



# TOUCH

## INTRODUCTION

We congratulate you for having chosen a product of the line SPANESI S.p.A.

You now own a "TOUCH" the first electronic measure system for the diagnosis and control of cars, unique in the world for speed and functional capacity. The wide range of products and the functional capacity have always granted to our customer car reparation's techniques rapid and precise.

This document has been realised and controlled with the maximal attention in order to give reliable information; the constructor declines every responsibility implicit or explicit regarding possible errors or omissions contained in this manual.



**ATTENTION:** *The texts pointed out in this way and with this symbol, indicate to the operator some rules of maximal importance or norms whose violation could create possible danger situations for the instrument and for personnel's safety.*



**NOTICE:** *The texts pointed out in this way and with this symbol regards notices, operations, expedients or functionality that have a particular importance for the knowledge and the right use of the machine..*



**CONSULTING:** *The texts pointed out in this way and with this symbol tell the operator to consult the manual at the point described.*



**SPANESI S.p.A. INFORMATION SERVICE:** *the presence of this symbol near a text, refers to the necessity of informing the authorised retailer SPANESI S.p.A. of a particular situation or the possibility to ask for information on a specific matter.*

The present manual guides the operator, in the essential phases in order to performing the complete diagnosis of a car. As example we will use the diagnosis of a Renault Clio 1999 - to which the operator will have to do the necessary changes in order to make the measurement on the car examined.

## GENERAL INFORMATION



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## MEASUREMENT STEP-BY-STEP

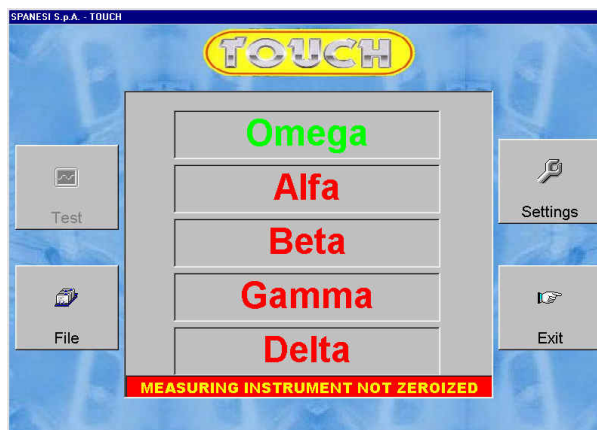
### 1 – PROGRAM STARTING

Make a double click on the icon “Spanesi SPA TOUCH 1.1” in Windows' desktop



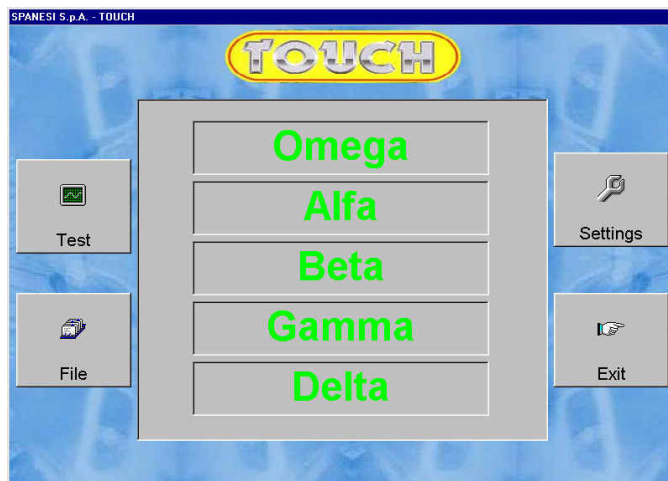
### 2 – ZERO SETTING AXLES TOUCH MEASURE ARM

2.1 Move the TOUCH measure arm around the axle “Omega” up to the green visualisation on the screen of the name “Omega”



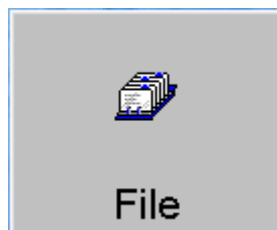
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2.2 Do the same operations for the axles Alpha, Beta, Gamma and Delta

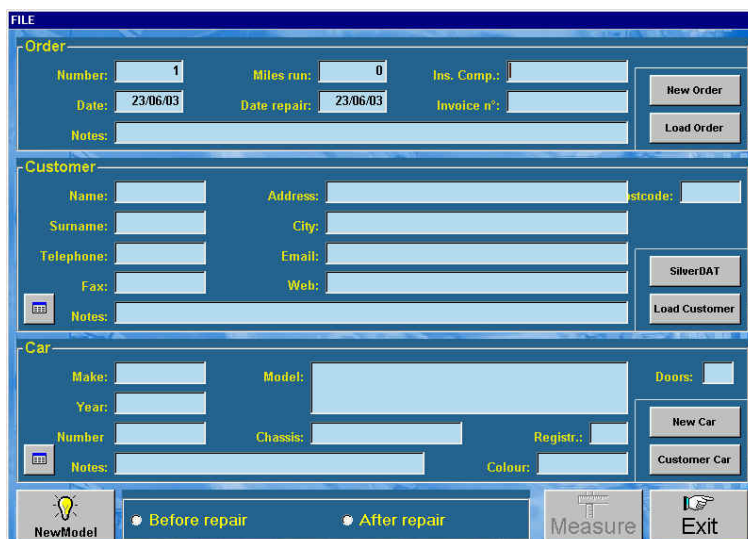
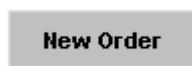


### 3 – FILE DATA SHEETS CREATION

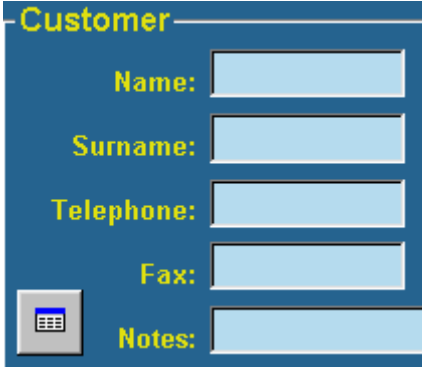
3.1 Press the button “File”



3.2 In the file display, press the button "New Order"



3.3 Insert the name and the last name in the customer box



**Customer**

Name:

Surname:

Telephone:

Fax:

Notes:

3.4 Press the button “New Car”



3.5 Select the car mark from the list

3.6 Select the car model from the list



*Check with attention that the selected model corresponds to the car you have to measure, using the model's characteristic data, the year of production and, for the Asiatic cars, the chassis' initials if present.*



*In the development of this manual you will find, as an example, the measurement of an AUDI 80 1987-1991*



*If the car model you are looking for is not present in the available list, please contact the SPANESI SpA TOUCH technical office.*

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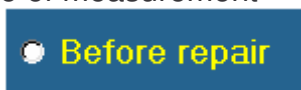
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3.7 Press the button “Confirmation”



**4 – CAR MEASUREMENT**

4.1 In the “File” display select the option “Before the reparation” or “After the reparation” to identify the type of measurement

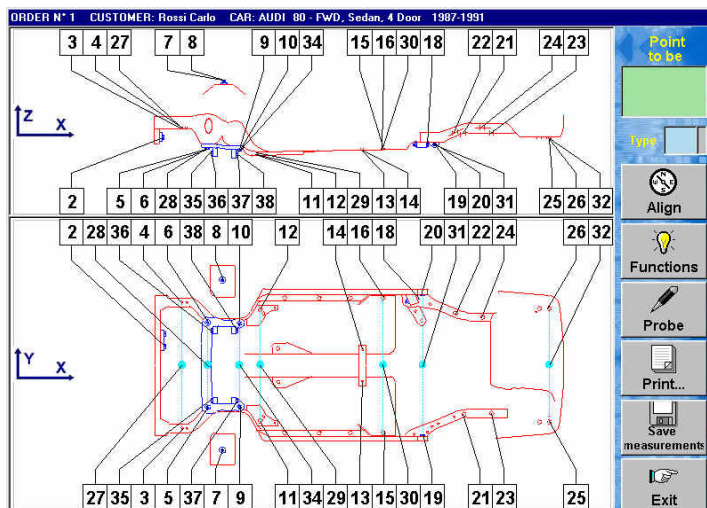
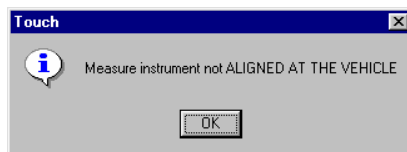


*Following the example of the manual, please select “Before the reparation”*

4.2 Press the button “Measure”



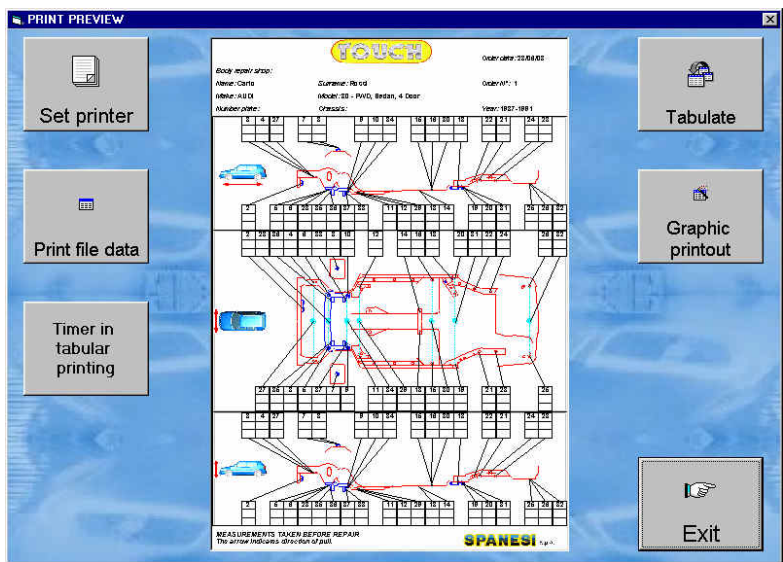
4.3 Press “OK” to the message that appears



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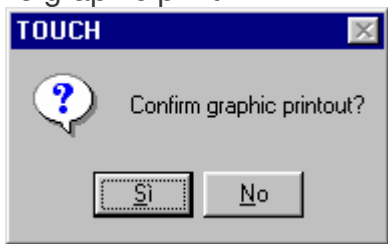
4.4 In the measure screen press the button “Print”



4.5 Press the button “Graphic print”



4.6 Press “YES” to confirm the graphic print

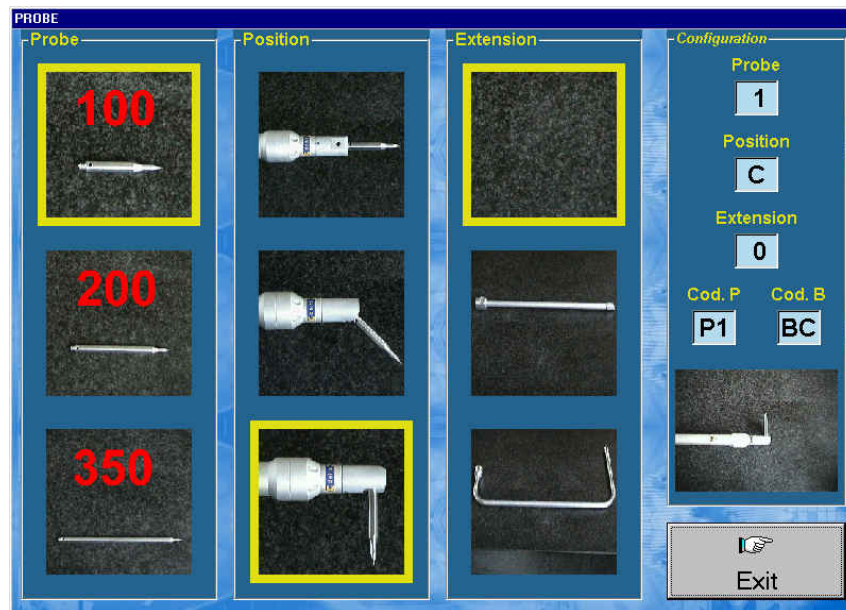


4.7 Press the button “Exit”





4.8 In the measurement screen press the button “Probe”



4.9 Select the probe type you are using between the options 100mm,200mm and 350mm



*To select the probe type you are using, click on the corresponding picture*

4.10 Select the probe position between the options 0°,45° e 90°



*To select the probe position you are using, click on the corresponding picture*

4.11 Press the button “Exit”



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4.12 In the measurement screen press the button “Alignment”

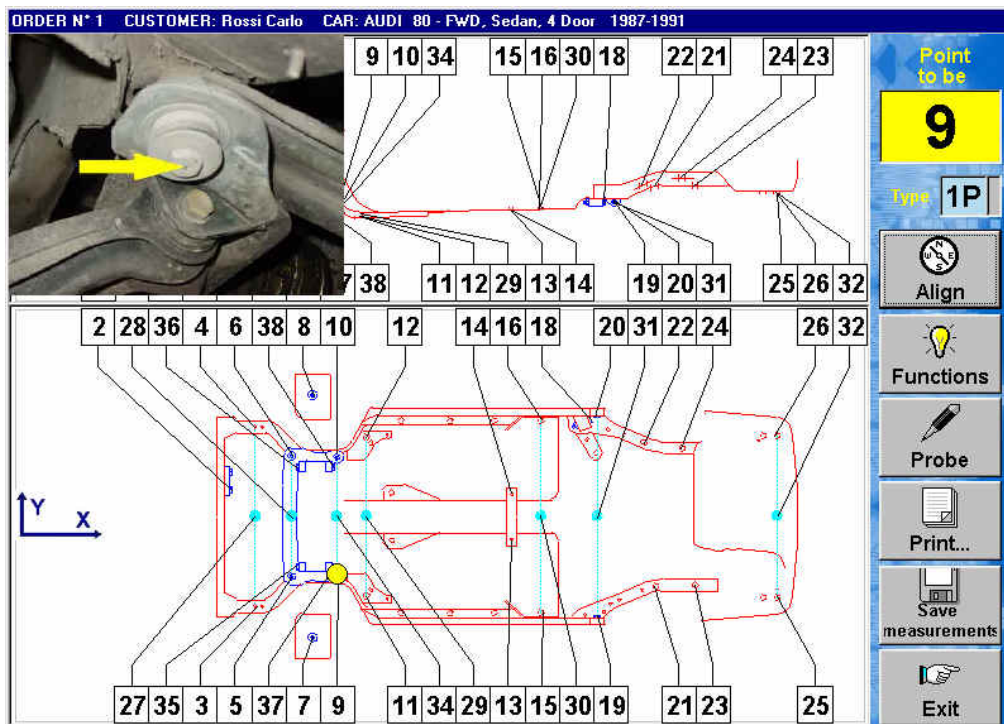


4.13 Selection the option alignment “Front guided”



4.14 The function “Front Guided” indicate which point of the car you have to measure at first to do the alignment:

- in the example we use, the first point is n°9
- survey the point in the function “1P”
- use the photo to identify the point you have to measure



The “Measure type” can be 1P-2P-3P:

1P you survey the measure only one time in the centre of the point indicated (bolts)

2P you survey the two ends of the point you have to measure (bolts)

3P you survey three points on the circumference to calculate the centre (holes)

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Use the graphic print for the determination of the points you have to survey on the car



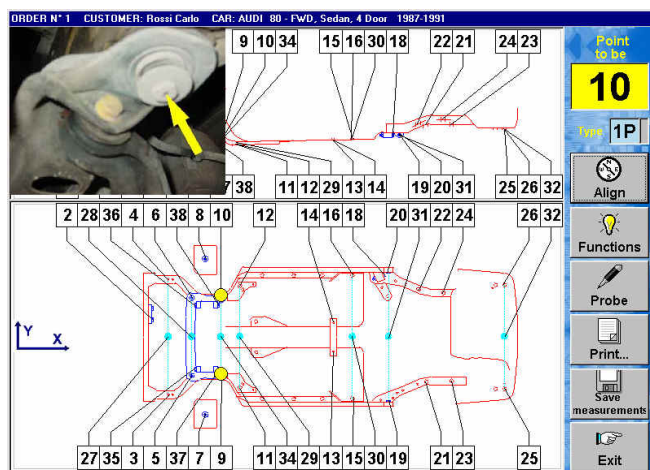
Every car has a data sheet point's number different; for this reason the 4 points of alignment have always a different order

4.15 Bring the probe's point near the centre of the bolt of the point n°9 and press the arm button one time as indicated in the box "Type"

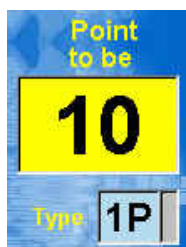


4.16 Automatically the software predisposes the measurement of the second alignment point:

- in the example we use, the second point is n°10
- survey the point in function "1P"
- you will find it on the right side of the car
- use the photo to identify the point you have to measure



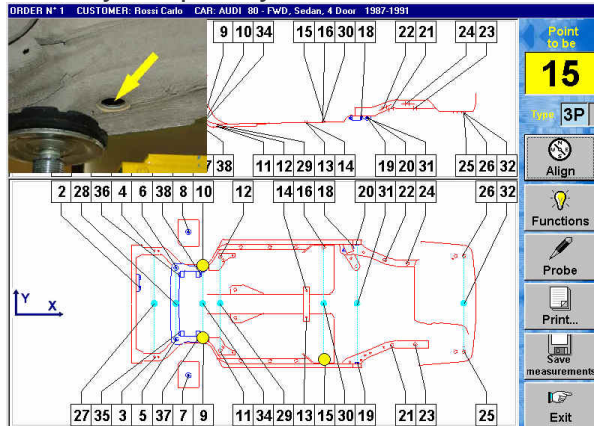
4.17 Bring the probe's point near the centre of the bolt of the point n°10 and press the arm button one time as indicated in the box "Type"



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4.18 Automatically the software predisposes the measurement of the third point of alignment:

- in the example we use, the third point is n°15
- survey the point in function “3P”
- you will find it on the left side of the car
- use the photo to identify the point you have to measure

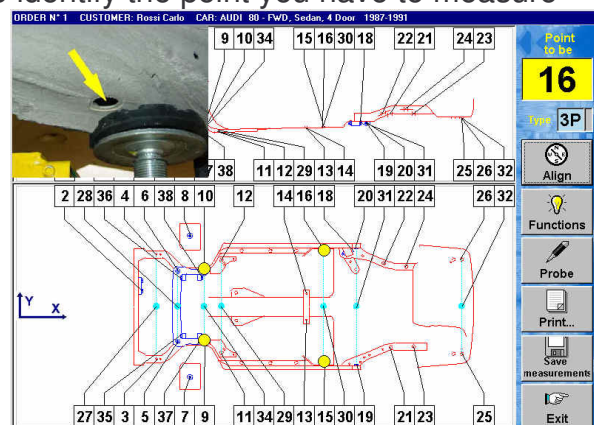


4.19 Measure 3 points on the circumference of the hole corresponding to the hole n°15



4.20 Automatically the software predisposes the measurement of the fourth point of alignment:

- in the example we use, the fourth point is n°16
- survey the point in function “3P”
- you will find it on the right side of the car
- use the photo to identify the point you have to measure



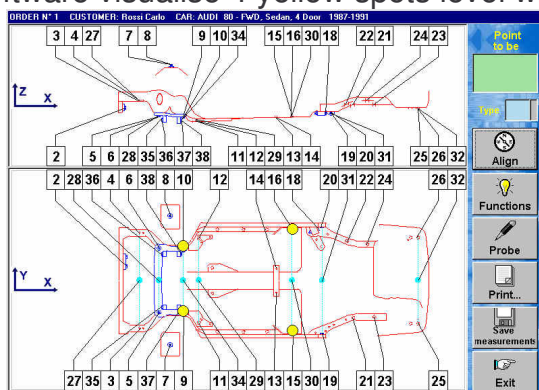
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4.21 Measure 3 points on the circumference of the hole corresponding to the hole n°16



4.22 Automatically the software visualise 4 yellow spots level with the measured points



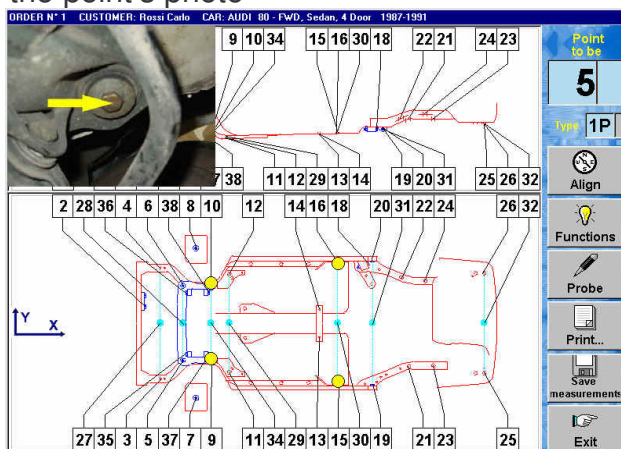
*Only when the alignment is in tolerance you will see 4 yellow spots*



*If the alignment is not in tolerance, please consult the manual at the point 8.2.6*

4.23 Bring the probe near the point n°5 of the data sheet and automatically the software will recognise the point you have to measure, indicating:

- point number
- measure type
- and visualising the point's photo



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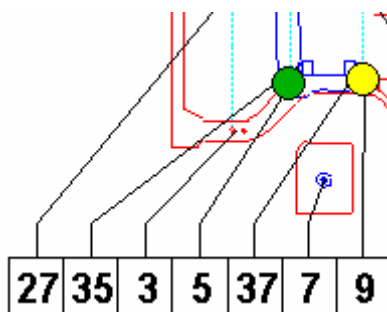
**TOUCH**

4.24 In the example we use, the point n°5 is measured with the function “1P”



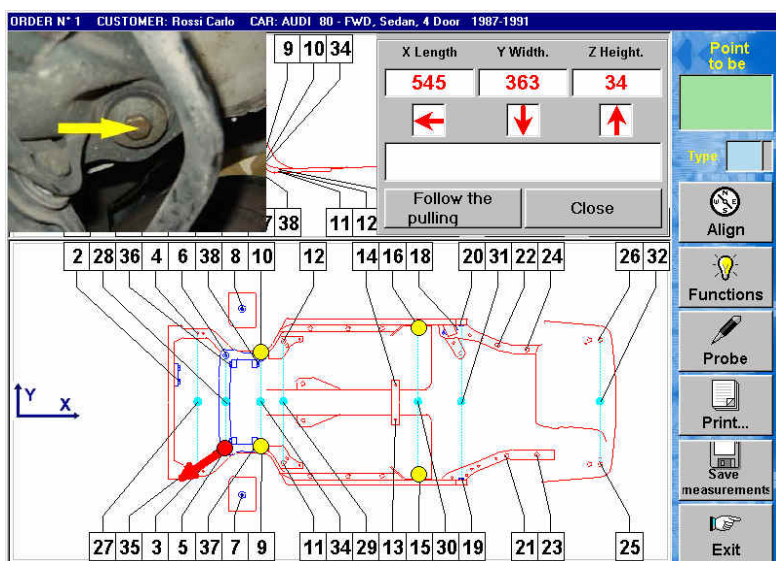
4.25 Bring the probe's point in the centre of the bolt pointed out and press the arm button

4.26 If the measured point is in tolerance you will see, on the screen, a green spot



4.27 If the measured point is not in tolerance you will see, on the screen:

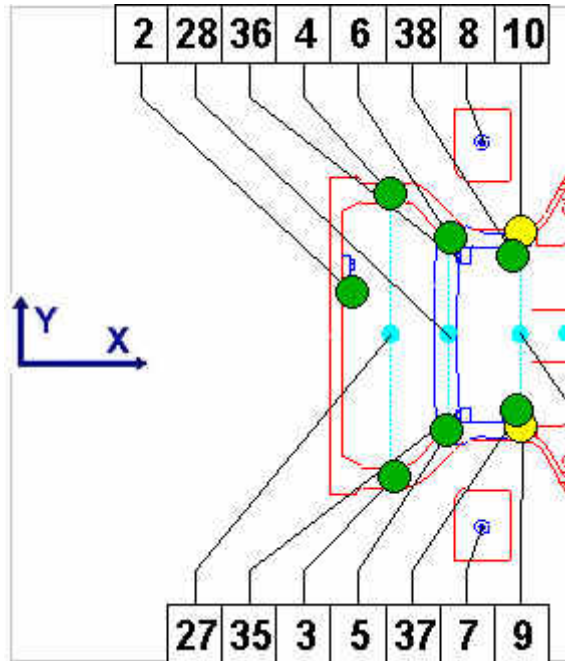
- a red spot
- an arrow on the red spot that indicates the direction you have to follow for the pulling
- a box with the difference in millimetres in the three dimensions



If the measured point is not in tolerance, please consult the manual at point 8.6

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4.28 Complete the measurement with the desired point of the data sheet



To realise the print of the executed measurement, please consult the manual at point 4.4

## 5 – PROGRAM CLOSING

5.1 In the measurement screen press the button “Exit”



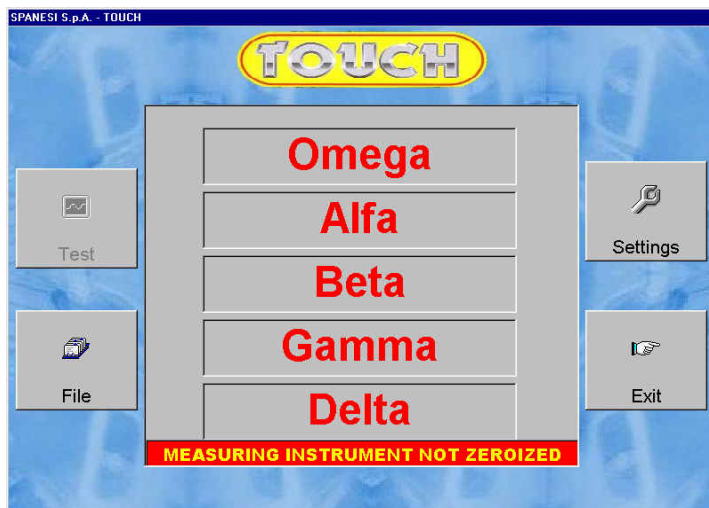
5.2 In the file measurement press the button “Exit”



5.3 In the first screen alignment press the button “Exit”



## 6 – INITIAL SCREEN FUNCTIONS

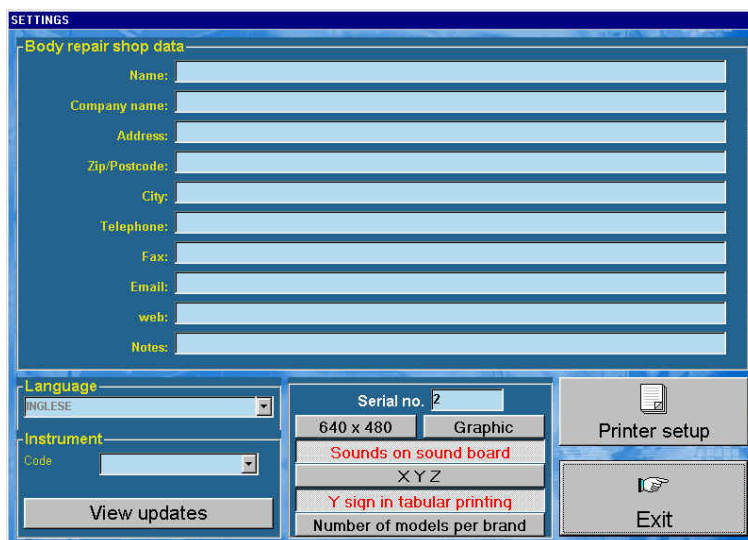
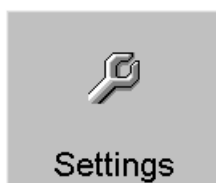


### 6.1 AXLES ZERO SETTING



Consult the manual at point 2

### 6.2 BASES press





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6.2.1 Insert the data corresponding to the body shop, in the fields for “Body Shop Data”

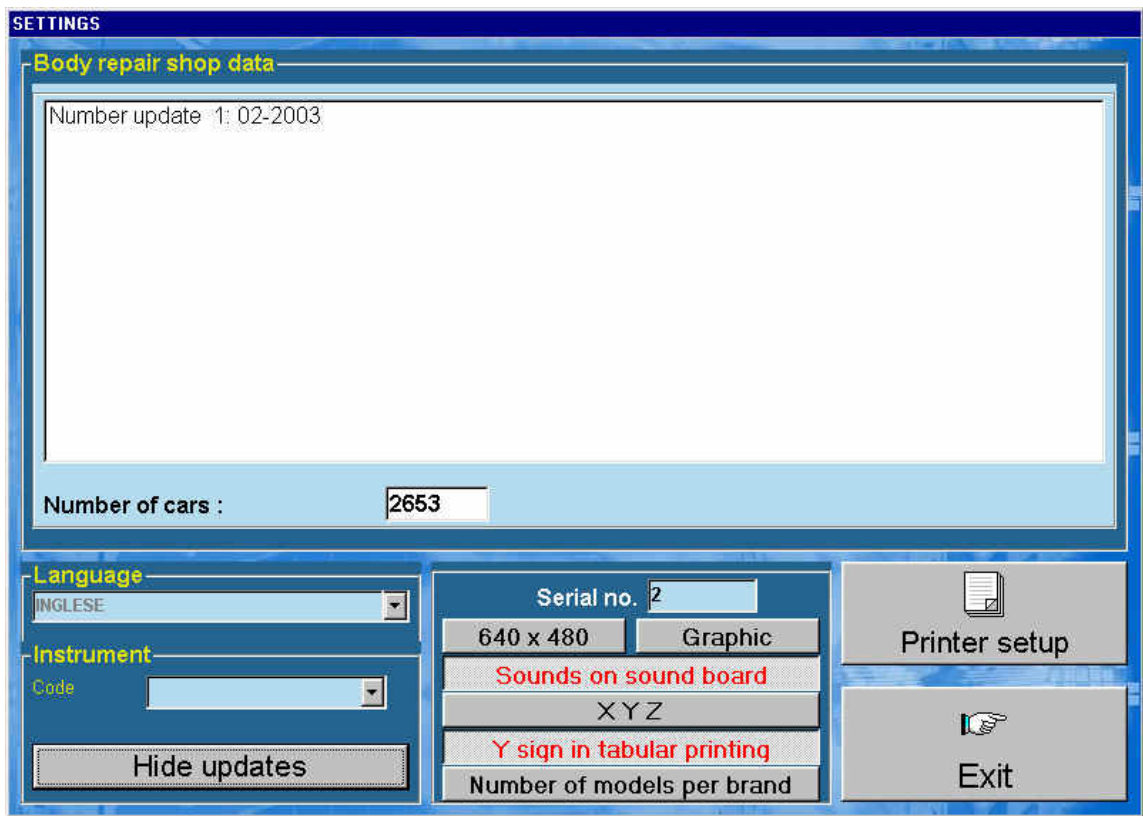
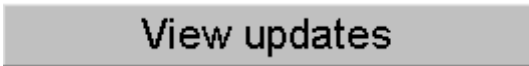
6.2.2 Select the language of the program in the language box



6.2.3 Only if available, select a second TOUCH measure arm connected to the computer in use, selecting the serial number on the instrument box



6.2.4 Press the button “Visualise Updates” to visualise the installed updates



Press the button “Hide Updates” to come back to the bases screen

6.2.5 The box with serial number indicates which serial door the TOUCH is using in the computer in use

Serial no.

6.2.6 To modify the program resolution from 640x480 to 800x600, press

**640 x 480**

6.2.7 To visualise or hide the dynamic graphic in the first screen of axles zero setting, press

**Graphic**

6.2.8 To enable or disable the sounds in the TOUCH program, press

**Sounds on sound board**

6.2.9 The button “XYZ” enables or disables the visualisation of the instrument absolute coordinates in the three dimensions in the function “mechanical pieces”



- X = length
- Y = width
- Z = height

**XYZ**

6.2.10 To enable or disable the visualisation of the negative sign in the data print for the axle Y, press

**Y sign in tabular printing**

6.2.11 To visualise the models’ total number for every mark, in the screen “new model” press

**Number of models per brand**

6.2.12 To change the printer bases from the TOUCH program, press

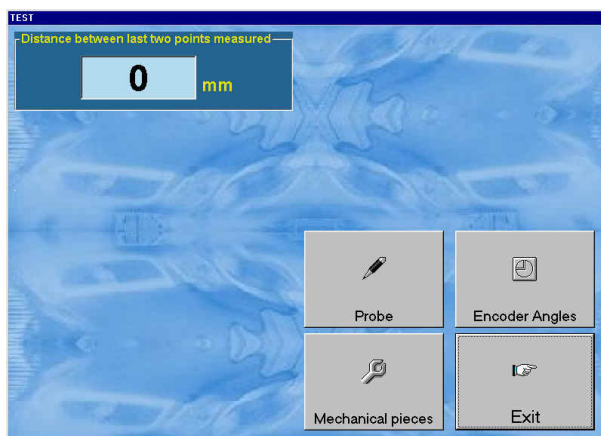
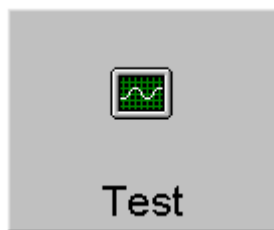


**Printer setup**

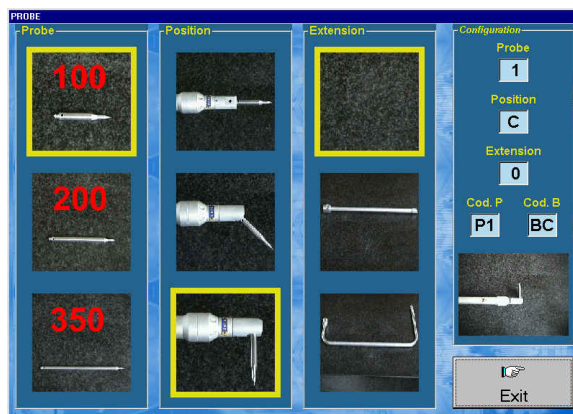
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6.3 TEST press



6.3.1 Press the button probe to select the probe's type and position you are using



*To select the type and position of the probe you are using, please consult the manual from the point 4.9 to the point 4.11*



*For the use of the extensions, please consult the manual at the point 10.1*

### 6.3.2 RELIABILITY TEST TOUCH measure instrument

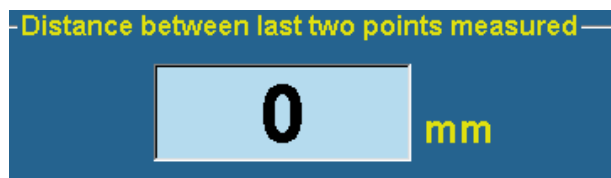


*The reliability TEST has the aim of certificate the precision of the TOUCH measure instrument, measuring the same point into two different arm's configurations.*

6.3.2.1 Measure a physical point on the car or on the TOUCH trolley

6.3.2.2 Turn the instrument and measure the same initial point, but with a different arm configuration

6.3.2.3 The distance calculated will be visualised in the box "distance between the latest two measured points"



*The value expressed in millimetres has not to be higher than 2mm or however not to overcome the value brought in the relationship of verification attached CMM.*



*If the value is higher than 2mm, please contact SPANESI SPA*

### 6.3.3 MECHANICAL PIECES

To start the mechanical pieces measurement's program, press



*The function mechanical pieces allows measuring, one by one, every different component of a car*

The program is divided in 9 calculation's options:

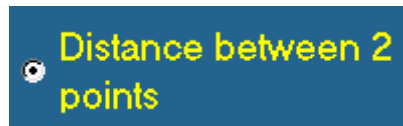
- distance 2 points
- angle 2 straight lines
- angle 2 planes



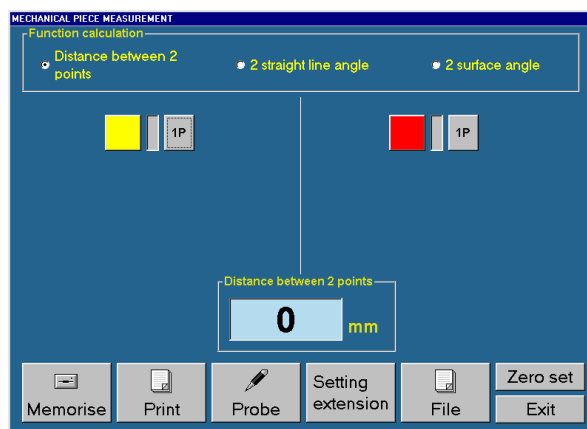
*Before starting with the measurement, please control the type and position of the probe you are using; consult the manual at the point 4.8*

6.3.3.1 Distance 2 points

6.3.3.2 To start up the function, select the entry:



The function allows calculating the distance between two points in the space, the same points can be surveyed with measure type 1P or 3P



6.3.3.3 If you desire modifying the measure type of the first point you have to survey, press on the 1P button, at the left side of the mechanical pieces' screen



In this way you will start up the function 3P for the first point you have to measure

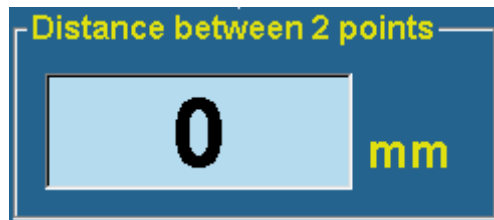


6.3.3.4 Measure the desired point with the measure type selected

6.3.3.5 Repeat the same operations if you want to modify the measure type of the second points you have to survey, pressing the 1P button on the right side of the mechanical pieces' screen

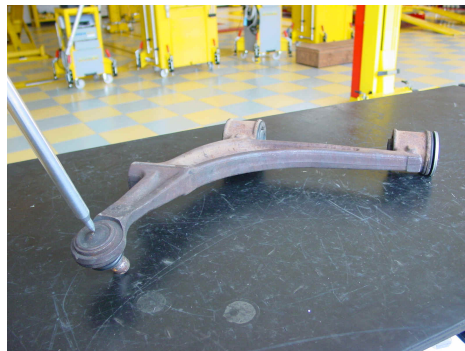
6.3.3.6 Measure the desired point with the selected measure type

6.3.3.7 In the box “distance between 2 points” you will see the calculated distance in millimetres



6.3.3.8 Calculation example distance between 2 points on a trapezium

- measurement of the first point, in measure type 1P



- measurement of the second point, in measure type 3P



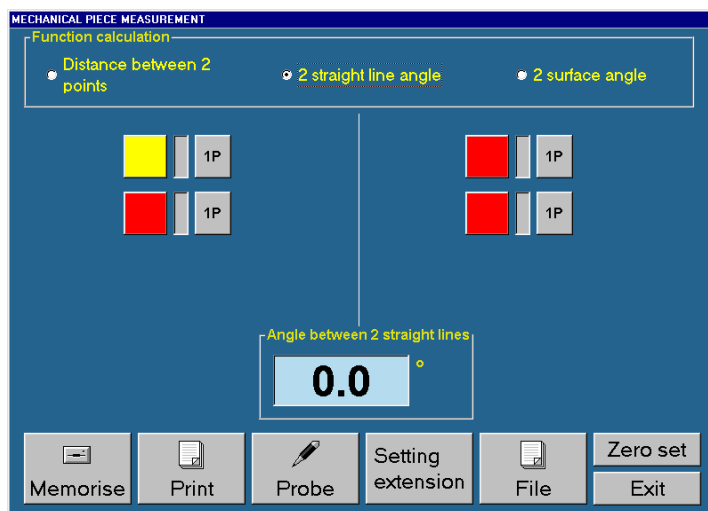
- automatically the software calculates the real distance between the two measured points, visualising their value in the box “distance 2 points”

### 6.3.3.9 Angle 2 straight lines

To start up the function select the entry

**2 straight line angle**

This function allows calculating the angle between two straight lines



6.3.3.10 The first straight line is calculated connecting virtually the first two measured points, that are pointed out on the left side of the screen.



To modify the measure type of the 2 points, please consult the manual at the point 6.3.3.3

6.3.3.11 The second straight line will be calculated connecting virtually the third and fourth point measured, that are pointed out on the left side of the screen.



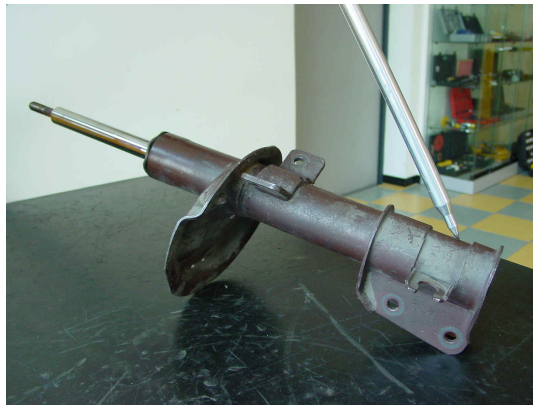
To modify the measure type of the 2 points, please consult the manual at the point 6.3.3.3

6.3.3.12 In the box “angle between two straight lines” you will see the angle calculated in degrees



6.3.3.13 Calculation example of an angles between 2 straight lines in a shock absorber

- measurement of the first point in the external part of the shock absorber's shaft



- measurement of the second point in the internal part of the shaft, the software will create the first virtual straight line connecting the two measured points

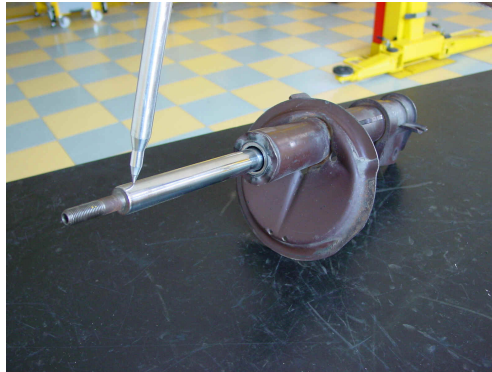


- measurement of the third point in the internal part of the steam





- measurement of the fourth point in the external part of the stem, the software calculates the second virtual straight line, connecting the two measured points



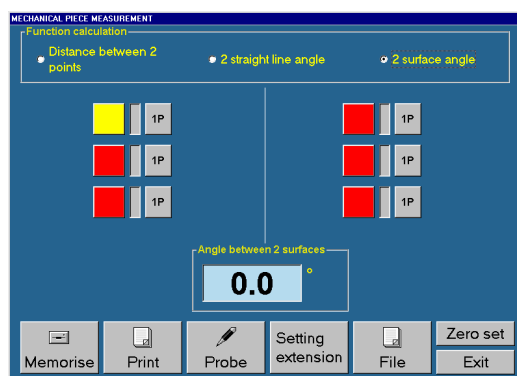
- automatically the software calculates the real angle between the two created straight lines and visualises the angle's value in the box "angle 2 straight lines"

#### 6.3.3.14 Angle 2 planes

To start up the function select the entry:



The function allows measuring the angle between two surfaces; for every surface you have to survey 3 points



- 6.3.3.15 The first plane is calculated after having measured the first 3 points, that are pointed out on the left side of the screen.



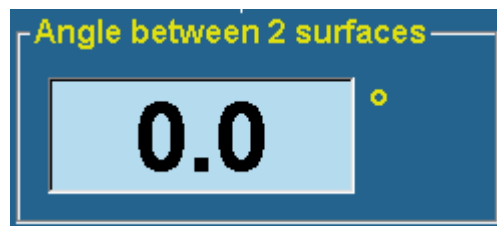
To modify the measure type of the 2 points, please consult the manual at the point 6.3.3.3

6.3.3.16 The second plane is calculated after having measured the latest 3 points, that are pointed out on the right side of the screen.



To modify the measure type of the 2 points, please consult the manual at the point 6.3.3.3

6.3.3.17 In the box “angle between two planes” you will see the angle calculated in degrees.

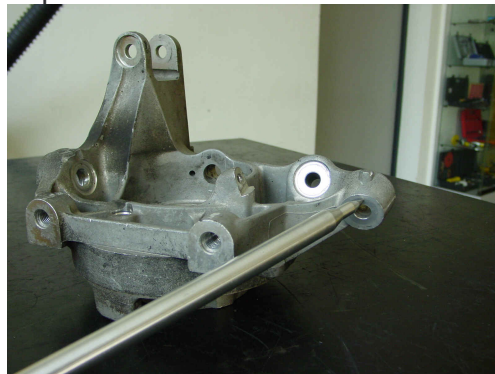


6.3.3.18 Calculation example of an angle of 2 planes in a spindle:

- measurement of 3 points in the first surface

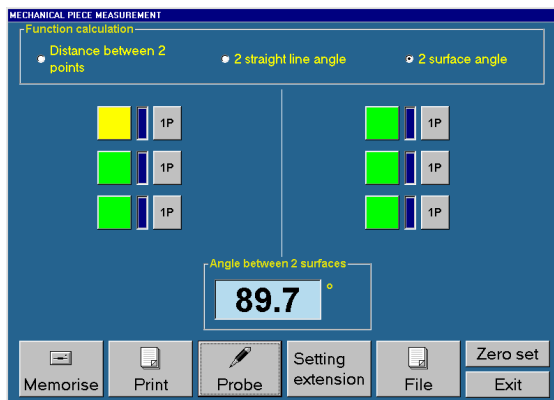


- measurement of 3 points in the second surface



- automatically the software calculates the real angle between the two measured surfaces, visualising the value in the box “angle between 2 planes”

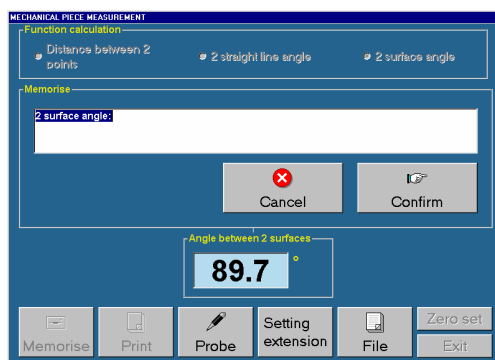
6.3.3.19 To memorise the single measurement made, example “angle between two planes”:



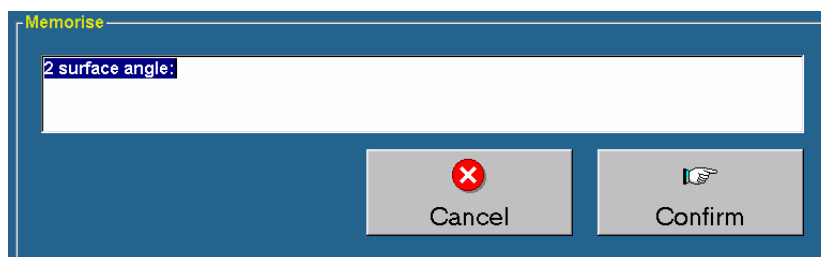
press the button:



6.3.3.20 The computer will ask you of inserting a descriptive text for the measurement of the single measurement:



6.3.3.21 Insert the text and press the button “Confirmation”



6.3.3.22 To print all the measurement made, press



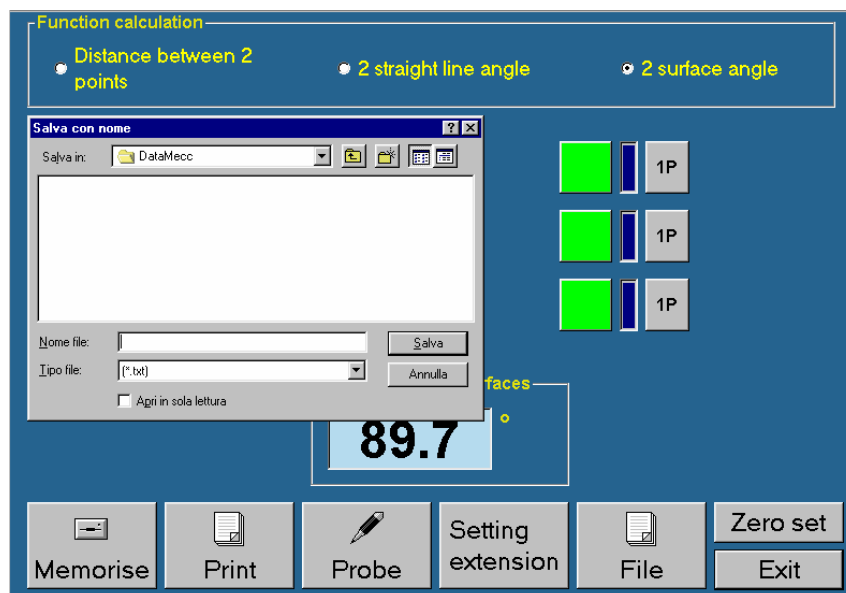
6.3.3.23 To cancel all the measurement, press

Zero set

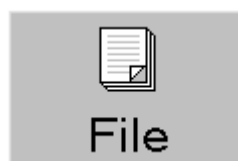
6.3.3.24 To save in a file all the measurement, press

Exit

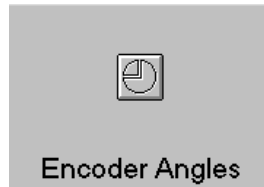
6.3.3.24.1 You will be asked for inserting the file's name



6.3.3.25 To visualise all the memorised measurement's files, press

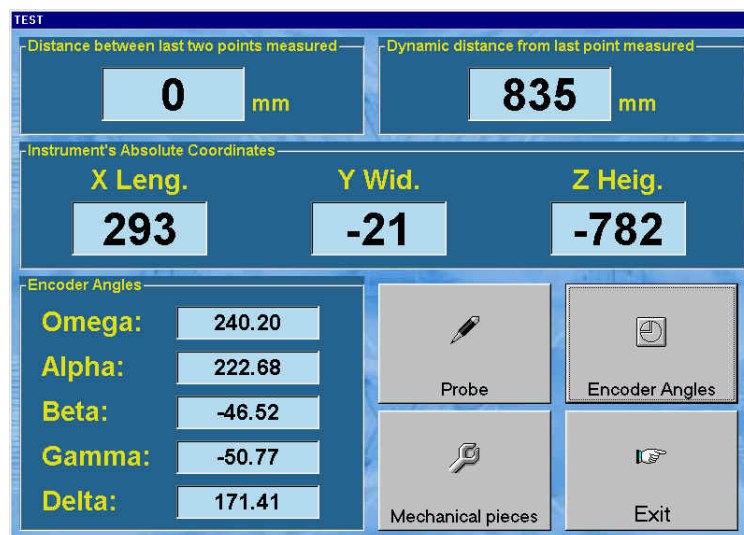


### 6.3.4 ENCODER ANGLES press



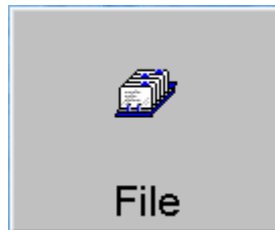
#### 6.3.4.1 The function “encoder angles” visualise:

- The static distance from the latest point measured
- The dynamic distance from the latest measured point
- The absolute coordinates of the instrument
- The value of the Encoder’s angles



## 7 – FILE SCREEN FUNCTIONS

7.1 In the first screen, press



The File screen is divided in:

- **ORDER BOX**
- **CUSTOMER BOX**
- **CAR BOX**

### 7.2 ORDER BOX

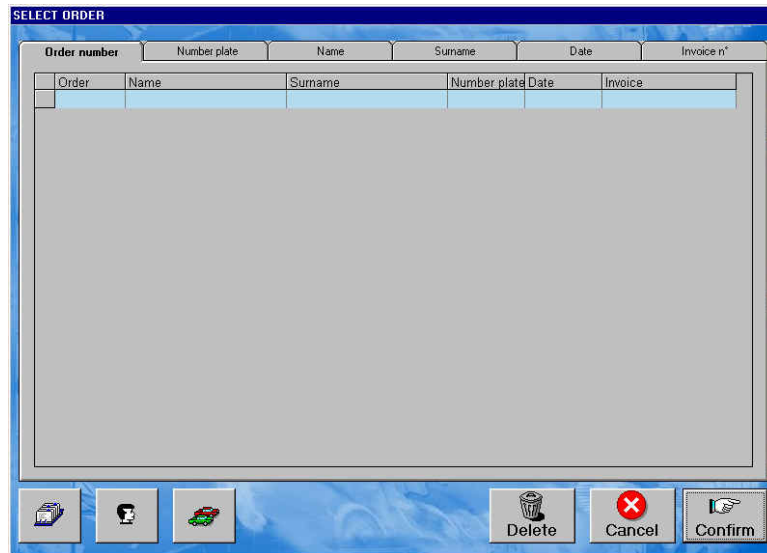
to create a new work order, press

**New Order**

The order's code, the date and reparation's date are fields automatically set and only the order's code can not be changed. Add, if demanded, the further fields in the order's box.

7.2.1 to get back a memorised work's order, press

**Load Order**



7.2.2 Select from the list the desired work's order, press the following buttons to modify the visualisation for order's number, registration number, name, surname, date and Invoice Number.



7.2.3 To visualise all the data of the order regarding the selected work's code, press



7.2.4 To visualise all the customer's data regarding the selected work's code, press



7.2.5 To visualise all the car's data regarding the selected work's code, press



7.2.6 To cancel the selected work's code, press



7.2.7 To quit the selection of the selected work's code, press



7.2.8 To exit, press

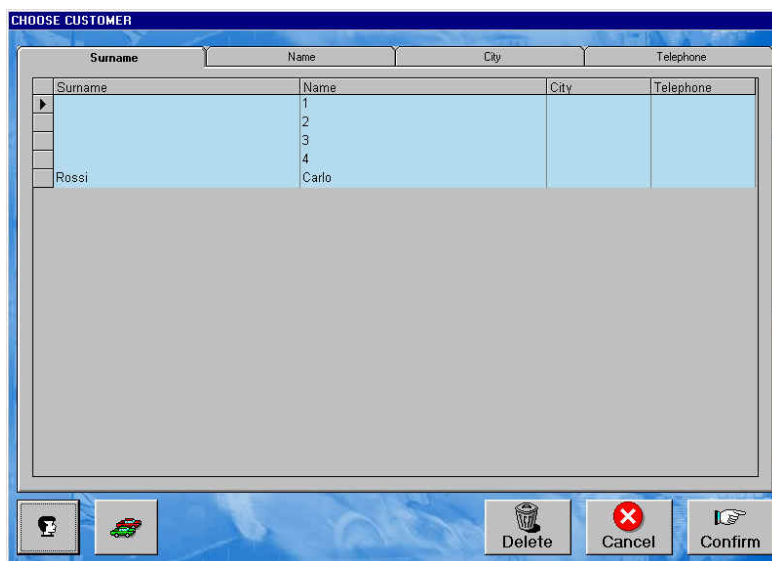


### 7.3 CUSTOMER'S BOX

To create a new customer's data sheet, insert the "name" and "surname" in the customer's box; if necessary, insert the other data in the customer's box.

7.3.1 To select a memorised customer's data sheet, press

**Load Customer**





7.3.2 Select from the list the memorised customer's data sheet, press the following buttons to modify the visualisation for surname, name, city and telephone.

Surname	Name	City	Telephone
---------	------	------	-----------

7.3.3 To visualise all the customer's data regarding the selected customer's data sheet, press



7.3.4 To visualise all the car's data regarding the selected work's code, press



7.3.5 To cancel the selected customer's data sheet, press



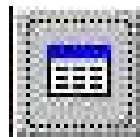
7.3.6 To quit the selected customer's data sheet, press



7.3.7 To exit, press



7.3.8 To visualise the memorised customer data sheet's list, without creating a work's order in the file screen, press



7.3.9 The button "SilverDat" allows opening the DAT program, if installed in the computer, by loading automatically the data of the visualised customer.

## 7.4 CAR'S BOX

To select a car's model from the available list, press:

**New Car**



### 7.4.1 Select the car's mark from the list

If provided, you will see the mark's logo

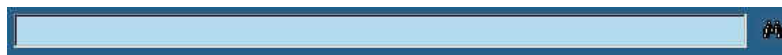
To make the research faster, please insert the initials of the box' mark



### 7.4.2 Select the car's model from the list

If provided, you will see the car's photo; to enlarge the photo click with the mouse on the picture.

To visualise the search, insert the model's initials in the box



### 7.4.3 To quit the model's selection, press



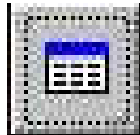
### 7.4.4 To visualise the models created by the operator, press

**Only New Model**

7.4.5 To exit, press



7.4.6 To visualise the list of the available models, without creating a work's order in the file screen, press



7.5 After having created a file data sheet, complete with the order's data, customer's data and car's data, or after having selected a memorised file data sheet, indicate if the measurement to make is before or after the reparation

**Before repair**

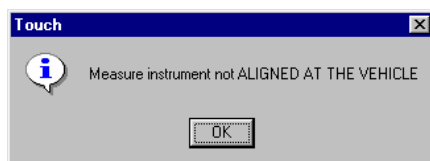
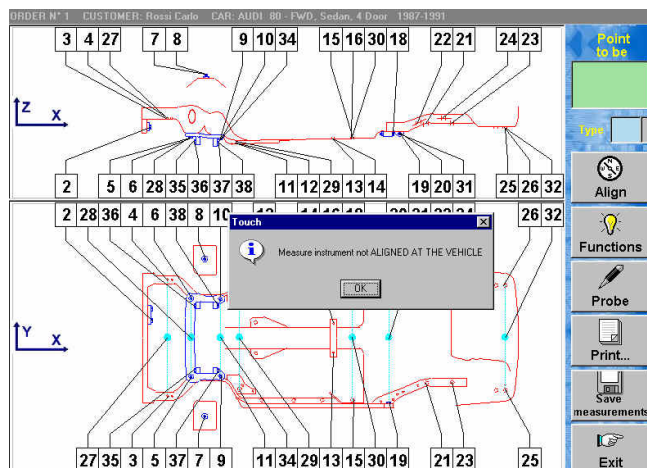
**After repair**

7.6 To confirm the selection of the measurement's type



## 8 – MEASURE SCREEN'S FUNCTIONS

8.1 The message you see indicate that the measure system is not aligned to the car; it is necessary to carry out the alignment procedure in order continue.



Press the button "OK"

8.2 ALIGNMENT press



8.2.1 In the first measurement phase 3 alignment's types are available:



8.2.2 FRONT GUIDED ALIGNMENT is a guided procedure, by the means of the measurement of 4 reference points on the vehicle, to determine the position of the car in the space, predisposing the measurement for the front part.

After having pressed the button, you will be asked for:

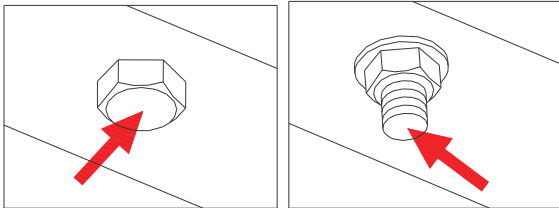
- selecting the type and position of the probe you are using
- in the box at the upper right side you will see the number of the point you have to measure and the type of used function



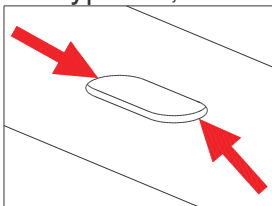
In the example the first point you have to measure is number 7 in the function 1P

8.2.2.1 Function types used for the measurement:

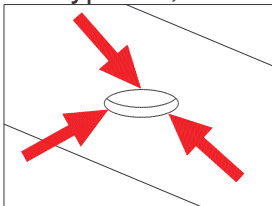
- Type 1P, for the measurement in the centre of bolts and rivets



- Type 2P, for the measurement of 2 points in the slot's axle



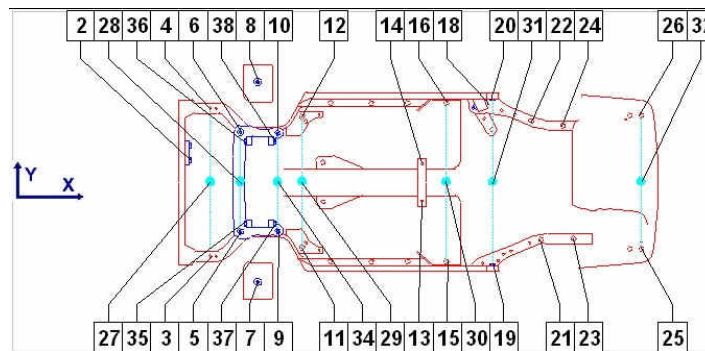
- Type 3P, for the measurement of 3 points in the holes' circumference



8.2.3 **BACK GUIDED ALIGNMENT** is a guided procedure, by the means of the measurement of 4 reference points on the vehicle, to determine the position of the car in the space, predisposing the measure for the back part. The procedure of surveying is the same of the front guided, you will only have to reverse the surveying order of the 4 points.

8.2.4 **FREE ALIGNMENT** is used when it is not possible to use the guided alignment, this allows the operator to carry out an alignment by the means of the surveying of 3 or 4 points.

Example: Audi 80 1987-1991



The points used in the front guided alignment are: 9-10-15-16

The points used in the back guided alignment are: 15-16-9-10

In the free alignment is the operator that selects the points to measure and the surveying order

#### 8.2.4.1 FREE ALIGNMENT 4 POINTS

It is advisable of using the free – 4 points for a better precision.

Rules of free-4 points:

- The first two points have to be symmetrical and the front side of the vehicle, if you desire predispose the measurement for the front side, example 11-12 in the model of Audi 80 or measuring the points 19-20 to predispose the alignment on the back side .
- The latest two points have to be symmetrical and use the same principle of the first two.
- The distance in the axle  $X$ =length between the point 1 and the point 3 have to be the same or higher than the distance in  $X$  between the point 1 and the front shock absorber and the distance between the point 3 and the back shock absorber.

#### 8.2.4.2 FREE ALIGNMENT 3 POINTS

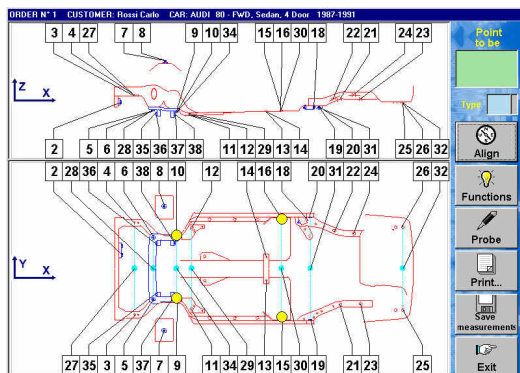
You use this procedure only when is not possible to do any other alignment.

Rules free-3 points:

- if you want to do a measurement in the front part the first point has to be on the front side, example point 11
- the second point has to be in the back part and on the opposite side respect to the first example, the 18
- the third point has to be the symmetrical to the first point, point 12
- an other solution could be 12-19-11
- the distance in  $X$  between the first point and the second point measured has to be the same or higher respect to the distance in  $X$  between the first measured point and the front shock absorber and to the distance in  $X$  between the second measured and the back shock absorber
- the second measured point has to be in the opposite side respect to the first one, example 11-18

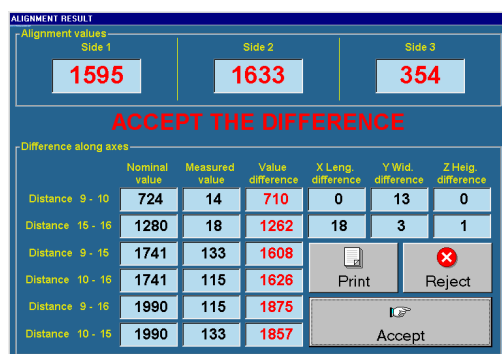
**8.2.5 TOLERANCE ALIGNMENT RESULT**

If the measured points for the alignment are in tolerance you will see on the screen 3 or 4 yellow spots near the measured points

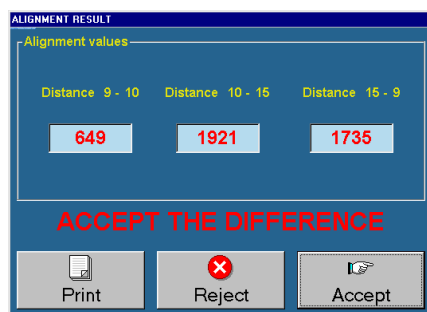


**8.2.6 ALIGNMENT RESULT NOT IN TOLERANCE**

8.2.6.1 In the guided alignment and in the free at 4 points, even when only a point results not in tolerance, the following screen will appear



8.2.6.2 In the free alignment at 3 points, even when only a point results not in tolerance, the following screen will appear



**PRUDENCE:** If the difference visualised in red in the screen doesn't overcome 5-6mm, press the button "accept"

### 8.2.7 ALIGNMENT RESULT

To visualise the result of the alignment press



8.2.7.1 The function “resulted alignment” again visualises the screen of the calculation of the alignment

### 8.3 PROCEDURE OF MOVE

To move the tool in comparison to the car, without losing the alignment or to perform the procedure of control of the shock absorber’s top, it is necessary to perform a move, press



8.3.1 It will be in demand to measure 3 points, code 101-102-103, memorizing them as theoretical points of reference in the space and subsequently to the move performing an alignment around 3 memorized theoretical points, it will be had so a connection of the two phases of measurement.



8.3.2 Rules for the acquisition of the points of move:

- the distance between the point 101 and 102 have to be the greatest in the triangle
- the point 102 have to be in the opposite side of the point 101
- the point 103 have to be the more symmetrical possible to the point 101



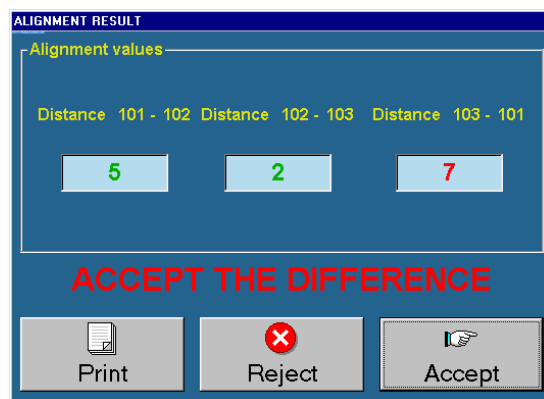
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8.3.3 After having placed the instrument, for acquire the points of move, press



8.3.4 It will be in demand to acquire the points of move memorized in the order 101-102-103

8.3.5 If the alignment is not in tolerance the following screen will appear



#### 8.4 SELF RECOGNITION OF THE POINT

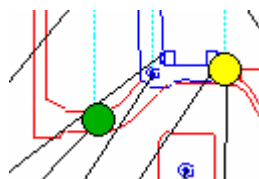
After having performed the alignment moving automatically the instrument next to the car, the software recognizes what the points of the card are, allowing so to realize the whole measurement of the vehicle in few minutes.

The self recognition of the point is indicated on video with the number in the box "point to measure"



#### 8.5 POINT IN TOLERANCE

Measuring the point if it results in tolerance a little ball of green color will be visualised

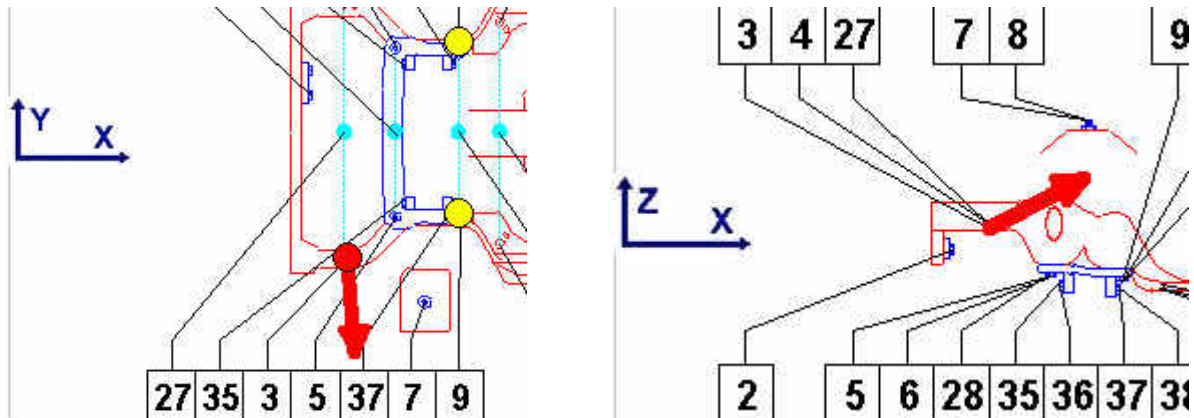


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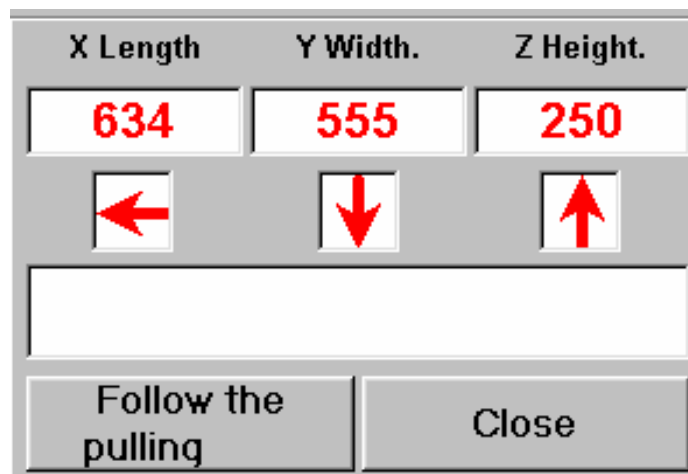
**TOUCH**

**8.6 POINT NOT IN TOLERANCE**

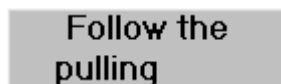
If the measured point doesn't result in tolerance, a little ball of red color will be visualised in the superior sight and in the side one, with some arrows that point out in which direction it is necessary to pull for bringing the point in tolerance:



8.6.1 Contemporarily to Video a screen appears that represents the difference in millimetres in the three dimensions and the direction of pulling



8.6.2 The button "following the pulling" activates the function to be able to visualise to video in dynamic way the move of the point, in operation of the pulling



*The function "following the pulling" is usable if it is in endowment the magnetic support*

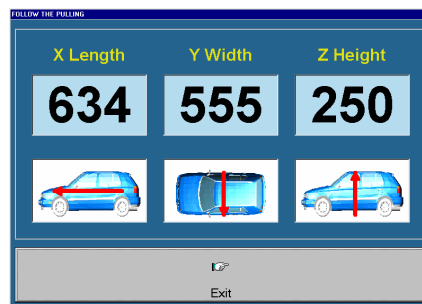
8.6.2.1 Insert the magnetic support on the probe in use and position the magnet next to the previously measured point.

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8.6.2.2 If it changes probe or position in use for the anchorage of the magnet to the car, it is necessary to point it out in the screen “probe”

8.6.2.3 After having anchored the arm of measure to the car, press

Follow the  
pulling



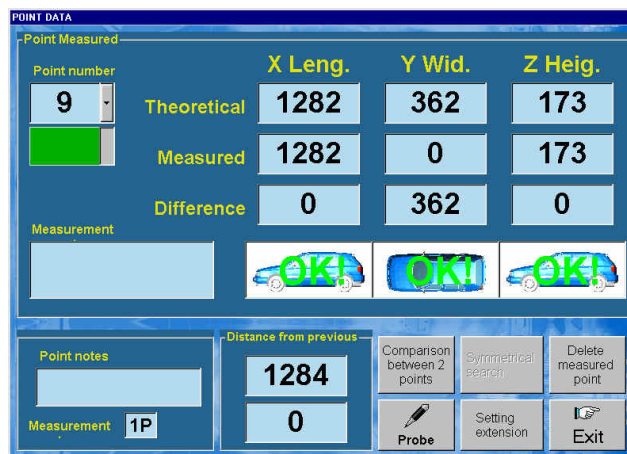
8.6.2.4 It will be visualised to video in dynamic way the variation in the three dimensions in comparison to the theoretical values



*After having brought the values in tolerance, measure again the point to certify the reparation*

### 8.7 VISUALIZATION COORDINATES POINT

To visualise the coordinates of the point, press with the left key of the mouse on the yellow, green or red little ball



- 8.7.1 The screen coordinates point visualises:
- the theoretical coordinates in the three dimensions
  - the coordinates of the measured point
  - and the difference between the two values

8.7.2 To cancel from the performed measurement the visualised point, press



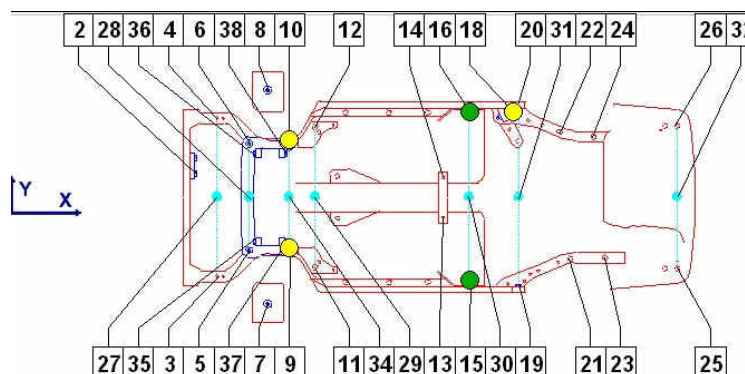
8.7.3 The box “notes measure” allows to insert and to memorize a descriptive text of the measured point

8.7.4 The box “notes point” visualises a descriptive text of the theoretical point of the data

8.7.5 The box “type measures” visualises the code of measurement of the point

## 8.8 DIAGONALS AMONG POINTS DATA

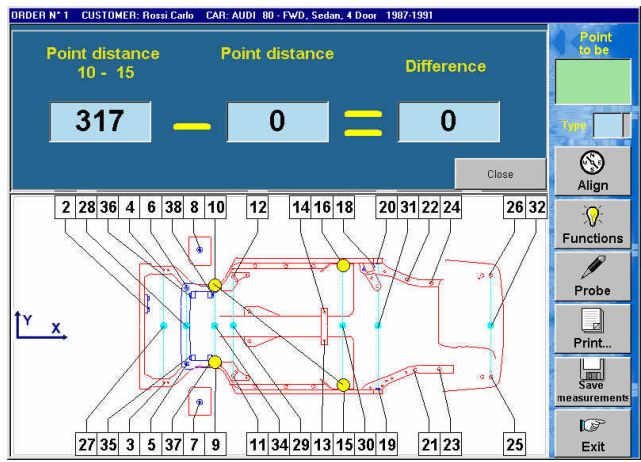
Among all the little balls of the data visualised, it can be calculated the couples distances and it can be compared the difference among the calculated distances



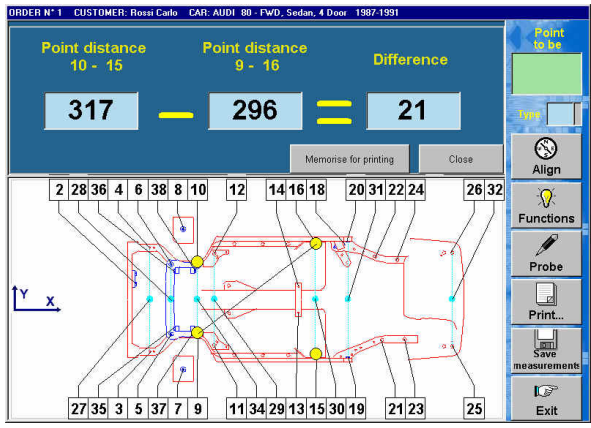
- 8.8.1. Example: press with the mouse the little ball of the point 10 (hold pressed the button) to drag the line that is created above to the little ball of the point 15, and release

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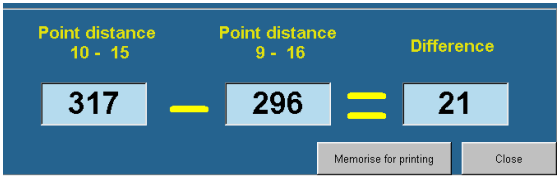
**TOUCH**



8.8.2. Press with the mouse the little ball of the point 9 (hold pressed the button) to drag the line that is created above to the little ball of the point 16, and release



8.8.3. It will be visualised the distance among the distance 10-15, the distance 9-16 and the difference between the two distances

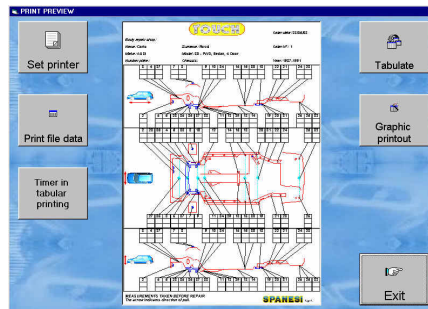


8.8.4. Press the button “memorize for the press” to insert the comparison in the “tabulate” press

8.8.5. press “close” to exit

## 9 - PRINT

9.1 In the screen measure, press



9.2 To print the measurement performed in graphic format, press



9.3 To print the measurement performed in tabular format, press



9.4 To print only the data related to the screen archive, in tabular format, press:



9.5 To insert in the tabular press the value of the timer, press

**TOUCH 1.1 SOFTWARE MANUAL**

**TOUCH**

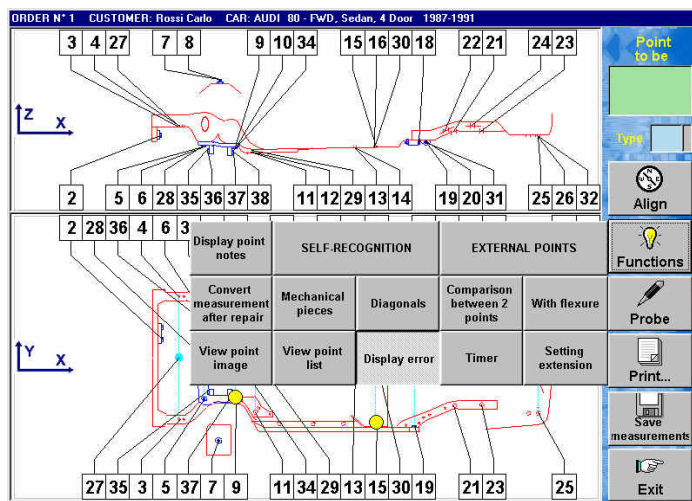
Timer in tabular printing

9.6 To be able to modify the formulations of the printer, press

Set printer

9.7 Press the button "exit" in order to come back to the screen measures

**10 - BUTTON FUNCTIONS**



**10.1 SETTING EXTENTION**

Every time that it is desired to use an extension, it needs to perform the function setting extension for being able to calibrate the new configuration of the instrument

Setting extension

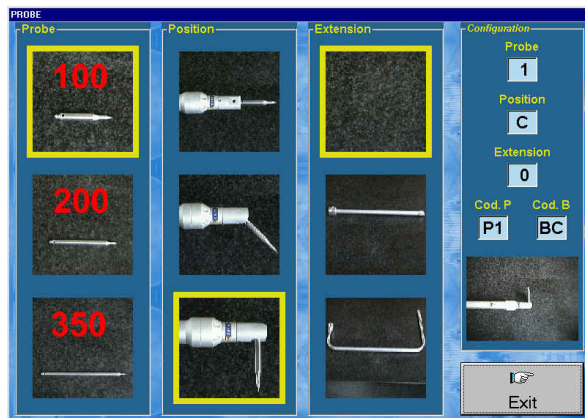


The procedure of calibration foresees to measure a physical point first with the tool without extension and subsequently with the installed extension

**TOUCH 1.1 SOFTWARE MANUAL**

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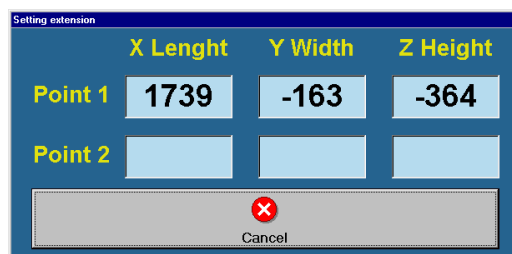
10.1.1 Select type and position of the probe to use for the survey of the point of calibration:



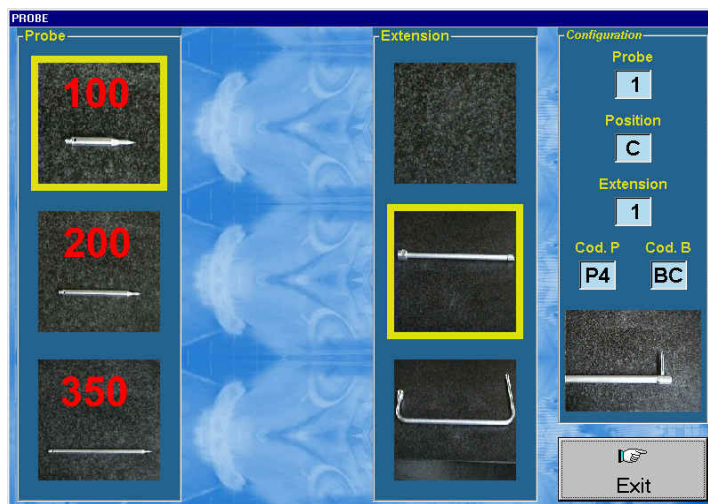
Measure the point of calibration in such way to also reach it with the type of extension that will be installed

10.1.2 Press the button “exit”

10.1.3 Measure the point of calibration, underlined in the screen as “point 1”





10.1.4 Select the type of extension to install in the tool



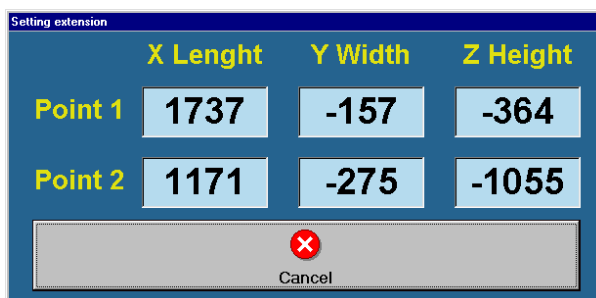


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 Select the type of probe to install in the extension

 Select the type of extension that is desired to install

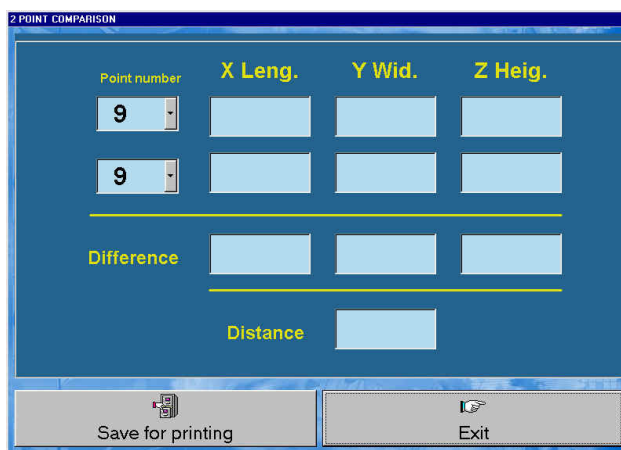
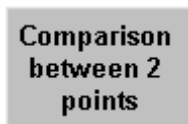
10.1.5 Press the button “exit”



10.1.6 Measure the same point of calibration with the new configuration, then it will be possible to use the installed extension to acquire the points of the data

10.2 COMPARISON BETWEEN TWO POINTS

In order to make the comparison between two measured points, press



10.2.1 Select in the box “number point” the two points to compare, the coordinates of the two points will be visualised, the differences in the 3 coordinates X=length, Y=width, Z=height and the spatial distance between the two points

10.2.2 Press the button “memorizes for press” to insert the comparison in the press “tabulate”

### 10.3 SELF RECOGNITION:

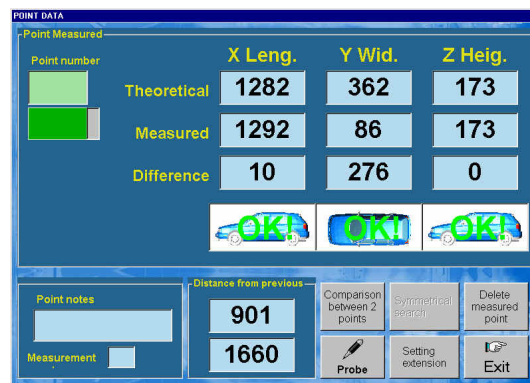
The function Self Recognition allows to measure all the points of the data with the screen point open

10.3.1 To activate the function press:



10.3.2 After having performed the alignment and activated the function, moving the instrument automatically next to the car, the software will recognize the theoretical points to measure and it will visualise in the screen point the theoretical coordinates

10.3.3 Pressing the button from the arm the measured coordinates and the differences in comparison to the theoretical values will be visualised



### 10.4 WITH FLEXION/WITHOUT FLEXION

The function considers the variation of height of the points of the data, in operation of the weight of the motor and the load of the suspensions:

Trained "with flexion"

- the suspensions are unloaded and there is the motor

Trained "without flexion"

- the suspensions are unloaded and there isn't the motor
- the suspensions are loaded and there is the motor
- the suspensions are loaded and there isn't the motor

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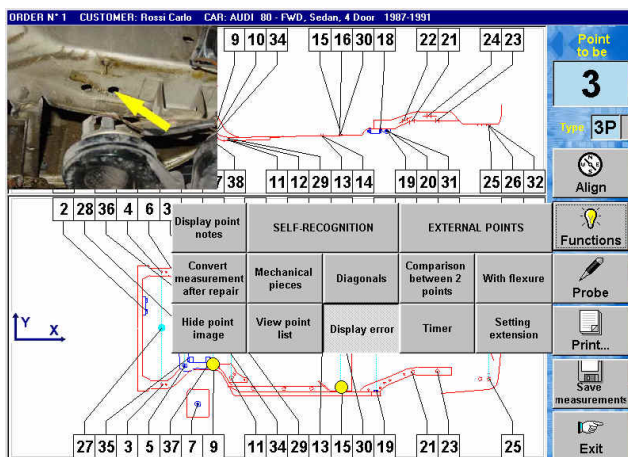
**TOUCH**

**10.5 CONVERT IN AFTER THE REPARATION**

After having performed completely the diagnosis in the phase “before the reparation” the function “convert” allows to copy all the values in the data “after the reparation”, so without doing again the alignment and without having to measure again all the points

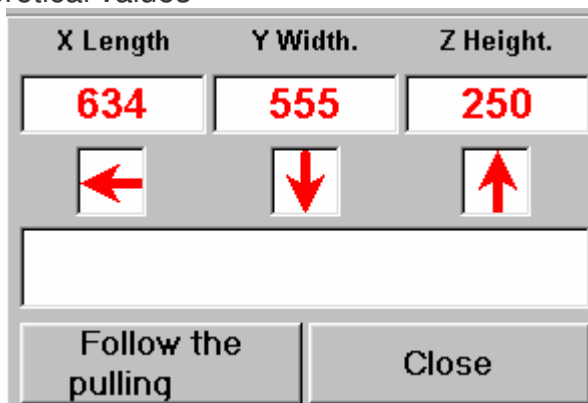
**10.6 HIDE IMAGE POINT/VISUALISE IMAGE POINT**

The function allows to visualise or to hide the photo of the point to measure in the screen measures



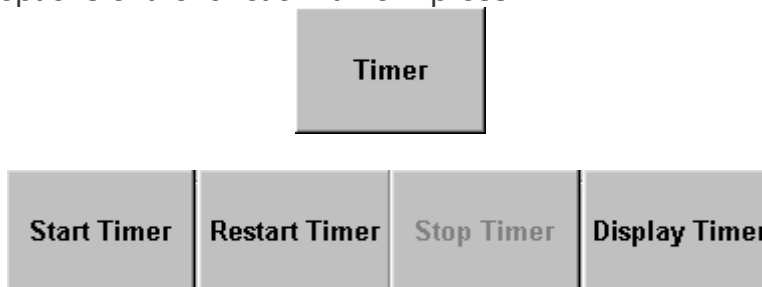
**10.7 VISUALISE ERROR**

The function trains and disables the visualization of the box of the differences in comparison to the theoretical values



**10.8 TIMER**

To visualise the options of the function “timer” press



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10.8.1 To train the function timer press “start timer”

10.8.2 To stop the calculation press “stop timer”

10.8.3 To take back the calculation press “restart timer”

10.8.4 To hide the visualization "you hide timer"

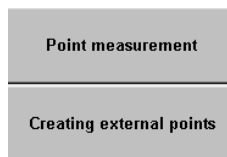
10.8.5 Visualise again the counter of the timer, press



10.9 EXTERNAL POINTS, press



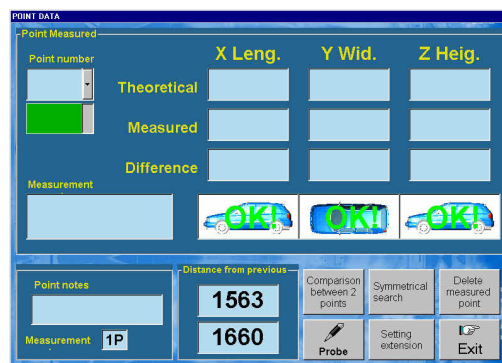
The choice appears among “measure points and creation new points”



10.9.1 MEASURE POINTS, to press



The button “measure points” it allows the operator to measure some points not presented in the data, from the number 51 to 99, for a symmetrical control and to memorize them to the data archive in use



10.9.1.1 Point out in the box “number point” the point to be measured, example point 51

10.9.1.2 Point out the type of measure (1P-2P-3P)

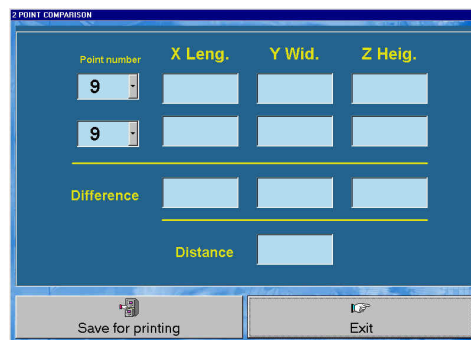
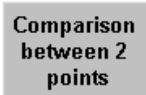


10.9.1.3 The box “notes measure” allows to insert a descriptive text to the measured external point

10.9.1.4 Point out in the box the second point by to measure, example 52  
Point out the type of measure

Measure the point on the car and insert if necessary a descriptive text

10.9.1.5 To make the comparison between the two external points 51-52 measured, press



10.9.1.5.1 Select in the box “number point” 51 and 52, the coordinates of the two points will be visualised, the differences in the 3 coordinates X= length, Y= width, Z= height

and the spatial distance between the two points. Press the button “Memorizes for press” to insert the comparison in the press “tabulate”

10.9.1.6 LOOK FOR SYMMETRICAL

The function “Look for symmetrical” search in the damaged side of the car, the symmetrical one of a measured point in the healthy side of the car.

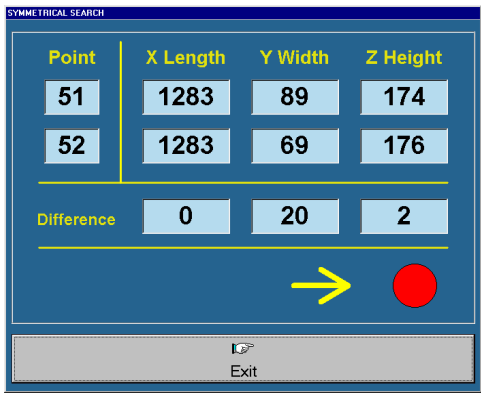
10.9.1.6.1 Measure the first point, example N°51 as theoretical value

10.9.1.6.2. Point out the number of the second point to measure, example N°52 in the box “number point”

10.9.1.6.3 Press the button:

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Symmetrical search



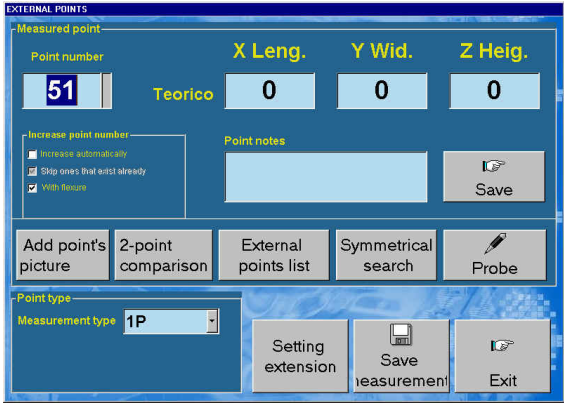
10.9.1.6.4 Move the tool up to the attainment of the symmetrical point, while the software visualises the differences in the three dimensions.

10.9.1.6.5 Press the button in correspondence of the point to measure

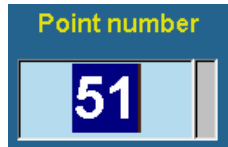
10.9.2 CREATION NEW POINTS press

**Creating external points**

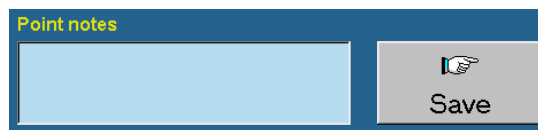
10.9.2.1 Pressing the button “creation new points”, the operator has the possibility to measure some points not presented in the data, from the number 51 to 99, for a symmetrical control, memorizing them in the data of the selected car, allowing so the integration of further points in the bank dates existing



10.9.2.2 Point out in the box “number point” the code of the point to be measured



10.9.2.3 Insert a descriptive text in the box “notes point”

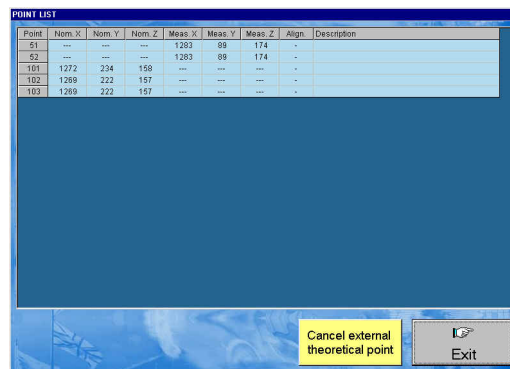


*Press the button “memorize” for the filing of the text*

10.9.2.4 Measure the point n°51, pressing the button from the arm for the memorization

10.9.2.5 In order to visualise all the external created points in the data in use, press

External  
points list



Point	Norm. X	Norm. Y	Norm. Z	Meas. X	Meas. Y	Meas. Z	Align	Description
51	---	---	---	1203	09	174	-	
52	---	---	---	1203	09	174	-	
101	1272	234	199	---	---	---	-	
102	1269	222	157	---	---	---	-	
103	1269	222	157	---	---	---	-	

10.9.2.6 To cancel an external point from the list, select the point and press “cancel the external theoretical point”

10.9.2.7 To automatically increase the number of the point to notice, select the option

Increase automatically

10.9.2.8 For not acquire the points already memorized, select the option

Skip ones that exist already

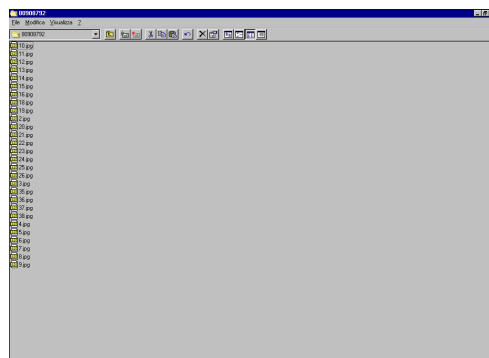
10.9.2.9 When the point is memorized with the bending of the it bodywork or of the chassis, for the weight of the motor or because the suspensions are loaded, select the option



10.9.2.10 To be able to manually insert a photo of the created point, press

Add point's  
picture

10.9.2.10.1 Will be visualised the containing briefcase all the photos of the points, of the model of car used



10.9.2.10.2 To unload the realized photo (in digital format) in the same briefcase, with the extension \*.JPG and with the same numeration of the created point, example:

- created point n°51
- press the button "add photo"
- unload the realized photo in the visualised briefcase
- assign the name to the file 51.jpg

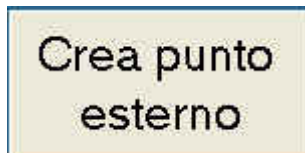
10.9.2.11 The function "Create external point" it allows to create a symmetrical external point to an already measured external point

10.90.2.11.1 Measure the first external point, for example the point number 51 on the left side of the car





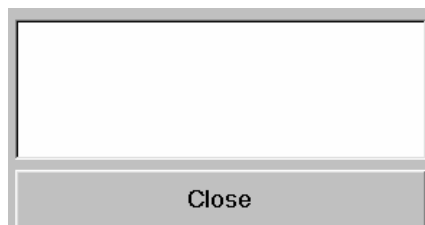
10.9.2.11.2 Press the button



10.9.2.11.3 Automatically the software will create the point 52, symmetrical to the point 51, as described in the example in the right side of the car.

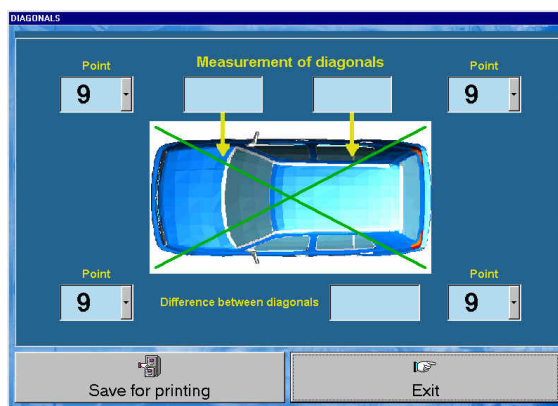
### 10.10 VISUALIZATION NOTES POINT

The function allows to visualise or to hide the box related to the descriptive text assigned to the external created point



### 10.11 DIAGONALS

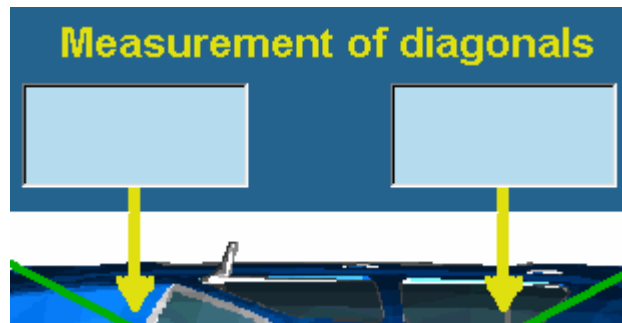
To train the function press



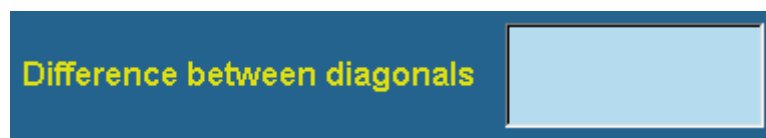
10.11.1 To select among the available ones the first couple of points, example  
 - anterior left  
 - back right

10.11.2 To select among the available ones the second couple of points, example  
 - anterior right  
 - back left

10.11.3 The box "measure of the diagonals" visualises the value of the distances among the couples of selected points



10.11.4 The box "differences among the diagonals" visualises the difference among the two calculated diagonals



10.11.5 To insert the comparison among the diagonals created in the tabular print, press



10.11.6 To return to the screen measures, press



### 10.12 VISUALISE POINTS' LIST

To visualise the list of all the points of the data, theorists and outside (measured and created), press



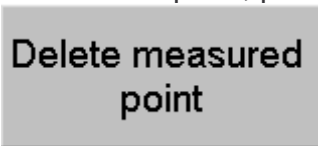
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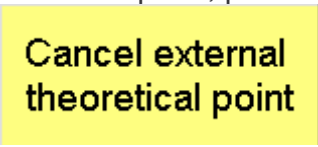
Point	Nom. X	Nom. Y	Nom. Z	Meas. X	Meas. Y	Meas. Z	Align	Description
2	357	113	344	...	...	...	-	
3	571	570	401	...	...	...	-	
4	571	570	401	...	...	...	-	
5	832	366	207	...	...	...	-	
6	832	366	207	...	...	...	-	
7	1068	527	819	...	...	...	-	
8	1068	527	819	...	...	...	-	
9	1282	362	173	1282	89	173	1	
10	1282	362	173	1282	89	173	2	
11	1447	538	160	...	...	...	-	
12	1447	538	160	...	...	...	-	
13	2169	48	138	...	...	...	-	
14	2169	48	138	...	...	...	-	
15	3001	640	179	1536	92	173	3	
16	3001	640	179	1536	92	175	4	
18	3195	528	206	...	...	...	-	
19	3200	554	231	...	...	...	-	
20	3200	554	231	...	...	...	-	
21	3427	451	314	...	...	...	-	
22	3417	434	329	...	...	...	-	
23	3702	399	359	...	...	...	-	
24	3578	386	354	...	...	...	-	
25	4207	594	269	...	...	...	-	

Buttons: Delete measured point, Cancel external theoretical point, Exit

10.12.1 To cancel a measured external point, press



10.12.2 To cancel a created external point, press



10.12.3 In order to go out of the screen, press



**11 SAFE MEASURES**

In the screen “measure” to save the section of measurement of the car, press



**12 CLOSING SCREEN PROGRAMS**

Finished the section of measurement to go out of the screen “measure”, press

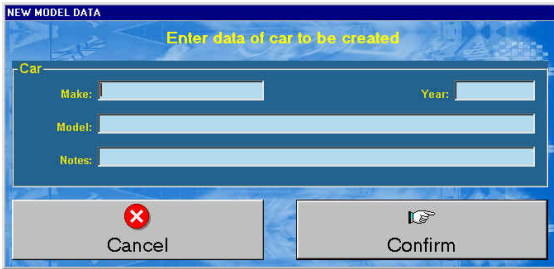


### 13 NEW MODEL

13.1 To activate the function " new model " in the screen "archive" press



13.2 It will be in demand to insert Brand, Year, Model and possible Notes

A screenshot of a software window titled "NEW MODEL DATA". The window has a blue header bar with the text "Enter data of car to be created". Below the header, there is a section labeled "-Car" containing four input fields: "Make:", "Year:", "Model:", and "Notes:". At the bottom of the window, there are two buttons: "Cancel" with a red 'X' icon and "Confirm" with a hand icon pointing to the right.

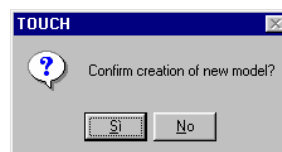
13.3 To annul the insertion of the data, press



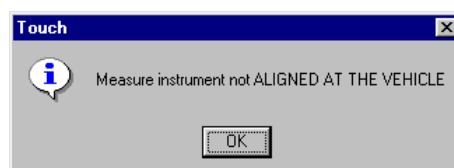
13.4 In order to confirm the insertion of the data, press



13.5 Press "yes" to create the car with the inserted data



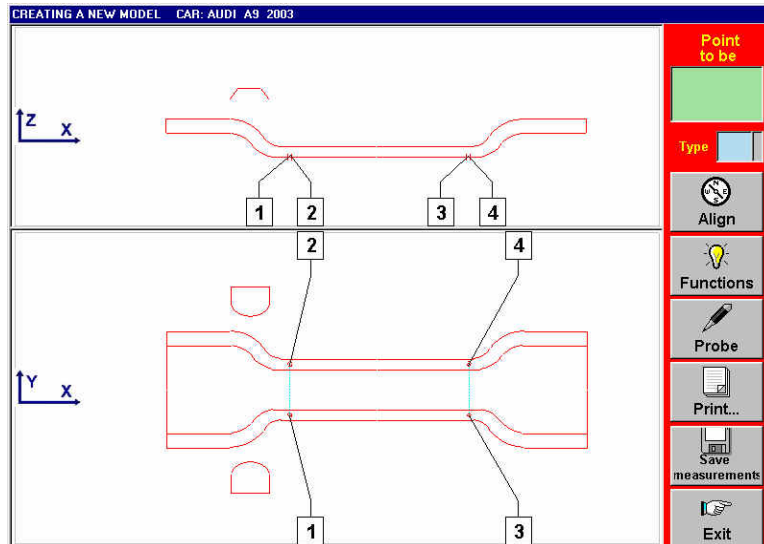
13.6 The message that appears points out that the tool of measure is not lined up to the car, it is therefore necessary to perform the procedure of alignment to be able to proceed



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13.7 The screen that appears visualises a hypothetical car with only 4 theoretical points to perform the alignment



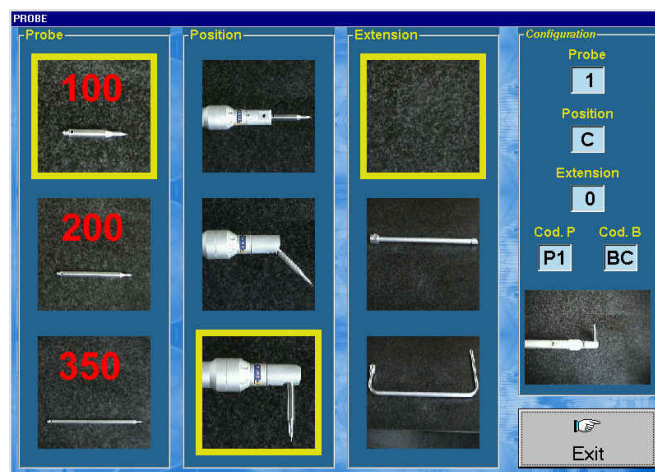
13.8 In order to perform the alignment, press



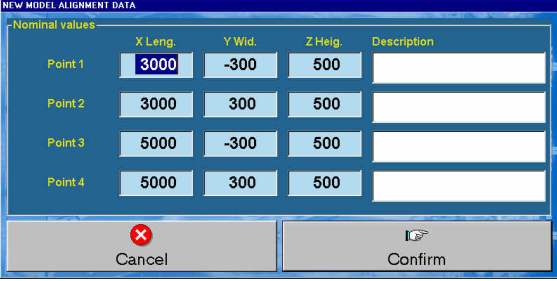
13.9 Select the option



13.10 Point out type and position of the probe in use

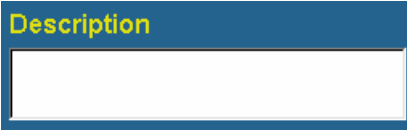


13.11 Will be screened the theoretical coordinates of the 4 points of alignment



NEW MODEL ALIGNMENT DATA				
Nominal values				
	X Leng.	Y Wid.	Z Heig.	Description
Point 1	3000	-300	500	
Point 2	3000	300	500	
Point 3	5000	-300	500	
Point 4	5000	300	500	


13.12 If necessary, insert a descriptive text of the points of alignment in the box



13.13 If it doesn't have the theoretical values of the 4 points of alignment, confirm the screened coordinates, pressing



13.14 If it has the theoretical values of alignment, insert the coordinates of the points for the three dimensions,



Nominal values			
	X Leng.	Y Wid.	Z Heig.
Point 1	3000	-300	500
Point 2	3000	300	500
Point 3	5000	-300	500
Point 4	5000	300	500

13.15 Rules for the alignment "new model"

- select 2 symmetrical points, not damaged, in the anterior part of the car
- measure the point number 1 in the left anterior part
- measure the point number 2 in the right anterior part
- select 2 symmetrical points, not damaged, in the back part of the car
- measure the point number 3 in the left back part
- measure the point number 4 in the right back part



*If the theoretical coordinates are inserted manually, maintain the negative sign in the width=Y for the points on the left side of the car*

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13.16 In order to annul the insertion of the theoretical data, press



13.17 After having pressed the button “confirmation”, the computer software predisposes the measurement of the first point of alignment



13.18 If it is desired to modify the “type of measure” point out in the box the option 2P or 3P, with the purpose to store to the number of the point the type of measure

13.19 Measure in sequence the second, the third one and the fourth point of alignment, modifying if necessary the type of measures for every point

13.20 after having measured the fourth point, the screen of the difference of alignment will appear

ALIGNMENT RESULT						
-Alignment values-						
	Side 1	Side 2	Side 3			
	1746	209	1752			
<b>ACCEPT THE DIFFERENCE</b>						
-Difference along axes						
	Nominal value	Measured value	Value difference	X Leng. difference	Y Wid. difference	Z Heig. difference
Distance 1 - 2	600	178	422	2	177	1
Distance 3 - 4	600	180	420	0	181	0
Distance 1 - 3	2000	255	1745	Print	Reject	Accept
Distance 2 - 4	2000	253	1747			
Distance 1 - 4	2088	312	1776			
Distance 2 - 3	2088	310	1778			

13.21 Verify that the value of difference X= length and of difference Z= height, for the points 1-2 and 3-4 don't overcome the value of 5-6mm.

	Nominal value	Measured value	Value difference	X Leng. difference	Y Wid. difference	Z Heig. difference
<b>Distance 1 - 2</b>	600	178	422	2	177	1
<b>Distance 3 - 4</b>	600	180	420	0	181	0

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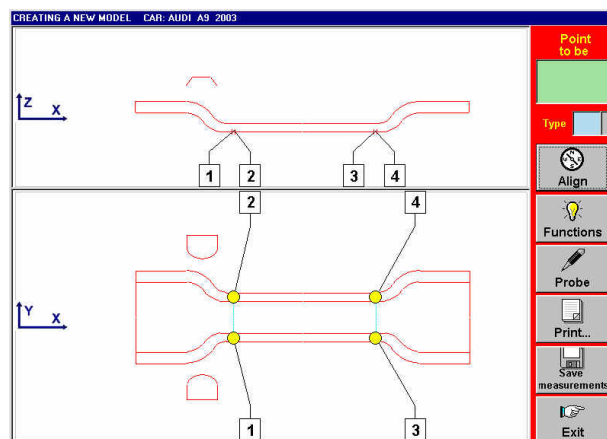
13.22 If the differences in X and Z are in tolerance, accept anyway the performed alignment, pressing



13.23 If the differences in X and Z are not in tolerance, press the button “annul” and perform the alignment again

13.24 In order to print the screen of alignment, press the button “print”

13.25 After having pressed the button “accept” it will appear to video the theoretical drawing of the car, with the 4 points of alignment noticed



13.26 The tool of measure now results lined up to the car in examination



In order to store some points in the new created data, consult the manual to the point 10.9.2

13.27 Finished to memorize all the points in the new data, press the button



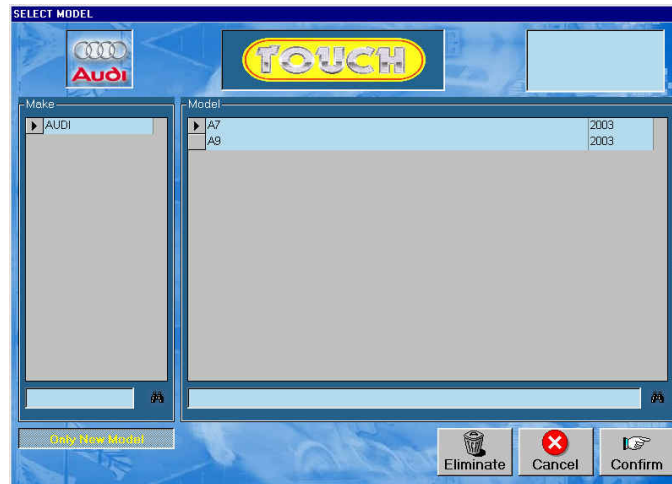
13.28 Press the button to definitely store the data





13.29 In the screen “new car” in order to visualise only the data created by the operator press the button

**Only New Model**



13.17 To be able to eliminate a data created by the operator, press



For further explanations concerning the computer software TOUCH1.1 please contact the technical office TOUCH at SPANESI SpA, to the e-mail address:

[touch@spanesi.it](mailto:touch@spanesi.it)