

INTRODUCTION

GYSMETER is an electronic measurement device designed for measuring and checking dimensions of vehicle unibody and frame.

The tool consists of the following components:

- Gysmeter
- 2 magnetic chassis attachments
- 2 datum rods
- 3 height measuring rods
- Measuring sockets and tips
- 1 panel
- Software for saving and printing the measure results, available at www.gys.fr.

The equipment described above allows measuring **length in 2 dimensions**. You can also compare **the symmetry in height** between left and right sides, in a very effective way.

This instruction manual contains a description of the equipment and directions for its use, handling and maintenance.

IMPORTANT!

Read carefully the instructions for an optimal use of the GYSMETER equipment.

The equipment is intended for use in the auto body shop environment and in accordance with all recognized official safety procedures.

Photos and drawings used throughout these instructions depict the fundamental features and design of the product at the time of publishing and do not reflect potential future design changes.

WARNING!

Do not store or keep GYSMETER near computers, credit cards or other magnetic sensible devices, as the magnet in the chassis attachment may damage these.

MAINTENANCE

General information

The GYSMETER measuring tool is composed of a high precision electronic measuring arm, which necessitates a specific maintenance in order to maintain its performances on the long term.

Please follow all instructions and safety procedures very carefully to maintain equipment reliability and to benefit from all of its great features.

Maintenance

Clean the product after every use.

The electronic measuring arm requires a specific cleaning, and in particular the mobile parts.

Use a clean dry cloth without any liquid or detergent.

Return all parts to the wall stand after each and every use. Regularly check the measuring arm and all the accessories.

Recycling

When scrapping the product, it is important to sort all parts depending on their composition according to local disposal regulations.

Battery replacement

The digital circuit of the TECH-D measuring arm is powered by 2 x AA 1.5 Volt batteries.

Batteries should be replaced when the digital display begins to flash. It is recommended that both batteries should be replaced at the same time. The batteries should be disposed of in accordance with local disposal regulations.

Release the battery cover by hand or with a small flat blade screwdriver.



NB: the batteries should be installed according to the diagram molded on the inside of the battery compartment to ensure correct terminal polarity.

Do not use batteries with power ratings other than 1.5 Volt as this can cause the equipment to malfunction or damage the digital circuit.

GENERAL DESCRIPTION

The device is mainly composed of a telescopic measuring arm made of Aluminium and composite.

In the rear end of the tool is an attachment for height level rods. A quick release built accepts the height level rods. The magnetic chassis attachments should be snapped on the ball of the datum rods.

The front part of the measuring device is composed on one hand of the electronic measurement unit with digital display, and on the other hand of a mechanical fixing feature for each of the 3 different lengths of height measuring rods.

A level assembly is built into the top of the housing of the digital unit, for identification of the vehicle's height differences on symmetric points, on the left and right hand side of the vehicle.

The command panel and the digital display are located on the front of the measuring device. It is on this command panel that the measurement methods should be selected by pressing the relevant buttons.

Most of the electronics is located inside the front end of the measuring device. This is also where the two AA batteries are located. The duration of the batteries is estimated to minimum 50 hours of continuous use.

For operating instructions, please refer to page 13-18

STARTING UP

NOTE! When you start using the GYSMETER, make sure the telescopic measuring arm is completely retracted !

Start the GYSMETER by pressing briefly the **On/O** key .

The display indicates the value 900, which represents the minimum length (between the height calibration rod and datum height rod center).


Note: If display does not read 900 - switch off by holding down the On/O key for a few seconds and restart following the above procedure

NORMAL MODE

This is the default setting of the product after start.


Minimum – Maximum measurement range : **900-2650 mm.**

MEASUREMENT OF SHORT DISTANCES

To measure short distances, 400-2150 mm, press  during 2 seconds.

Use the tip holder that is attached underneath the measuring arm. Use this measuring method preferably in the engine compartment.

COMPARATIVE MEASUREMENTS

Pressing briefly the  key, after having activated the electronics of the measuring arm, allows selecting the mode used for comparative measurements.

The display now shows 0. From this point, any change in length will register plus or minus in 1 mm gradients. Additional comparative checking is possible by repeating the above procedure at any time during comparative checking.

FREEZE A MEASURED VALUE



Press the HOLD key to freeze a measured value in the display. Press it a second time to cancel this operation.

DISPLAY BRIGHTNESS



Hold this key to increase the display brightness – release this key when the required setting has been obtained.

ENERGY SAVING FUNCTION

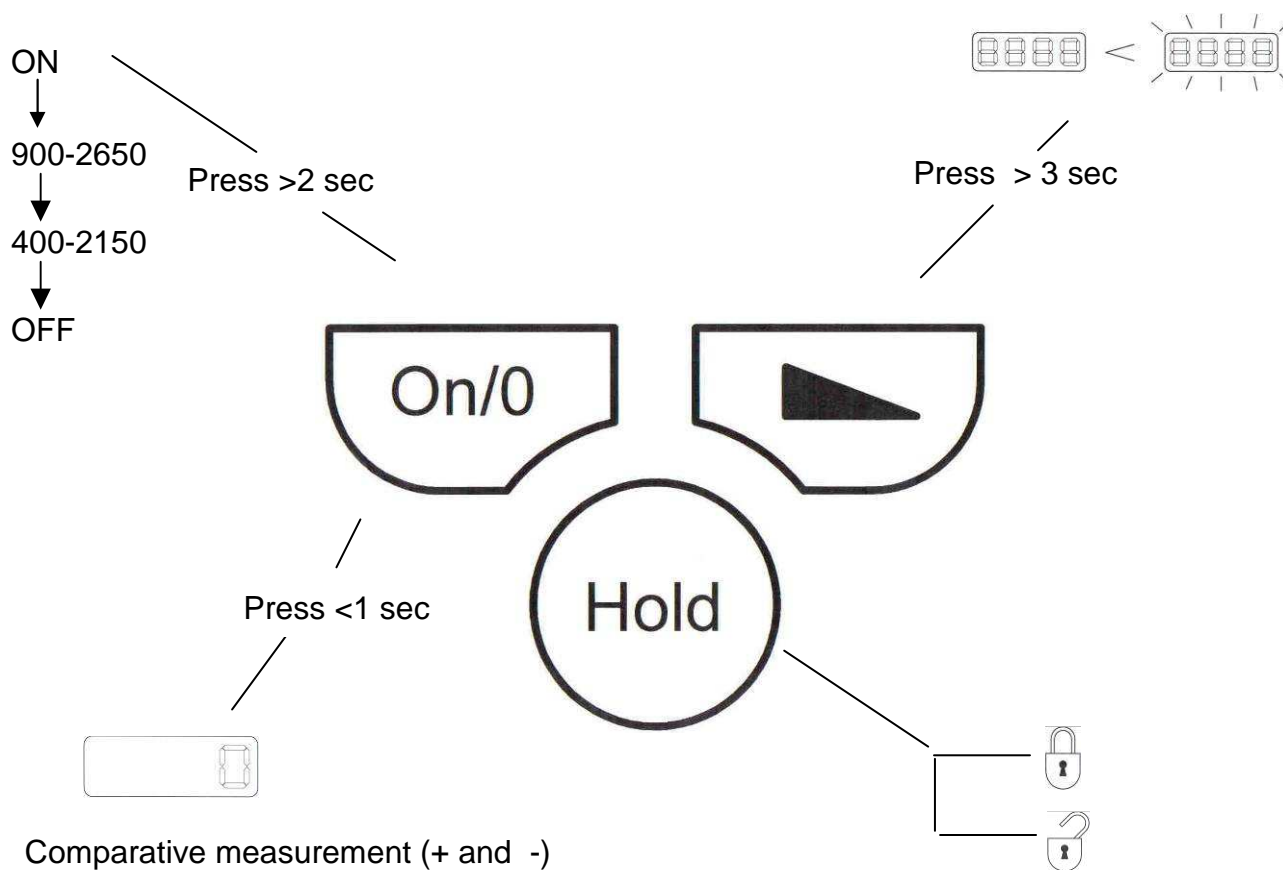
The display will automatically shut down after 5 minutes and will be activated again at the slightest movement of the measuring arm.

SHUT OFF FUNCTION

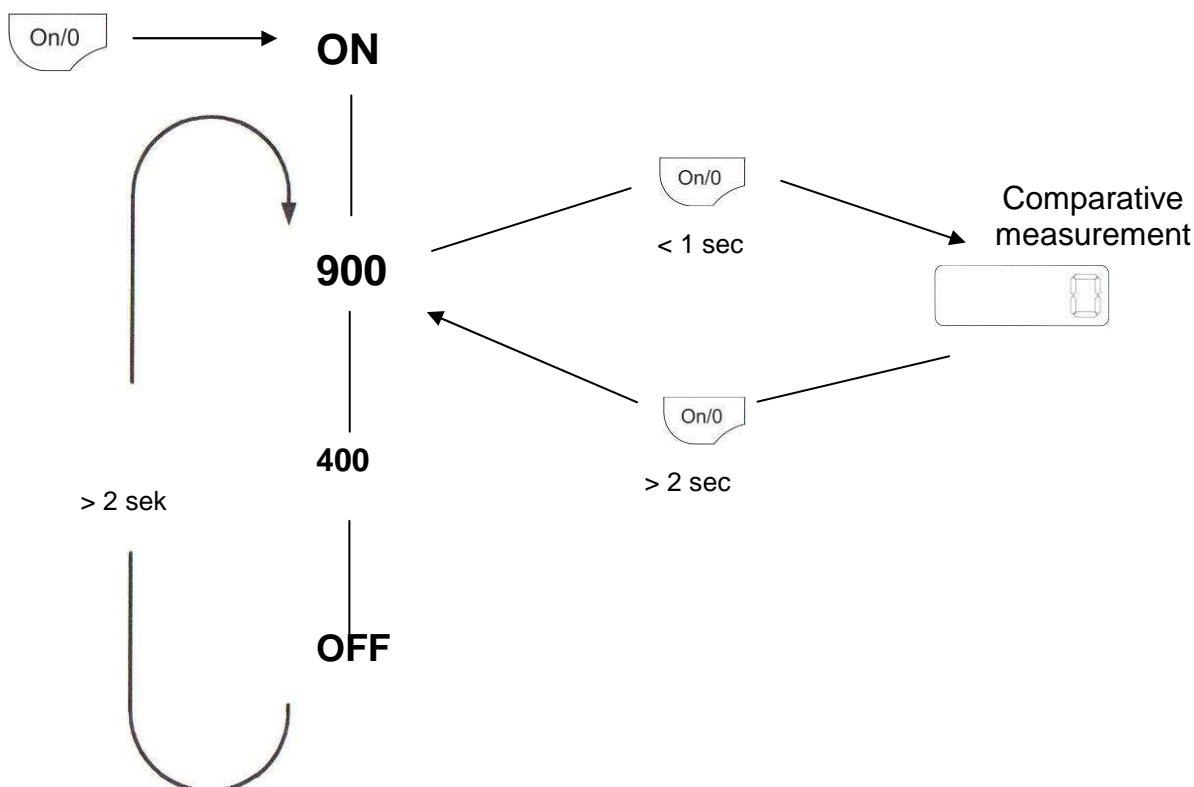
The electronic control unit will shut down all circuits after 90 minutes of non operation.

The measuring arm can also be switched off manually by pressing the  key for over 3 seconds.

DISPLAY FONCTIONS



MENU



ACCESSORIES



Height level rods

The measuring tool includes 2 height level rods of two different lengths.



Magnetic holder

This magnetic holder is developed to suit most vehicle models on the market. Use it when a round or oval hole <Ø35 mm is specified as the zero point on the vehicle dimension data sheet.

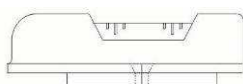


Height measuring rods

3 height rods are included.

Rod height is determined by the data sheet and should allow for the specified reading to be observed when the rod has been locked in place on the measuring arm.

Insert the rod into the measuring head at the front end of the measuring arm. Position the flat side of the rod towards the "release" mark, set it at the desired height and secure by twisting it to the "lock" position



Level

On the measuring head is a level to compare height differences.



Measuring sockets and tips

GYSMETER includes:

- 5 measuring tips (2 x Ø25, 2 x Ø35 mm and 1 x Ø60 mm)
- 16 sockets sized from 10-26 mm
- 9 M201 adaptors 6-18
- 1 90° holder

Sockets and tips snap into the top of the height measuring rods.

TECHNICAL SPECIFICATIONS

- The precision of the level will depend upon the extension length of the measuring arm.
- Refer to the table below for the height tolerances :

Extension in mm	Height tolerance in mm
900	approx. 0,5
1800	approx. 1,0
2650	approx. 1,5

- Measuring range:
 - Normal measure: from 900 to 2650mm
 - Short measure: from 400 to 2150mm
- Datum rods' difference in height = 100 mm

MEASURING

The technician should have a clear understanding of the damage on the vehicle before starting to use the GYSMETER measuring tool.

Being well informed and aware of specific structural damage to the vehicle beforehand will highlight possible faults or inconsistencies in measurement values on data sheets at an early stage, also incorrect mounting or measuring points selected by mistake.

When in doubt check this manual thoroughly, and if the problem persists, contact your GYSMETER distributor.

Mounting the magnetic holder

Make sure that the mounting points on both sides of the vehicle are in the right location, and that they have been cleaned.

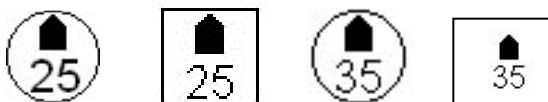
Select a suitable datum rod and snap on the magnetic adaptor on the ball at the extremity. Check that the attachment is in the selected mounting position. Make sure that the magnetic attachment is firmly positioned and that it is not loose.

Remove the magnetic holder with height calibration rod and mount it on the holder at the rear end of the measuring arm. Use firm downward pressure to click the rod in place.



Choosing the appropriate attachment

25-35: Use the smallest magnetic holder.



60: Use the biggest magnetic holder.



Length measuring

Before starting to measure it is important to calibrate the measuring arm. This is done by compressing the arm completely altogether and pressing the ON/O key until the display switches off. With the measuring arm still compressed press the ON/O key and the digital number 900 (900mm) will appear. The measuring tool will now always start measuring from 900 mm. If during measuring operations any doubt exists about the operation of the measuring arm, repeat the above procedure.

1. Read the height dimension given on the datasheet and select a suitable height measuring rod and socket.
2. Push the height measuring rod and adaptor into the measuring tool and set it to the height dimension given on the data sheet.
3. Mount the magnetic holder in the intended attachment point under the vehicle. Pull out and adjust the measuring tool so that the selected measurement point can be reached.

*It can be advantageous here to use the hold feature to freeze the measurement value, especially if it is difficult to see the display while measuring. Press the **HOLD** key briefly to freeze the measurement value. To return, press the **HOLD** key again briefly.*

4. Read the measuring arm's display and compare the length measurement value with the value on the data sheet. (No 1 and 4)

It can be advantageous here to enter the measured value in the data sheet table in order to create a before or after report.

Repeat the same procedure on the other side of the vehicle. Note that the vehicle can have different measurement values for the right and left side.

Symmetry measuring (cross-measuring)

Before starting to measure it is important to check the setting of the measuring arm, see p.15

Measuring symmetry of a vehicle does not differ in any significant extent from the length measuring (p.15). Symmetry measuring uses basically the same procedure.

IMPORTANT: NEVER measure symmetry and check height deviations at the same time. The reason for this is that the height measurement value can be affected by the lateral inclination of the vehicle. It is, however, important that the height measuring rod is adjusted to the same height applicable to length measuring.

In all other aspects, the same procedure as in length measuring applies.

1. Read the height dimension given on the datasheet and select a suitable height rod. Mount the height rod in the measuring head.
2. Mount the given socket/tip at the top of the height rod or the next even numbered socket if the datasheet shows a socket with uneven number.
3. Read the value given on the display and compare it with the values on the datasheet.
4. Mount the magnetic attachment on the chosen magnet point on the vehicle. Pull out and adjust the measuring arm so that the selected measurement point can be reached.

*It can be advantageous here to use the hold feature to freeze the measurement value, especially if it is difficult to see the display while measuring. Press the **HOLD** key briefly to freeze the measurement value. To return, press the **HOLD** key again briefly.*

5. Read the measuring arm's display and compare the symmetry (cross) measurement value with the value on the data sheet.

(It can be advantageous here to enter the measured value in the data sheet table in order to create a before or after report.)

Repeat the same procedure on the corresponding measurement points on the other side of the vehicle (measuring line no 3).

Note that the vehicle can have different measurement values for the right and left side, depending on the design of the vehicle.

Comparing heights

You can compare heights with the help of the level included on the arm.

When comparing heights, there are several important points to bear in mind:

- Place the vehicle as horizontal as possible, from one side to the other (laterally), or this can have an influence on the accuracy of the height measurement.
- Always measure the height at the same time as length (measure parallel to the vehicle's central line).
- The water level on the arm is fixed which often means that it is not on the same level as the vehicle to check. This means that the measuring values stated for the height rod on the datasheets are intended for the setting of the arm when length measures are done.

Height measurements by comparison :

Adjust the height rod until the bubble of the level is at the exact centre (this measure shall be made on lines 1 and 4 of the datasheet only).

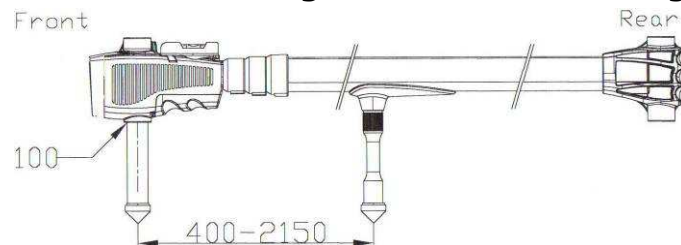
Move the arm over to the other side of the vehicle, setting it on the corresponding points. If the bubble is not in the centre, there might be a possible height difference.

Read off the height rod scale and adjust up or down to be able to read the difference in height.

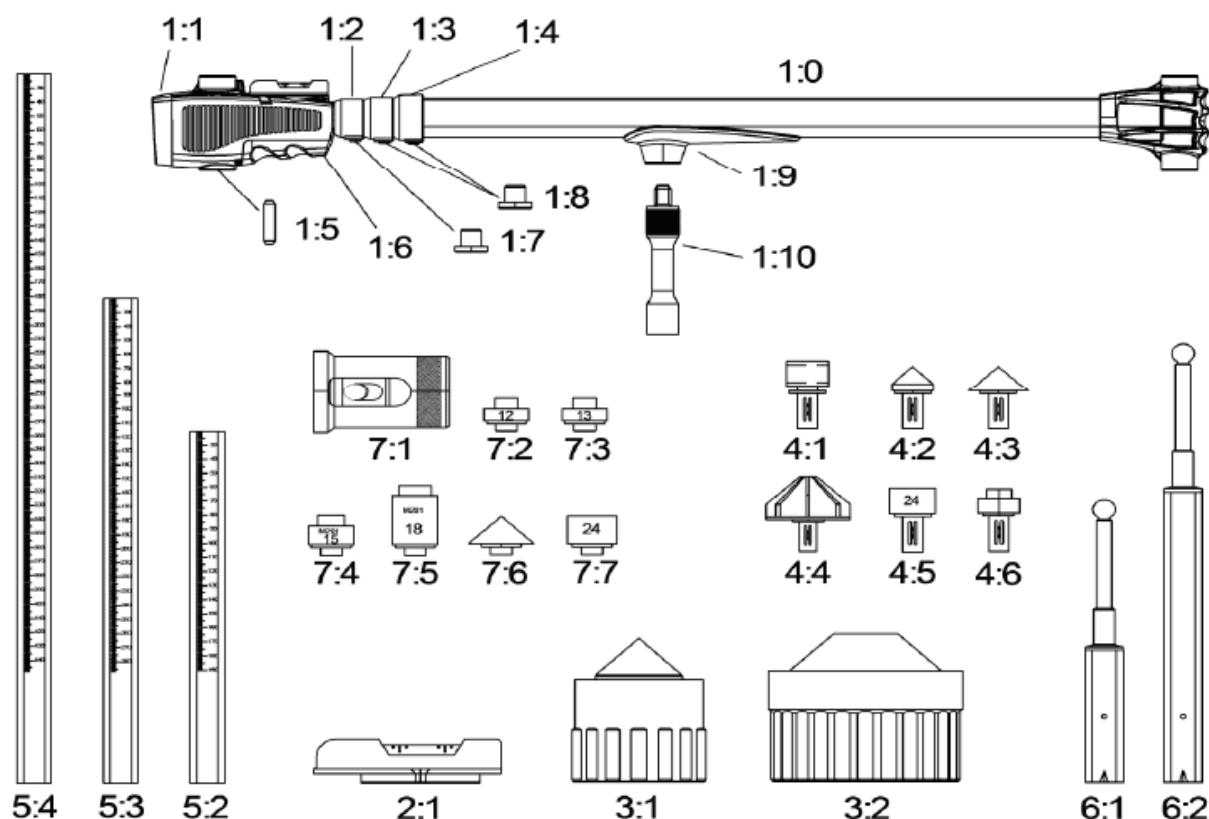
SHORT DISTANCE MEASUREMENTS

The measuring tool features an adaptor for "short distance measurements".
Screw the holder in the measuring arm and choose the appropriate socket/tip.
The measures can now be taken from 400 to 2150 mm.

NOTE! Change the measuring range to 400-2150mm by pressing the ON/O key for 2 seconds. Assemble a 100mm height rod in the lower edge of the measuring tool.



SPARE PARTS



Pos	Art. No.	Name
1:0	XME1900	Measuring tool
1:1	XME1375	Front
1:2	XME1281	Collar 2
1:3	XME1291	Collar 3
1:4	XME1301	Collar 4
1:5	AVP1361	Friction stick
1:6	XME1380	Battery cover
	AVP1450	Battery
1:7	AVP1320	Locking for collar
1:8	AVP1320-2	Locking for collar
1:9	EMK1404	Slide
1:10	EMK1403	Tip holder for slide
2:1	XME1410	Level
3:1	XME1480	Chassis attachment Ø35
3:2	XME222	Chassis attachment Ø60
4:1	XME3100	Tip holder 90°
4:2	XME3000	Measuring tip Ø25
4:3	XME2900	Measuring tip Ø35
4:4	XME2800	Measuring tip Ø60
4:5	XME1390	Socket Ø10-28 (state no when order)
4:6	XME2705	Adaptor M201 6-18 (state no when order)

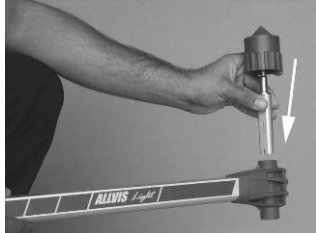
Pos	Art. No.	Name
5:2	AVP1190	Measuring rod 185
5:3	AVP1200	Measuring rod 285
5:4	AVP1210	Measuring rod 450
6:1	AVP1110	Datum rod
6:2	AVP1130	Datum rod +100
7:1	AVP1470	Chassis attachment 90°
7:2	AVP1485	Adaptor 12
7:3	AVP1490	Adaptor 13
7:4	AVP1500	Adaptor 15
7:5	AVP1510	Adaptor 18
7:6	AVP1521	Measuring tip short Ø35
7:7	AVP1540	Socket short 10-26 (state no when order)
	AVA111	Complete truck adaptor kit
	XME1263	Allvis Light storage case (complete)
	XME1170	Storage case side

QUICK GUIDE

Measuring without data sheet

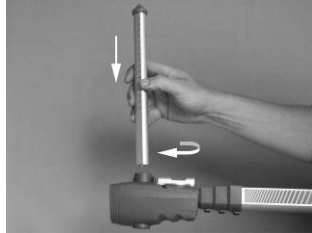
1

A. Select datum rod of suitable length
B. Snap magnetic attachment onto the ball of the datum rod
C. Insert datum rod into the rear end of the measuring arm. Use firm downward pressure to snap it into the socket.



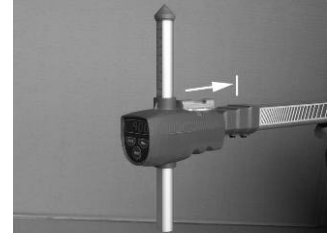
2

A. Select a height measuring rod and socket to suit the application.
B. Insert height measuring rod into the front end of the arm set it at the desired height and twist to secure rod.



3

Retract the telescopic measuring arm completely and press the "On/O" on the display panel. A digital number 900 (900mm) will appear in the display window representing the minimum retracted length of the arm between centres.



4

Mount the magnetic attachment on a symmetrical, undamaged point under the vehicle



5

Pull out the measuring arm and fit in the measuring point to be checked



6

A. Adjust the height rod until the bubble in the level is in the centre
B. Read off the measuring value on the display.



7

A. Move the measuring arm to the opposite side of the vehicle and fit the magnetic attachment to an equivalent measuring point.
B. Take a similar length reading on this side
C. Compare readings.



8

A. Check the level of the arm.
B. Use the height-measuring rod to set it level. Twist rod to unlock / lock.
C. Observe height reading on the height rod and compare for possible datum height differences between the two measuring points on opposite sides of the vehicle



9

Cross check side to side, from each magnetic mounting point to an equivalent measuring point on the opposite side. Compare digital readings to check for symmetry.




Software included


The included software for GYSMETER is an online web application. The software works in modern browsers and you can use it on your phone, tablet or computer.


Access it on <https://tech.gys.fr/>

Body openings

Choose between existing car body images or upload a custom image.

☐ Sedan 

☐ Station wagon 

☐ Custom image 

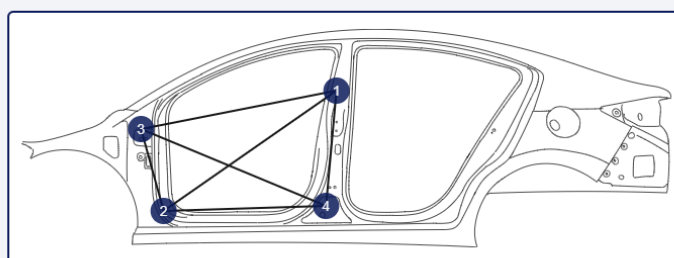
Flexible measure report

- Choose between multiple body types and angles
- Use your own images
- Add customer and vehicle information for a measure

Save or print

- Use between two to four measuring points
- Export to PDF or print directly

Place measuring points



 Clear points

Measuring values

Choose tolerance

3 mm

