Installation Manual

KT-310

Auto Body collision repair system

CONTENTS

FOREWORD

Accompanying the development of automotive design and technologies, new materials are widely applied on auto bodies. Today, most vehicles are made of high-carbon steel instead of soft or medium-carbon steel, which makes a great difference in repair.

After collision, all direction pull must be applied to auto body. To protect passengers at the second collision, **DO NOT** heat auto body, this may change metal structure and reduce metal hardness.

Powered by hydraulic pressure and various tools and accessories, the Body Repair System can restore the damaged auto body as original as possible by multipoint pulling. The measuring system is designed to ensure the accuracy of pulling and to restore the original dimensions.

This manual is to illustrate the installation, training, operation and maintenance of uniliner.There is details on the application of basic equipment and accessories, the clamping of vehicles and the measurement by measuring system. To enable the operators to master repairing skills, a number of pictures are attached.

During the installation and operation of the system, follow the safety cautions in the manual to prevent injury. **DO NOT** exceed the rated load and pressure to avoid damage to system or injury.

KT-310 Body Repair System aims to help restore the damaged vehicles rapidly and accurately as well as to create convenient and comfortable environment for operators.

This manual is the instruction for UL-300 body repair systems. The photos may be changed from time to time, please refer to the real object.

Ⅰ Introduction

UNILINER BODY REPAIR SYSTEM is the high-end system. The platform is welded of 16mm alloy steel plate, which is with high strength and good rigidity; tower and platform are unity design, tower moves around the platform rail free at 360 degrees; platform vertical hoist design, five working heights selectable. Imported hydraulic systems features long life, low malfunction rate; the whole system is powered by one electric pump and controlled by remote control, easy and convenient operation. More imported alloy steel clamps features long life and high strength; tool cart and accessories are easy to use; high accuracy 3D mechanical measuring system with global auto data is very convenient to use. **KT-310** can fit small, medium and big sized vehicles.

1. TRADEMARK

On receiving the frame machine check the parts of the identification nameplate that has to correspond to that shown below.

Table 1:

Power supply: 380V/3PH/50 HZ Cable specification: >=4㎟	MODEL:	**KT-310**
	YEAR OF PRODUCTION	2023
	FRAME LENGTH	3320mm
	FRAME WIDTH	880mm
	FRAME HEIGHT	110-1700mm
	HYDRAULIC PRESSURE	70Mpa(1000psi)
	POST MAX. TENSION	60KN
	POST WORHING RANGE	360 Degree
	PNEUMATIC PRESSURE RANGE	0.8MPa
	MAX. LIFTING WEIGHT	3000Kg

2. GENERAL PRESENTATION OF STANDARD COMPONENTS

The frame machine model**KT-310** standard type is composed as follows:
Table 2:

NO	MAIN PART	PART	QUAN.	UNIT
1	FRAME ASSEMBLY	Frame	1	Set
		Pulling tower	1	Set
		Main chain	2	Piece
		Chain with hook	1	Piece
2	MEASURING SYSTEM	PTP measuring system	1	set
3	CLAMPS/SUPPORT ASSEMBLY	Universal main clamps	4	Set
		Air hydraulic pump	1	Set
		Air hydraulic cylinder	3	Set
		Hydraulic hose with connector	1	Piece
4	ACCESSORY ASSEMBLY	Pulling tools	18	Piece
		Tools board	1	Set
		Dolly for tools board	1	Set
5	REMARKS			

3. ACCESSORY ASSEMBLY

1) Pulling tools assembly.

It consists in the tools board, dolly for tools board and 18 pieces of pulling tools. Different pulling tools are used according to the different distortion. The pulling tools may be used singly; also several tools are used together. The use method is not changeless, but various according to the model of accident vehicle, the degree of damage, the habit of operators. It may develop the subjectivity of operators and supply more convenience. These are 18 pieces of pulling tools. Table 3: A list of available pulling tools are shown below：

NO.	DESCRIPTION	QUAN.	Max Load（TON）
1	Chain (1.2m)	2(Set)	7
2	Small Clamp	1(Set)	3
3	Mini clamp	1(set)	3
4	Wide Clamp	1(Set)	
5	C-clamp	1 (Set)	4
6	Right angle clamp	1(Set)	3
7	Strut puller kit	1(Set)	3
8	Double claw hook	2(Set)	5
9	Big bending hook	1(Set)	2.5
10	Deep Hook	1(Set)	4
11	Multi Hole Pull Plate	1(Set)	3
12	Nylon sling	1(Set)	3
13	Cable sling	1(Set)	2.5
14	Handy link	1(Set)	5
15	Protective sling	1(Set)	0.5
16	Double connector	1(Set)	5
17	With a chain clamp	1(Set)	5
18	Down-pulling device	1(Set)	5

 ATTENTION: When operation, do not exceed the Max Load capacity as far as the data in table 3 are concerned. The manufacturer has the right to change the quantity and model of pulling tools.

2) Dolly for wheel

The dolly for wheel is used to move the accident vehicle whose wheel is break.

Ⅱ Loading and Unloading

Platform Length	3320mm
Platform width	880mm
Working height	110-1700mm
Capacity	3000KG

1. Attentions during transportation

a) The truck loading capacity must be min.3 tons.

b) During transportation, the equipment is not allowed to contact truck floor, there must be woodblock under it.

c) The equipment must be fixed during transportation.

d) The movable components (for example tower) must be fixed during transportation.

e) Never place sharp items or objects on the upper surface of the equipment to

protect the paint.

f) Do not load the equipment with inflammables or corrosives.

g) Prevent equipment from rain or getting wet.

2. Loading and Unloading

Use either crane or forklift to load and unload the equipment. When using crane, the steel wires positions must be evenly deployed around the platform to get balance; when using forklift, the lifting capability must be at least 5 tons, and place the forks to maximum distance. The length of forks should be at least 1.6 meters and use extensions if length is not enough. The forks must be inserted under the platform at balancing positions width ways.

III. Loading and unloading vehicle operation

1. Loading vehicle operation

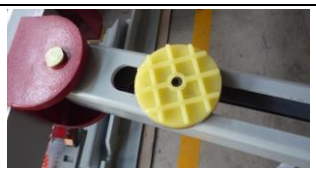
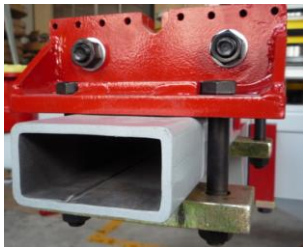
A. Make sure the power connected (380V/3PH/50HZ) and power on the electricity and pneumatic cabinet to low the platform to the ground. (Figure 1)

B Drive car on the bench and stop the car with hand brake and then lock the wheels. (Figure 2)

C Power on the electricity and pneumatic cabinet to lift the platform, rest on the 180°waving wheel supports and fit the clamps. （Figure 3 and figure 4）

D Anchor and second lifting (Figure 5).

E Fit on pulling tower to work. (Figure 6)

<table>
<tr>
<td> 
1.low to ground</td>
<td> 
2.Vehicle ride on</td>
<td> 
3.Lifting</td>
</tr>
<tr>
<td> 
4.Rest on wheel supports, fit on clamps</td>
<td> 
 
5.Anchoring and lifting</td>
<td> 
6.Fit on pulling tower to work</td>
</tr>
</table>

2. Unloading vehicle operation

a. Power on the electricity and pneumatic unity center controls system

b. Then press the decline button to low the bench to the ground;

c. Finally drive the vehicle off the platform.

Attention: All fuel tanks must be in the back-and then stop pneumatic pump pressure relief.

IV. Installation

1. Space requirement

Min.4m×7m smooth cement ground is required equipped.

2. Placement of equipment

Move the platform to proper position, leave enough space between the platform edges and walls to allow tower movement and repair access.

3. The fixation for the bench.

1. You can fix the bench by tight the six expansion bolts across the four holes on the basement. See the figure 3-1.

Note:For operational safety, expansion bolts (M18*160) must be installed on the platform base when installing the equipment

2. Place this equipment as the figure 3-2. Drive car on the bench as the arrow; the side with the oil cylinder near the wall.

This machine also can be placed under the ground. You check the drawing in the wooden case.

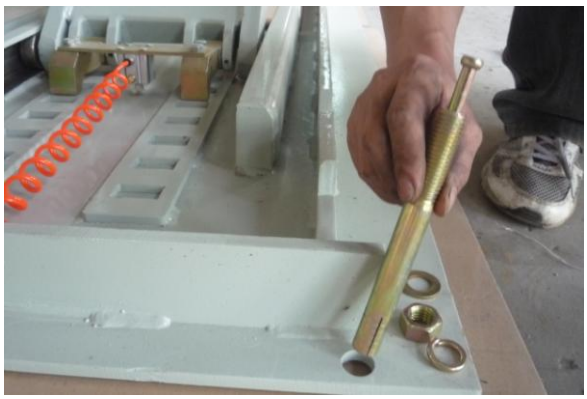


Figure 3-1

Figure 3-2

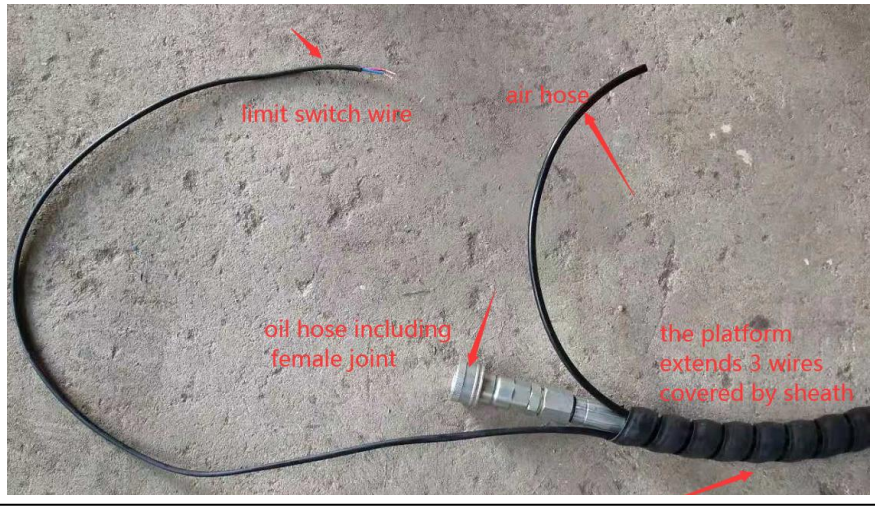
4.How to connect the electric control cabinet

1. Add anti-rear hydraulic oil (#46) into the tank of the cabinet to visible position;

2. Please get the platform and electric control cabinet to suitable place.

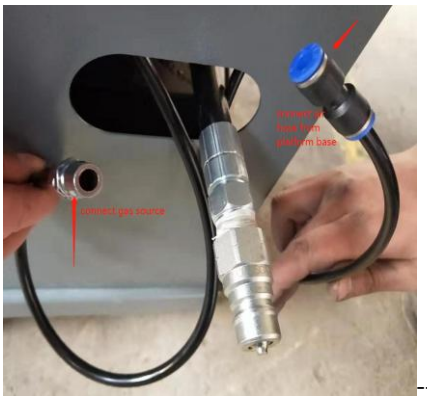
3. Install the platform and electric control cabinet.

The platform base extends 3 wires cover by sheath（air hose,limit switch wire, oil hose including female joint）



(1) The connection of air hose

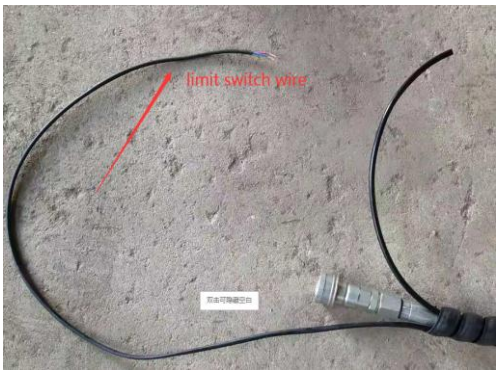
A.The electric control cabinet has 2 black pipe，one is connected to gas source，another is connected to air hose from platform, middle is oil hose male joint，that is connected to female joint from platform。



B.The connection of limit switch wire

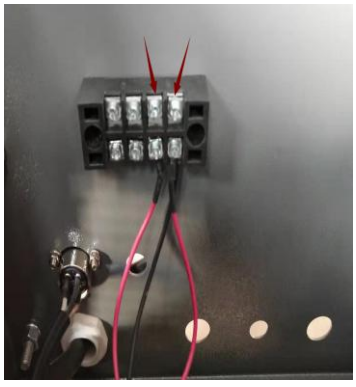
The Limit switch wire which comes from the platform base should be connected to the Electric Cabinet by the hole which be at the bottom of the Electric cabinet. Then connect with the terminal .

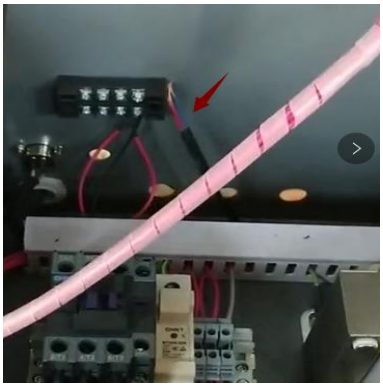
Pls note: there are 2 wires in the limit switch wire ,one is red ,the other is blue, the 2 wires should be connected to 2 points on the terminal at the same time. The 2 wires can be connected to either of the 2 points.



(1)

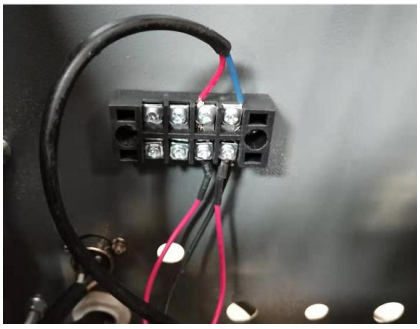
(2) The limit switch wire go through the hole on side of the cabinet





(3)The limit switch wire go through the bottom of the cabinet

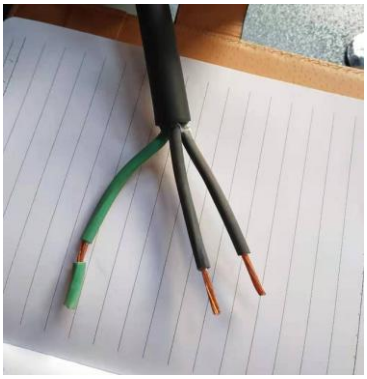
(4)the position of connection limit switch wire



(5)finishing

(2)Connection of power wire

The power wire connected with the electric cabinet consists of three wires,one is ground wire of yellow green,the other two are fire wire and zero wire of black. Then connect the power wire with the equipment.



4.After the platform is connected to electric control cabinet,the equipment will be adjusted.

5. Installation for the lifting holder of the bench.

Before install the pulling tower on the bench, there is a helpful tool to support the bench at the right height to match them exactly. That's the lifting holder.

(1)First take out the lifting holder from the wooden case. See the figure 4-1.

(2)Unload the axis first; see the figure 4-2. And then put that axis across the iron hole; lifting holder and iron hole one by one. And then tight by snap spring. See the figure 4-3. You can adjust the height of the lifting holder by tight or loosen the screws at the end of it. See the figure 4-4.

(3)Note: the lifting holder is placed in the inside of the bench. When you install, you just look for the iron shape same as figure 4-2 shows.

When the lifting holder is not available, please make it at horizontal level, and see the figure 4-4.

			
Figure (4-1)	Figure (4-2)	Figure (4-3)	Figure (4-4)

5. Install adjustable arms.

Take out the adjustable arms from wooden case.

Install it as the figure 5-1 shows. Effect after installation, check in the figure 5-2.

	
Figure 5-1	Figure 5-2

Take out the support from wooden case; see the figure 5-3. Unload and install it; see the figure 5-4 and figure 5-5. The effect after installation, please check in the figure 5-6.

Take out the increased basement from the wooden case, and install it same as the figure 5-6 shows. The effect after installation, please check the figure 5-7.

Figure 5-3

Figure 5-4

Figure 5-5

Figure 5-6

Figure 5-7

Figure6-1

6. Install beam of main clamp and main clamp.

Take out the beam from wooden case; Install it as the figure 6-1 shows. The effect after installation, please check in the figure 6-2. And then install the plate of the main clamp beam; tight the screws to fix. See the figure 6-3.

Figure 6-2	Figure 6-3

The special advantage for this machine is: you can adjust the height of the main clamp by tight or loosen the bolts under the main clamps. See the figure 6-3-1.
The effect for up and down the main clamp, please check in the figure 6-3-1 and 6-4.

Figure 6-3-1

Figure 6-4

If you still want to raise the main clamp, you can install the increased basement now. Take out the increased basement of the main clamp from wooden case and tight the bolts to fix. See the figure 6-5. The effect after installation, please check in the figure 6-6.

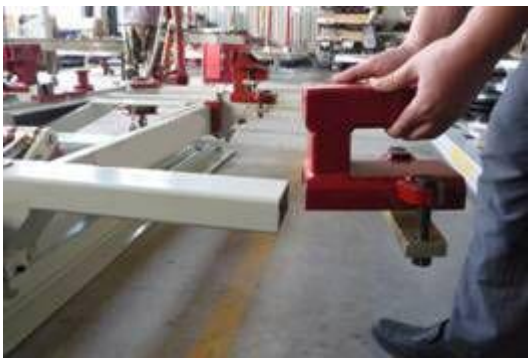


Figure 6-5

Figure 6-6

Take out the main clamp from wooden case and install it. You can tight bolts on the main clamps, see the figure 6-7. The effect after installation, please check in the figure 6-8.

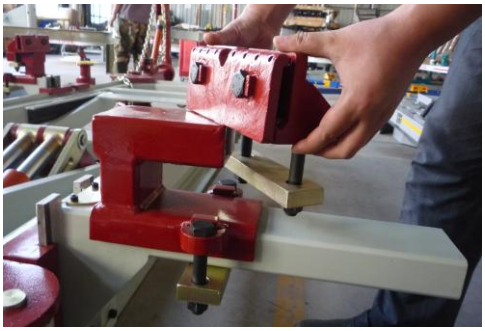


Figure 6-7

Figure 6-8

7. Install pulling tower and chains.

(1) Install the moving wheels on the beam.

Take out the wheels from wooden case and tight the bolts on the beam.

And take out the moving basement from wooden case, and then install it on the beam by tight the bolts. See the figure 7-1. The details please check in the figure 7-1-1.

(2) Install the stand pillar.

Take out the stand pillar from wooden case. Install the axis to connect it with the beam. See the figure 7-2.

Figure 7-1

Figure 7-1-1

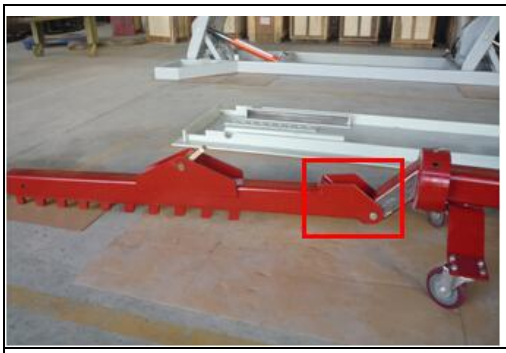


Figure 7-2

Figure 7-3

(3) Install the oil cylinder.

Make the head and the end of the oil cylinder to the hole which is on the stand pillar and beam. And then install the axis and snap springs to fix well. See the figure 7-3.

(4) Install the inner stand pillar.

Take out the inner stand pillar from wooden case, and put it in the stand pillar. At the same time, fixed by the stud bolt. See the figure 7-4.

Figure 7-4

(5) Installation of tower chains.

Insert the chain end without hook through the collar pulley upwardly, and then through the tower head. Lock it by tower head lock.

8. Install the down-pulling device.

Take out the down-pulling device from the wooden case; and then install. Tight by tighten the screws under it. See the figure 8-1 and 8-2.

Figure 8-1

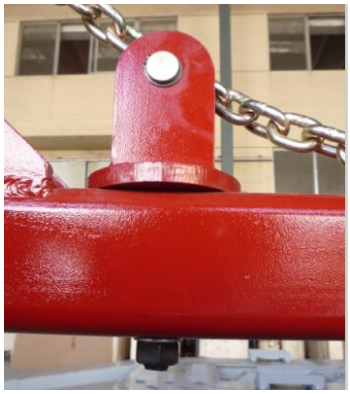
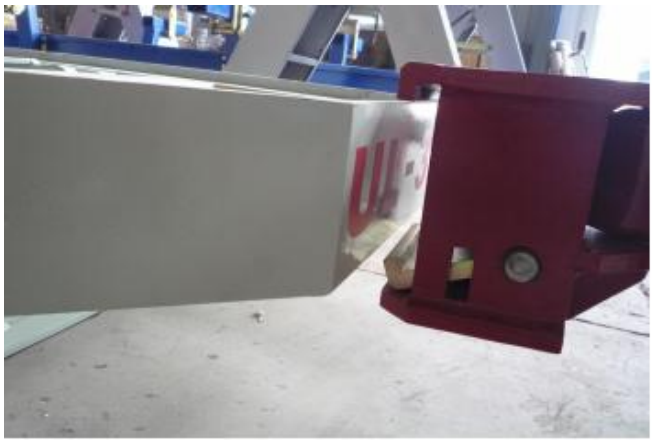


Figure 8-2

9. Fixation for the pulling tower.



After install the hook plate of the pulling tower, then we should connect the pulling tower to the bench and fix.

First, release the lifting holder of the bench. And adjust the screw under the lifting holder based on the required height. See the figure 9-1.

Push the pulling tower near the bench; see the figure 9-2-1. And then install the wedge iron to fix the pulling tower; see the figure 9-2-2.

Figure 9-2-1	Figure 9-2-2

The effect after installation, please check the figure 9-3 and 9-4.

Figure 9-3

Figure 9-4

After eight steps' installation, the effect please checks in the figure 9-5.

Figure 9-5

10. Installation of tool cart and placement of tools.

1. Firstly, install the two fixed wheels by tight the screws. (Figure 10-1)
2. Secondly, install the two universal wheels by tight the screws. (Figure 10-2)

Caution: the fixed wheels must be installed in one short side of the tool board. You can't install one fixed wheel and one universal wheel in the same short side of the tool board.

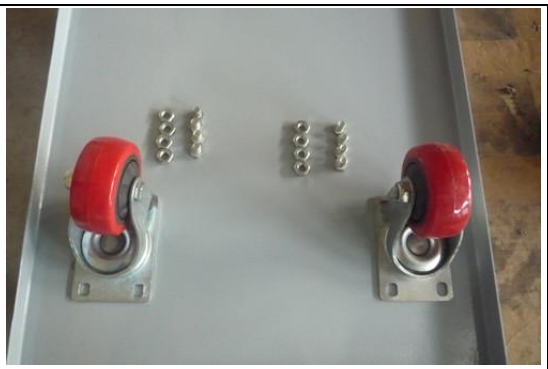


Figure 10-1

Figure 10-2

3. Turn over the down plate of the tool board, and install the triangle board by tighten the screws. (Figure 10-3)

4. Then put the upper parts of the tool board to connect with the triangle board by tighten the screws. (Figure 10-4)

Figure10-3

Figure 10-4

5. And the result photo after installation is showed in figure 10-5.
   Put clamps and accessories on the board with pothooks.

Figure 10-5

V. Pulling and straightening operation.

NOTE: While doing the pulling work; please make sure that the platform is at its lowest height, otherwise, straightening operation is not permitted.

1. Pulling operation.

Connect the two quick couplers on the platform and tower, position the tower collar to a suitable height, select the right pulling tool and anchor it to the vehicle body, where needs pulling, then join to the pulling chain, adjust the length and direction of the chain to get every section into a line, and assure the other end of the chain is locked on the tower ram. The down-pulling device is used to change the pulling position. And then insert the chain into the down-pulling device to pull the vehicle. Start the electric pump console to achieve the pulling operation.

NOTE: Please do not do pulling arrisways or crossly, to protect the outside guide way and tower rollers from being damaged.

Stretching Caution:

1. The chains should be flat and straight. (Twisted straightening is forbidden).

2. Stretching: after the chains tighten, all the bolts should be tight again.

3. The protective wire should be used when stretching. Or twine the chains by soft package when it's tight. Or hang a weight on it, in case it bursts and hurts people.

4. Remember that people should not stand the right in front or rear of the tower

when it is working. And make sure all bolts are tightening when tower is working.

2. Use of the steel wire sling.

When using the pulling tools, you should prevent the pulling ring from disengaging and bouncing with a steel wire sling. Fasten one end of the sling to the ring, and buckle the other end to the vehicle or platform.

VI. Operating regulations

A. Work clothes and gloves are needed in the working area. No slippers or high-heel shoes.

B. Inspection before operation:

a. Before operating the machine, please clean the working area and keep all the sundries away from the platform, tidy the air and oil hoses to protect them from being crushed.

b. Check the air and oil route to make sure all the adapters are connected well and there is no damage of the hoses.

c. Replace the hydraulic oil of the pump after 3 working months, and do it every 3000 working hours. Some quality hydraulic oils are recommended, such as G-46#, Gulf-46, Mobil-30, BP-32, Shell-32, Esso-32 and Caltex-32. Remember to eliminate the deposits in the oil box when replacing oil.

d. Inspect the anchoring bolts of the tower roller, and make sure the bolts are tightened well.

C. Regulations of driving on & off

a. Nobody is allowed to stand by the platform during the platform up & down; and some instructions are needed when driving on & off.

b. Be sure to anchor the pulling towers during the platform up & down.

c. When the vehicle is on the platform, be sure to lock the shift and also block the wheels with some wood.

d. Be sure that the safety legs are fully locked by the blocks at the base.

D. Regulations of anchoring the vehicle

a. Inspect the clamp top and clean up the smears and dusts.

b. Be sure that there is no distortion and cracks on the clamp.

c. Tighten the anchoring bolts of the clamps before pulling.

E. Regulations of the measuring system

a. Be careful to take the measuring rods, and protect them from distortion or damage.

b. Read the measuring value horizontally to reduce the tolerance.

c. Please put the rods back to the box.

d. Do not tighten the screw too tight.

F. Regulations of pulling operation

a. Before pulling, inspect the chain, pulling tools and pulling ring, and make sure there are no cracks or damages on them.

b. Tighten the tower anchoring bolts during pulling, and do not position the tower collar above the red precaution line.

c. Be sure of loosening the tower collar.

d. Do not exceed the rated load of the pulling tools during pulling.

e. Do not touch the pulling tools and chain during pulling.

f. No one is allowed to stand behind the pulling tower during pulling.

g. Anchoring the vehicle at the opposite side with chain when doing the great pulling work.

h. When there are any problems with the parts or hydraulic system, please repair them as stipulated by the suppliers.

VII. Maintenance.

1) Maintenance of the hydraulic system

A. Keep a cleanly environment for the hydraulic system.

B. Keep the hydraulic parts away from dusts, chippings and caustic liquids, and protect the oil box and gauge.

C. Inspect the hydraulic circuit, and make sure there is no oil leak.

D. Check the oil quantity in the oil tank periodically. Replace the hydraulic oil of the pump after 3 working months, Some quality hydraulic oil are recommended, such asG-46#,Gulf-46,Mobil-30,BP-32,Shell-32,Esso-32,Caltex-32.Remember to eliminate the deposits in the oil box when replacing oil.

E. Protect the oil adaptors with a rubber cover, when they are unconnected.

F. When there are any problems with pump or cylinders, please do repair them as stipulated.

2) Maintenance of pulling tools

A. Keep the joggling parts of the pulling tools clean from dusts and smears.

B. Do not knock the pulling tools and chain during pulling.

C. Do not exceed the rated load of the pulling tools during pulling.

D. Protect the pulling tools from caustic liquids.

E. Clean the pulling tools with some dry cloth after finishing pulling work.

3) Maintenance of measuring system

A. Be careful to take the measuring rods, and protect them from distortion or damage.

B. Protect the pulling tools from caustic liquids.

C. Do not tighten the screw too tight.

D. Please put the rods back to the box.

4) Maintenance of the platform and accessories

A. Keep the platform clean and dry from dusts and caustic liquids.

B. Do not knock the platform.

C. Protect the measuring guide way and clean the dusts timely.

D. Lubricate the tower rollers, collar roller, wheel leg and movable leg periodically

E. Inspect the bolts and spring clips of the tower roller and legs regularly, tighten or replace them if there is any problem.

VIII. Safety precautions

1. Platform lifting and descending

a) If there is no flow control valve on the end of lifting cylinder, it is prohibited to open pressure discharge valve at full speed.

b) When lifting or descending platform, the towers must be fixed at the other end to prevent slide.

c) When lifting or descending platform, put the car’s shift at parking position, block the wheels with triangle wood; no person is allowed to stand behind the car.

d) Keep the platform and surroundings clear, oil hose and air hose must be well protected.

e) Make sure the movable stand is fixed after platform is lifted.

2. Vehicle anchoring

a) Check and clear clamp jaws before anchoring vehicle.
b) Check the clamp to see if there is any deformation or crack.
c) The locking bolts must be fully screwed.

3. Pulling operation

a) Check tower rolling bearing anchoring bolt before moving tower.
b) Move towers by pushing instead of pulling.
c) Tower fixing bolts must be fully screwed before pulling.
d) Check and clear clamp jaws before anchoring vehicle.
e) **DO NOT** twist the chain; Make sure the chain is locked on the top of the ram.
f) Turn and loose the tower collar hand wheel. Do not screw it.
g) Never hammer or beat the chains or clamps when pulling. It is recommended to use protection carpet over the chains.
h) Pay attention to the pulling tools to prevent over pulling or tear.
i) **Do NOT** over pull the accessories.
j) No irrelevant persons or untrained persons are allowed to operate the pump.

IX. Universal measuring system (PTP)

1. Production overview

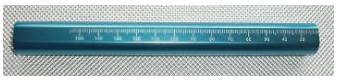
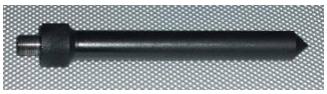
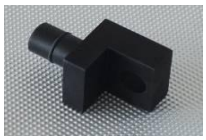
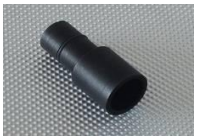
ACCIDENT REPAIR High Precision Measuring System is designed and manufactured to improve detects measure precision and advance convenience in the accident vehicles repair. It solved the problem of the big measure accumulated error, data conversion, complicated process, bulky and heavy measure equipment, can not do for oneself and the limited range of the vehicle body parameter. **ACCIDENT REPAIR** High Precision Measuring System is aluminum retractable measure equipment, its advantage is high precision, easy operation, three - dimensional measurements with switch connector, flexibility of site and equipment and so on. Furthermore it can match with database which is provided by other maintenance and service station. All this make your measure and detect job quite comfortable and natural along the sheet metal maintenance and make the vehicle body evaluation is evidence-based.

Measurement range:

X-axis 200mm～2250mm
Y-axis 20mm～150mm(or 340mm)
Z-axis 20mm～150mm(or 340mm)
Measurement Error is less than 1mm

2. Production configuration

NO.	graphic representation	Specification	Qty

1		Main scale	1
2		20mm～150mm Scale	1
3		20mm～340mmScale	1
4		Screw thread probe	1
5		Magnetic probe	1
6		Magnetic probe lengthen base	1
7		Three dimensional adapter	1
8		Big location probe	1
9		Portrait location probe	1
10		Small location probe	1
11		Screw cap probe	1

3. Operation manual

1) 200mm～ 910mm

The numerical value read from left of the screw thread probe base is: The distance from the screw thread probe to scale end probe. (Remark: The bubble of level meter should be in the central position; the measure main scale's middle tube and small tube is beside the right side of big tube, as above pictures)

2) 910mm～1590mm

Put the magnetic probe on one end of the production, loose the fasten bolt and move the central tube inside the measure main scale, the numerical value on the right side of main scale big tube is the distance from magnetic probe to the scale bottom probe. (Remark: The small tube should be on the right end and beside the middle tube, as pictures. The magnetic rotation head is perpendicular to the main scale.)

3)1590mm～2250mm

Put the magnetic probe on the one end of the production, loose the fasten bolt and move the central tube inside the measure main scale, when the central tube strengthens to the end, the location pin will be released, then draw out the small tube measure meter from the main scale. The numerical value on the right side of main scale central tube is the distance from the magnetic probe to the end of scale end probe.(Remark: After the central tube location pin is drawn out the measure meter is permitted to use, otherwise the numerical value on the right side of small tube is not the real distance.

X. Sheet metal and attachments

The main effect of sheet metal tools and chains are to fix and clamp the parts during the stretch.

My company provides different kinds of sheet metal tools according to the needs of automobile sheet metal operation, flexible use and combination. Caution: pay attention to personal safety and equipment safety during the stretch. Instance:

1. Small clamp

Structure： Wedge locking mechanism, mesh tooth jaw and bolt fixed jaw.

Max capacity：3000KG。

Usage： Initial margin and thin metal sheet.

2. Scissor clamp（optional）

Structure： Automatic clamping mechanism, mesh tooth jaw.

Max capacity：3000KG。

Usage: The narrow parts of the various kinds of cars. And stretch more and more tightly.

3. Box-clamp

Structure： Square hole wedge locking Mechanism, meshes tooth jaw, and bolted.

Max capacity:3000KG。

Usage：To prevent bad clamping of some parts,

fixed jaw to stretch another part.

4. Right angle clamp（optional）

Structure： Multi-azimuth jaw, bolt lock chain and ring-pull.

Max capacity：3000KG

Usage： Stretching: suitable for different angles, even 90 degrees.

6. Big bending hook

Structure：Big bending hook, small stents and big stents.

Max capacity：7000KG

Usage： For stretch the beam or some strong parts of the vehicle.

Change to the big stents when the protection area is bigger.

7. Deep hook

Structure：Is a toothed hook with self-locking of chain mechanism.

Max capacity：3000KG

Usage： Quick stretch for any parts, and with non-slip.

8. Handy link

Structure： Double chain rack.

Max capacity：3000KG

Usage： Shorten the two long chains to the specific length.

9. Strut puller kit（optional）

Structure：Strut puller kit, and ring-pull

Max capacity：2000KG

Usage：Stretch convex parts in different angles.

10. Multi hole pull plates

Structure：Process many location holes on

the spring steel plate

Max capacity：1500KG.

Usage：Stretch technological holes.

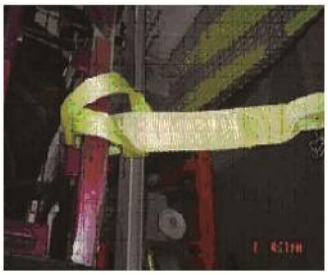
11. Slotted chain anchor（optional）

Structure：Elliptical plate with a notch

Max capacity: 2000KG

Usage：Tight the chain position in out of the hole.

12. Nylon sling



Structure：High strength canvas belt is

1000mm.

Max capacity：3000KG。

Usage： Protect the stretched parts from extra damage.

13. Cable sling

Structure： Length is 1m with two rings at the head of it.

Max capacity：3000KG

Usage：Tie up one part to stretch.

14. Down-pulling device （optional）

Structure：Pulley transformation direction mechanism

Max capacity：2000KG

Usage：Stretch the chassis in down direction and can change the direction of the force.

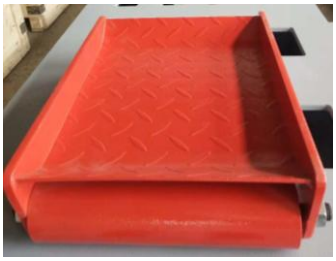
15. Hand winch（optional）

Structure：Ratchet type hand winch stretch mechanism

Max capacity：1800KG

Usage：Pull the vehicle on the frame.

16. Wheel dolly（optional）



Structure：Rolling wheel dolly mechanism

Max capacity：2000KG

Usage： Put the wheel in it when the wheel is flat or lock to pull the vehicle to the frame.

17. Support wheel bracket（optional）

Structure：Angle type wheel holder

Max capacity：800KG

Usage：Support and protect the vehicle after taking off the wheels

during the stretching.

18. Chain of 3.5m, chain of 3.5m

Structure：Chain of 3.5m is with a big hook;

Chain of 1.2m is with a claw hook.

Max capacity：8000KG

Usage：Chain of 3.5m is used in the tower;

Chain of 1.2m is used for tying up the beam and other parts.

THE END

The main procedures of collision repair include: bend and twist adjustment, replacement of seriously damaged welded steel plates, Operators must make a detailed repair plan according to the condition of each damaged vehicle beforehand. The main steps are as follow:

1. Analyze the damage and make a repair plan;
2. Disassemble the relevant decoration parts and mechanical parts;
3. Locate the damaged vehicle on the platform and decide to repair or to replace the damaged parts according to actual condition;
4. Pulling operation;
5. Rustproof process;
6. Painting;
7. Re-assemble all parts;
8. Test-drive the vehicle.

The collision influences vehicles greatly. The auto body design request the front and the rear sections to be easily damaged, which will form collision energy absorbing structure and firm passenger section. Learn as much as possible about the collision and make a detailed plan according to actual measurement.

This manual introduces the installation; test and operation of 300.There are also detailed introduction on collision analysis and adjustment. For each damaged vehicle, analyze the actual condition and make a detailed repair plan instead of following the illustrations in this manual.