inspection result
14	Lifting equip-ment	The power equipment complies with the instruction manual and the current relevant standards, and the suspension is correct, the connection is reliable, the startup is sensitive, and the operation is normal.	
15		The control cabinet and control equipment are working properly and fully functional.	
16	Anti-over-turning equipment	Each machine position is not less than one set of anti-overturning equip-ment, and it can function in both use and lifting conditions.	
17		Anti-overturning equipment completed, Working condition is normal	
18		After cleaning, inspection and maintenance, it is easy to operate, sensitive and reliable.	
19		The installation position is correct and the stop is effective.	
20	Anti-drop device	For lifting conditions, the minimum distance between the uppermost and lower-most guides is ⩾ 2.8m, or ⩾ 1/4 height; in the working condition, the minimum distance between the uppermost and lowermost guides is ⩾ 5.6m, Or ⩾1/2 height.	
21		The cantilever height of the frame is ⩽ 2/5, and ⩽ 6m	
22	Obstacle, constraint removal	Obstacles and restraints of unobstructed scaffolding are lifted	
23		All the wall bars on the frame are removed	
24	Operators	Hold a certificate and have a Safety and Technology Training record	
25	Command, communi-cation, security alert	Unified command, personnel in place, clear responsibilities, equipment working properly	
26		Lifting action sound and light prompts work normally	
27		Have a security guardianship area and have a dedicated person	
28	Cable line and switch box	It meets the calculation requirements for line load in JG46 of the current industry standard "Safety Technical Specifications for Temporary Use of Construction Sites"; set a special switch box.	

Inspec-tion conclu-sion	Acceptance				
	Rectifi-cation contents	After rectification, acceptance			
Inspector's signature		Main contractor	Client	Special program editing produc-tion company	Construction company
Date:					

9.4 Pre-Tightening Electric Hoist Steps and Methods

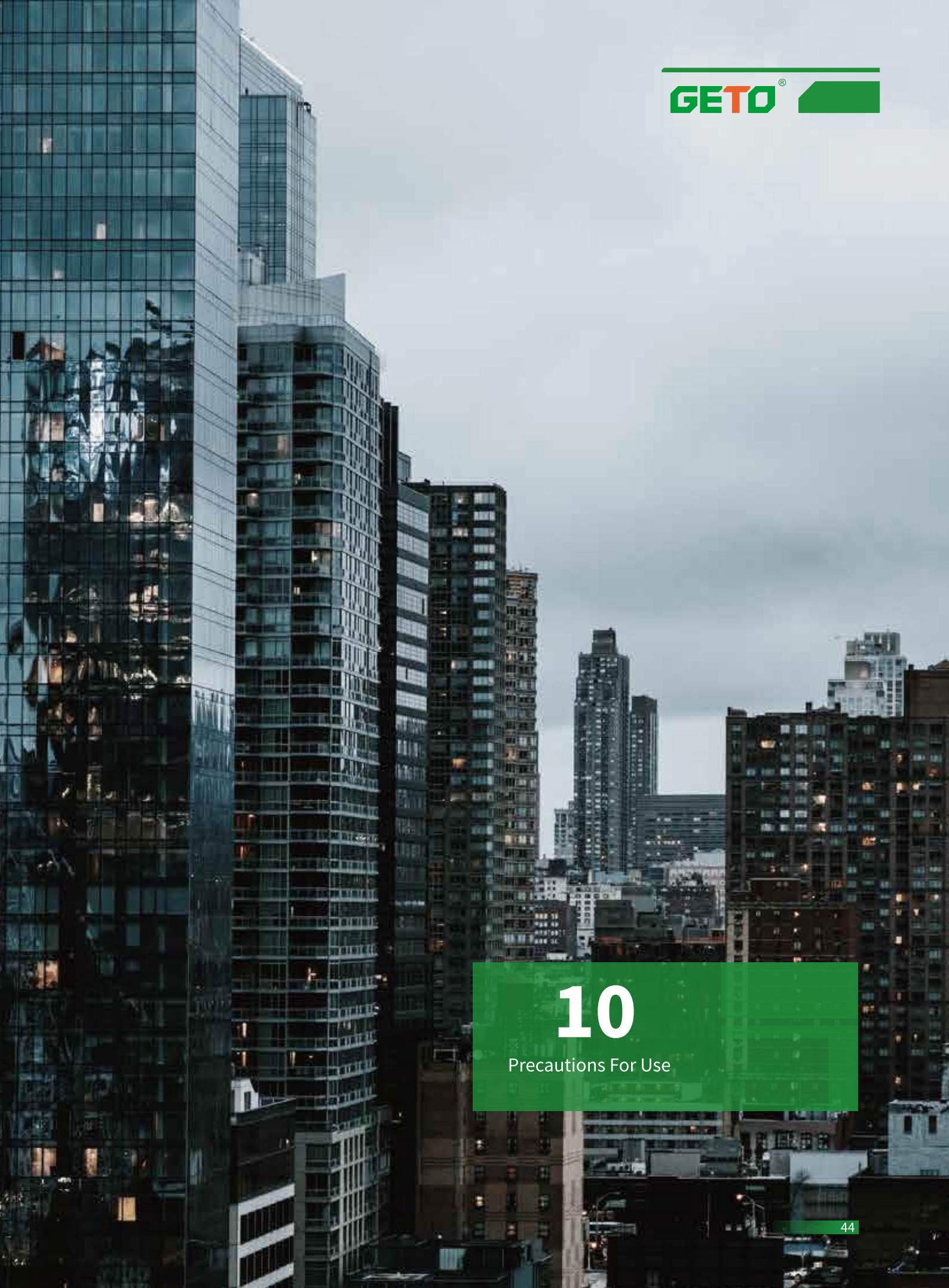


9.5 GT-18 Self Climbing Platform Requirements

Implement the principle of “safety first, prevention first”.

Construction personnel shall abide by the “Safety Technical Operation Regulations for Construction and Installation Workers”.

Lifting operation safety measures:
A:To do not raise and lower with four principles: Rain, five grades (including five grades) above the strong wind, no rising and falling; When the sight is not good, no rising and falling; No lift inspection, no rising and falling;Division of labor, responsibility is not clear, no rising and falling.
B:The warning line shall be set on the ground during lifting operations, and any unrelated personnel shall not be in the warning line.
C:When the construction site is large, sufficient walkie-talkie should be configured to strengthen communication links.
D:No personnel shall stay on the climbing frame when the climbing frame is lifted or lowered.



10

Precautions For Use

Precautions for use

1.After the GT-18 Self Climbing Platform is assembled in one time, it enters the structural construction stage. When using scaffolding at this stage, it must be used according to the construction plan requirements and the operation method of this manual. It is necessary to offer technology disclosure for each construction team.

2.All personnel are prohibited from being put on frame during the lifting operation of the scaffolding. After the lifting is completed, the climbing frame operator checks the frame and confirms that the “GT-18 Self Climbing Platform Lifting Checklist” and the “GT-18 Self Climbing Platform Falling Checklist” (Appendix A. After the requirements of 1.4 and Appendix A.1.5), Party A shall be notified to arrange for the construction of other construction workers.

3.After the scaffolding is set up according to the design plan, it is forbidden to carry out any expansion, erection and connection activities on the scaffolding. It is forbidden to hang advertising billboards on the external frame.

4.The materials is prohibited on the frame body, and each time the concrete is finished, Party A arranges personnel to clean up.

5.When the scaffolding is in use, no one can remove the scaffolding member at will. The components of the scaffolding must not be replaced by other materials.

6.Before the scaffolding is lifted, the owner of the main control box must be designated. The operator should not talk to people during the lifting process, and should not be away from the main control box within 10 meters.

7.Scaffolding prohibits the following illegal operations during use: lifting materials by scaffolding, strolling on scaffolding, lifting and hoisting cables on scaffolding, arbitrarily removing structural parts or loosening joints, removing or moving safety measures on scaffolding, tower cranes Do not collide or pull the scaffolding frame when lifting the material, and prohibit dumping construction waste on the scaffolding aisle.

8.In the event of typhoon weather, the frame should be reinforced according to the "Typhoon Emergency Plan".

9.During the use of scaffolding, it should be checked once a month. For specific measures, see "GT-18 Self Climbing Platform Monthly Checklist"; The bolted joints, lifting power equipment, anti-rolling and anti-drop device, electrical equipment, etc，in the process of maintenance, the specific measures can be found in the "Monthly Maintenance Table".

10.2/A.1.4 GT-18 Self Climbing Platform Lifting Checklist

Project Name		Building Height		Building Storeies	
Installation floor		Number of hoisting machines		Number of set-up	
Contractor			Project manager		
Use Co.			Project manager		
Special programming Co.			Project manager		
Installation Co.			Project manager		

No.	Inspection Item	Content	Results
1	Frame situation	Technical disclosure record	
2		No missing, changing or damaged components	
3		No damage, obvious deformation, broken welding of the components	
4		No missing or loose connection bolts	
5		The sundries and construction waste on the frame have been cleaned up.	
6		The bolt with the building structure has been released or re-fixed	
7		The constraint between the rail and the attaching support base jack has been released or reinstalled	
8		The constraint affecting the lifting operation has been released	
9		Obstacles that hinder lifting have been removed	
10	Support	The concrete strength at the adhesion support meets the design requirements and ⩾15MPa	
11		Attachment support installation position deviation ⩽ 15mm	
12		The attachment support is securely mounted and fits tightly to the building structure	
13		The support is fixed by twin tie rod, and the nut and the base plate meet the requirements.	
14		Adhesion support should have anti-drop and anti- toppling function	

No.	Item	Content	Results
15	Support	The anti-drop device should not be placed on the same attachment support as the lifting device	
16	anti-drop and anti-toppling Device	The gap between the guiding device and the guide rail should be less than 5mm	
17		The anti-drop device is flexible, sensitive, and effective.	
18		Under the lifting condition, the distance between the uppermost and lowermost guides is ⩾2.8m, or ⩾1/4 height	
19	Lifting device and control system	The lifting system is installed correctly and the power equipment and lifting system are reliably connected.	
20		The equipment at the bottom is sensitive, reliable, and the direction of rotation is correct.	
21		The control cabinet is working properly and has full functions.	
22		Set a dedicated switch box	
23		The distribution line complies with the requirements of "Safety Technical Specifications for Temporary Electricity Use at Construction Sites"	
24	Safety Protection	Commanders and operators are ready	
25		Communication equipment is working properly	
26		Set a warning line or precautionary measure.	
27		Reliably closed around the top hole, set the fence	
28		A protective door opening to the floor at the top step	
29		The gap between the top platform and the floor is ⩽ 30mm	
30		The difference between the top platform and the floor is ⩽0.3m	

Conclusions	Meet the requirements, agree to use ( )				
	Improvement content	After the improvement meets the requirements, agree to use ( )			
Checker Signature		Contractor	Use Co.	Special programming Co.	Installation Co.

Day Month Year

10.2/A.1.5 Self-checking List For GT-18 Self Climbing Platform After The Falling

Project		Elevation		Layer	
Installed floor		Number of falling		Number of machine position	
General contractor			Project Manager		
Use the unit			Project Manager		
Special programming unit			Project Manager		
Installation Unit			Project Manager		

No.	Inspection Item	Inspection situation	Inspection result
1	Frame situation	Have technical disclosure record.	
2		There are no missing, changing or damaged components.	
3		No damage, obvious deformation and open welding of components.	
4		No missing or loose for connection bolts	
5		Debris and construction waste on the frame have been cleared.	
6		The bolt has been removed or reattaching to the structure of the building.	
7		The constraint between the guide rail and the attaching support base jack has been removed or re-installed	
8		Constraints affecting lift operations have been removed	
9		Obstacles to the lifting have been removed	
10	Attaching abutment	The strength of the concrete at the abutment meets the design requirements and more than or equal to 15MPa	
11		The deviation of abutment position is less than or equal to 15mm	
12		The abutment is installed firmly, which is close to the building structure	
13		The abutment is fixed by double tie rod, the nut and washer are all meet requirement.	
14		The abutment shall have guiding functions for capsized and falling prevention	

No.	Item	Content	Results
15	Attaching abutment	The capsized prevention device is not mounted on the same abutment as the lifting device	
16	Device of capsized and falling prevention	The clearance between guide device and guide rail should be less than 5mm	
17		The capsized prevention device is flexible, sensitive and effective	
18		Under lifting conditions, the space between the top and bottom two guides is more than or equal to 2.8m, or more than or equal to 1/4 with the frame height	
19	Lifting device and control system	Correct installation of lifting system, reliable connection between power equipment and lifting system.	
20		Power equipment starts sensitively, operates reliably and rotates in the right direction	
21		The control cabinet works normally with complete functions	
22		Set up special switch box	
23		Distribution lines shall comply with the requirements of "safety technical code for temporary use of electricity on construction site"	
24	Safety Protection	Command and operational personnel are in place	
25		The communication equipment is working normally	
26		To place a cordon or alert	
27		The opening of the top floor should be closed reliably, and guard rail should be set up	
28		To set up a protective door opening to the floor in the top of the floor ladder	
29		The gap between the top floor platform and the floor is less than or equal to 30mm	
30		Height difference between the top floor platform and the floor is less than or equal to 0.3m	

Inspection result	Meet the requirement and agree to use ( )				
	The rectification content	After the rectification in accordance with the requirements, agreed to use ( )			
Inspector sign		General contractor	Use the unit	Special programming unit	Installation Unit
Date:					

10.9/GT-18 Integrated Attachment Lifting Scaffolding Month Checklist

Project Name		Machine Number	
Checker		check date	

No.	Item	Status
1	Main frame	
2	Tie rod, nut and wire teeth	
3	The protective net is tightly closed and the bottom flap is tightly closed.	
4	Frame arm height position	
5	Return spring of the needle	
6	Anti-roll device splint	
7	Attachment bearing (with or without deformation)	
8	Lifting the hanger (with or without deformation)	
9	Reverse chain spring	
10	Whether the fasteners and bolts are fastened everywhere	
11	Working status of each control box (synchronized)	
12	Line laying (fixed and in good condition)	
13	Electric hoist (whether the hoist is damaged)	

10.9/Monthly maintenance schedule

No.	Item	Content	Consequence
1	Electric hoist	Apply butter to chains and pulleys	
2	Jack	Apply butter to the jack	
3	Tie rod	Apply butter to the tie rod	
4	Flap	Repair the flaps, close to the self-tapping screws	
5	Bolt	Reinforced bolts that are not fastened	
6	Electrical equipment	Re-seal the damaged line with tight tape	

11
High Altitude Removal

High Altitude Removal

11.1 Preparation Before Dismantling

1 .Prepare the plan and submit it to the project department for review.
2.Prepare equipment for the removal of special spreaders, wire ropes, etc. for climbing frames
3.Check the bearing condition of the main stressed bolts such as the attaching support base jack.
4.Clean up the waste on the frame to ensure the safety of personnel during the removal process.
5.During the whole demolition construction process, a safety warning line shall be set on the ground. The warning range shall be 5 to 10 meters outside the area to be demolished, and should have a time schedule, e.g. some part in the morning, some part in the afternoon. And the tower crane lifting area shall be set up with special personnel to prevent non-workers from entering the demolition area. Be sure to be safe.
6.Do technology disclosure for the operator.

11.2 Dismantling Process

11.3 Precautions

1.0 The professional team has similar demolition experience and is trained to be employed.

2.0 Conduct on-site field visits to accurately measure the demolition scope of the climbing frame.

3.0 The site of the dismantling team shall be disclosure on site, and the scope of demolition, construction sequence, and safety attention points shall be clearly defined to avoid cross-over operations.

4.0 It is strictly forbidden to drink, naked ,pay attention to the care products.

5.0 On-site command, supervision, operation, and warning are in place, and the requirements of the “Safety Technical Standard for Construction Tools and scaffolding” should be observed. The personnel should do:

5.1 Wearing belts and helmet, the spanner and straps to avoid falling. -

5.2 Unified command, the demolition of the frame material is caught firmly, and it is strictly forbidden to throw.

5.3 A clear division of work, individual responsibility -

6.0 Strictly follow the construction process:

6.1 Remove waste, garbage, and obstacles from the frame.

6.2 Thoroughly inspect the frame to ensure that the frame can be safely removed. The contents of the inspec tion are: the condition of each component of the frame, the force of each attachment and something like that.

6.3 It is strictly forbidden to carry out demolition work at 5 grade and above with strong winds or heavy rain, heavy snow, dense fog, thunderstorms and nighttime.

6.4 The demolition personnel must wear safety protective equipment correctly. The safety protection equip ment must be connected to the building structure. It is forbidden to be attaching to the frame body. The safety officer is responsible for the on-site safety command work.

6.5 Dismantle from top to bottom, floor and area sequentially, it is forbidden to dismantle both top and bottom at the same time.

6.6 It is strictly forbidden to throw everything down during the whole process of dismantling the scaffolding.

12

GT-18 Self Climbing Platform Installation and Common Use Tools

GT-18 Self Climbing Platform Installation and Common Use Tools

List of Tools for Installation of GT-18 Self Climbing Platform

The number of tools listed in this table is based on 40 seats. The actual situation should be adjusted according to the current situation and the number of seats.

S/N	Name of Tool	Specification and requirement	Unit	QTY
1	Screw Jack	3 tons	pcs	1
2	Electric hand drill	220V	set	1
3	Stainless steel drill bit	Diameter 40mm	pcs	10
4	One open-ended and plum combined wrench	22mm	pcs	5
5	One hole-ended and plum combined wrench	24mm	set	8
6	Diamond hydraulic drill	40mm drilling bit	set	1
7	Safety hat	GETO	pcs	10
8	Tape measure	Meter	pcs	5
9	Wire stripper	LA815138	set	2
10	Utility knife	standard	set	3
11	Insulating waterproof tape	25x500mm	roll	20
12	Vice	FO-2603A	set	2
13	High-altitude safety belt	standard	pcs	10
14	New workman electric wrench	XL-80032	set	5

S/N	Name of Tool	Specification and requirement	Unit	QTY
15	Sleeve	24*150	pcs	5
16	Sleeve	22*75	pcs	5
17	Sleeve	8mm	pcs	5
18	Sleeve	24*75	pcs	10
19	multimeter	3280-10F	pcs	1
20	Test pen	MNT -111302 digital display	pcs	1
21	Long nose pliers	8 inch	pair	3
22	Phillips screwdriver	3*75	pair	3
23	Phillips screwdriver	6*150	pair	3
24	Slot type screwdriver	3*75	pair	3
25	Slot type screwdriver	6*150	pair	3
26	Aviation scissors	standard	pair	3
27	Angle grinder	Standard specification	set	1
28	Grinding sheet	Standard specification	box	2
29	Cutting slice	Standard specification	box	3
30	Manual chain hoist	1.5Ton, 3m	pcs	1
31	Positive and negative ratchet sleeve wrench	24mm	set	2
32	Hand painting	5005	bottle	Configure as request
33	Hand painting	Signal blue	bottle	Configure as request

S/N	Name of Tool	Specification and requirement	Unit	QTY
34	Cable ties	5X400		
35	Electric chain hoist	3 tons		
36	Electric hoist gear	Standard specification		
37	Electric hoist pulley	Standard specification		
38	Tap	Standard specification		
39	wrench jaws	Standard specification		
40	Tap drift holder	Standard specification		
41	wrench jaws drift holder	Standard specification		
42	Scissors	45-degree angle scissors multifunctional electrical trough scissors universal PVC scissors		
43	Large wrench	50mm		6
44	Large wrench	One end 41mm and one end 46mm combined open-ended wrench		2

13

Advantages

13.1 Advantages

GT-18 Self Climbing Platform is a new type of self-developed intelligent scaffolding. It has a number of national patents. The technical features and advantages of the product are as follows:

1.Adopt new attached support system, make the frame more safe and reliable.
2.Standard design.
3.Precise control system.
4.Quick and convenient disassembly and lifting.
5.Environmental protection, energy saving, low carbon design concept.
6.The body of the climbing scaffold made of new quality steel.

13.2 Production Comparison

1.Lifting the pedestal---Safety and Reliable

GETO Climbing Scaffolding

Others

2.The lifting point is located outside the frame and does not affect the passage of personnel

GETO Climbing Scaffolding

Others

3.The passage is orderly, unimpeded and barrier-free

GETO Climbing Scaffolding

Others

4.Turning plate sealed----Close fit with the structure without gaps

GETO Climbing Scaffolding

Others

5.Control System---Intelligent automatic control system

GETO Climbing Scaffolding

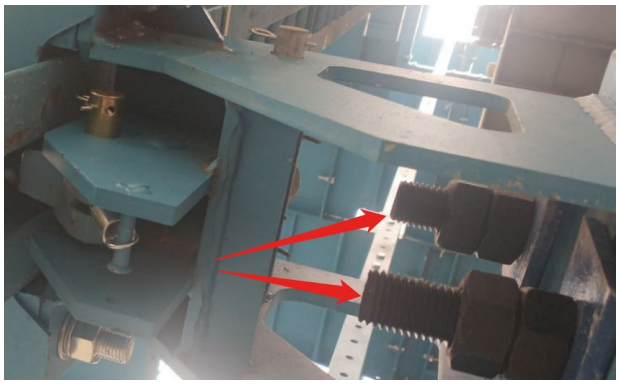
Others

6.Lower hanger---Special steel frame, safe and reliable

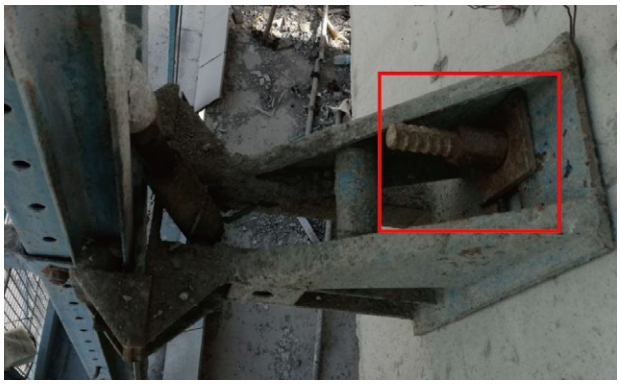
GETO Climbing Scaffolding

Others

7.GETO GT-18 type self climbing paltform and the building structure adopt twin screw attachment connection, which is safer and more reliable than some peer self climbing platform that only use single screw attachment.

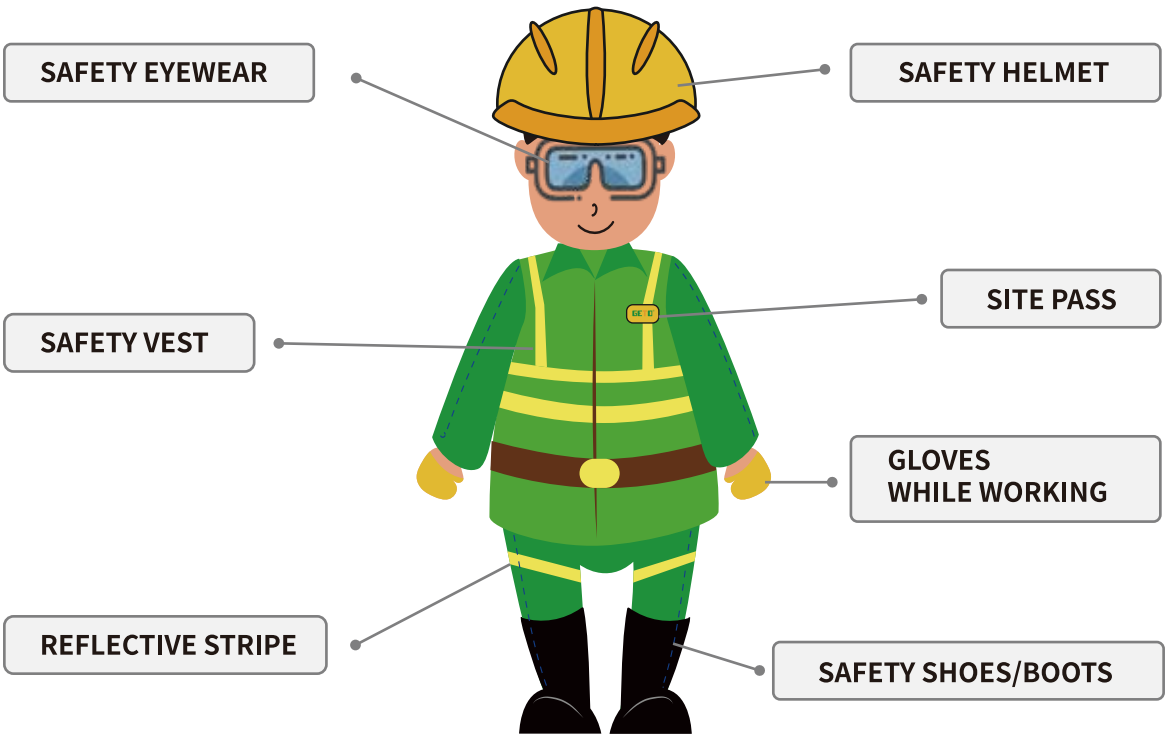


GETO Climbing Scaffolding



Others

13.3 Personal Protective Equipment



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Projects Reference

Projects Reference

Asteria，Melaka，Malaysia

Mesahill Phase 4，Nilai，Malaysia

Agile Embassy Garden，Kuala Lumpur，Malaysia

Tri-Zen Residential，South Asia

Office Building，Southeast Asia