COSBER

USER MANUAL

CAR Sideslip Tester

COSBER C-SSC Series

CONTENT

1 General

1.1 Important notes

- First of all, thank you for purchasing this product.
- This manual is a necessary accompaniment to the product. To use the equipment more effectively, users should read the instructions carefully before installation and reference them correctly for further use and maintenance.
- The product specifications and information mentioned in the instructions are for reference only, the content may be updated periodically and without further notice.
- This product should only be used for its specifically intended purposes and should never be used for any other purpose; The manufacturer assumes no responsibility for any damage caused by the improper use of this product.
- During operation, please strictly adhere to the "guidelines" and "notice" when using this product, and remember that regular maintenance of the equipment is required.
- This product should only be operated and used by specially trained and qualified personnel.
- All employees who are not part of our company are prohibited from using the product for any purpose other than the detection function of the device itself without permission.
- In the event of product damage caused by human factors or force majeure (such as earthquake and flood, etc.), the user must take timely and effective remediation measures and inform the company as soon as possible.

1.2 Safety Tips

You should read the instructions carefully before starting, debugging, connecting, or operating the device, and always follow these instructions carefully.

WARNING!

Inform users or people nearby about dangerous information and always inform about dangerous consequences and preventive measures.

Hint	Possibility of occurrence	Risk
Danger	Direct danger	Personal injury and death
Warning	Possible danger	Personal injury
Notice	Possible danger	Minor injury

1.3 Description of the safety shield

BEWARE OF ELECTRIC SHOCKS.

STAY AWAY FROM SPINNING PARTS.

2 Product

2.1 Proper use

WARNING!

- If this product is not used as prescribed, the safe operation of the equipment cannot be guaranteed.
- You must always use the equipment according to the specifications of the equipment.
- Equipment should never be altered or modified without permission.
- Pay attention to the equipment of the respective vehicle manufacturers (manual).
- Please refer to the product specifications for descriptions of the correct wheel track, maximum axial load and four-wheel drive capabilities.
- The equipment should provide test results as required by all official inspection bodies.

Extended application:

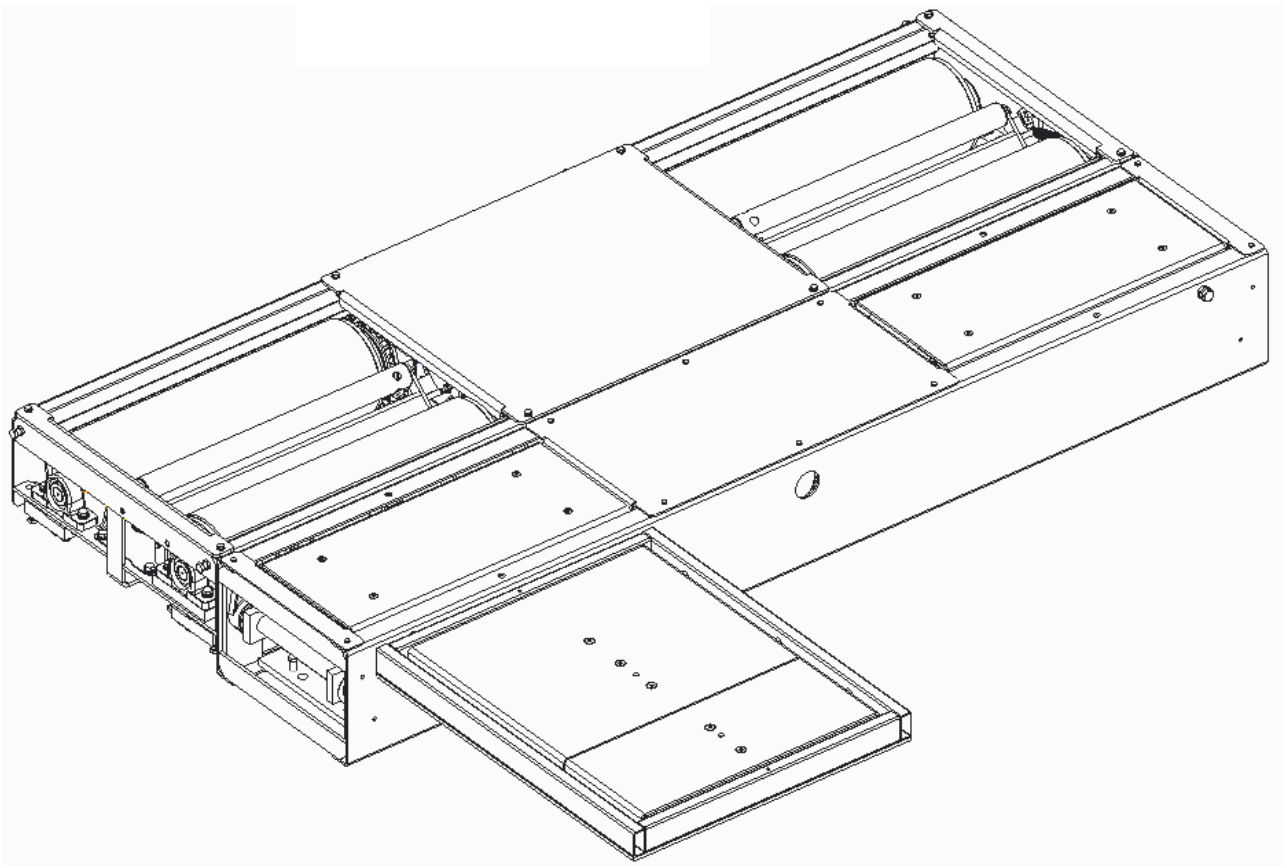
- Read the product specifications and stick to them.
- Adhere to the technical specifications of the game detector and all related components.
- Pay attention to safety tips when performing all operations.
- Use the slip tester correctly.
- Use the right way of working.
- Perform all maintenance in a timely manner.

- Any actions not specified in this guide are incorrect use of the product and may cause injury and property damage. The manufacturer accepts no liability for any resulting losses.

2.2 Specifications

Model	COSBER SSC-20
Maximum drive-over load	2000 kg
Maximum wheel load	1500 kg
Measuring range	±15.0 m/km
Display	About PC Display Testing Laboratory
Accuracy	±0.1 m/km
Calibration ratio	1 mm to 2.0 m/km
Dimensions track plate	600 x 500 mm
Dimensions track tester (L x W x H)	700 x 830 x 65 mm
Weight	85 kg
Working temperature	0 ~ 40 °C
Working Humidity	≤90%

2.3 Components of a test lane



3 PRINCIPLE

When a vehicle passes the track tester, the tires touch the sliding plates. The sliding force of the vehicle causes the plate to slide sideways (inwards or outwards). The sensor connected to the plate converts the glide value into numerical values. The control unit of the test bench records and processes the data and then transfers it to the display. The display shows the glide value.

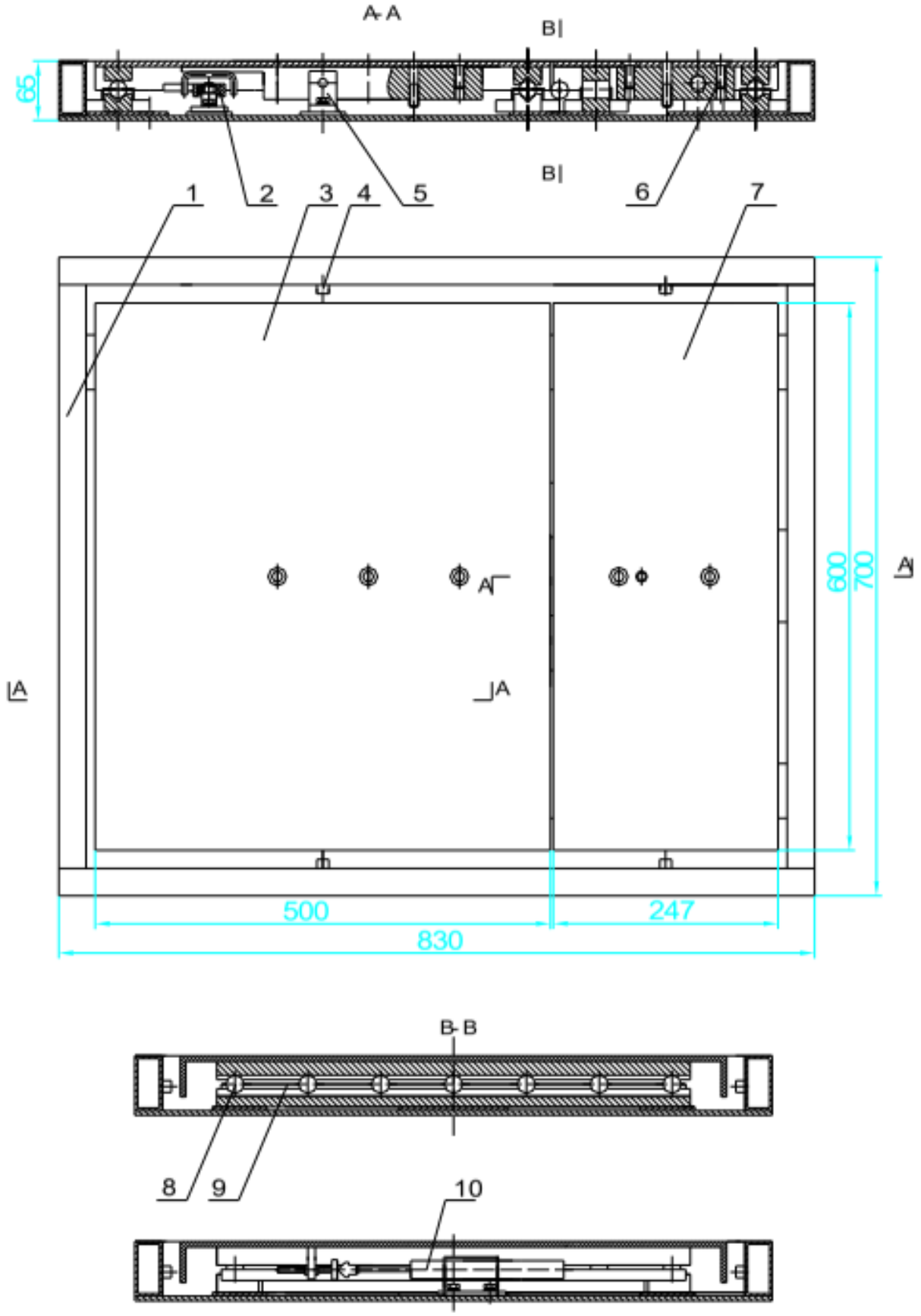
The track tester consists of a test plate and the controller (not included):

The test plate consists of a steel frame, a plate, a slide rail, a connecting cable, a motion sensor, a plate lock, and a motion stop pin.

The existing test bench uses an integrated board to acquire the real-time data, process it and display the volume value. As soon as a higher real-time value is recorded, it is displayed.

The following are measured:

- Side Slip Value
- Direction of hatching



#	Kind. No.	Description
1		Frame
2		Recovery unit
3		Sliding piece
4		Limiter
5		Balancing unit
6		Screw
7		Release slider
8		Steel Ball
9		Cage for steel ball
10	20.99.03.1022	Sensor FX81K±15mm

4 INSTALLATION

4.1 Installation tool

Tool	Model
Fork wrench	10/12,12/14,17/19,19/22,22/24
Socket wrench	12,13,14,17,19,24, with extension
Hexagon wrench	4,5,6,10,12 mm
Tape measure	30~50 cm
Percussion drill	>500 W, with drill: ϕ12×300 mm
Hammer	Large size
Pipe routing	>5 m
Pliers	6" Lingual, 6" Bevel Pliers 6" Steel Wire Pliers
Screwdriver	+ 3×75 mm, - 3×75 mm
Multimeter	for DC & 220V AC-Check
Hot air gun	30W ~ 40W
Knife	Normal
Bing Stick	10mm,20mm,25mm

4.2 Product Installation Tips

All necessary configuration settings and sensor calibrations should only be performed by Cosber technician service personnel or Cosber's approved partners.

4.3 Initial installation and commissioning

- All necessary configuration settings should only be performed by Cosber technical service personnel or Cosber authorized partners.

- All prerequisites for installation must be met before the technical service personnel begin the installation. The foundation pit must meet the requirements of the product foundation drawing.

4.4 Installation

Check the soil quality as well as the dimensions in the foundation plan.

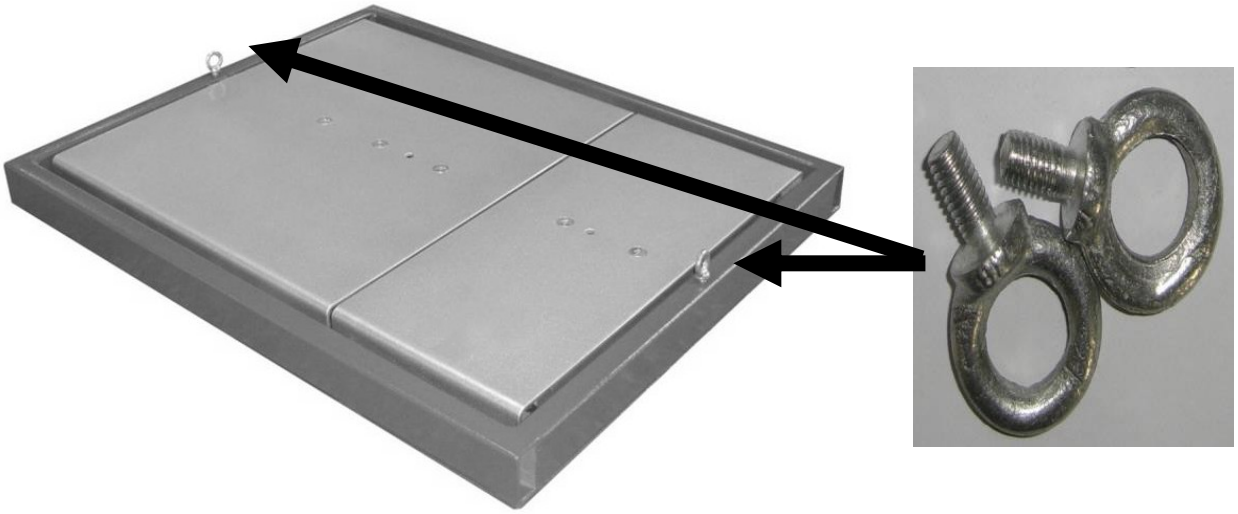
HINT!

THE LONGITUDINAL CENTERLINE OF THE TESTER SHOULD BE PARALLEL TO THE DIRECTION OF TRAVEL. AN ERROR RANGE OF ≤ 2 MM OVER A LENGTH OF 1000 MM IS PERMITTED.

ADJUST THE LONGITUDINAL AND TRANSVERSE PLANE OF THE DEVICE, AN ERROR RANGE OF ≤ 0.5 MM FOR THE TRANSVERSE PLANE IS ALLOWED. AN ERROR RANGE OF ≤ 0.5 MM FOR THE LONGITUDINAL PLANE IS PERMITTED.

THE SURFACE OF THE TESTER SHOULD BE FLAT. AN ERROR RANGE OF ± 2 MM IS ALLOWED.

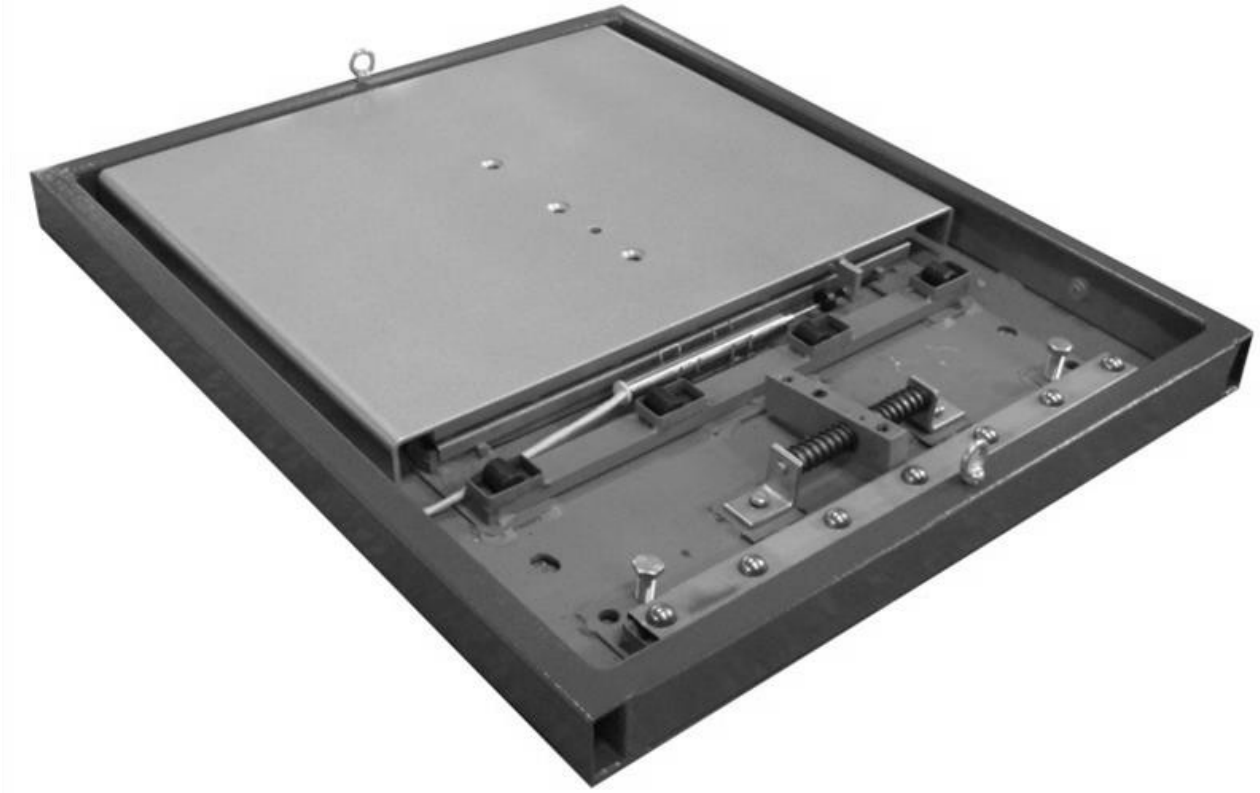
(1) Attach the screw-in sleeves to be able to lift the track tester with a suitable lifting device.



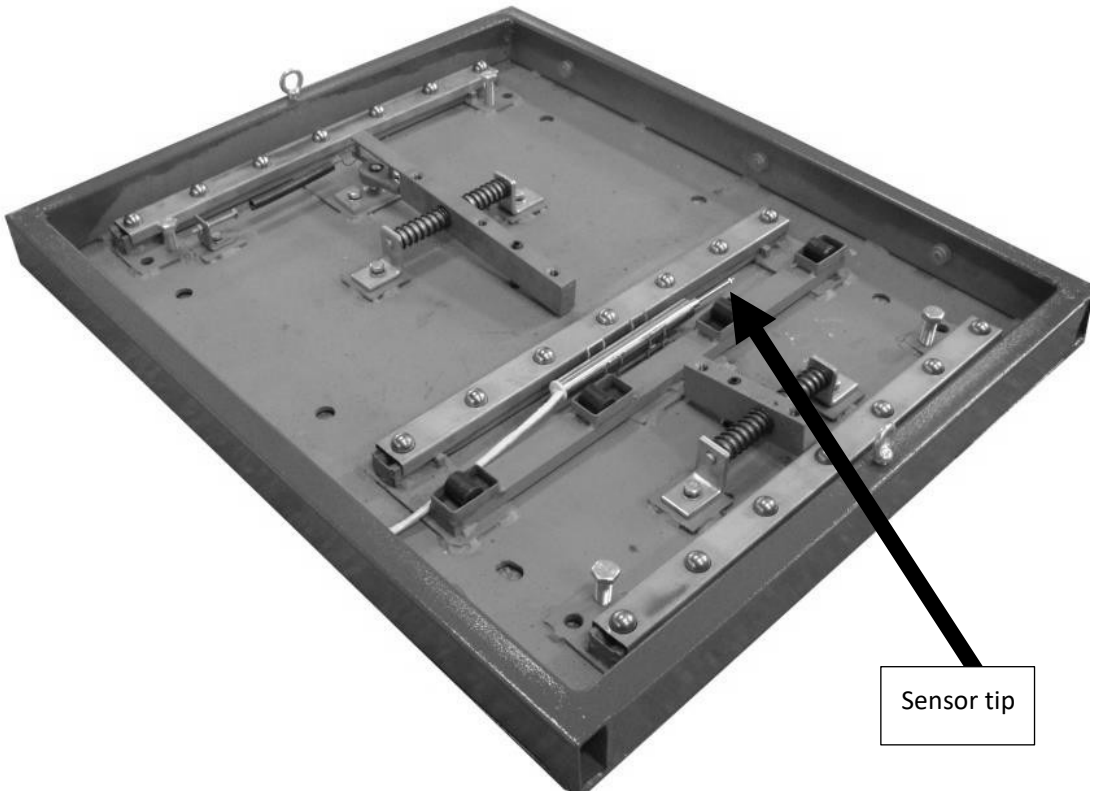
(2) Place the track plate in the pit provided for this purpose. Make sure the tester has the correct direction of travel.
Adjust the position of the track plate in the pit vertically and horizontally.

(3) Remove the top covers

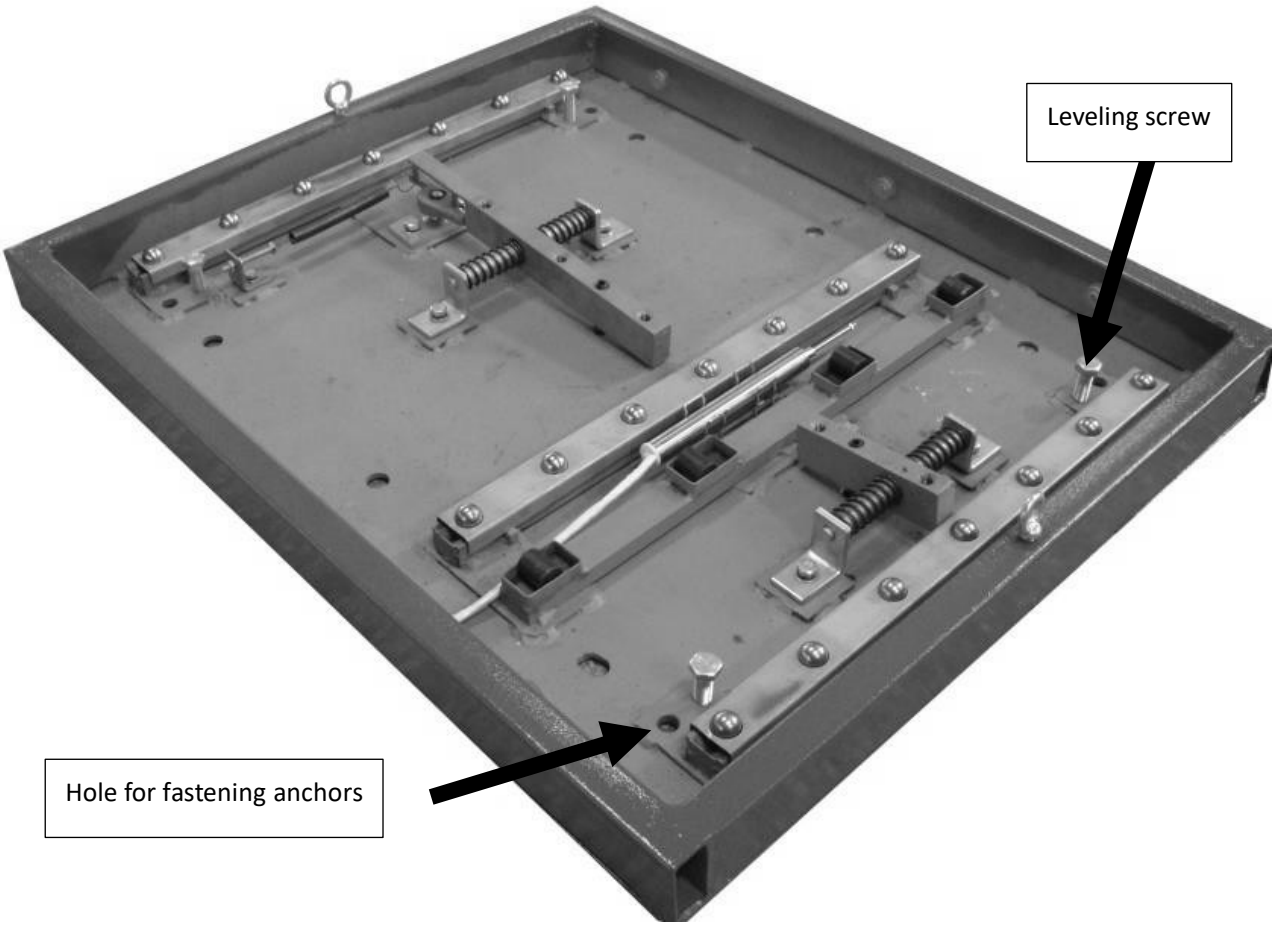
- Loosen and remove the front small cover.



- Loosen and remove the rear large cover. Pay attention to the tip of the sensor when removing it.



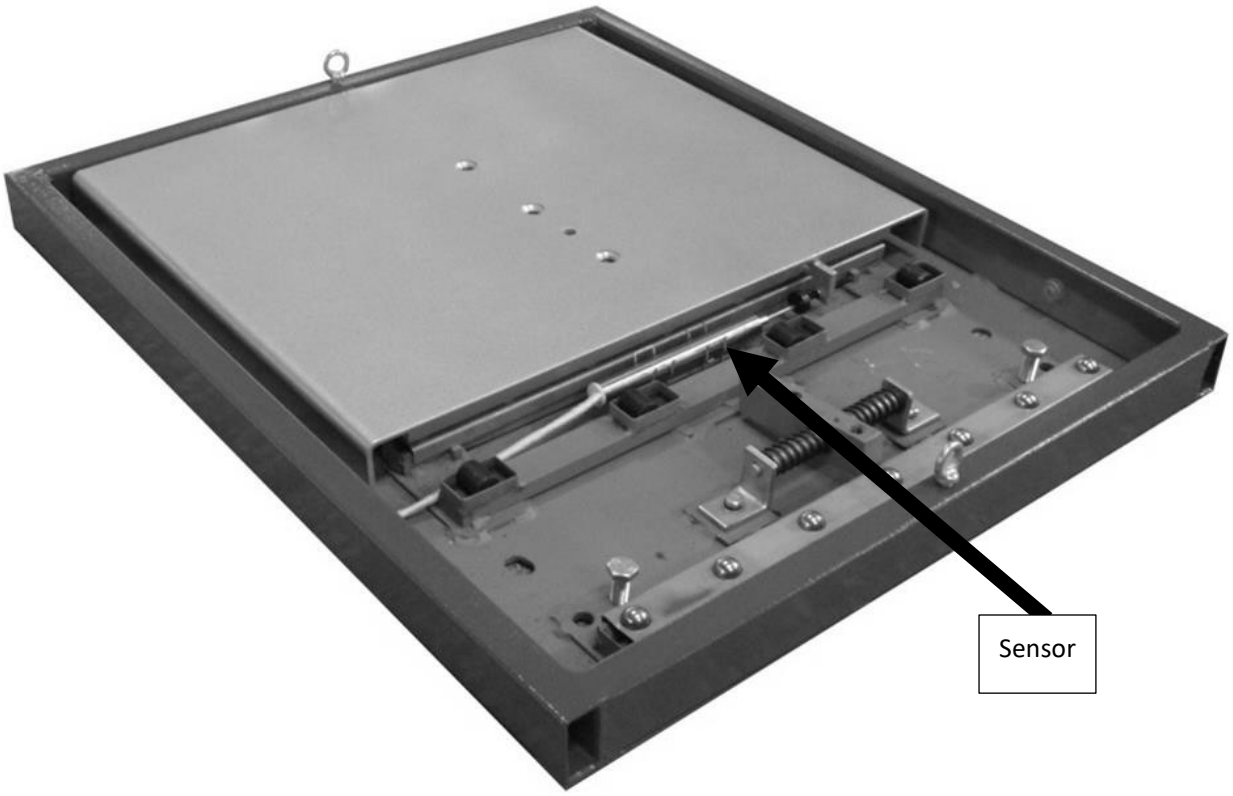
(4) Level the track tester using the four leveling screws. If necessary, a metal sheet must be used under the screws to compensate for the height or protect the concrete.



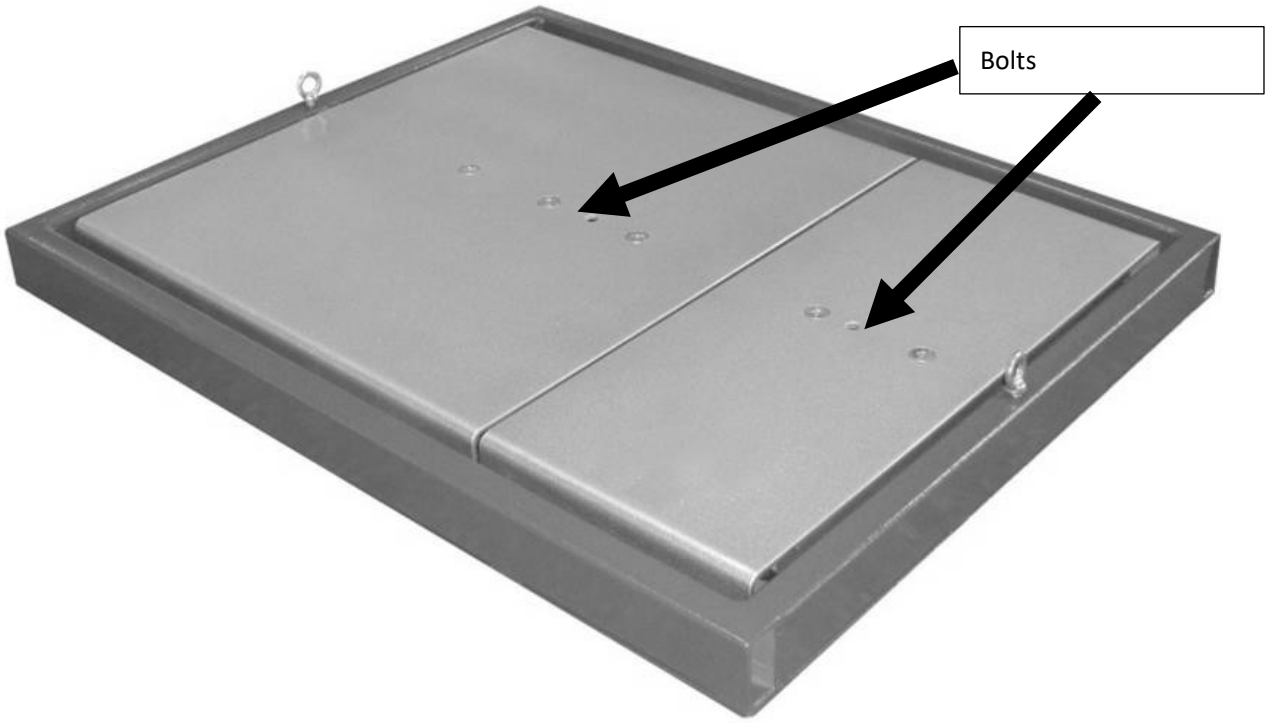
(5) After setting the level, use the impact anchors (M12x120) to fix the tester to the ground.

(6) Insert the signal cable into the conduit and run it to the control cabinet.

(7) Slide the sensor to the side and place the rear large cover again. Reattach the cover with the screws.Replace the sensor in its original position.



(8) Replace the small front cover.



4.5 Connection to control unit

(1) The display is usually installed behind the test bench on the left side. A distance of approx. 4-6 meters is recommended here (depending on the vehicle)

(2) Connect the connector from the track tester to the MAC control unit in the test bench.

5 CALIBRATION

After installing the tester, it is recommended to calibrate the tester every 12 months. This is an effective way to maintain the accuracy and performance of the tester.

The calibration is based on the comparison between the page movement and the display value.

(1) Necessary tools: ruler, ruler holder and magnetic block.For the length of the test plate of 500mm, the measuring range of the ruler is 0~10mm

(2) Calibration method:

a. Attach the ruler to the housing body and attach the magnetic block to the test plate. The sensor tip should be located approximately in the middle of the entire measuring range and should be in the holder without pressure.

b. Now attach the sensor tip in this position.

c. In the software, enter the calibration of the track tester. Start the calibration and set the zero point

HINT!

WAIT ABOUT 2 SECONDS AFTER SETTING THE ZERO POINT.
DO NOT PRESS A BUTTON OR MOVE THE PLATE DURING THIS TIME.

d. Move the test plate by 5 mm (for 1m test plate > 10 mm). Enter 5mm in the calibration value as well and then press Calculate & Save.

e. Then exit the calibration program

6 SERVICE

First, visually inspect the vehicle to be inspected, make sure that the rims and tires are not damaged. Correct the air pressure.

(1) Loosen the plate lock in the base frame.

(2) Turn on the test bench and start testing.

(3) Drive the vehicle over the track plate at a speed of less than 4 km/h.

(4) Assessment of the result:

a. Display of the side slip value:

Volume (m/km)	Condition	Reaction
0 to 3.0	Good	-
3.1 to 5.0	Marginal	Watch
5.1 to 10.0	Bad	Repair necessary

b. Indication of direction (±):

- When the test plate moves outwards, the value is marked with "+"
- When the test plate moves inward, the value is marked with "-"

7 SAFETY

(1) Do not use the device during thunderstorms.

(2) If the appliance has been cleaned with water, do not use it before it is completely dry.

(3) All devices may only be operated by a certified person.

(4) Maintenance, adjustment and calibration should be carried out by certified persons.

(5) The maximum capacity of the device must not be exceeded.

(6) Keep the device clean.

(7) The longitudinal axis of the equipment platform must be installed in such a way that it is parallel to the direction of travel of the vehicle.

(8) The vehicle has to run over the tester slowly.

(9) Do not stand on the tester in case of danger.

(10) In case of emergency, turn off the power supply.

(11) Do not park or maintain vehicles on the device platform.

(12) Do not stay in the danger zone of the device during the test.

(13) When the vehicle drives over the lane tester, do not steer or brake.

8 MAINTENANCE

- Keep the device surface and mechanical parts clean.
- Monthly inspection and lubrication of the sliding surfaces.
- Lubricate the ball bearing and into the sliding surface every six months.
- Calibrate the device annually.

9 TROUBLESHOOTING

Problem	Causes	Solution
Track plate does not reset	Ball bearing rail blocked	Clean the trail
	Return spring worn out	Changing the return spring
	Plate fuse does not unlock	Detach the fuse
	Ball bearing and/or rail defective	Changing the damaged parts
Incorrect measurement results	Sensorless	Attach the sensor
	Sensor does not reset	Clean and lubricate the sensor
	Sensor not calibrated	Set the zero point on the sensor
	Driver loose on the sensor	Tighten the fastening nut
No display after switching on	No power supply	Check the power connection
	No data connection	Check the data line
Display "000"	Sensor voltage is not transmitted	Check the port
After the test, track plate will not be reset to "0"	Changed the sensor's zero position	Set the zero point on the sensor
	Zero position of the plate is mechanically blocked	Release blockage or clean and lubricate components

10 TRANSPORT AND STORAGE

10.1 Transport

When transporting this device and packaging, follow the safety instructions. Avoid impacts, leaks and contact with acids or alkalis.

Caution during transport:

- Hang the middle part of the device and make sure the sling can support the weight of the machine.
- Slowly place the suspension on the ground, otherwise the device will be damaged.
- Make sure that the device does not tilt too much and that shocks are prevented.
- The device must be firmly fastened during transport.
- The packaging boxes should be made of fumigated wood or export cardboard.

10.2 Storage

The device is mainly made of metal. Store it in a place that is protected from moisture, acids, alkalis, and heat.

11 ENCLOSURE

11.1 Calculation

(1) Calculation

$\Delta i = Xi - \frac{Si}{L}$	Δi = Display error (m/km)Xi = System display value (m/km)Si = Average system display value (3 times) (mm)L = Length of the plate (m)

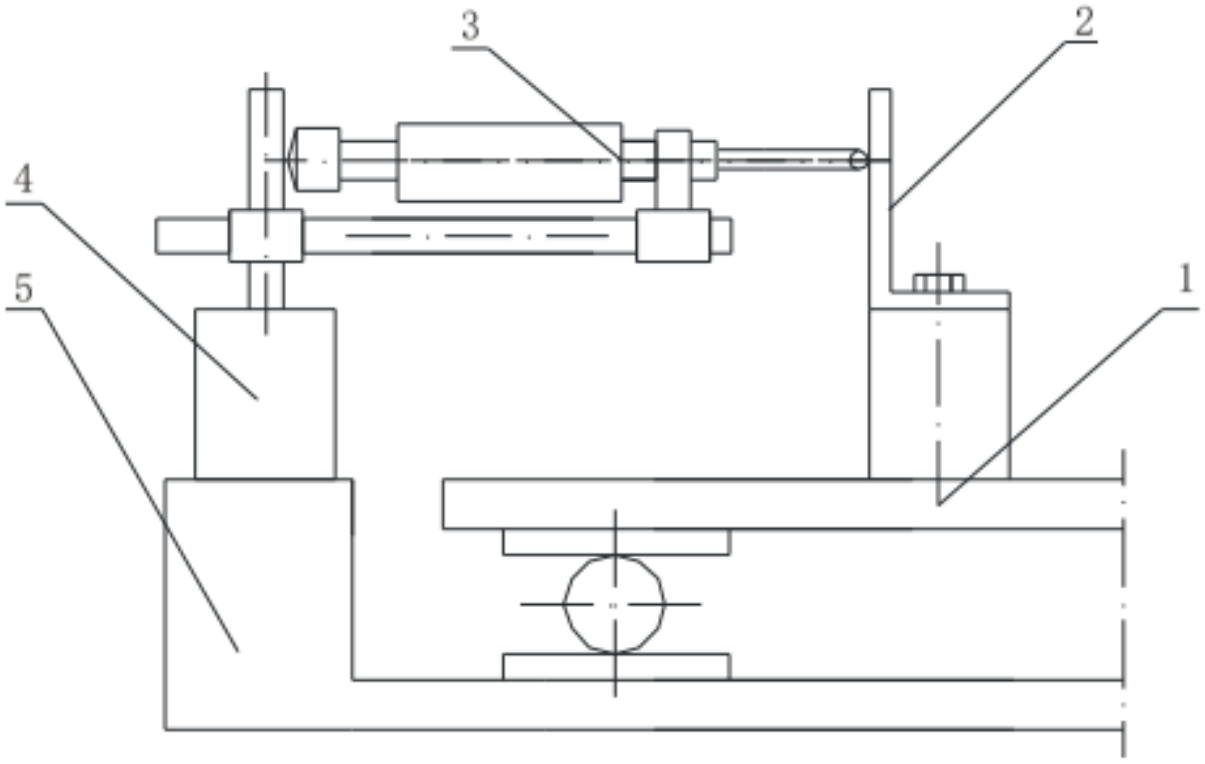
(2) Examples

System display value (m/km)		Centimeter value (mm)			Average (mm)	Display error (m/km)
		1	2	3		
Direction off	3.0	1.49	1.50	1.50	1.497	3.0−(1.497/0.5) = −0.006
	5.0	2.49	2.50	2.49	2.493	5.0−(2.493/0.5) = −0.014
	7.0	3.48	3.49	3.50	3.490	7.0−(3.49/0.5) = −0.02
Direction One	-3.0	1.49	1.48	1.48	1.483	3.0−(1.483/0.5) = −0.034
	-5.0	2.50	2.51	2.52	2.510	5.0−(2.51/0.5) = 0.02
	-7.0	3.51	3.52	3.53	3.520	7.0−(3.52/0.5) = 0.04

HINT!

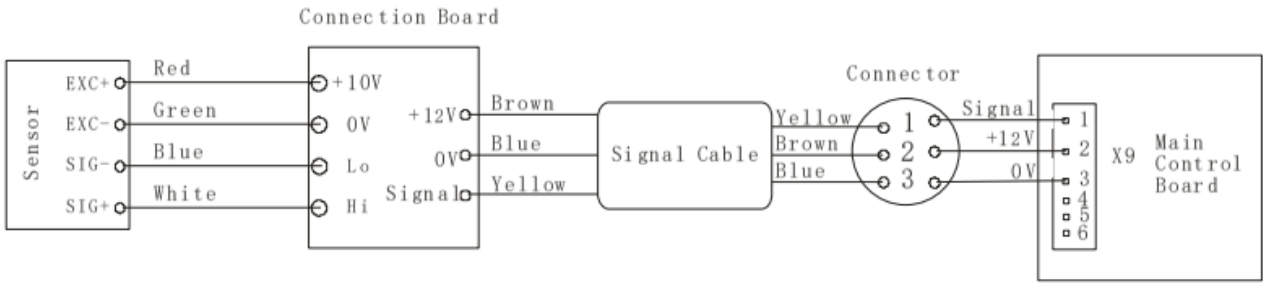
1. LENGTH OF TEST PLATE: 0.5M;
2. ERROR TOLERANCE OF THE DISPLAY: ±0.2 M/KM;
3. SIDE SLIP IS SYNCHRONIZED DURING CALIBRATION.

12 CALIBRATION KIT



#	Description	Description
1	Loafer	Sliding piece
2	Baffle Plate	Baffle plate
3	Dial indicator	Display of the scale
4	Magnetic Base	Magnetic base
5	Side Slip Tester	Track plate

13 ELECTRICAL WIRING DIAGRAM



14 NOTES

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