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Aluminium Formwork System & Scaffolding

GT18 Self Climbing **Platform**

(Intelligent Building Construction Protective Platform)

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Preface

We are all grateful for the development and introduction of the lifting scaffolding system by the construction industry. The development and marketing of this system have benefited constructors, as well as society. Hence, the purpose of this book is to acquire clients to quickly and effectively master the theoretical knowledge of scaffolding installation.Integrated Attachment Lifting Scaffolding, as the name implies, it is a scaffolding attached to the structure of the building. Also, a new type of scaffolding technology developed rapidly at the beginning of this century, which has a major impact on the evolution of building construction technology. For instance, it turns high-rise operations into low-level operations as well as high-tech operations into in-house post operations, which significance in low-carbon,high-tech content, more economical, safer and easy operating.Formerly, steel pipe, fastener and channel steel were required to transfer continuously to the upper story for scaffolding, A protective net will also be installed around the border, and the new scaffolding avoids this repeated steps-sub-shaping, and only need to be upgraded and maintained in the later stages. Whereas this new scaffolding has obvious advantages over traditional steel pipe racks in terms of material usage, and the operational risk of work in high above the ground is far lower than that of traditional steel pipe racks.

Development History

• 2011

Establishment of Jiangxi GETO Modern Technology Co., Ltd.

• 2012

Foundation of East China Production Base 1# Establishment of Research and Development department.

• 2013

Was awarded as "Second Prize of Excellent New Products of Jiangxi Province". Rated as "AAA" Credit Enterprise and "First Class" Qualification Enterprise in Industry.

About Us

GETO is a comprehensive joint-stock company specialized in Aluminium Formwork and scaffolding system. Headquarters registered in Jiangxi and the global operation management center is based in Tsui Hang New District, heart of Guangdong-Hong Kong-Macao Greater Bay Area. We had set up more than 20 subsidiaries in Beijing, Shanghai, Shenzhen, Changsha, and overseas in Singapore, Malaysia, Cambodia, India, UAE, Panama, Algeria. The products are sold well in over 30 countries and regions. With four domestic production bases, covering 200,000 square meters in Jiangxi , 340,000 square meters in Hubei, 270,000 square meters in Guangdong, 270,000 square meters in Shandong, and 30,000 square meters in Malaysia, we are one of the first specially qualified and national high-tech enterprises. With a backbone team of over 2,000 people, we are taking the lead in the realization of scale, specialization and modernization, focusing on formwork system R&D, production, leasing, sale, renovation and technical services, providing customers with a full range of high-quality services.

• 2014

Establishment of Jiangxi GETO Aluminium Formwork Tech R&D Co.,Ltd. Obtained National New High-tech Enterprise Certificate. Elected as "Standing Director Units" of the Chinese Formwork and Scaffolding Association. Participate in China national standard of Aluminium Formwork. Establishment of Shanghai GETO Construction Tech Co.,Ltd

• 2015

Establishment of GETO Global Construction Tech Malaysia SDN BHD. Rebrand to Jiangxi GETO New Materials Co.,Ltd.

• 2016

Establishment of Guangdong GETO New Materials Tech Co.,Ltd. Establishment of Zhongshan GETO AluminiumFormwork Tech Co.,Ltd. Public listed on National Equities Exchange and Quotations.

Corporate Culture

Vision

To be the brand leader of green construction and win respect from society.

• Mission

Lead green construction; Practise low-carbon life; Transform traditional construction into modern construction; Make unremitting efforts to improve living standards.

Concept

Industry Benchmark; World Standard

• Values

Integrity; Respect; Collaboration; Innovation

• Business Philosophy

Customer-focused; Results-oriented

• 2017

Foundation of East China Production Base 2# Establishment of Shandong GETO New Materials Tech Co.,Ltd. Establishment of Hubei GETO New Materials Tech

• 2018

Establishment of GETO University. Obtained Special Class Certificate in Aluminium Formwork. Establishment of Jiangmen GETO New Materia

Tech Co.,Ltd.

• 2019

Zhongshan GETO Aluminium Formwork Tech Co., Ltd. won the honorary title of "National High Tech Enterprise".

GETO was awarded The Vice President Unit of Green Development Branch of Building Aluminlum Formwork, the Second Prize of Scientific and Technological Progress (the first prize is vacant), the Most Socially Responsible Excellent Enterprise and the Annual Brand Enterprise Award.

• 2020

Guangdong GETO New MaterialS Tech Co., Ltd. was recommended as "Vice Chairman Unit" by Guangdong Chamber of Commerce for Import and Export.

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Overseas Markets



GETO Production Base:

North China Production Base: Weifang,Shandong,China

Central China Production Base: Xianning, Hubei, China

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

Cooperation Area

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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

South China Production Base:

Jiangmen, Guangdong, China

Malaysia Production Base:

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Climbing Platform



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

Frame System





Lifting 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.



1.4 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.



1.3 Lightning Protection System

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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 φ 16mm².







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



2.2 Application Condition

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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 .





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Installation Process

Installation Process

Site Installation Process Of Climbing Scaffolding









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)

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. 4.1.1)



(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)

Marterials and Tools

S/N	Description	Model No.	Qty	Remark
1	Walkway plate			
2	Connecting plate			
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	M16×40		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.

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.

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. 4.3.1)



(Fig. 4.3.2)



(Fig. 4.3.3)

Materials and Tools

S/N	Description	Model	Qty	Remark
1	Poling fix part			
2	Poling			
3	Electric wrench	XL-80032	1	One person standard
4	Sleeve	24mm	1	Use with electric wrench
5	Manual Wrench	24mm	1	One open-ended and plum combined wrench(one person standard)
6	Matching Hex bolt	M16×40、M16×100、 M16×70		1 bolt +1 nut+1 spring washer +2 flat washer=1 set
7	Fixed connecting rod	Ф48		

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)

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(Fig. 4.4.1)

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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)



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	M16×70	1	1 bolt +1 nut+1 spring washer +2 flat washer=1 set
5	Protection Net		1	QTY for single protection net
6	Frame connection bracket		4	QTY for single frame connec- tion bracket
7	7-shaped Bolt	Ф10×120	4	QTY for single frame connec- tion 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.

Material and Tools

S/N	Description	Model	Qty	Remark
1	Extension plate			
2	Turning plate			
3	Hexagonal flange self-tapping nail	ST4.8×19		
4	Matching bolt	M16×40		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





(Fig. 4.6.1)

4.7 The end of the Frame Fragment Protection

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

(Fig. 4.7.1)

S/N	Description	Model	Qty	Remark
1	End protection net			
2	7-shaped bolt	Ф10×120		

4.8 Installation of Skirting Board

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).



(Fig. 4.8.1)

Materials and Tools

S/N	Description	Model	QTY	Remark
1	Skirting board			
2	Electric Wrench	XL-80032	1	One person standard
3	Sleeve	8mm	1	Use with electric wrench
4	Hexagonal flange self-tapping nail	ST4.8×19		
5	Angle grinder	S1M-HS1-100	1	Equipped one box of cutting slices





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 ϕ 16×55 (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		3	
3	Top support		3	
4	High Strength tie rod	M30XL	6	1 tie rod+ 2 backing plate+4 nuts=1 set
5	Splint		6	
6	Pin shaft	Ф16×55	12	







Installation of Lifting System 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.

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Installation of Lifting System

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)

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).



ower hanger frame. (Fig. 6.2.1)

(FIG.

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	M16×40		1 bolt +1 nut+1 spring washer +2 flat washer=1 set
5	Lower hanger		1	QTY for single framing module
6	Upper hanger		1	QTY for single framing module
7	Hanger fixture		2	QTY for single framing module

Matrials and Tools

S/N	Description	Model	Qty	Remark
1	Slide-way			
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	M16×40		1 bolt +1 nut+1 spring washer +2 flat washer=1 set
6	High strength bolt	M16×70		1 bolt +2 nut+1 spring washer +2 flat washer=1 set



6.2 Installation of Upper and Lower







(Fig. 6.2.3)

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.



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.

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		1	
4	Loading pin shaft	24mm	1	attaching split pin

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





(Fig. 6.4.1)



(Fig. 6.4.2)

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

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S/N	Description	Model	Qty	Remark
1	Mai control box			
2	Sub-control box		1	QTY for single framing module
3	Cable			
4	PVC groove			
5	Cable ties	5X450	pack	
6	Controller		1	
7	Mobile phone tablet		1	
8	Computer		1	
9	Electrician knife	10-225-23	1	
10	Multimeter	3280-10F	1	
11	Test pencil	MNT -111302	1	
12	Insulating water- proof tape	25x500mm	10	Insulation before waterproof tape
13	Electrical insulating tape		10	
14	Vice	FO-2603A	1	
15	Wire stripper	LA815138	1	
16	Slot type screw- driver	JX-0189	1	
17	Phillips screwdriver	JX-0189	1	
18	Scissors	45-degree angle scissors multifunctional electrical trough scissors universal PVC scissors		
19	Electric Box Installa- tion Auxiliary Frame			





8

Lightning Protection System Installation

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Lightning Protection System Installation

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

8.11 Lighter (i.e. lightning rod) Made of φ 12 × 1200 galvanized steel.

8.12 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.

8.13 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 $\leq 10\Omega$ and the grounding resistance ≤ 20 Ω 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.



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).





Mr. Maria

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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"

Р	roject		
Stru	cture		Structure floor
Nun mac	nber of chine		promotion and demotion grouping
Mai	n contractor		
Clie	nt		
Speci editir tion o	ial program ng produc- company		
Insta com	allation npany		
S/N	Inspec- tion items		Inspection
1		Frame height≤5 tii	mes storey height,Fi
2		Support span (stra Support span (the	ight type)≤7 m distance outside the
3	Scaffold-	Full height of the f	rame × support span
4	ing Size	Horizontal cantilev	ver length ≤ 2m, and
5		The poling, the lor intersect with the r	ngitudinal horizontal l major node.
6		Poling spacing and current relevant sta	d cross bar spacing ar andards.
7		Component layou	t conforms to the inst
8	Vertical	The specifications instructions for use	and dimensions of th e.
9	main frame	Each joint is welde	d or bolted.
10		The vertical deviat	ion ≤5‰, and ≤60m
11		The height differer	nce of adjacent vertic



	Construction area (m ²)	
	Maximum height (m²)	
	Usage	
	Project manager	
	Project manage	
	Project manager	
	Project manage	
ontents		Inspection result
ame width≤1.2m		
old line or curved frame	e) ≤ 5.4m	
≤110 m2		
a 1/2 adjacent support s	pan	
ar and the transverse h	orizontal bar	
e in accordance with the	specifications and	
uctions		
rods are in conformity	with the	
n.		
l main frames≤20mm		

S/N	Inspec- tion items	Inspection contents	Inspection result
12		Component layout and specification conforms to the instructions	
13	Horizon- tal	Each joint is welded or bolted.	
14	support	Poling spacing is in accordance with the specifications and current relevant standards	
15		Component layout and specification conforms to the instructions and current relevant standards	
16	Frame struc-	No missing parts of the frame and reliable connection	
17	ture	The poling, the longitudinal horizontal bar and the transverse horizontal bar intersect with the major node.	
18		Connecting nodes conform to specifications and current relevant standards	
19	Scoffolding	Bearing capacity and deformation of scaffoldings conform to special safety construction scheme	
20	scanoluling	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 \leq 150mm.	
22		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	Attaching	The age compressive strength of concrete at the joints meets the design requirements and ${\geq}15 \text{MPa}$	
26	support base jack	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		Facade full of bridging	
31	Bridging	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	In tio	spec- on items			Inspection co		
33				Anti-overturning rails are	reliably connec		
34	Ai tu ea	nti-over- Irning quipment		For lifting conditions, the guides is ≥ 2.8 m, or $\geq 1/4$ uppermost and lowermo	minimum distar 4 height; the wo st anti-tilt device		
35				The gap between the gui	ide and the guid		
36			i	Each machine position is in both use and lifting co	not less than a s nditions.		
37	A	nti-drop	1	anti-drop devices has du sensitive and reliable	stproof and anti-		
38	Ű	EVICES	:	When only one anti-drop should be connected to t	device is provid the different wall		
39				The steel boom of the bo and diameter is≥ 25 mm	oom-type anti-di		
40	Supebro			Tooled scaffolding with re	estricted load co		
41	ni	nizer It has the funct overload and lo		It has the functions of cor overload and load loss, re	ions of controlling lifting a oad loss, real-time display		
42				The dense mesh safety n vertical mesh aperture ≤	et is ≥2000 mes 6mm.		
43		The facade is protected tightly a When the dense mesh is used a and 180mm high-grade foot-bo safety net, the metal frame shou withstand 1.0kN horizontal load.		The facade is protected tightly and without			
44	Pr			used as the safe oot-board. Whe ne should be reli al load. Destruct			
45	ec	quipment	1	When the working floor i high protective railing is i	s more than 2.0 nstalled inside th		
46				The frame is broken or ha vertical net	as a protective b		
47				The diameter of the inscr should be less than 25mr should be completely clo	ibed circle of the m; the scaffoldin sed with the bui		
					Acce		
tion conclusion	Inspec- tion conclu- sion Rectificati contents		ion				
Inspe	Inspector's signature		re	Main contractor	Client		



ontents	Inspection result
ted to the vertical major frame	
nce between the uppermost and low rking condition, the spacing betweet s is \geq 5.6m, and \geq 1.2 frame height	wermost en the t.
le rail is ≤5mm	
set of anti-drop devices, and can be	e used
-pollution measures, and is	
ded for one position, the anti-drop support with the lifting device.	device
rop devices is determined by calcul	ation
ntrol system	
nd lowering, automatic alarm and s and storage of load, and self-fault a	stop of alarm.
h/100cm², and ≥3.5kg/sheet;Metal	plate
ut gaps.	
ety net, it has 1.2m high protective r n the framed metal mesh is used as ably connected with the frame and ion occurred.	ailing s the can
meters away from the floor, a 1.2 m ne frame.	1
parrier at the opening or closed with	па
e mesh of the metal scaffolding boa g board at the bottom of the frame Iding structure;	ard e body
eptance	
Aft	er rectification, acceptance
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

Р	roject		Operational type	hoist				
Worl	king layer	hoist height (m) hoist grouping						
Mair	o contractor		Project manager					
	Client		Project manager					
Spec edition	ial program ng produc- company		Project manager					
Cons com	struction pany		Project manager					
S/N	Inspec- tion Item	Inspection con	tent	Inspection result				
1	Concrete strength at the attaching support base jack	Reach the calculated value of the safety	special construction plan, and ≥15MPa					
2		Frame height≤5 times storey height, Frame width≤1.2m						
3		The frame has no structural changes, missing components, and damage.						
4	Scaffolding condition	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 da						
7		attaching support base jack for each exist vertical major frame	sting floor covered by the					
8	Attaching support base jack	The anti-drop, anti-roll and guide devices on the attaching support base jack are intact.						
9	buse juek	attaching support base jack adapt doub	e nut to reinforced.					
10		The lifting device is set up at the vertical	major frame					
11	Lifting	Lifting support adapt double nut to reinf	Forced.					
12	equip- ment	The connection of the lifting system com and the connection is firm.	ponents is not cracked, damaged,					
13		The lifting system is cleaned, maintained	and runs smoothly					

S/N	Inspec- tion items		Inspection contents			Inspection result			
14	Lifting 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	equip- ment	The control cabinet and of functional.	control equipment are wo	orking properly and fully					
16		Each machine position is equipment, and it can fur	not less than one set of a nction in both use and life	anti-overturning ting conditions.					
17	Anti-over- turning	Anti-overturning equipm	ent completed, Working	condition is normal					
18	equipment	After cleaning, inspection sensitive and reliable.	n and maintenance, it is e	asy to operate,					
19		The installation position is	s correct and the stop is e	effective.					
20	Anti-drop	For lifting conditions, the guides is $\geq 2.8m$, or $\geq 1/4$ between the uppermost $\approx 1.4m$	minimum distance betwe 4 height; in the working c and lowermost guides is	een the uppermost and le condition, the minimum d ≥ 5.6m, Or ≥1/2 height.	owermost istance				
21	device	The cantilever height of t	he frame is \leq 2/5, and \leq	6m					
22	Obstacle	Obstacles and restraints of	of unobstructed scaffoldir	ng are lifted					
23	Constraint removal	All the wall bars on the fr	I the wall bars on the frame are removed						
24	Operators	Hold a certificate and have	old a certificate and have a Safety and Technology Training record						
25	Command,	Unified command, perso ment working properly	Unified command, personnel in place, clear responsibilities, equip- ment working properly						
26	communi- cation, security	Lifting action sound and	light prompts work norm	ally					
27	alert	Have a security guardian:	ship area and have a dec	licated person					
28	Cable line and switch box	It meets the calculation re industry standard "Safety Construction Sites"; set a	equirements for line load Technical Specifications t special switch box.	in JG46 of the current for Temporary Use of					
			Acceptance						
Inspection conclusion	- Rectifica tion contents	5		Af	ter rectificat	tion, acceptance			
Inspector's signature		Main contractor	Client	Special program editing produc- tion company	C	onstruction ompany			
					Date				



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

Р	roject		Operational type	hoist, decline		
Wo	orking layer	Decline height (m)	Decline grouping			
Ma	in contractor		Project manager			
Clie	ent		Project manager			
Spe edi tior	ecial program ting produc- n company		Project manager			
Cor	nstruction mpany		Project manager			
S/N	Inspec- tion 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		Frame height \leq 5 times storey height, Frame width \leq 1.2m				
3		The frame has no structural changes, missing components, a				
4	Scaffolding condition	The components of the frame are connected without missing connection is reliable.				
5		The unloading device at the vertical major frame shall not be can not use fastener or wire rope shall be used as the unload				
6		The safety protection facilities are not damaged.				
7		attaching support base jack for each existing floor covered b vertical major frame	y the			
8	Attaching support	The anti-drop, anti-roll and guide devices on the attaching subase jack are intact.	upport			
9	Dase Jack	attaching support base jack adapt double nut to reinforced.				
10		The lifting device is set up at the vertical major frame				
11	Lifting	Lifting support adapt double nut to reinforced.				
12	equipment	The connection of the lifting system components is not crack and the connection is firm.	ed, damaged,			
13		The lifting system is cleaned, maintained and runs smoothly				

S/N	Inspec- tion items		Inspection contents			Inspection result	
14	Lifting	The power equipment relevant standards, and startup is sensitive, and t	complies with the instru the suspension is correct he operation is normal.	ction manual and the c , the connection is reliab	current le, the		
15	equip- ment	The control cabinet and	control equipment are wo	orking properly and fully t	functional.		
16		Each machine position is and it can function in bo	not less than one set of a th use and lifting condition	anti-overturning equipme ns.	ent,		
17	Anti-over-	Anti-overturning equipm	nent completed, Working	condition is normal			
18	equipment	After cleaning, inspection	n and maintenance, it is e	asy to operate, sensitive a	and reliable		
19		The installation position i	is correct and the stop is e	effective.			
20	Anti-drop	For lifting conditions, the guides is $\geq 2.8m$, or ≥ 1 between the uppermost	e minimum distance betwe /4 height; in the working and lowermost guides is	een the uppermost and le condition, the minimum ≥ 5.6m, Or ≥1/2 height.	owermost n distance		
21	device	The cantilever height of t	the frame is \leq 2/5, and \leq	бm			
22	Obstacle,	Obstacles and restraints	of unobstructed scaffoldir	ng are lifted			
23	removal	All the wall bars on the fi	rame are removed				
24	Operators	Hold a certificate and ha	ve a Safety and Technolog	gy Training record			
25	Command	Unified command, perso working properly	nnel in place, clear respo	nsibilities, equipment			
26	communica- tion, security	Lifting action sound and	ifting action sound and light prompts work normally				
27		Have a security guardian	lave a security guardianship area and have a dedicated person				
28	Cable line and switch box	It meets the calculation r try standard "Safety Tech Sites"; set a special switch	equirements for line load nical Specifications for Ter n box.	in JG46 of the current inc mporary Use of Construc	dus- tion		
			Acceptance	e			
Inspection conclusion	Rectifica tion contents	-		Af	ter rectifica	tion, acceptance	
Inspector's signature		Main contractor	Client	Special program editing production company	Constr	ruction 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.







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 Installati	Name ion floor		Building Height Number of hoisting machines		Building Stor	reies et-up		
Contrac	tor			Project manag	jer			
Use Co.				Project manag	jer			
Special	programming Co.			Project manag	jer			
Installati	ion Co.			Project manag	ler			
No.	Inspection Item			Content		Results		
1		Techn	ical disclosure record					
2		No m	No missing, changing or damaged components					
3		No da	No damage, obvious deformation, broken welding of the components					
4		No m	No missing or loose connection bolts					
5	Frame situation	The s	The sundries and construction waste on the frame have been cleaned up.					
6		The b	The bolt with the building structure has been released or re-fixed					
7		The c has b	The constraint between the rail and the attaching support base jack has been released or reinstalled					
8		The c	The constraint affecting the lifting operation has been released					
9		Obsta	Obstacles that hinder lifting have been removed					
10		The c requii	The concrete strength at the adhesion support meets the design requirements and \geq 15MPa					
11		Attac	Attachment support installation position deviation \leq 15mm					
12	Support	The a the b	ttachment support is se uilding structure	ecurely mounted and fits	s tightly to			
13		The s meet	upport is fixed by twin t the requirements.	ie rod, and the nut and	the base plate			
14		Adhe functi	sion support should hav	ve anti-drop and anti- to	oppling			



No.	Item			Content			Results	
15	Support		The anti-d ment supp					
16	anti-droi	n	The gap b be less tha	etween the guiding devic an 5mm	e and the guide rail shou	lld		
17	and anti- toppling	-	The anti-d	rop device is flexible, sen	sitive, and effective.			
18	Device		Under the and lower	lifting condition, the dista most guides is ≥2.8m, or	ance between the uppern ≥1/4 height	nost		
19			The lifting equipmen	system is installed correct and lifting system are re	tly and the power liably connected.			
20			The equip of rotation	ment at the bottom is ser i is correct.	nsitive, reliable, and the di	irection		
21	Lifting device a	nd	The contro	ol cabinet is working prop	erly and has full functions	S.		
22	system		Set a dedi	cated switch box				
23			The distrib Specification	oution line complies with t ons for Temporary Electri	the requirements of "Safe city Use at Construction S	ty Technical iites"		
24			Command	lers and operators are rea	ady			
25		Communication equipment is working properly						
26	Safety		Set a warning line or precautionary measure.					
27	Protectio	n	Reliably closed around the top hole, set the fence					
28			A protectiv	ve door opening to the fle	oor at the top step			
29			The gap b	etween the top platform	and the floor is \leq 30mm			
30			The differe	ence between the top pla	tform and the floor is ≤0.	3m		
				Meet the requirements,	agree to use ()			
Conclusions	Improve- ment content	Improve- ment content After the improvement meets the requirements, agree to use ()						
Checker Signature			Contractor	Use Co.	Special program- ming Co.	In	stallation 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 Manage	r		
Use the	unit			Project Manage	r		
Special	orogramming unit			Project Manage	r		
Installati	on Unit			Project Manage	r		
No.	Inspection Item		Ins	spection situation			Inspection result
1		Ha	ve technical disclosure i	record.			
2		There are no missing, changing or damaged components.					
3		No	No damage, obvious deformation and open welding of components.			nponents.	
4	Framo	No	No missing or loose for connection bolts				
5	situation	De	Debris and construction waste on the frame have been cleared.				
6		The the	The bolt has been removed or reattaching to the structure of the building.				
7		The	e constraint between th se jack has been remov	e guide rail and the atta ed or re-installed	ching sup	port	
8		Со	nstraints affecting lift op	perations have been rem	noved		
9		Ob	Obstacles to the lifting have been removed				
10		The	e strength of the concre uirements and more th	ete at the abutment mee han or equal to 15MPa	ts the des	sign	
11		The	e deviation of abutmen	t position is less than or	equal to 1	I5mm	
12	Attaching	The	e abutment is installed f	firmly, which is close to tl	he buildin	ig structure	
13	abuthont	The	e abutment is fixed by c eet requirement.	double tie rod, the nut a	nd washe	r are all	
14		The fall	e abutment shall have g ing prevention	guiding functions for cap	sized and	1	



No	Itom			Contont			Posulte	
NU.	item		The capsized prevention device is not mounted on the same					
15	Attaching abutmen) t	The capsiz abutment	red prevention device is r as the lifting device	not mounted on the same	<u>)</u>		
16	Device of	f	The cleara less than 5	nce between guide devic mm	e and guide rail should b	e		
17	capsized and fallin	ig	The capsiz	ed prevention device is f	lexible, sensitive and effec	ctive		
18	preventio		Under lifti two guide 1/4 with th	ng conditions, the space l s is more than or equal to le frame height	between the top and bot 2.8m, or more than or e	tom equal to		
19			Correct in: between p	stallation of lifting system power equipment and lifti	, reliable connection ng system.			
20			Power equ the right c	lipment starts sensitively, lirection	operates reliably and rota	ates in		
21	Lifting de and contr	vice ol	The contro	ol cabinet works normally	with complete functions			
22	system		Set up spe	ecial switch box				
23			Distribution lines shall comply with the requirements of "safety technical code for temporary use of electricity on construction site"					
24		Command and operational personnel are in place						
25		The communication equipment is working normally						
26	Safety		To place a	cordon or alert				
27	Protectio	n	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		f				
29			The gap b or equal to	etween the top floor plat o 30mm	form and the floor is less	than		
30			Height dif than or ec	ference between the top jual to 0.3m	floor platform and the flo	oor is less		
				Meet the requirement an	d agree to use ()			
Inspec- tion result	The rectification content			After the rectification	in accordance with the re	quirements,	agreed to use ()	
Ger Inspector sign		Gen	eral contractor Use the unit Special program- Installat ming unit			lation Unit		
						D	ate:	

10.9/GT-18 Integrated Attachment Lifting Scaffolding Month Checklist

Pro	oject Name		Machine Number		
Ch	ecker		check date		
No.		Item			Status
1	Main	frame			
2	Tie ro	od, nut and wire teeth			
3	The protective net is tightly closed and the bottom flap is tightly closed.				
4	Frame arm height position				
5	Retur	rn 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	Electi	ric hoist (whether the hoist is damag	jed)		

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	



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



High Altitude Removal



11.3 Precautions

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

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

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

5. 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. Strictly follow the construction process:

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

6.2Thoroughly inspect the frame to ensure that the frame can be safely removed. The contents of the inspection 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 equipment 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.





<u>GETO</u>

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	ΟΤΥ
1	Screw Jack		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		
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	
15	Sleeve	
16	Sleeve	
17	Sleeve	
18	Sleeve	
19	multimeter	
20	Test pen	
21	Long nose pliers	
22	Phillips screwdriver	
23	Phillips screwdriver	
24	Slot type screwdriver	
25	Slot type screwdriver	
26	Aviation scissors	
27	Angle grinder	
28	Grinding sheet	
29	Cutting slice	
30	Manual chain hoist	
31	Positive and negative ratchet sleeve wrench	
32	Hand painting	
33	Hand painting	



Specification and requirement	Unit	ΩΤΥ
24*150	pcs	5
22*75	pcs	5
8mm	pcs	5
24*75	pcs	10
3280-10F	pcs	1
MNT -111302 digital display	pcs	1
8 inch	pair	3
3*75	pair	3
6*150	pair	3
3*75	pair	3
6*150	pair	3
standard	pair	3
	set	1
	box	2
	box	3
1.5Ton, 3m	pcs	1
24mm	set	2
5005	bottle	
Signal blue	bottle	

S/N	Name of Tool	Specification and requirement	Unit	ΟΤΥ
34	Cable ties			
35	Electric chain hoist			
36	Electric hoist gear			
37	Electric hoist pulley			
38	Тар			
39	wrench jaws			
40	Tap drift holder			
41	wrench jaws drift holder			
42	Scissors	45-degree angle scissors multifunc- tional 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
45	60A Plasma cutting machine			1
46	60A Plasma cutting gun head			30
47	0.6L Air compressor			1
48	(220V) Portable welder			1
49	3.2mm Electrode			
50	Tool cabinet			1





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A DESCRIPTION OF THE OWNER.

GETO

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.

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



GETO Climbing Scaffolding

5.Control System---Intelligent automatic control system



1.Lifting the pedestal---Safety and Reliable





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





GETO Climbing Scaffolding

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



GETO Climbing Scaffolding





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



GETO Climbing Scaffolding









7.Attached support - Double - screw reinforcement, special splint anti - capsizing device, pin - holder double anti - fall.





GETO Climbing Scaffolding

13.3 Personal Protective Equipment





Projects Reference



Wuan Country Garden



Foshan Zhongbin Garden



Wuzhou Midea



Zaozhuang Country Garden





The GIA TOWER-Phnom Penh-Kingdom of Cambodia