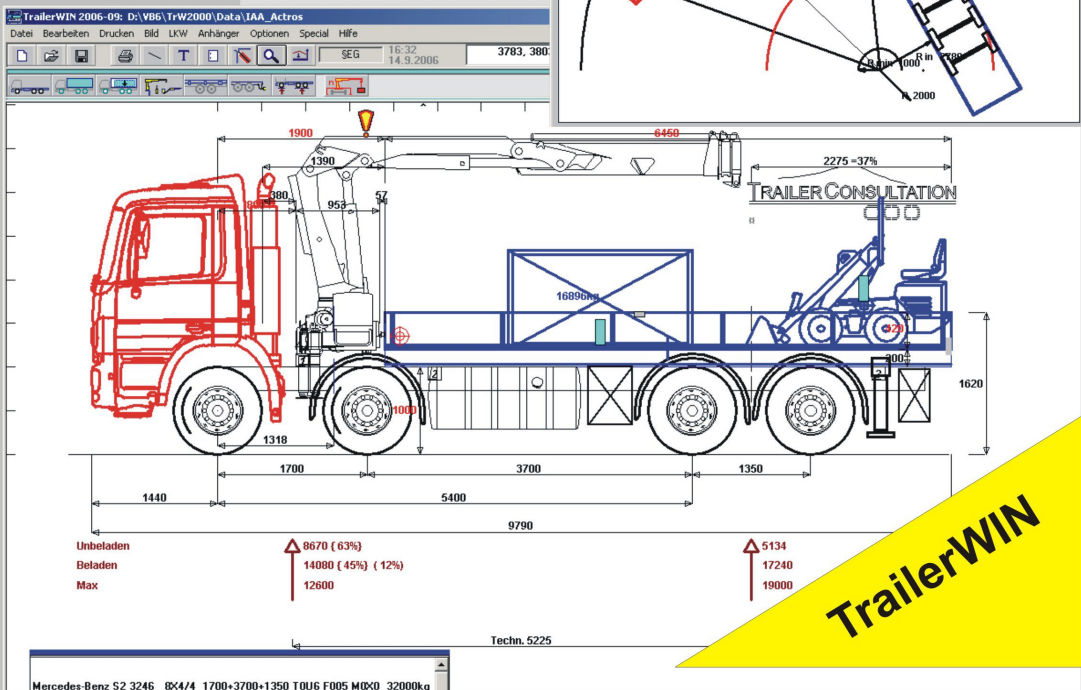
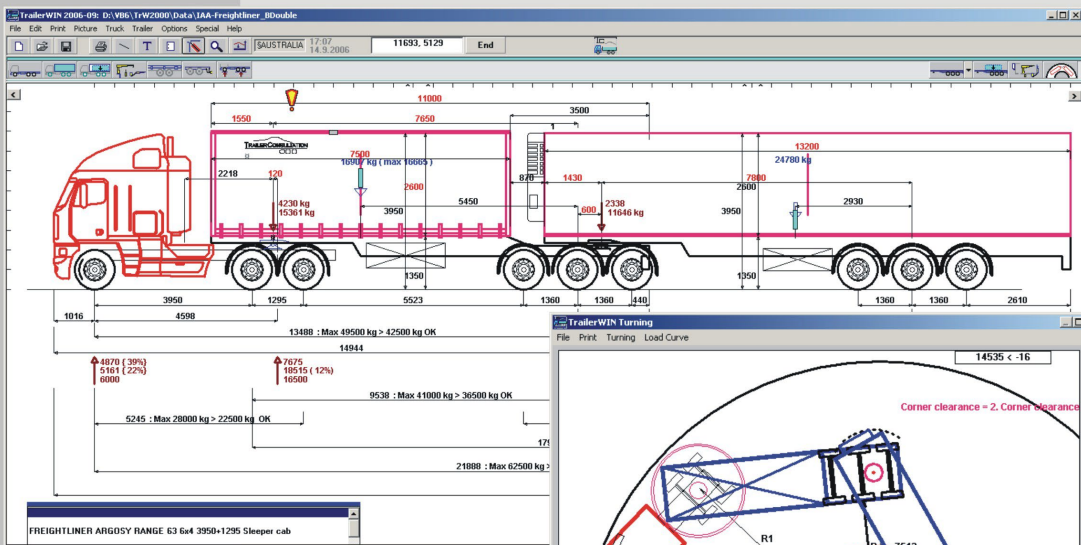
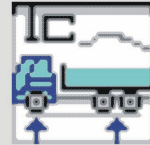




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TrailerWIN.com

Software for Vehicle Calculations





TrailerWIN by Trailer Consultation

Contents :

LICENSE DONGLES (ONE COMPUTER VERSIONS)	7
ROCKEY4ND DONGLES.....	7
SENTINEL DONGLES.....	7
LICENSE & USE OF SOFTWARE.....	7
YEARLY UPDATE.....	7
MULTIPLE UPDATES DURING THE YEAR	7
OUTDATED VERSION & LICENSE EXPIRATION	8
OUTDATED VERSION MESSAGE	8
LICENSE EXPIRATION AND ROCKEY4ND KEY ID.....	8
IMPORTANT NOTICE FOR TRAILERWIN SETUP	8
HARD DISK SPACE NEEDED FOR TRAILERWIN	8
INSTALLING THE NEW UPDATE FROM USB CARD	9
INSTALLING FROM DOWNLOAD LINK.....	11
LATEST "FIX":ES ON OUR HOMEPAGE.....	12
BUTTONS ON TRAILERWIN PROGRAM USER INTERFACE.....	13
TOOLBAR	15
MENU:FILE.....	16
NEW	16
OPEN.....	16
SEARCHING FILE WITH CRITERIA'S.....	17
COMBINATION OF TRUCK WITH TRAILER FROM ANOTHER FILE	17
SAVE FILE AS	18
DXF - FILE	18
DXF - FILE ENTITIES ONLY	18
BMP - FILE.....	18
CLIPBOARD	18
DATA SHEET: SAVE AS.....	19
END	19
EDIT - > UNDO FUNCTION IN TRAILERWIN.....	19
MENU PRINT.....	19
PRINT (PICTURE AND TEXT AND DOCUMENTS)	19
CHOOSE PRINTER WITHOUT CHANGING DEFAULT PRINTER	21
<i>Printout documents</i>	21
<i>Calculation modified date</i>	21
MENU PICTURE.....	22
REDRAW	22
ZOOM.....	22
ZOOM THE ORIGINAL	22
SCREEN RESOLUTION.....	23
MOVE PICTURE → / ←	23
DRAW.....	23
TEXT.....	23
TASK NAME.....	23
MEMO.....	24
LOAD CURVE / CAB TIPPING RADIUS / MEASURES / WEIGHTS	24



DRAWING OBJECTS.....	24
1. Ability to change line width for drawing objects	24
2. Ability to change line color for drawing objects in drawing tool	24
ADDING OWN MEASURES IN TRAILERWIN CALCULATION	25
DRAW DIMENSIONS: HORIZONTAL AND VERTICAL	25
MEMO	27
MENU MEMO FILE	27
Insert Memo-file	27
Save as	27
MENU MEMO EDIT	27
Clear	27
MENU MEMO DOCUMENT	28
Data Sheet	28
CE - Document	28
Adding Disclaimer text into calculation outprints for TrailerWIN & CraneWIN.....	28
Data Sheet + Body data	29
MENU MEMO BEP-CODES	30
MENU MEMO PRINT	30
LOAD CURVE ON THE PICTURE	30
MEASURES, WEIGHTS.....	31
MENU TRUCK.....	32
CHASSIS	32
UPDATE MERCEDES DATA FROM BODYBUILDER PORTAL JSON-FILE INTO TRW.....	33
Importing the .json file data into TrailerWIN.....	35
SCANIA DATA 2013-2017	36
SCANIA DATA 2018->	37
CHANGE AND MOVE CABIN ON TRUCK AND ADD SPOILERS	38
XXX-CHASSIS AND CABS	38
BODY AND FIFTH WHEEL	39
R55 D-VALUE AND V-VALUE CALCULATIONS FOR TRAILER COUPLINGS	40
BEAVER TAIL BODY TYPE	41
Side post places in timber truck body	42
CHOOSING SIDE DOORS FOR THE BODY IN TRUCK BODY OR IN TRAILER BODY	43
SUBFRAME.....	43
LOAD.....	44
MULTIPLE LOADS.....	45
MAXIMUM CHASSIS WEIGHTS IN THE PICTURE	47
GIVING COG FOR TRUCK, BODY AND EQUIPMENT	49
EXPORTING DATA FOR COG CALCULATION.....	49
GIVING COG FOR LOAD AND PARTLOADS	50
LIST OF EQUIPMENT ON DRAWING.....	51
EQUIPMENT.....	51
CHOOSING A CRANE.....	53
MODIFYING EQUIPMENT.....	56
COOLING UNITS	56
CAPACITY DETAILS ON REFRIGERATORS	57
MsA-calculation	57
MIXED EQUIPMENT: EXHAUST PIPES, TANKS, AIR TANKS, STABILIZERS	58
Mirroring mixed equipment.....	59
DEMOUNTABLES, HOOKLIFTS	59



HOOKLIFT STABILITY.....	59
TIPPING CYLINDERS.....	60
MIXED EQUIPMENT.....	61
WEIGHT TABLE	62
CHASSIS FRAME OVERHANG	63
FIFTH WHEEL COUPLING / TRAILER COUPLING	63
<i>Give position of towing coupling in Y-direction</i>	63
<i>Rear Overhang Max Min Warning Limits</i>	64
LOADCURVE.....	65
DELOADING CURVE	66
REAR LOADING-CURVE/WEIGHT TABLE (WASTE COMPACTOR VEHICLES)	67
TRUCK TURNING.....	68
FEATURES IN TURNING CALCULATION	68
CORNER CLEARANCE CALCULATION WHEN TOWING BAR IS BEHIND THE END OF THE BODY	69
ADDING AXLES AND CHANGING AXLE PROPERTIES	70
FENDER TYPE	74
WHEEL (RIM) TYPE.....	75
REAR BUMPER	75
ZOOM AND MOVE PICTURE IN TRAILERWIN -->.....	76
BUILDING PANEL VANS IN TRAILERWIN	77
MENU TRAILER	79
TRAILER MEASURES AND DIMENSIONS.....	79
BODY / BODYTYPE FOR SEMITRAILER.....	80
TANK SEMITRAILER.....	80
CONTAINER.....	81
CITYTRAILER	81
TRAILER BODYTYPES.....	82
DROP DECK SEMITRAILERS: DROP DECK FLAT BED , DROP DECK CURTAINSIDED.....	83
TRAILER AXLE POSSIBILITIES AND BODYTYPES	84
DOLLY WITH RIGID DRAWBAR	85
TRAILER TYPE AND COMBINATION ETT.....	86
LOAD ON TRAILER.....	86
DEVICES ON TRAILERS	86
<i>Rear mounted crane on trailers</i>	86
TRUCK MOUNTED FORKLIFTS ON TRUCK OR ON TRAILER	86
LIFT AXLE FUNCTION IN TRAILERWIN	88
MEASURES TO BOGGIE COG.....	89
DEVICES FOR THE SECOND TRAILER	90
TRAILER WITHOUT TRUCK.....	90
DEMOUNT TRAILER.	91
TURNING CALCULATION.....	91
COORDINATE WINDOW IN TRAILERWIN TURNING PICTURE	93



CORNER CLEARANCE CALCULATION WHEN TOWING BAR IS BEHIND THE END OF THE BODY.....	94
CORNER CLEARANCE FOR CENTER AXLE TRAILERS	95
MENU OPTIONS.....	96
REGULATIONS.....	96
COORDINATES	97
THE CURRENT CURSOR POSITION	97
COORDINATES-WINDOW AS MEASURING TAPE	97
LANGUAGE	97
COLORS.....	98
USER OPTIONS.....	98
US-DIMENSION SYSTEM	99
USER OPTION FOR REAR OVERHANG.....	99
SHOW THEORETICAL (TECHNICAL) WHEELBASE AND OVERHANG	100
DIMENSIONS TO THEORETICAL (TECHNICAL) WHEELBASE	101
BEP-CODES (ISO 21308-2, 21308-3) AND CoG OF TRUCK ON TRAILERWIN DRAWING.....	102
FILE NAME IN PRINTOUT.....	102
COMPANY LOGO SIZE.....	102
MENU OPTIONS - HARDWARE.....	103
PRINTER AND SCREEN FONTS	103
DIRECTORY SETTINGS IN TRAILERWIN.....	104
<i>Program directory.....</i>	<i>104</i>
<i>Directory for Chassis data.....</i>	<i>104</i>
<i>Directory for saved calculations.....</i>	<i>104</i>
SENDING A TRAILERWIN FILE AS ATTACHED TRW-FILE BY EMAIL TO A COLLEAGUE.....	105
HOW TO TAKE TRAILERWIN PICTURES INTO WORD DOCUMENT OR EXCEL FILE	106
HOW TO GET THE DATA SHEET ONTO EMAIL MESSAGE.....	108
HOW TO MAKE A PDF FILE FROM TRAILERWIN, CRANEWIN, FRAMEWIN.....	110
ADD SEVERAL PDF-FILES TO ONE DOCUMENT	111
HOW TO MAKE PDF-PACKAGES (IN ADOBE ACROBAT PROFESSIONAL V. 8.0 ON).....	112
MENU SPECIAL.....	113
TIPPER.....	113
CRANEWIN.....	113
CORNERWIN	113
FRAMEWIN	113
MENU INFO	113
MEASURES AND WEIGHTS ON THE SCREEN.....	114
MAKE CHANGES DIRECTLY ON THE DRAWING.....	116
DRAG-DROP WITH GRIPS.....	116
"HOTSPOT" DIMENSIONS.....	116
CAB TILTING ARC	117
BODY REAR CORNER MOVEMENT TO THE SIDE.....	ERROR! BOOKMARK NOT DEFINED.
BUTTON FOR CHOOSING DATA FIELD VISIBLE OR HIDDEN / INVISIBLE	117
OWN COMPANY TEXT ON THE END OF EVERY PRINTOUT PAPER.....	118
HOW TO MAKE DISCLAIMER TEXT ON TRAILERWIN PRINTOUT PAPERS	119



USING DXF-PICTURES AS BODY PICTURE.....	120
HOW TO ADD OWN DXF-PICTURES.....	121
<i>DXD file structure:</i>	121
OUR CONTACT DATA	122
IMPORTERS.....	122
GERMANY, AUSTRIA, SWITZERLAND.....	122
SWITZERLAND	122
FRANCE.....	122
BELGIUM, NETHERLANDS, LUXEMBURG.....	123
UK, IRELAND.....	123
NORWAY.....	123
DENMARK	123
SWEDEN.....	123
SPAIN, ANDORRA.....	124
AUSTRALIA AND NEW ZEALAND	124
SLOVAKIA, CZECH REPUBLIC, POLAND.....	124
ISRAEL & PALESTINA.....	124
ROMANIA.....	125
INDIA.....	125
NIGERIA & WEST AFRICA	125
CROATIA, SLOVENIA AND BOSNIA AND HERZEGOVINA	125
ITALY	126



License dongles (one computer versions)

Rockey4ND dongles

We are using Rockey4ND Dongles for one-computer versions. These new dongles doesn't require separate installation disc, the installation will start automatically when dongle is attached first time to the computer. Just attach the dongle and wait until the light stops blinking.



Sentinel dongles

Old type dongles (Sentinel) will still work on TrailerWIN and they don't need to be switched, both versions dongles are supported and can be used on same computer. However these Sentinel keys need a separate driver that can be downloaded from our homepage www.trailerwin.com under the button "Support-Drivers". Use this driver on both updating on old computer and installation on a new PC. Please note that sometimes the installation of a new driver requires you to restart the computer.



License & Use of software

You may use the TRAILER CONSULTATION Computer Software on one or more computers in one office or in one factory area. You may use the TRAILER CONSULTATION Computer Software on a computer network when the network is working only in one office or in one factory area. Usually the printout text shows the licensed owner and user of the software. **All other use, on other companies, addresses, locations strictly forbidden !**

You may not make any changes or modifications to this or any of the TRAILER CONSULTATION Computer Software or databases. You may not decompile, disassemble, or otherwise reverse engineer the TRAILER CONSULTATION Computer Software. You may not rent or sell or lease or copy it to anyone.

Yearly update

The program is continuously updated with new features and new models. Therefore, the program should be updated regularly once per year. The updating policy is cumulative, which means that you will have to pay for skipped years if you have not ordered an update the previous year(s). The license will expire after 5 years and then it is necessary to buy a license reactivation.

Multiple updates during the year

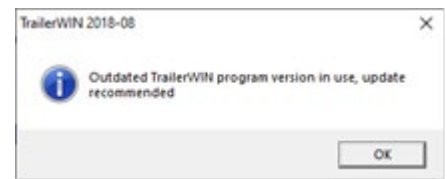
To meet the request for several updates during the year we have now introduced this as a standard method to keep the software up-to-date. For a small extra fee (approx. 20% of the normal update price) you can order additional updates during the year if you need to get new products and trucks into your program. This fee will be charged also when ordering a replacement update on other media (download link instead of USB) or the company name and/or company logo is changed during the calendar year. Contact your dealer for more information.



Outdated version & license expiration

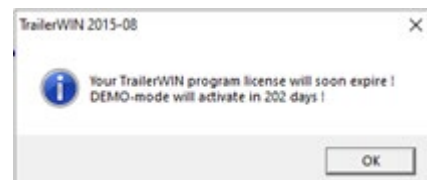
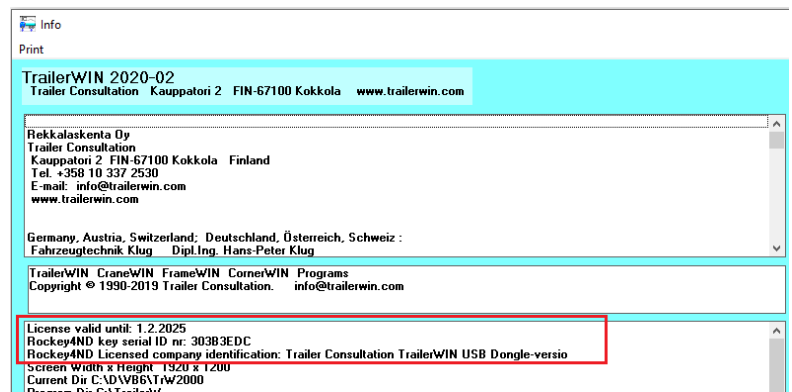
Outdated version message

If you are running an old version of TrailerWIN the program will show you a message at startup reminding about updating to new version. When you see this message, contact your dealer for an update.



License expiration and Rockey4ND key ID

The TrailerWIN license is valid for 5 years, if you haven't updated the program you will get a message of license expiration. You can check the date for expiration in Help-TrailerWIN info. After this date the program will switch to DEMO mode automatically and you need to purchase a license re-activation in order to get it running in full mode again. In this list you can also see the Rockey4ND key ID nr and licensed company ID.



Important Notice for TrailerWIN Setup

If you see an error message during the first part of installation that says "file operation with *.DLL file cannot be made" the problem is likely to be the level of user access (Administrator rights). (Please note the error message can differ depending on your operating environment.)

*In some cases, installation of TrailerWIN to Windows Vista, Win 7, Win 8 & Win 8.1 or Win 10 operating environments **can occur only if you are logged on as Administrator.***

Hard Disk Space needed for TrailerWIN

There are many improvements in this version of TrailerWIN compared to previous versions of the program. New models of trucks and extra equipment have been added to the program.

Consequently, the size of the TrailerWIN data files has grown and they will take up more space on the hard disk of your computer.

It is recommended that you have at least 15 GB of free space on the hard disk before installing the TrailerWIN.

Please note that if your hard disk is almost full it makes your computer slow and unstable.



Installing the new update from USB card

Installation from USB-card doesn't start automatically on later updates of Windows due to a security reason. The installation must be started manually.

1 Insert the USB-card into the USB port.

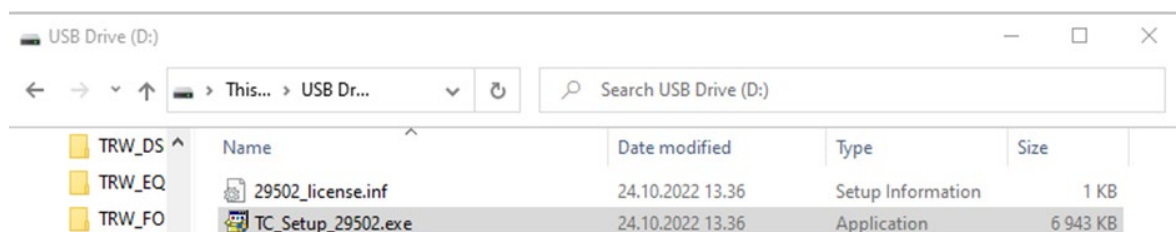
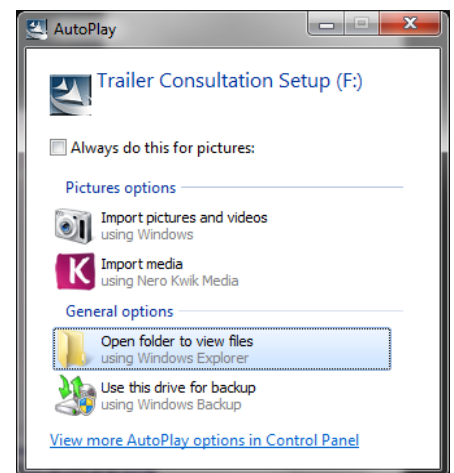
Caution! Be careful not to bend the contactor up or down when plugging into USB. The USB port can be damaged if contactor is bent !



2 Open folder to view files

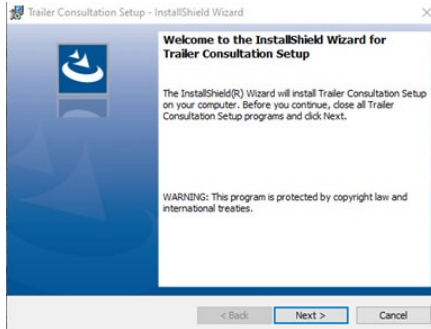
When the following window appears, please select option "Open folder to view files".

3 Starting the installation Now You will see installation instructions in various languages in pdf-files, license.inf-file with information about the license and a TC_Setup_xxx.exe file which is the installation package. Please dbl-click on TC_Setup_xxxx.exe and allow the program to run in the UAC window.

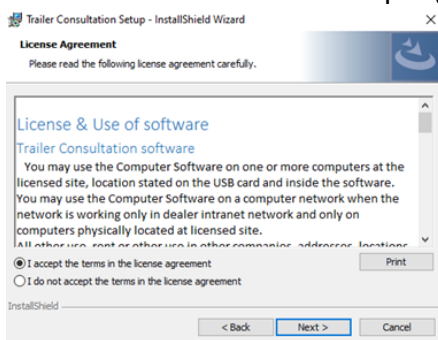




4 You will see the "Initializing Setup"-Window.
Click "Next"



5 Setup starts.
Accept License Agreement and
Follow the instructions in the pdf-guide to progress.



Note that you should choose default installation folder for installation to make next update easier.



Installing from download link

If you have ordered the update thru download link instead of USB-card you will get two e-mails, one containing the password to the download link and also a link to installation instructions for the package.

Send

From info@trailerwin.com

To customer@company.com

Cc

Subject Your Trailer Consultation Downloadable Update TC_Setup_29xxx.exe

Hello,

We have sent you a downloadable update link thru Dropbox: TC_Setup_29xxx.exe
 TrWSetup: 5.9.2022 15.07.52, Update Nr =20911, Customer: **Company name, street address, zip-code city, country**

You will get a separate download link to your e-mail: **End_User@company.com**
 Please download and install the update from the link using password: **12345**
 Note that the update is valid only for a limited time.
 If you have any question contact us by E-mail: info@trailerwin.com

Trailer Consultation
 Kauppatori 2 as 10
 FIN-67100 Kokkola, Finland
[info\[at\]trailerwin.com](mailto:info[at]trailerwin.com)

and another message with the link to our dropbox:

Send

From info@trailerwin.com

To customer@company.com

Cc

Subject TrailerWIN Download sent you some files

Download them by 9/6/2022 at 11:59 PM GMT+03:00

TrailerWIN Download sent you TC_Setup_29xxx.exe

*Hello,
 we have created a download link for update: TC_Setup.exe_29xxx for your **TrailerWIN** programs.
 Please find the password in separate e-mail.
 Note that this link will expire in 7 days (5.9.2022 8.50.53).
 Please contact us if you have problems with the download link

Best Regards

TrailerWIN Team
 Trailer Consultation
info@trailerwin.com

These files will be available until **9/6/2022 at 11:59 PM GMT+03:00**.
 Questions? Ask TrailerWIN (info@trailerwin.com)

Download files

There's a password by the way
 if you don't already know it, ask TrailerWIN.

TrailerWIN Download sent 1 item

Expires on Today at 23:59

Next

Please refer to the installation instructions for latest instructions to install the software.

Note that You can't install TrailerWIN on computers running on Windows RT version.



Latest "Fix":es on our homepage

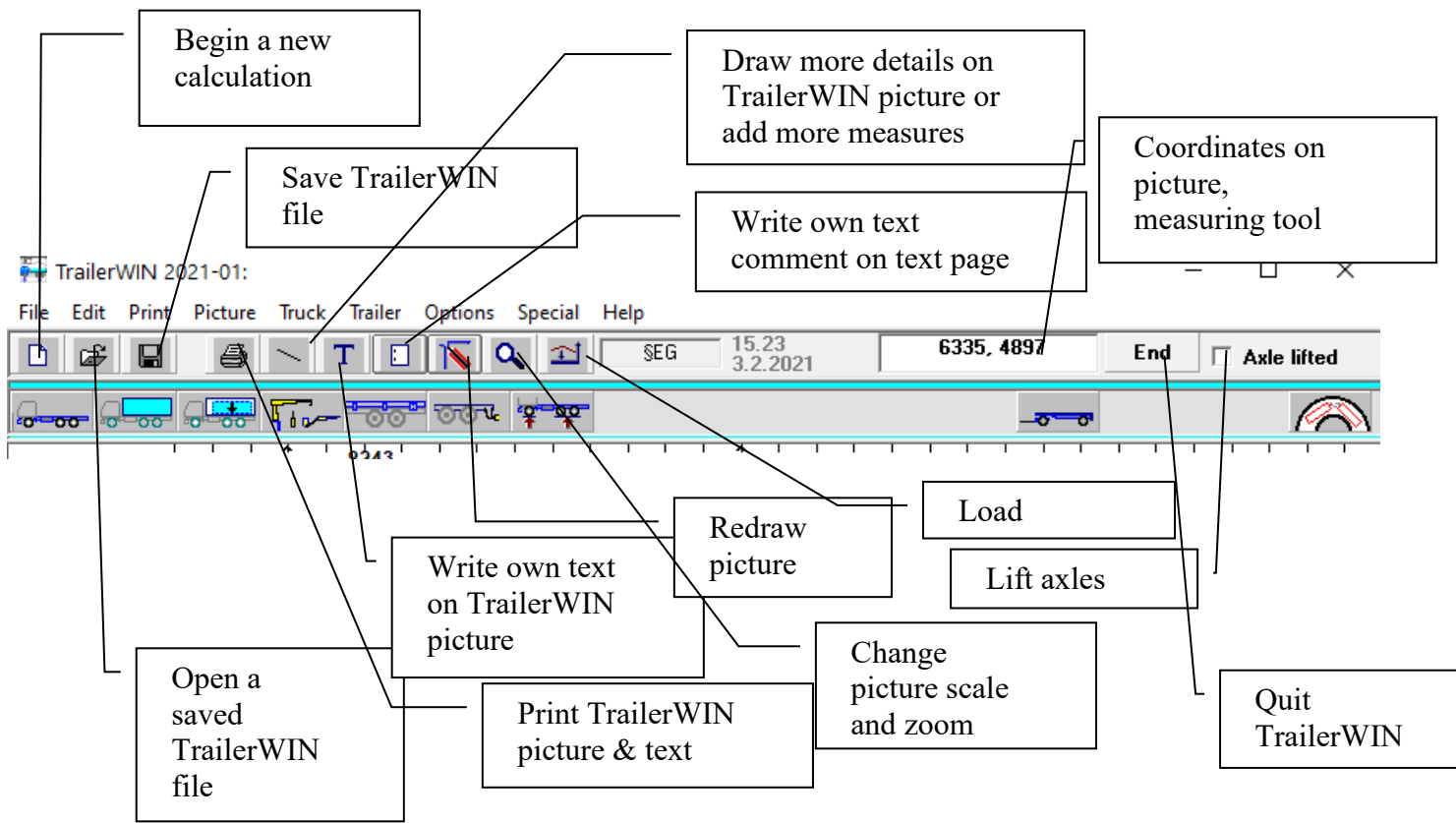
No matter how hard we try to get all our programs Error-free, there is always the possibility something goes wrong. Now we have introduced a new service for downloading fixes for minor Errors on our homepage.

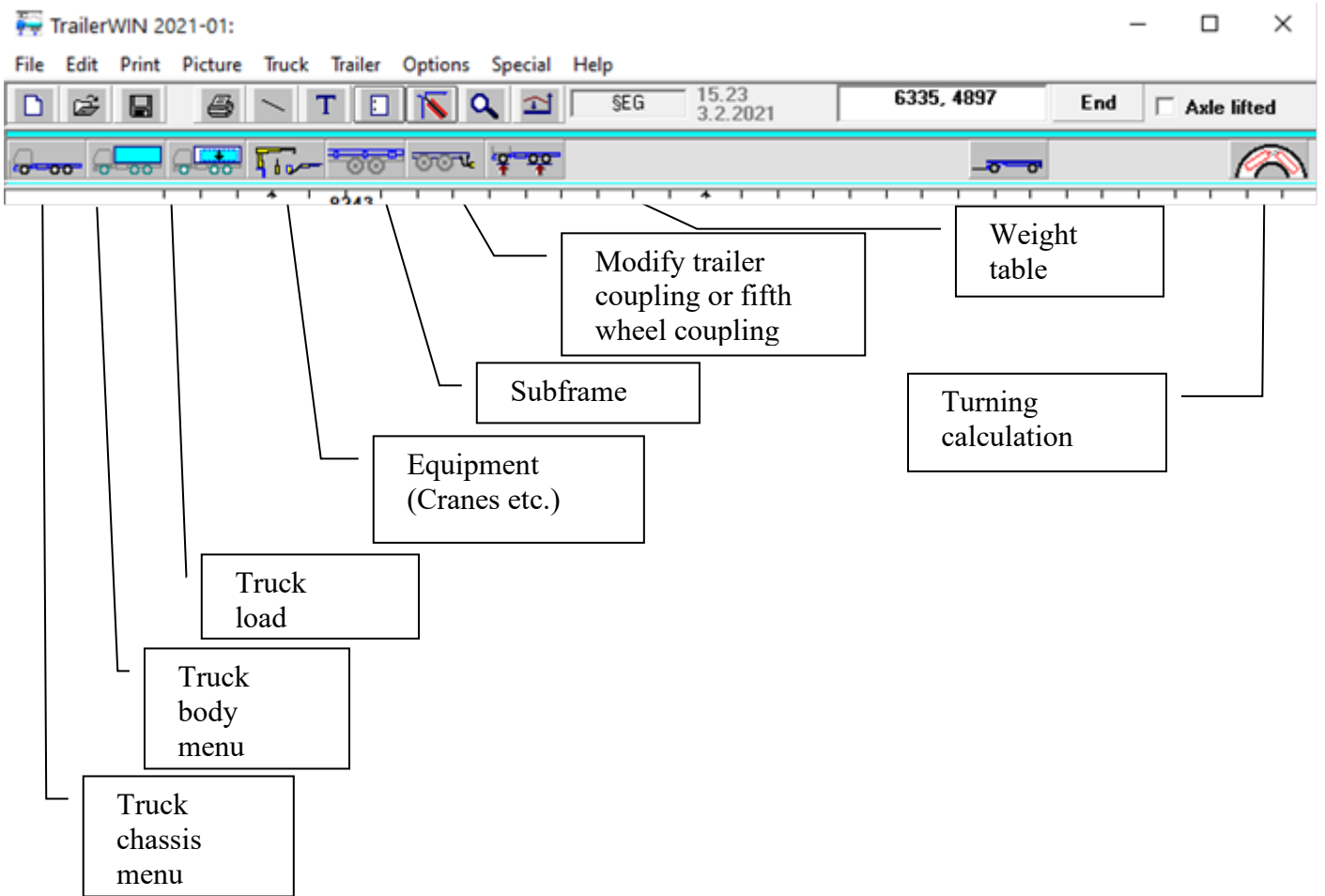
You will now find fixes on our homepage: www.trailerwin.com and click on "Support" and then select "Fixes" in the menu. There You will find latest fixes on top. The pdf-file holds short instruction for installing the fix and the zip-file holds the package to install. To install a correction, download the instructions (pdf-file) and look that the fix is suitable for Your version. Install the correction as described in the instructions.

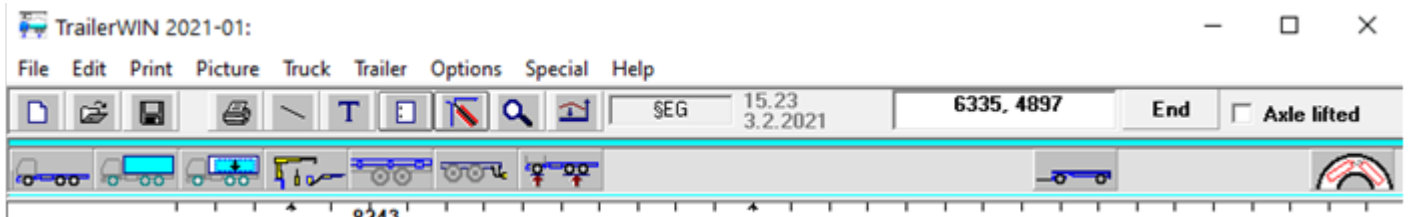
If an Error occurs, please check here first and inform us if fix not found for the Error. Note that all Error can't be fixed thru this service and make sure that You have suitable version before installing the fix.
























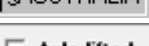
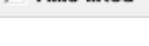
Buttons on TrailerWIN program user interface





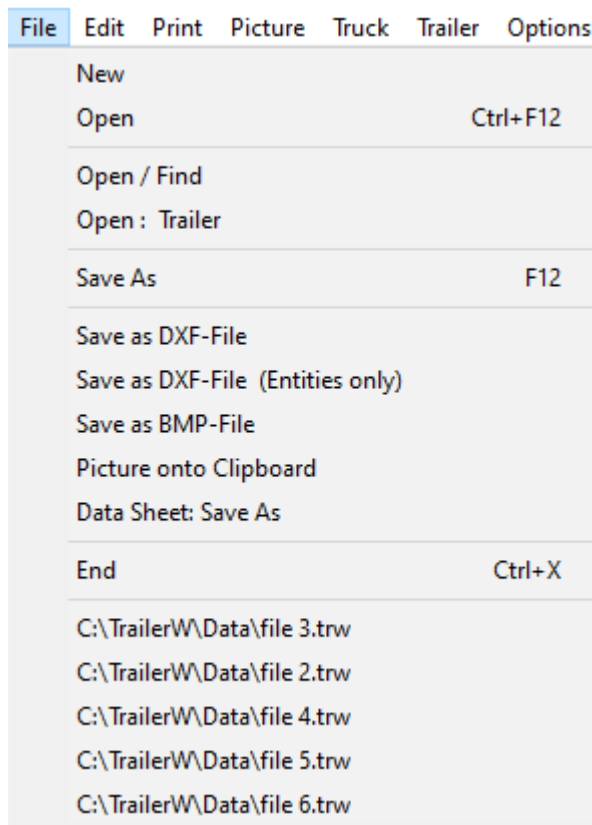


Toolbar

	New	Begin a new calculation
	Open file	
	Save File	
	Print	(Picture and Text)
	Text	Write text on the picture
	Memo	Write own text into text page.
	Redraw	
	Zoom	Change picture scale (for example for long special vehicles)
	Load curve	
	Time and Date	
	Coordinate Window	
	Chassis	
	Body	
	Load	
	Devices	
	Weight table	
	Fifth wheel coupling / Trailer coupling / Frame overhang	
	Trailer options / data editing	
	Load on trailer	
	Devices (on Trailer)	
	Turning calculation	
	Regulations	
	Axle lift function	



Menu:FILE



New

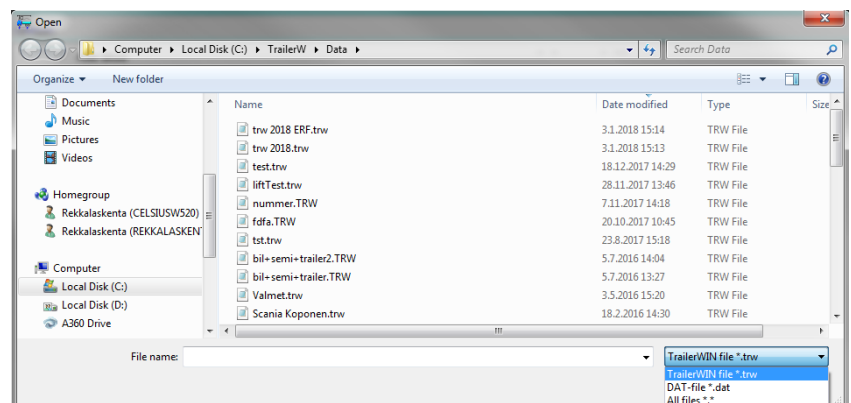


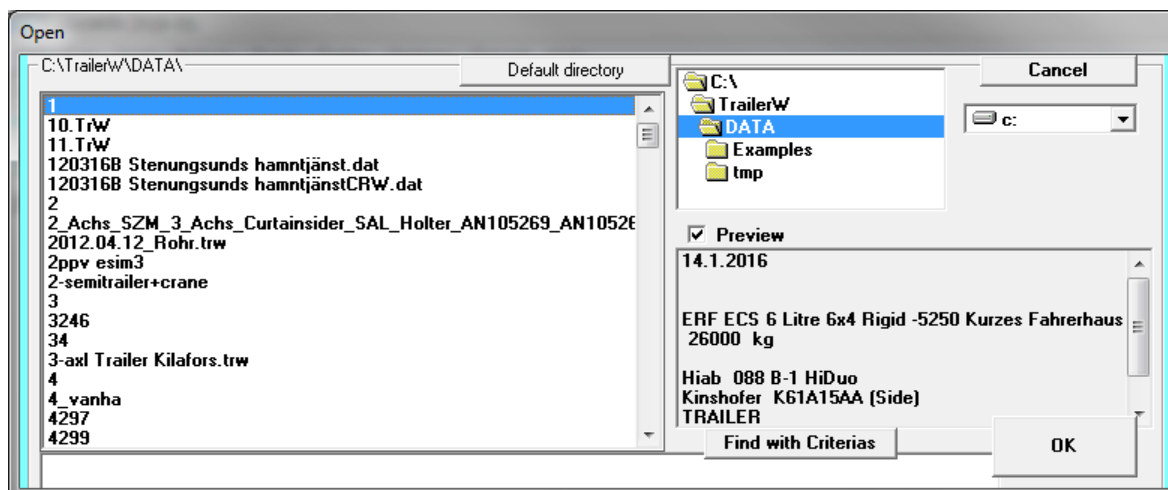
Begin a new calculation. The old calculation data is taken out from memory. You lose this data, if you have not saved it into file. The program gives a warning about this.

Open



Open a file and load it into memory. By default you can see only .trw files in the list. To open files with other extension, open the dropdown box and select *.dat or *.* for all files.





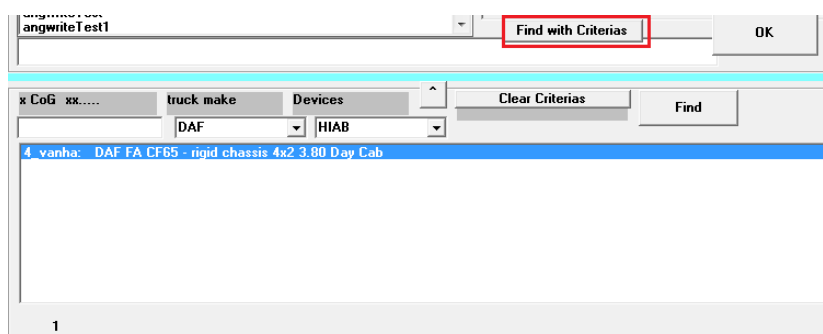
On the "Open"-Window you have a textbox on the left side on the OK button. There you can type the saved file name or some first characters of the saved file name. The file list automatically gives the file names, which have these characters as the first characters.

You can choose the file with a file name as usual in Windows programs or you can give some criteria's for finding files. To find files you can see preview about the file. There is a list of the most important things in the file: Date ... Name of the calculation ... Customer ... Chassis name and type ... Devices
If you turn the preview-window off, the file functions will operate more quickly.

Searching File with Criteria's

You can use some criteria's for searching the file wanted from Open/Find window:

- Task name of the calculation or name of the customer
- Make of the chassis as Mercedes, MAN, Foden, Volvo, Scania, Sisu
- Name of the device



If you write for example TR in Customer name-Textbox, and then click "Search", you will get all the saved file names with two first characters as TR (lower case or upper case).

If you choose or write "Mercedes" as other criteria in Textbox "Chassis", you will get only the files, which match with the given criteria's, in this case "TR" and "Mercedes".

With Textbox "Device" you can choose those files which include for example HIAB-cranes.

Button "SEARCH" begins the searching. Searching is made only in this path or directory that you have chosen in directory-list box.

Combination of Truck with Trailer from another file



You can load a Truck or a Combination from a file (**Menu File - Open**) and then load the trailer from the other file. (**Menu File - Trailer Open**) and as a result you have a combination, where only the trailer is taken from the second file.

Save file as



The default file extension for saving/opening TrailerWIN calculations is ".trw". By opening the dropdown-list you can filter also ".dat" files or select to save/open files with any other file-extensions by selecting option All files *.*

When running SETUP a directory "DATA" is made for default directory for your Data files. The path could be for example:

C : \TRAILERW\DATA

DXF - FILE

You can save a picture as DXF-File and later import this file to CAD-programs. Many word processing programs as Word for Windows can read DXF-files. It is easier to transport pictures between Windows-programs by using clipboard.

DXF - FILE entities only

You can save DXF-files in Entities only format. This format includes in the file only picture-entities: lines, circles, texts but no information about other drawing parameters; limits, font sizes, layers etc.

If you can't see dimension numbers in CAD-drawing, you have to change dimension text size (in AutoCAD DIMSCALE / UPDATE)

When running SETUP, a directory "PIC" is made for your Picture-Datafiles. The path is for example: **C : \TRAILERW\PIC**

BMP - FILE

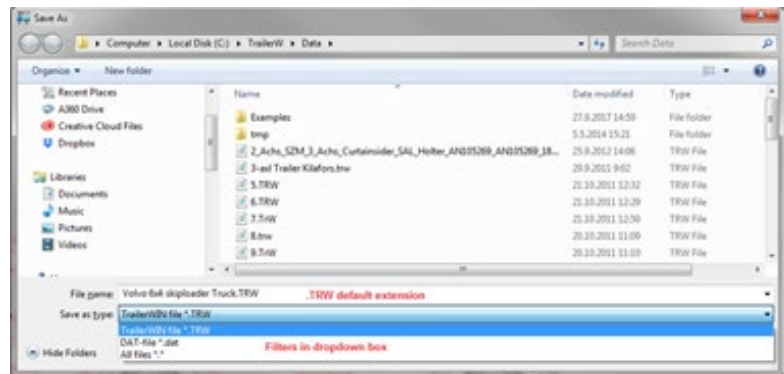
You can save the picture in .BMP-format. With this format you can paste picture in many other Windows programs.

When running SETUP, a directory "PIC" is made for you Picture-Datafiles. The path is for example: **C : \TRAILERW\PIC**

Clipboard

Picture in Clipboard

With this function you can copy the picture onto the clipboard.





If you want to copy the whole screen onto the clipboard, push the button PrtSc (PrintScreen) on the keyboard.

Show Clipboard

Show the Clipboard. You can control the contents of the clipboard. From Clipboard Menu-File you can save the contents into file in .CLP-format (Device-dependent format).

Data Sheet: Save as

You can save the Text page as Text file (ASCII-format).

You can open this file later in word processing program for editing.

The table Columns will not keep their vertical shape, especially if you do not use non proportional fonts. The best result is obtained by using Courier- or Courier New fonts.

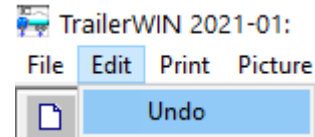
See also: Menu PICTURE - Memo

When running SETUP, a directory "TXT" is made for your Text-Data files. The path is for example: **C : \TRAILERW\TXT**

End

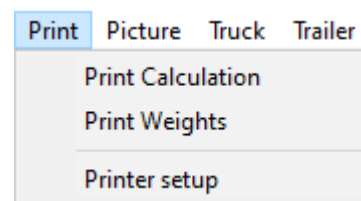
Ending the program

EDIT -> UNDO FUNCTION IN TRAILERWIN



Menu PRINT

Print (picture and text and documents)





Print

MF8300C Series

Print Picture / Data Sheet

Picture

Data Sheet

Colors

Document: Picture + Data Sheet

Truck centre of gravitys place

Data Sheet Weights

Truck Turning

Load Curve Truck

Load Curve Truck <

HCT Turning - Stability calculation

Calculation made by :

Calculation Modified Date 3.2.2021

OK Cancel

By clicking **OK**, the program prints all the pages, which are marked with ✓.

Notice! If you click on the small button next to the checkbox the program prints the ✓-marked page only. If Memo has no text or you have not made a CE-document, then you do not have these buttons and checkboxes.

When Memo is ✓-marked, then Memo is on separate page.

TrailerWIN uses the Windows Print Manager. You can choose the Printer and the printer port by selecting **Menu - Printer Setup** in the Windows Printer Setup. You can also choose printer for TrailerWIN session by selecting printer in print-window. To define the fonts for texts and dimension numbers, type and size select **Menu - OPTIONS - HARDWARE - Printer fonts**.

Cursor and tone tells you, when the information for printing is transferred from program to Windows Print Manager. After that you can continue.

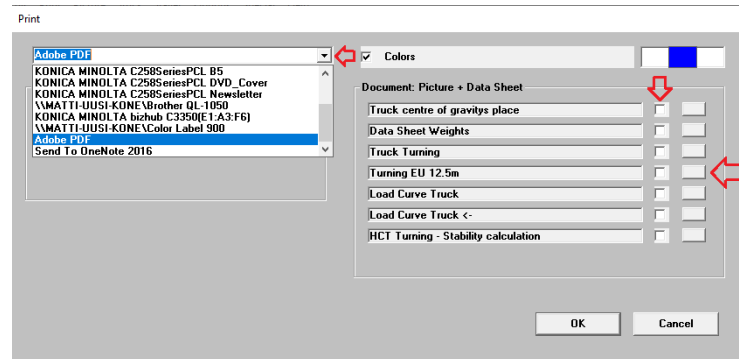
Printing in colours

In print dialog window is a checkbox "colors". If this checkbox is marked, you get printout in colours when using a colour printer. Do not mark this checkbox if you are not using a colour printer to ensure the quality of the monochrome printout(s).



Choose printer without changing default printer

You can select printer directly in Print-menu without changing default printer in Windows. This setting will be active for TrailerWIN session only. On program restart the printer will go back to default printer.



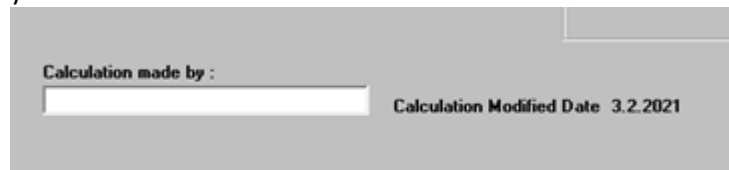
Printout documents

In print-menu you have on right side printout options for documents with a small drawing on top and data below in same document. There is a possibility to print documents with a small picture at top and specifications below in one document. For customers having Finnish regulations in the program there is also a possibility to print documentation for HCT measures required by Finnish authorities. In version 2021-08 there is added a new document "Turning EU 12.5m" that will print a document with static turning for truck/combo and rear outswing for truck.

Calculation modified date

In Print Window and on printout.

(Using Menu Options -> User options -> File name and path name in printout. you can also switch these texts off.





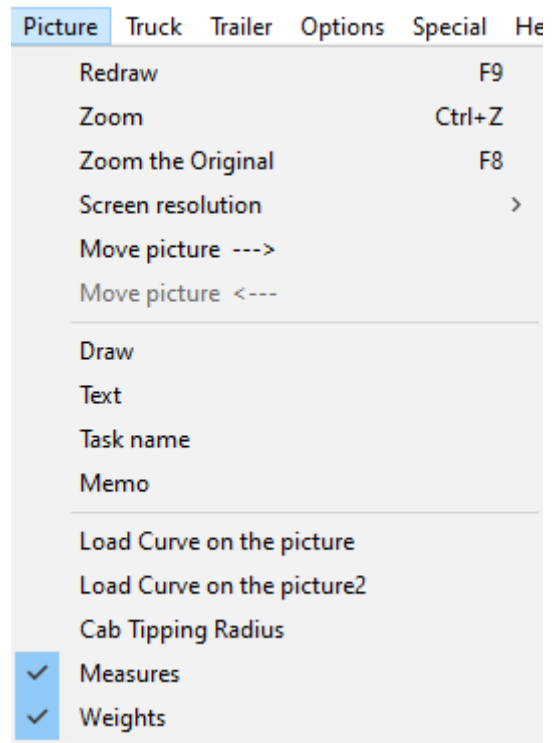
Menu PICTURE

Redraw



Redraw clears the picture area and draws a new picture. At the same time the program controls calculations.

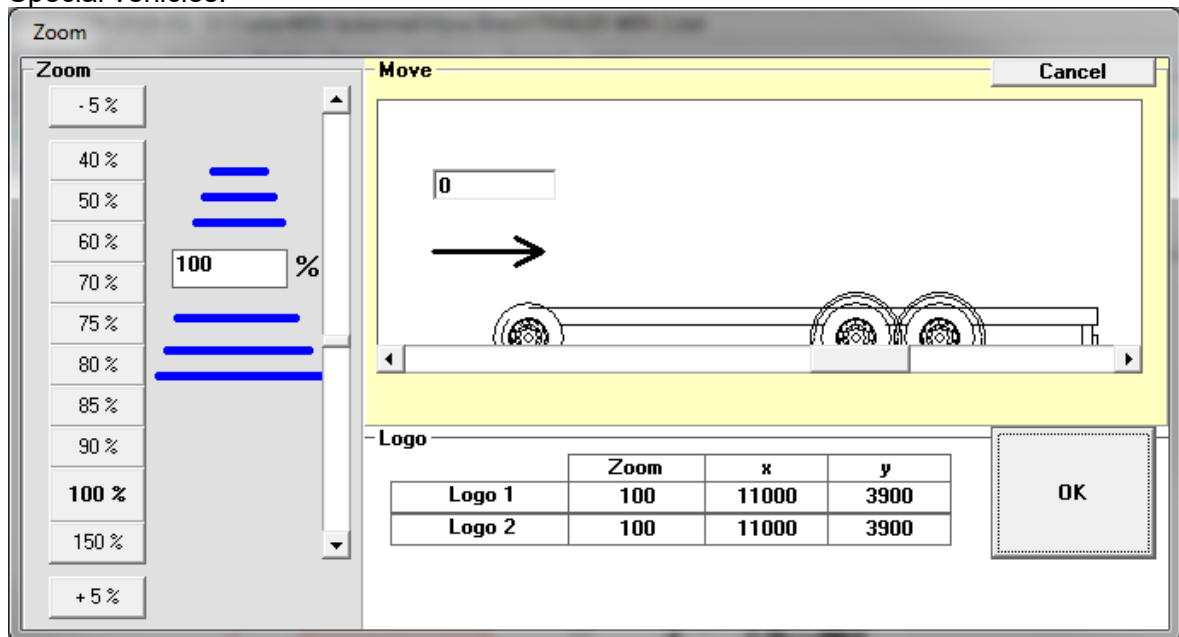
After moving devices etc., there can be lines or dots on the place where the device was on the picture. Redraw clears the picture area and draws the new picture.



Zoom



Change picture scale for example for long Special vehicles.



You can also move the truck to right if you for example have some long device in front. The info for logo and zoom is not editable, to change logo go to "User options"

Zoom the original

Back to the original size (100 %).



Screen resolution

To select smaller window to some default screen resolution settings.

Move picture → / ←

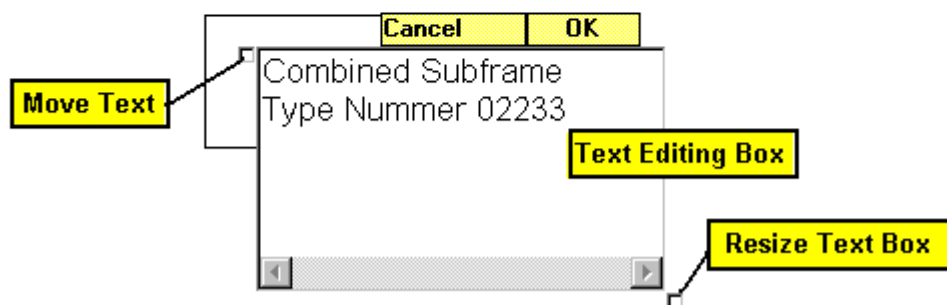
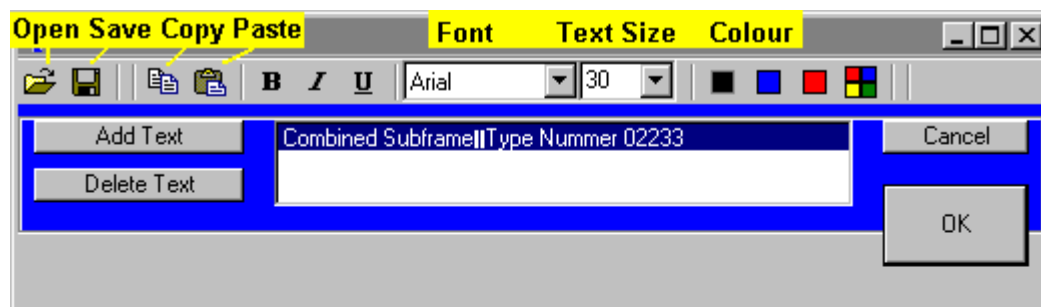
With this function you can move the picture right for making equipment on front visible on screen.

Draw

With this function you can draw lines, rectangles, circles and polylines on the drawing.

Text

T **Text** You can write 5 own texts onto the picture.



You can write the text in the Text editing box. Coordinates X and Y define the place of the text. Later you can move the text with mouse. In the Colour-box you can (Mouse-Click) choose colour of the text. Font size you can choose in Font size-text box.

On the right side of the OK button you can see all the text you have typed in this calculation. By clicking the mouse on the text line you can choose the text for editing. Getting to a new line Press **Enter**.

Task name

In this window you can give the calculation details about the customer and calculation




Memo

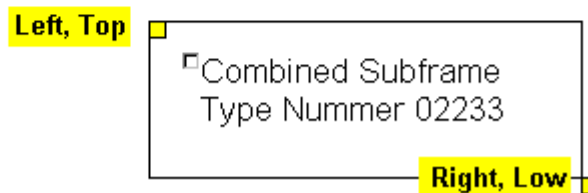
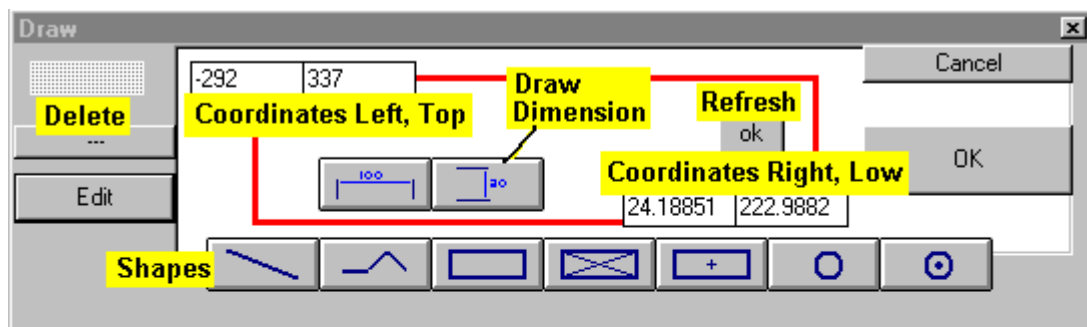
Make own text documents to be saved in the calculation.

Load curve / cab tipping radius / measures / weights

With these selections you can choose what you want to have on the drawing/outprints. By default measures and weights are selected/active.

Drawing Objects

You can draw simple drawings on a picture. 




Choose the type of the object by using Shape Buttons “LINE”, “RECTANGLE”, “CIRCLE”.

Then draw the line or rectangle or circle with mouse onto the picture.

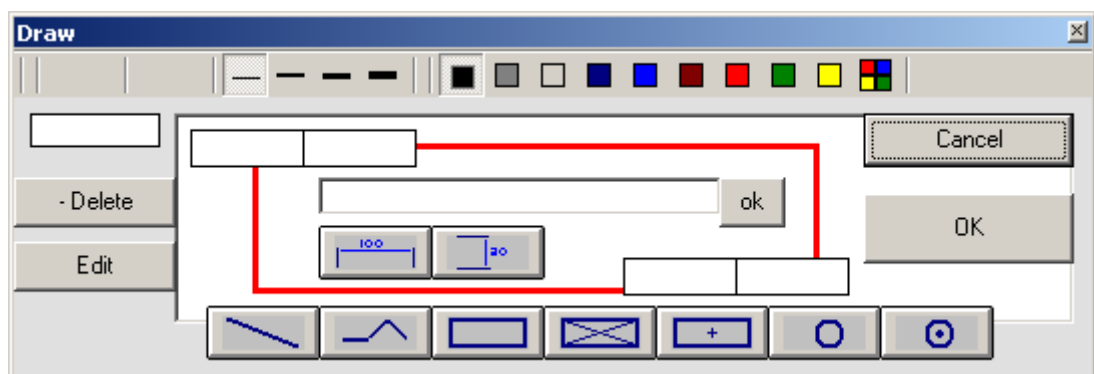
You can drag point with dragging the grips (yellow rectangles).

When you click OK, the grips disappear. Click the Edit-Button to get the grips back.

If you see “shadows” of the lines on the picture, use REDRAW - Button  to clear the drawing.

1. Ability to change line width for drawing objects

2. Ability to change line color for drawing objects in drawing tool

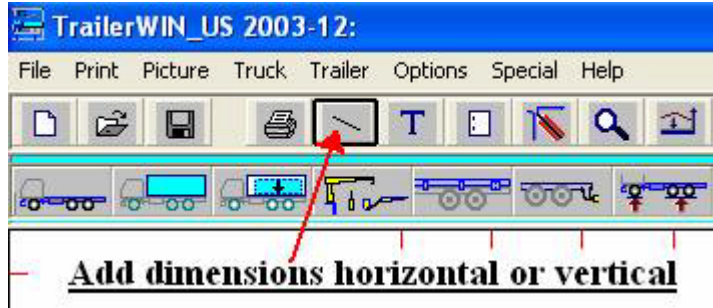




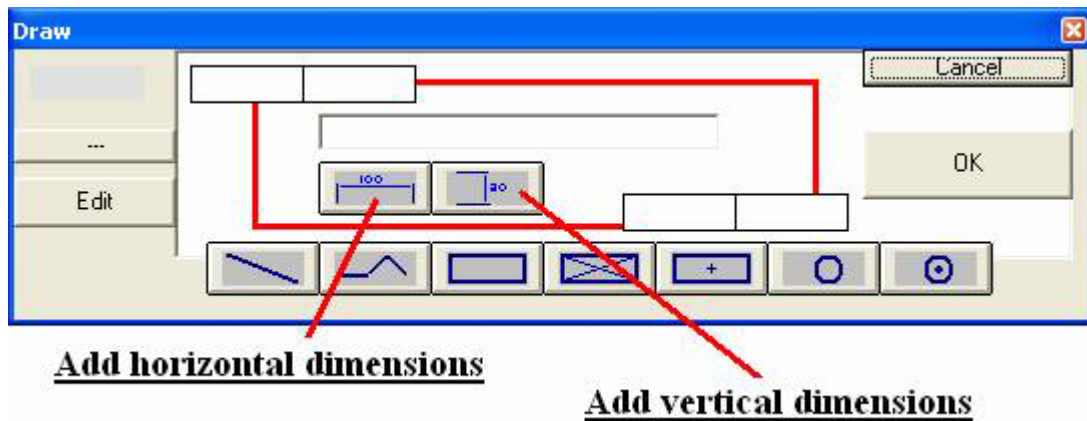
Adding own measures in TrailerWIN calculation.

Adding own measures in TrailerWIN.

First click on button for drawing tools as in picture below:



then click on one of these two buttons on picture below: to choose horizontal measure or vertical measure.

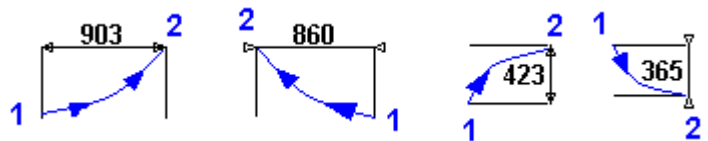


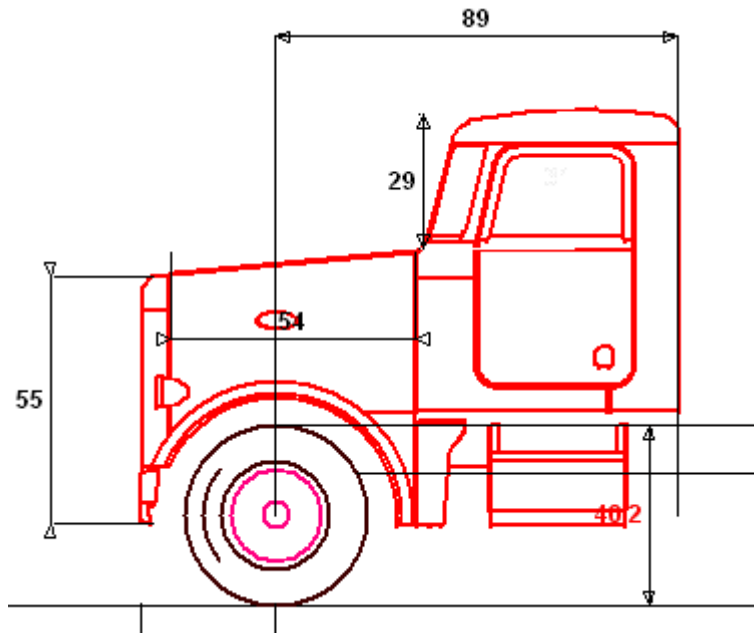
Draw Dimensions: horizontal and vertical.

When you draw a dimension with the mouse, you will get the correct dimension text automatically. You can anyway change the dimension text; you only write a new text on the dimension editing box, and click ok on the right side of the editing box.

If you later edit this dimension with the mouse, you will get again automatically new dimension text.

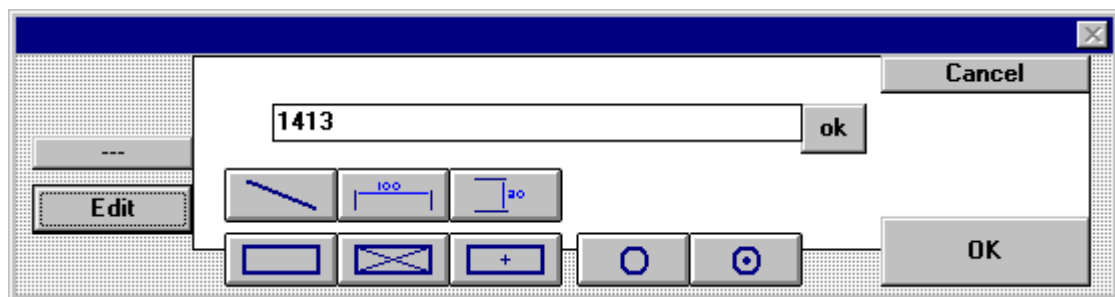
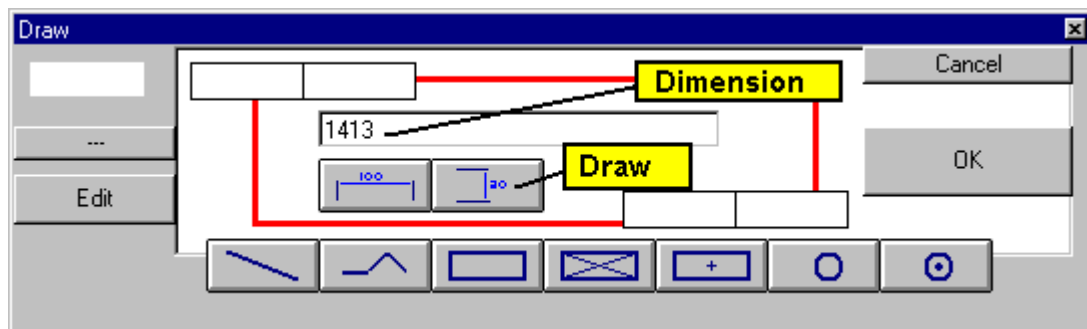
You can choose arrow position with direction, when you are drawing a dimension with dragging mouse. The example shows the result and the mouse movement direction, from the point 1 to the point 2





You can add own measures this way on TrailerWIN, CraneWIN and FrameWIN pictures. You can easily edit measures and write some text comment on each measure.

Rectangles with center marking, circle with center marking.





Memo

Write extra Text on text page

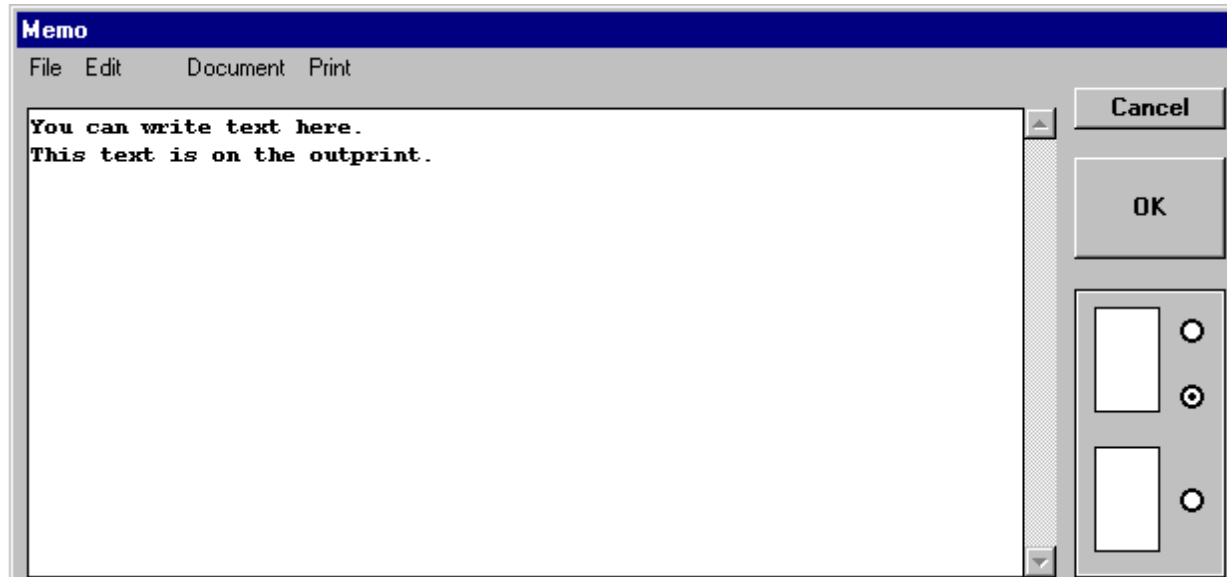
The Icon shows if there are text on the Memo.



No text in Memo.



Text in Memo.



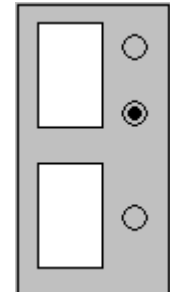
You are able to write text onto Memo.

This text is included when you save the calculation.

It is also possible to save it separately from Memo-Menu.

The following option buttons show, where the memo text is on the text page.

1. on top (after customer name)
2. on bottom, after calculation data
3. on separate page



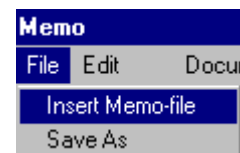
Memo Window has own Menu

Menu MEMO File

Insert Memo-file

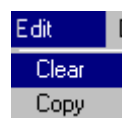
Insert text from file onto Memo. Inserting does not clear existing text.

You can combine Memo text with several text files. You can for example make equipment lists, and insert to text.



Save as

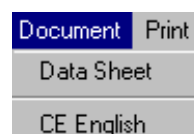
Save Memo text separately for other uses.



Menu MEMO Edit

Clear

Clears the Memo-editing box.





Menu MEMO Document

Data Sheet

Load the calculation text page onto Memo. You can edit this here. The standard datasheet does not change, but you can print the edited text as Memo.

CE - Document

Write the CE-Document.

Basic texts you find in files:

the beginning of the document

the end of the document

Finnish:	CE- the beginning of the document	CE-F.CE1
	CE - the end of the document	CE-F.CE2
Swedish:	CE- the beginning of the document	CE-S.CE1
	CE - the end of the document	CE-S.CE2
English:	CE- the beginning of the document	CE-E.CE1
	CE - the end of the document	CE-E.CE2
German:	CE- the beginning of the document	CE-D.CE1
	CE - the end of the document	CE-D.CE2

between these texts you have the calculation name, customer names.

You can edit these basic texts and the document.

These files are in directory MEMO under the program directory, for example

C:\TRAILERWMEMO

Adding Disclaimer text into calculation outprints for TrailerWIN & CraneWIN

To add disclaimer text for outprints in TrailerWIN You can use the, the "MEMO" text-tool. To use MEMO for adding Disclaimer text, follow instructions below:

1. Copy the text You want to insert into clipboard, below an example:

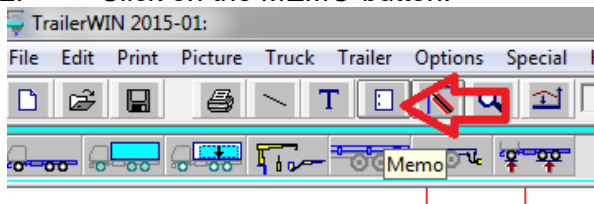
PROPOSAL DRAWING ONLY - PRODUCTION DIMENSIONS MAY VARY

Approved by:

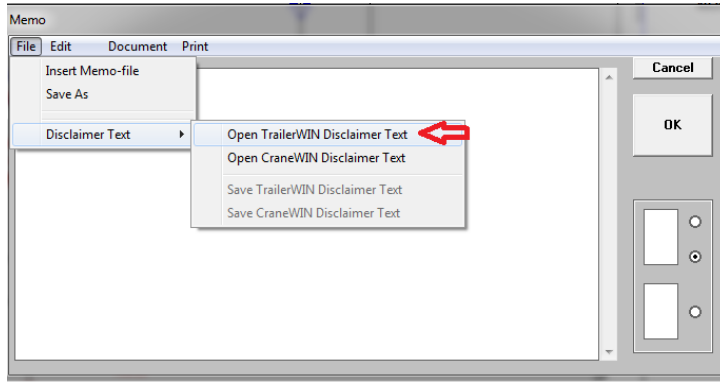
Salesman: Date:

Customer: Date:

2. Click on the MEMO-button:

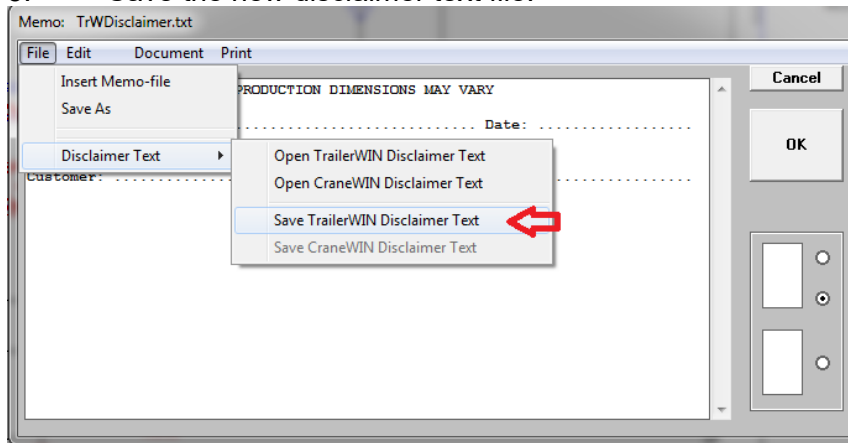


3. Open the existing disclaimer text document:



4. Replace/Write text you want to use as Disclaimer text. **Note that the text may have a maximum of 6 rows.**

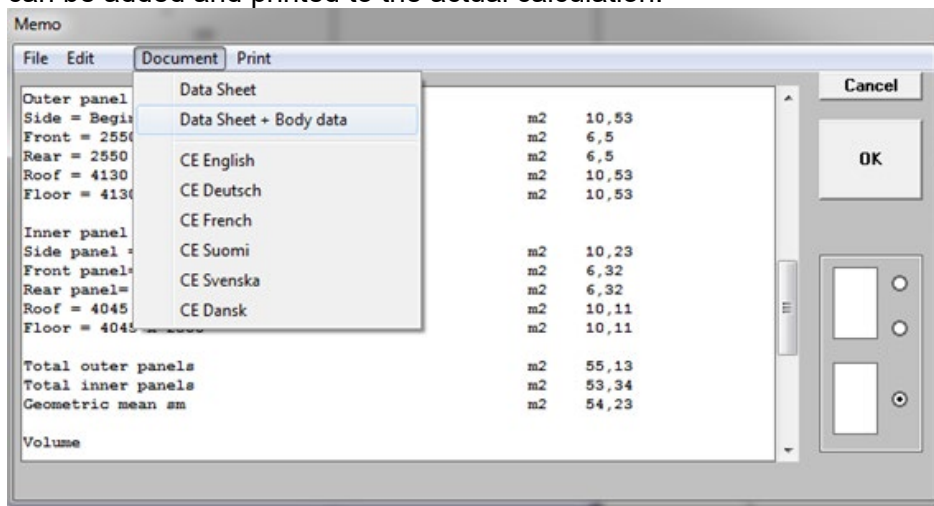
5. Save the new disclaimer text file:



Close Memo and restart TrailerWIN again, then You will get the new disclaimer text on both printout pages (text and drawing).

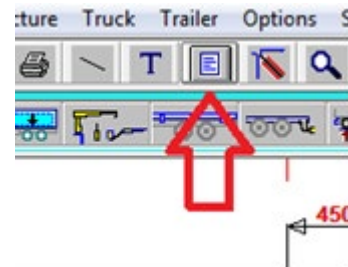
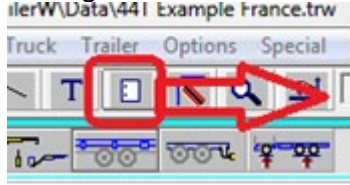
Data Sheet + Body data

Extended body data available in Memo-window. We have added more details of the body from the Memo-window as inner and outer panel areas, inner and outer volume of the body and volume of the panels. A new option in Memo brings this data and it can be added and printed to the actual calculation.



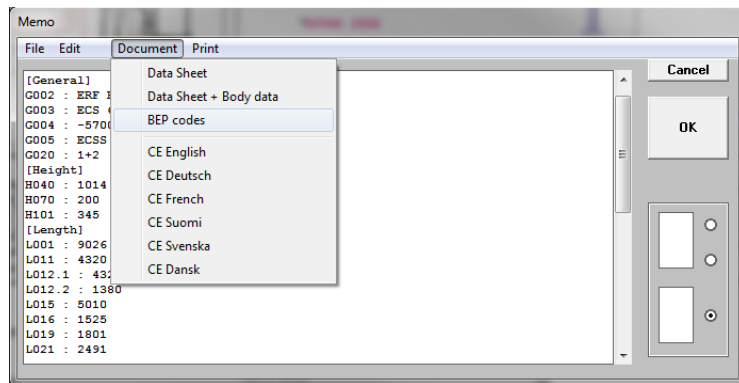


The data can be modified and text can be added to the document if needed. When this window is closed, the data sheet will be saved to the actual calculation and can be printed out with the other documents. You can recognize the additional data on Memo by looking at the Memo-button, when additional text is added the memo-button gets "text-rows".



Menu MEMO BEP-codes

In MEMO menu you can also get BEP-codes for the actual calculation, using MEMO function Document-BEP-codes you will get a list with actual values from the calculation. This list can be printed with the calculation as a MEMO-document or saved as a separate text-file and used in third part applications.



Menu MEMO Print

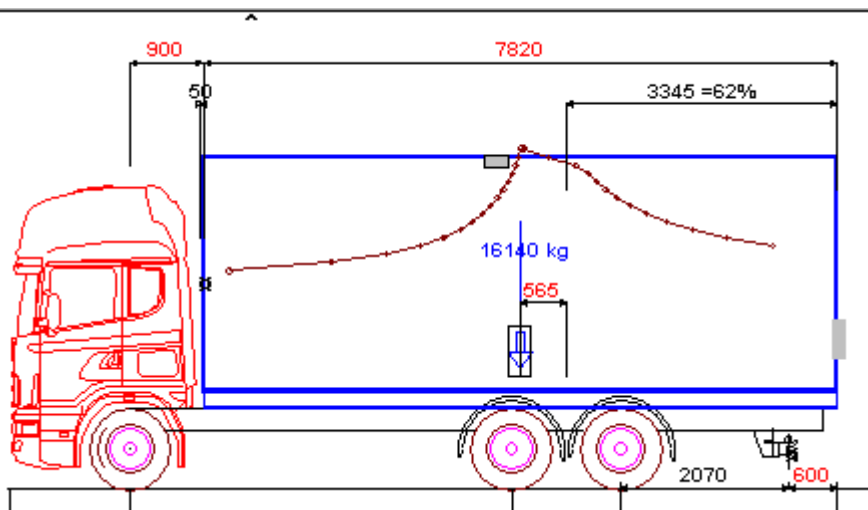
Print the Memo text.

Out print is not formatted, simply text out print, only this memo text.

Load Curve on the picture

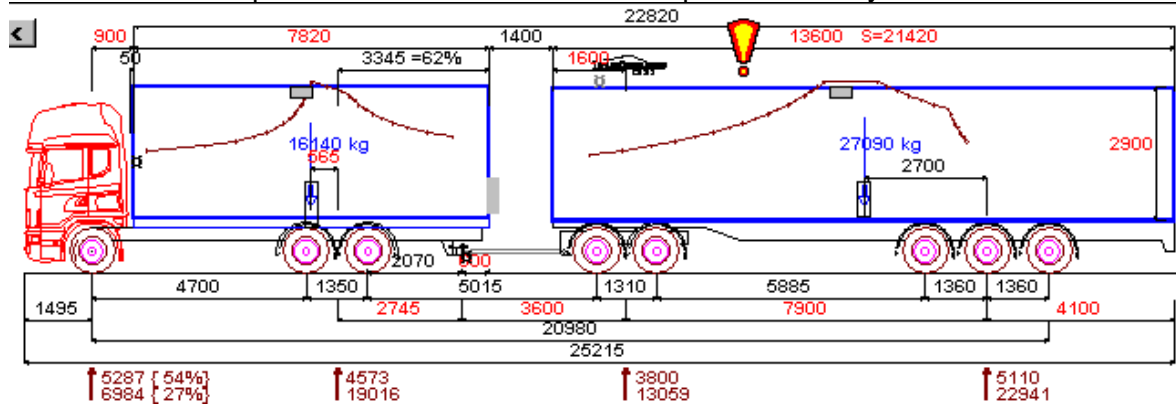
You can choose if there is Load Curve above the body picture.

Character marked \surd shows is the load curve turned on \surd or off.





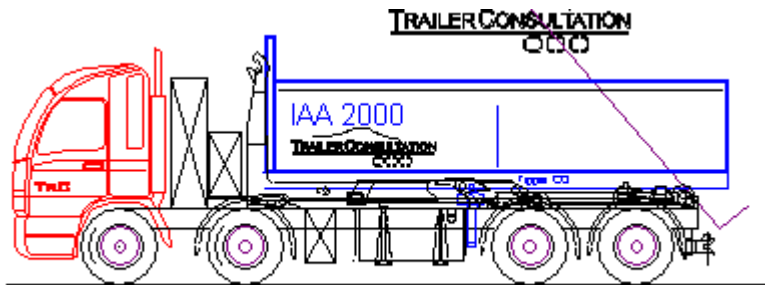
Load curve on the picture means load curve on this picture where you see a truck.



Load curve on the picture means load curve on this picture where you see a truck combined with a trailer.

Measures, Weights

You can take a printout or transfer picture to other programs without dimensions and weights in the picture by unselecting the Measures and Weights in menu Picture.





Menu Truck

Chassis



Choosing Chassis or editing Chassis data.
 You choose the Chassis in three phases: The make Model ... Wheelbase / Cab variations. The model list is in alphabetical order and you can jump in the list by holding down "Ctrl"-button and press the first letter in the truck name, for example to jump to "Volvo" press Ctrl-V a few times and you will get Volvo models.

After choosing the model and wheelbase you can control and edit weight and dimension data.

Please note that the data in our database is based on a basic vehicle with one option of axles and without extra equipment. Therefore the weights and dimensions might differ. Always check and update the values due to the specifications for the actual vehicle from the manufacturer.

Chassis data is taken from technical datasheets. We can't give any guarantees about this data.

Truck Trailer Options Special Help

- Chassis
- Chassis Optional
- Cab
- Truck axles
- Body
- Body type
- Doors
- Subframe

Chassis : ASTRA HD9 64.50 T Trattore 6x4 Euro 6 3200

ASHOK LEYLAND 22

ASTRA
 Atlas Copco
 AUTOCAR
 AMW Asia MotorWorks Ltd.
 AVIA
 Bahratbenz
 BALDINGER
 BEDFORD
 Bell
 BERING
 Bergmann
 BERLIET
 BMC
 BREMACH
 BUCHER
 BYD
 Camac
 Case
 CAT

Preview

OK

ASTRA

Chassis

truck make	ASTRA	
Type	HD9 64.50 T Trattore 6x4 Euro 6	
model (wheelbase, cab etc.)	3500	
G.V.W. front axle kg	9000	
Max G.V.W. front axle kg	9000	
Minimum truck front axle weight kg	0	
G.V.W. rear axle kg	19000	
Max G.V.W. rear axle kg	32000	
G.V.W. total kg	26000	
Chassis weight, front axle	5350	
Chassis weight, rear axle	5210	
liftaxle (2,3)		
basic wheelbase (front axle- first rear axle)	3500	
Front Track	2500	
bogie wheelbase	1450	
first bogie axle kg	16000	
rear bogie axle kg	16000	
Front overhang	1525	
front overhang to bumpers corner	1450	
width to bumpers corner	2500	
measurement: front axle-rear of cab	800	
frame overhang from rear axle	800	
overhang Max	0	
overhang Min	0	
loadpoint y Max	0	
loadpoint y Min	0	
number of persons	1	
Weight / 1 person kg	75	
persons centre of gravity, backwards from front axle	0	
1. Tyre radius (about)	520	
2. Tyre radius (about)	520	
3. Tyre radius (about)	520	
chassi frame height from road	1133	
Frame	270	

Cancel

OK



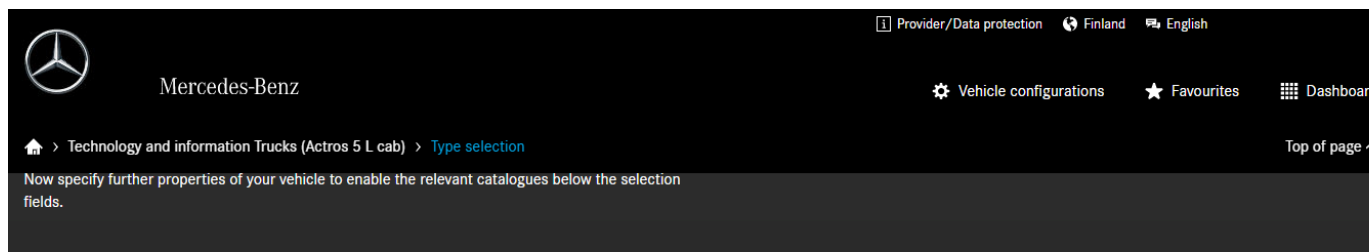
Update Mercedes data from Bodybuilder portal Json-file into TrW

In TrailerWIN all the new Mercedes Benz models are displayed without their own weights. This is done because the weights are very different depending on what specifications the customer chooses on the vehicle.

In version 2023-05 we have now made a function so you can import data from JSON-file from Mercedes BB-portal into TrailerWIN. This will update the data to the specified vehicle data in BB-portal.

Create the vehicle in Mercedes Bodybuilder portal

To get the data for the truck, you are advised to go to the MB bodybuilder website, login and define truck specifications due to instructions on Bodybuilder portal. Then click on “Technical data sheet”:



Type selection.

Model variant code (Var. code) ✓ 96302212 ✕	Model class ✓ 2542 ✕	Engine code (Engine) ✓ M3A: Eng. OM471, inline 6, 12.8 l, 310kW (421hp), 2100 Nm	Drive (Drv.) ✓ 6x2/4
Version (Vers.) ✓ L	Emissions standard (Euro) ✓ M4X: Engine version Euro VI, E ✕	Product group (PCG) ✓ V1W: Standard	

Technical data.

Technical data sheet Technical data sheets for the selected model series are available here, in line with the specific variant selected. It is also possible to select special equipment items and make weight calculations.	2D chassis drawings This is where we provide 2D drawings of the selected model series, in line with the specific variant selected, in various views and formats.	3D design data 3D design data for the selected model series are available here, in line with the specific variant selected. Approval is given on a project basis.	3D visualisation data 3D visualisation data for the selected model series are available here, in line with the specific variant selected. Approval is given on a project basis.
--	--	---	---



Finalize the specifications by defining additional selections in next window and press “Generate data sheet”:

Technical data sheet

Powertrain, air intake & exhaust system (M5B, G2B, M8B, K7D, U2G)	▼
Axles & brake system (Q1S, A1Z, A1C, B4M, A2E, A5G, B2A)	▼
Wheelbase & frame overhang (C1Q, C0J, Q8JS)	▼
Frame add-ons (C5I, C7J, C8F, C7A)	▼
Cab, cab attachments & wind deflectors (F1D, F2N, F7X, F6T)	▼
Fuel tank, Adblue tank & hydraulic oil tank (K1I, K3V)	▼
Clearances & pre-installations	▼
Tyres and wheels (R1Q, F38, R1Q, F38, R1Q, F38)	▼

Ergebnisse.

↻ Reset selection
> Selection of additional weight parameters
> Generate data sheet

Choose “Export data”

Mercedes-Benz

Provider/Data protection Finland English Roland Dahlin (moisio)

⚙ Vehicle configurations
★ Favourites
📊 Dashboard

🏠 > Technology and information Trucks (Actros 5 L cab) > Type selection > Technical data sheets > Actros 2542 L 6x2/4 BM 96302212 Rigid chassis

Actros
2542 L 6x2/4 BM 96302212
Rigid chassis

Drawing ^

General information ^

↶ Back to optional extras selection

📄 Export data
> Generate PDF

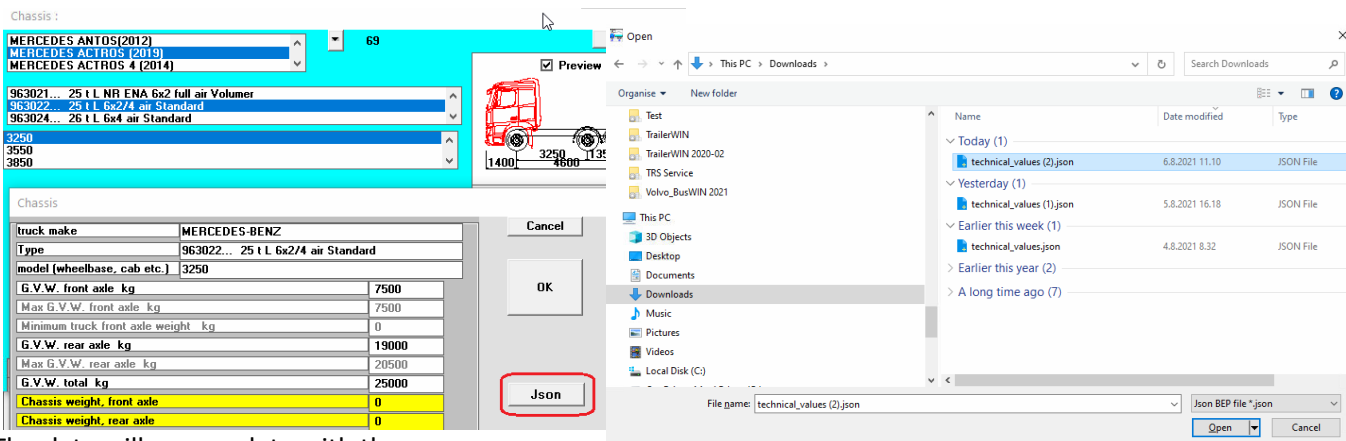
This creates a .json-file into your Downloads-folder on your computer. Save this file and use for example BM-code in filename for easier localization later.



Importing the .json file data into TrailerWIN

In TrailerWIN you start to first choose same Mercedes model so you need to localize a model with same first 6 digits in BM-code, wheelbase isn't important now as we will update the data from the saved .json file.

Press the "Json"-button and go to your Downloads-folder to find the recently saved .json-file and click "Open":



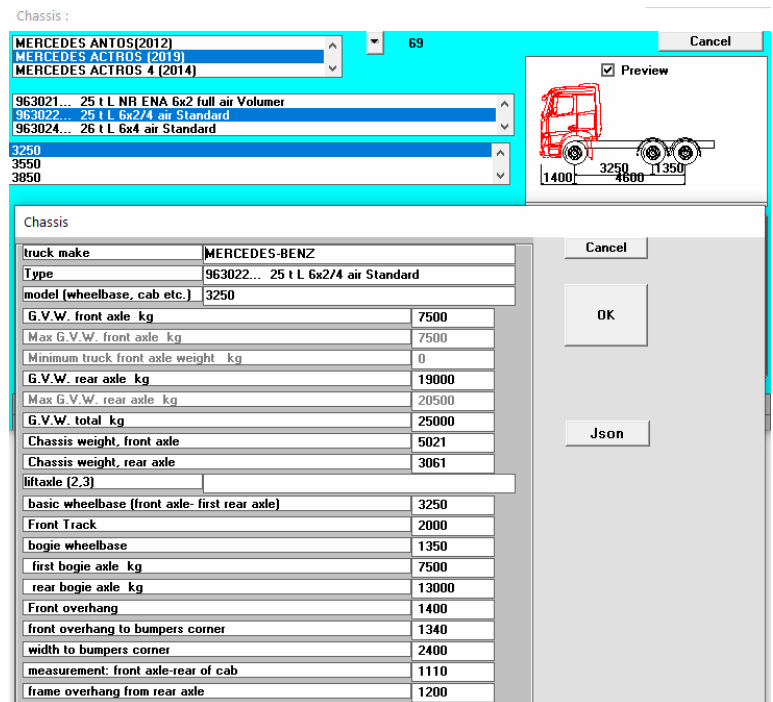
The data will now update with the information from the .json-file created in Bodybuilder portal.

Note ! If you have pre-selected a truck with wrong BM-code you will get a warning and you need to do a new selection, this due to the fact that TrW reads basic model information from our own database that isn't yet present in the .json file presented in the portal.

If all is correct you will now get updated truck data and also correct cab selected for the truck.

Data that can be updated are:

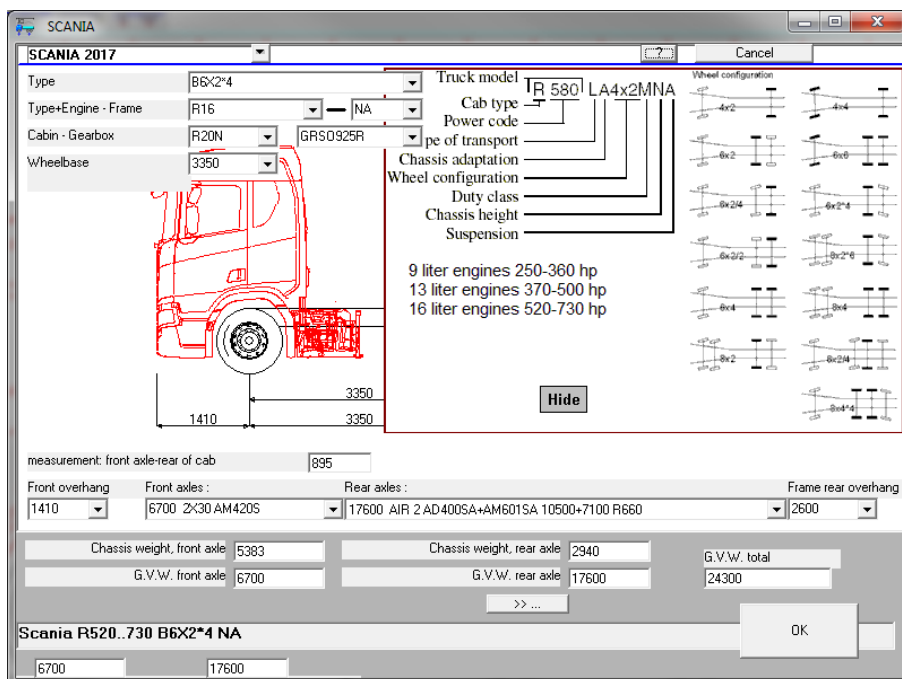
- Full baumaster-code (BM)
- Wheelbase and axle distances
- Front and rear overhang
- Frame height over road
- Cab type
- Cab height over frame
- Cab rear wall position
- Permissible axle loads per axle.
- Permissible gross mass for truck.
- Curb weights front and rear axle.
- Wheel radius





Scania data 2013-2017

When selecting SCANIA 2013 -> models You will get new information to select. Now You also have to choose the gearbox-type from a dropdown list. Different type of gearbox have different weight. On rear-axles we also have different final-drive options to choose, the same Rear axle can have 2 options. Final drive type is in the last code on rear axle description (ex: R660).



Choosing the truck model is started with menu's **from up to down**. For example in the following order:

1. **Model series type**
2. **Cabin model series and engine** (P13 means P type cabin, 13 litre engine)
3. on same row **chassis / suspension** for example SA
4. **Cabin**
5. on same row **Gearbox**
6. **Wheelbase** and after that You can choose axles/Final drive etc.

It is important to choose these in this order, because the choices made in the top menu will change the possible options in dropdown-boxes below.

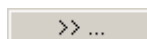
Under the picture of the truck You can choose the **axle types**. For rear axle You can also select final drive.

Allowed weights: Allowed front axle weight, allowed rear axle weight and allowed total weight are defined by chosen axles, unless the common allowed weights are limiting the weights.

For example: If You choose 21000 kg rear axles and your Trailerwin is set on EU-regulations, the weight will be limited to allowed rear axle weight: 19000 kg.

If You want to use this greater value 21000 kg, You will need to type it manually in field "G.V.W. rear axle".

Some additional data can be modified by clicking button:



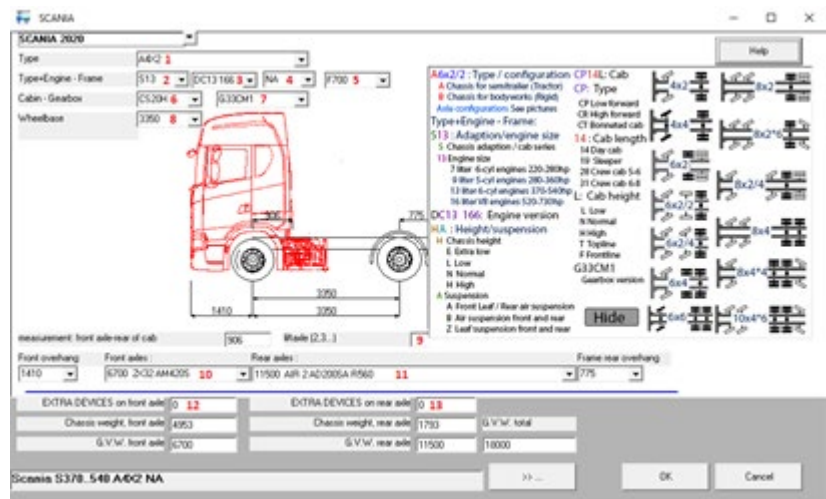


Scania data 2018->

When selecting SCANIA 2018 -> models You will get more information to select. Now You also have to choose the engine-type and frame type from lists. You also have possibility to give lift-axles on chassis and to give extra devices weight on front- and rear axles to better meet the correct weight on customer truck.

Choosing the truck model is started with menu's **from up to down and left to right**. For example in the following order:

1. **Model series and Axle configuration**
2. **Cabin model series and engine size** (S13 means S type cabin, 13 litre engine)
3. **Engine type**
4. **Chassis height / suspension** for example NA
5. **Frame type**
6. **Cabin version** (more cabins in cab-window)
7. **Gearbox type**
8. **Wheelbase**
9. **Specify liftaxles** (e.g. 2,3 for more information see liftaxles)
10. **Front axle type**
11. **Rear axle & final drive**
12. **Extra weight on front axle for devices on truck**
13. **Extra weight for rear axle**



It is important to choose these in this order, because the choices made in the top menus will change the possible options in dropdown-boxes below and filter out the selections. For help on selections you can click on the Help-button to get a window with explanations for models.

Allowed weights: Allowed front axle weight, allowed rear axle weight and allowed total weight are defined by chosen axles, unless the common allowed weights are limiting the weights.

For example: If You choose 21000 kg rear axles and your Trailerwin is set on EU-regulations, the weight will be limited to allowed rear axle weight: 19000 kg.

If You want to use this greater value 21000 kg, You will need to type it manually in field "G.V.W. rear axle".



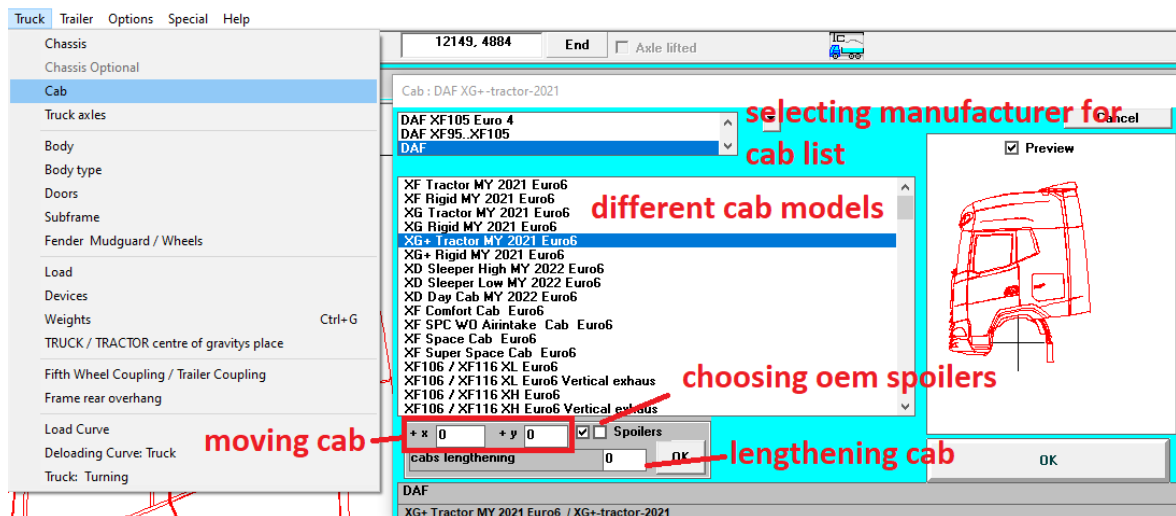
Change and move cabin on truck and add spoilers

You can change and modify truck cab and change the location of cab in horizontal and in vertical direction.

In menu Truck-Cab you can find additional cab models for all brands. It's also possible to change to a cab from another manufacturer in this window.

Here you can also find OEM spoilers if they have been present on the drawings given to us. The spoilers can be found when placing check-mark in first or second spoilers-checkbox.

To adjust position of the cab, for example to adjust the cab height, you can give a value in "+x" or "+y". You are also able to adjust the cab length by giving a value in cabs lengthening.



When You change truck cabin this way, only cab drawing changes, **weight information is not changing**. You can also use this window to give new (x,y) coordinates to cab and maybe also lengthen the cab drawing.

XXX-Chassis and Cabs

Some "no name" anonymous chassis and cab models. In XXX cab palette you can find different cab styles. Some of the anonymous cabs look realistic and some experimental.

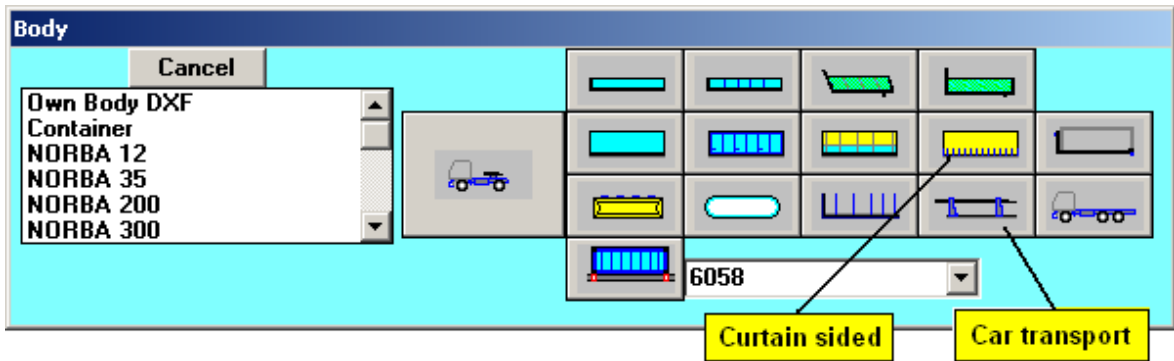
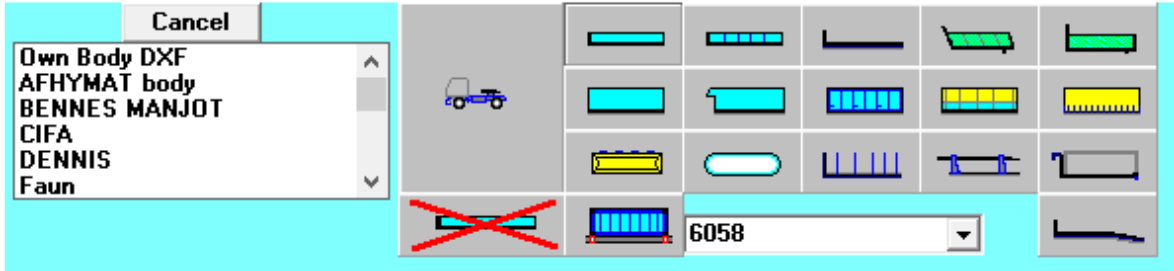


Body and fifth wheel



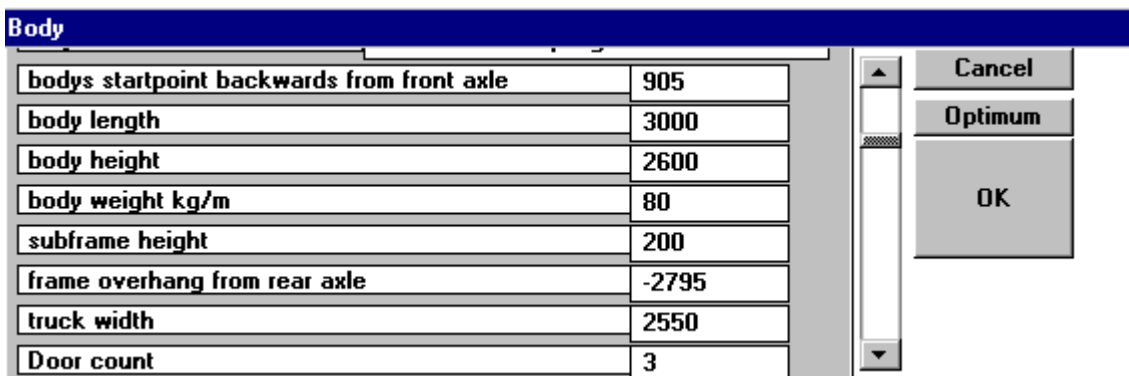
Choose the Body type or editing Body dimension and weight data.
When the program calculates at first an optimum body as default. It is calculated so that the rear axle load is on maximum value.

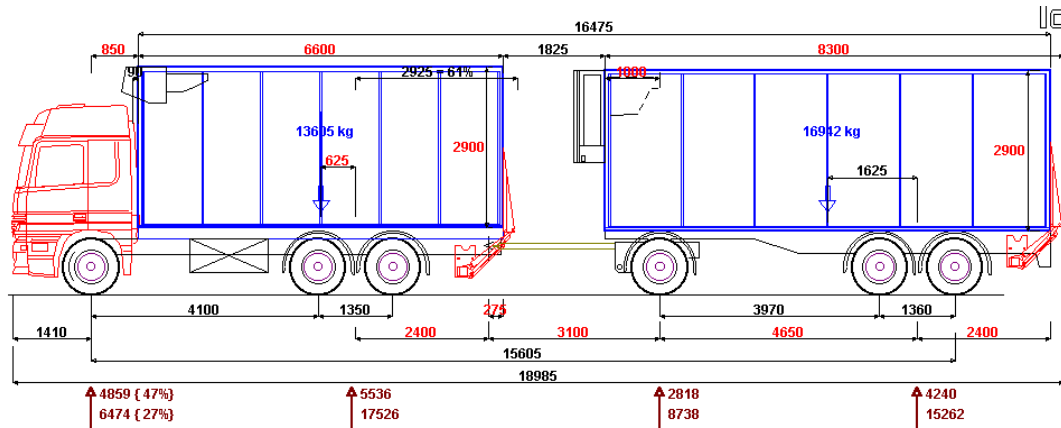
Body



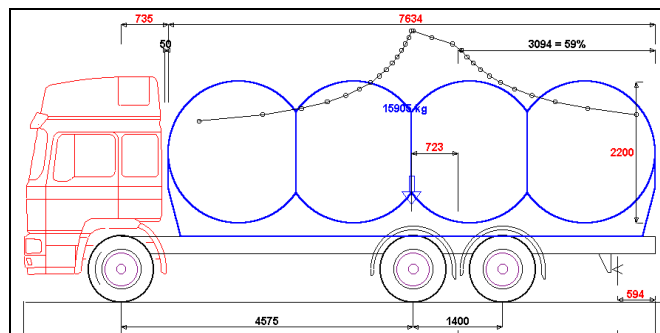
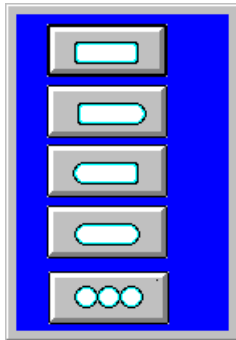
From the list box above you can choose special bodyworks.
You are also able to use own DXF-drawings as the body.
See: Using DXF-pictures as Body picture:

If you choose body with side doors, the program divides the body length into parts (default width 1 meter). You can choose the amount of the doors in Menu: truck Body and in **Menu Trailer - Dimensions**, there is a line "Doors".





Silotank Models:



R55 D-value and V-value calculations for trailer couplings

From version 2021-05 you will get D-value calculation into the yellow box when you work on a combination with truck and trailer. The D-value (and V-value) are based on R55 regulation regarding towing couplings and fifth wheel couplings.

! R55 94/20/EC: Fifth Wheel Coupling D: 103,8 kN, Trailer Coupling Dc: 77,7 kN, with air suspension V: 47,1 / otherwise V: 62,9

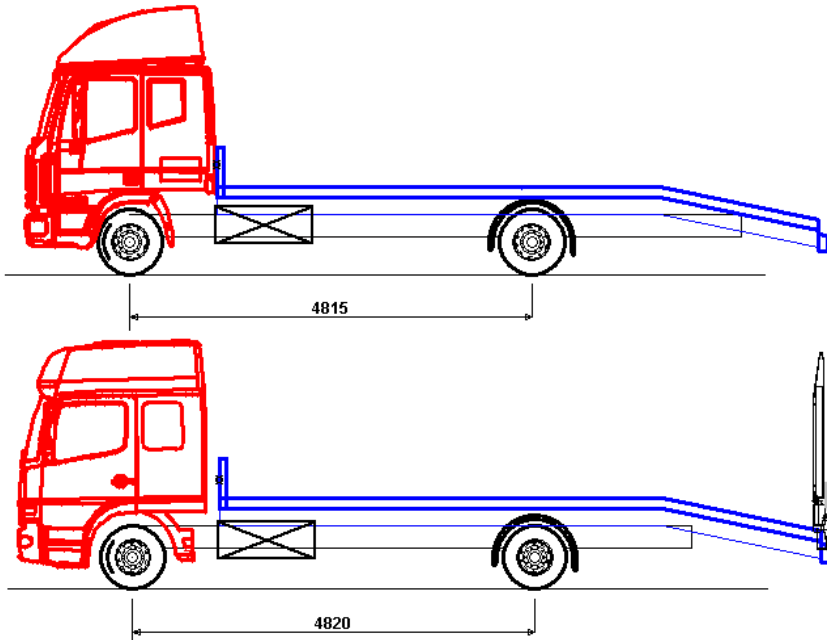


Beaver tail body type

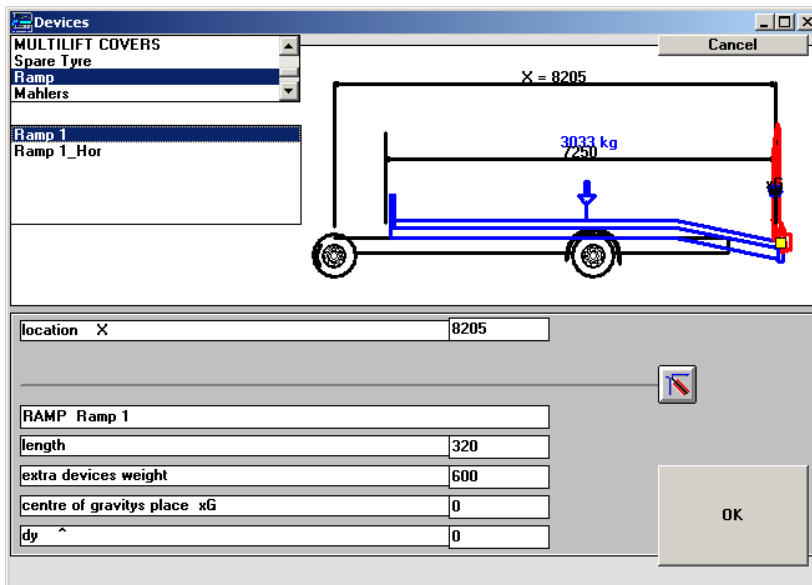
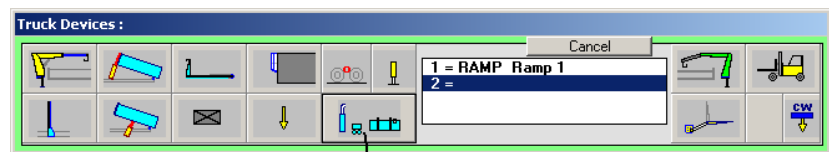


Body type: "Beaver tail".

In body data program user is able to change the incline length and incline angle.



The Ramp for beaver tail body type can be found in mixed equipment: "Ramp"





Side post places in timber truck body

It is possible to give self the side post placing on timber truck body type.

Following picture shows, the meaning of dimensions dx1, dx2, dx3, dx4, dx5, dx6:

Side post dx 1 = dimension from body start to first side post.

Side post dx 2 = dimension from first side post to second side post.

Side post dx 3 = dimension from second side post to third side post.

Side post dx 4 = dimension from third side post to fourth side post.

Side post dx 5 = dimension from fourth side post to fifth side post.

Side post dx 6 = dimension from fifth side post to sixth side post.

If Side post dx 1 = 0 , in this case TrailerWIN calculates places automatically.

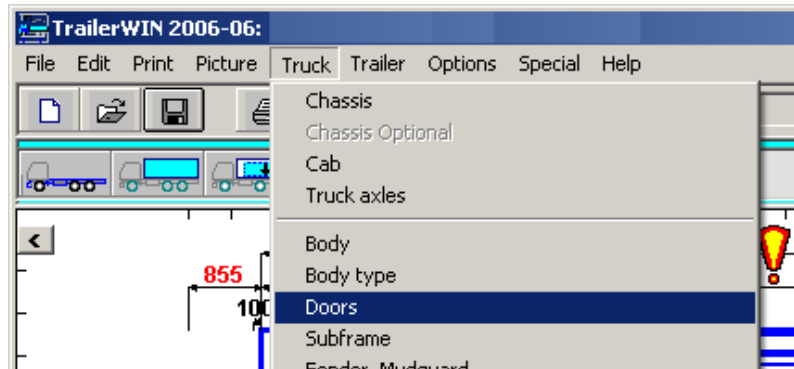
Body	
number of post pairs	6
Side post dx 1	500
Side post dx 2	1500
Side post dx 3	2200
Side post dx 4	300
Side post dx 5	2000
Side post dx 6	300
Side post dx 7	0
Side post dx 8	0



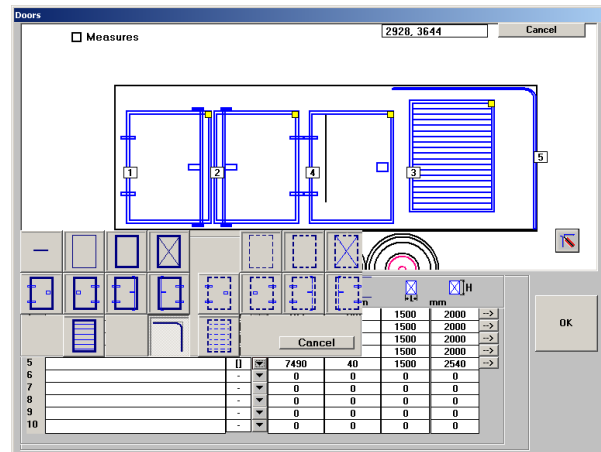
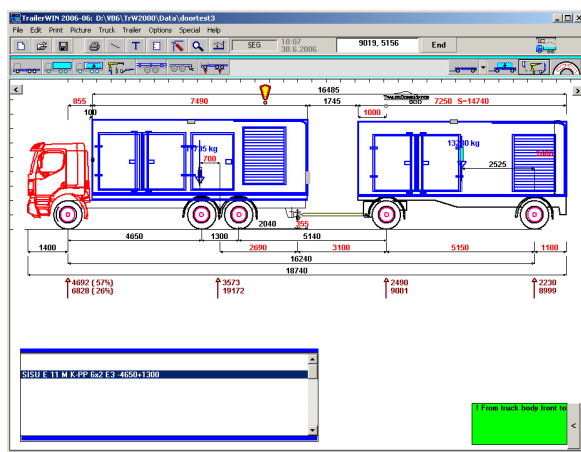
Choosing side doors for the body in truck body or in trailer body

Possibility to choose side doors to left side and right side on the body.

Possibility to choose side doors with hinge or shutter doors and edit the door height, door width and lathe width.



Door feature is available for truck body, trailer body and side doors are also available for trailer body on second trailer of a B-double.



For instructions on using DXF-files as body, please see more information on page 121.

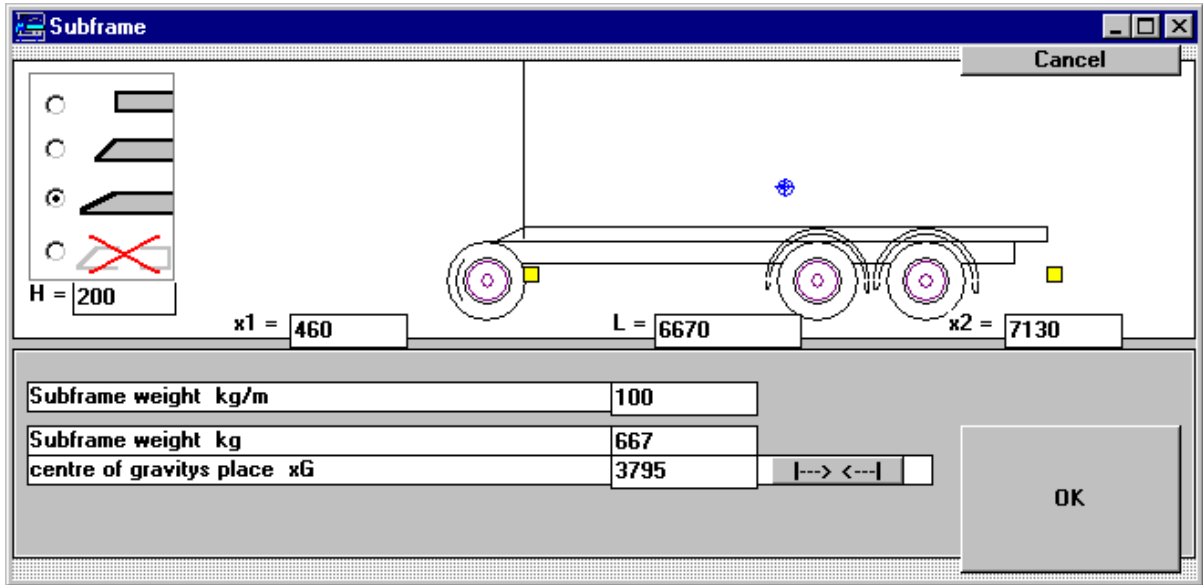
Subframe

This version enables to choose the subframe on the truck.

Subframe button on the toolbar



Give the weight in kg/m or total subframe weight in kg. The centre of the gravity of the subframe is automatically on the middle of the subframe, but it can also be changed to the some other point.



Subframe weight is calculated on axle weights.
 Constructing the subframe in FrameWIN program does not transfer the weight of subframe automatically to TrailerWIN.

Load

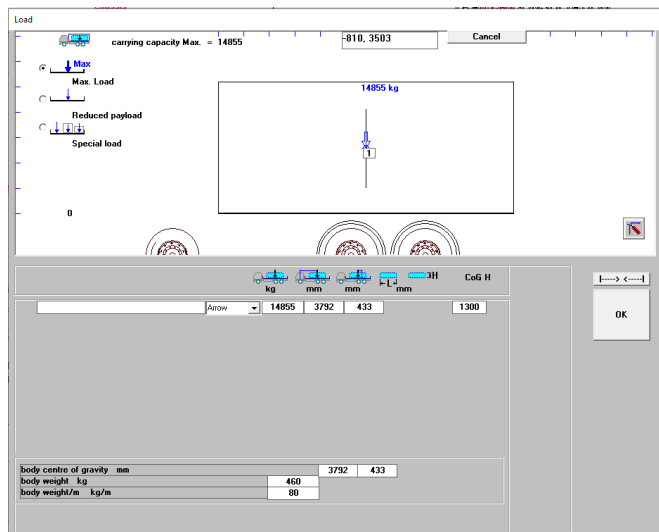


From Menu: Truck – Load (or Load's centre of gravity) or the button:

You will get the window below for the load details.

To move the centre of the gravity of the load you can adjust the values in this window. You can also move the centre of the gravity of the load by dragging the load label by mouse.

In load window you can also give vertical CoG for the load(s), for more details see **Giving CoG for Load and partloads**





Multiple loads



You can also have multiple loads on a truck or trailer, this option is possible when you click on the radiobutton "Special load".
 If You choose this, You can give load as many separate part loads. Using this option you give values for every separate part loads: load weight in kg and the place of the centre of gravity for this load.
 You give the centre of gravity from the front axle or from the centre of the rear axle or rear bogie.

Load

carrying capacity Max. = 14855 2149, 1977 Cancel

Max
 Max. Load
 Reduced payload
 Special load

	kg	mm	mm	mm	mm	mm	mm
1	4855	1600	2625				997
2	Box	3540	2690	1535	990	2227	1017
3	Box	3000	4910	-685	2020	1837	919
4							
5							
6							
7							
8							
9							
10							
Σ =	11395						983

body centre of gravity mm 3792 433

body weight kg 460

body weight/m kg/m 80

OK

Also note that you can also add loads as boxes or from our large database of load pictures.

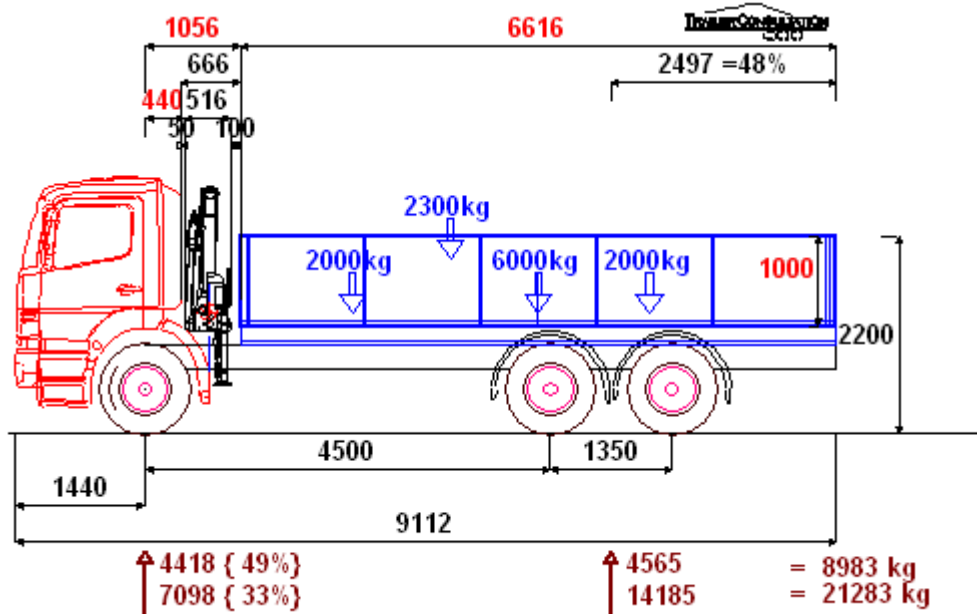
Load Pictures

- Bruks Mobile Chippers
- Builtite Truck Mounted Material Handl...
- Böcker Truck Crane
- Camper
- Cappellotto
- Car 1
- Car 2
- Caravan
- Common
- Coime
- Comacchio truck mounted drilling rig
- Comet Aerial Work Platform
- Chipper
- Australia pallet 1165x1165
- WP-OP Order Picker Platform
- WP-P Painted Work Platform
- WP-BC 18 Goods Cage
- Eurolight EL101-2515
- FE-Roller_d1500
- FE-Roller_d1000
- Fin-1200
- Fin-1000
- Adler (The first stem locomotive to op
- Airboat
- AM 740
- Bus

devices first spot, measured backwards from front axle 900
 dy 0
 AM 740
 length 2420
 extra devices weight 620
 centre of gravitys place 1350 1070 H 0

extra devices weight ??
 centre of gravitys place ??

OK Cancel



In the side view picture above You can move the load arrows in horizontal direction to move them forwards or rearwards with mouse. To move in vertical direction you change the CoG dimension in Load window.

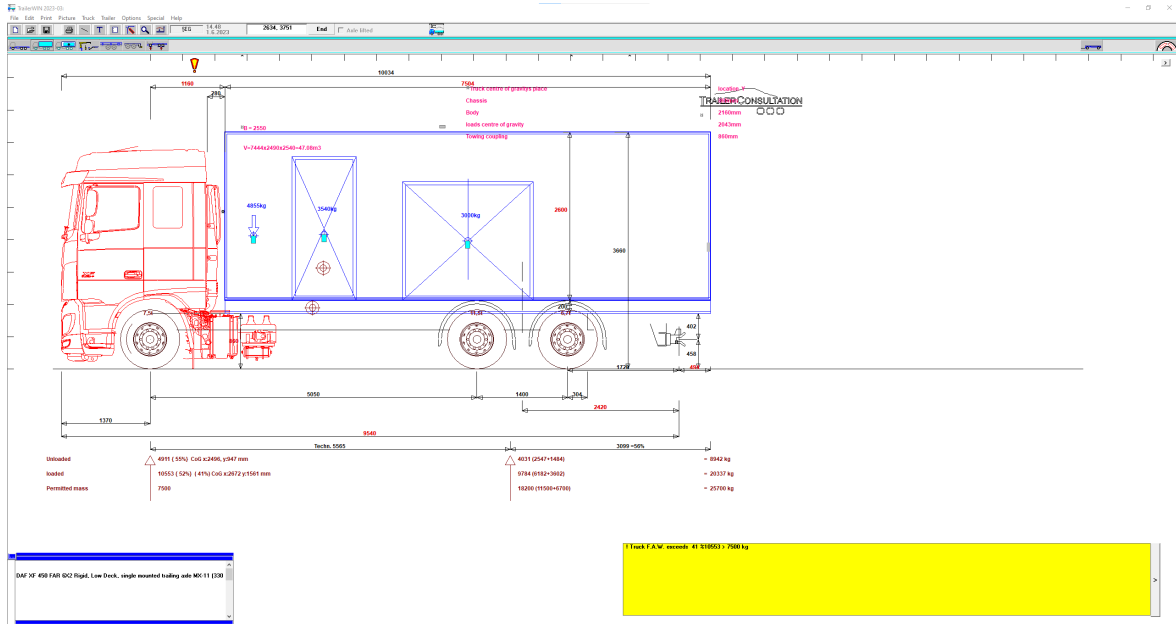
Weights				
	x CoG	Fa	Ra	Total
+ Chassis weight		3760	4040	7800
+ number of persons 1	0	75	0	75
+ body weight 80 kg/m	4364	83	447	530
1 HMF 333-K2	702	500	78	578
= weights unloaded :		4418	4565	8983
+ Load 1	4364	940	5060	6000
+ Load 2	2300	1111	889	2000
+ Load 3	5600	-164	2164	2000
+ Load 4	3400	789	1511	2300
= >>> Load Total		2676	9624	12300
= Weights loaded :		7094	14189	21283
:: Gross Vehicle Weight		7100	19000	26000



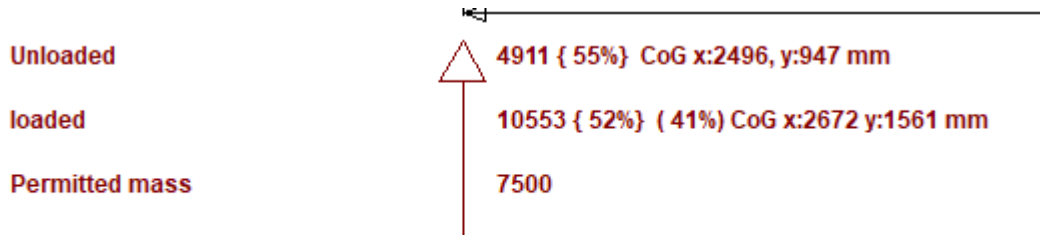
Maximum chassis weights in the picture

Three rows for weight data:

- Unloaded weight including driver
- Loaded weight
- Permitted mass



For front axle unloaded and loaded data row, depending on the user option settings, you can see the percentage of mass on front axle in {}-brackets. If you have activated CoG in user option you can also see the CoG in horizontal (x) and vertical direction (y). For more details for CoG calculation see **Vertical CoG calculation for trucks**.





Vertical CoG calculation for trucks

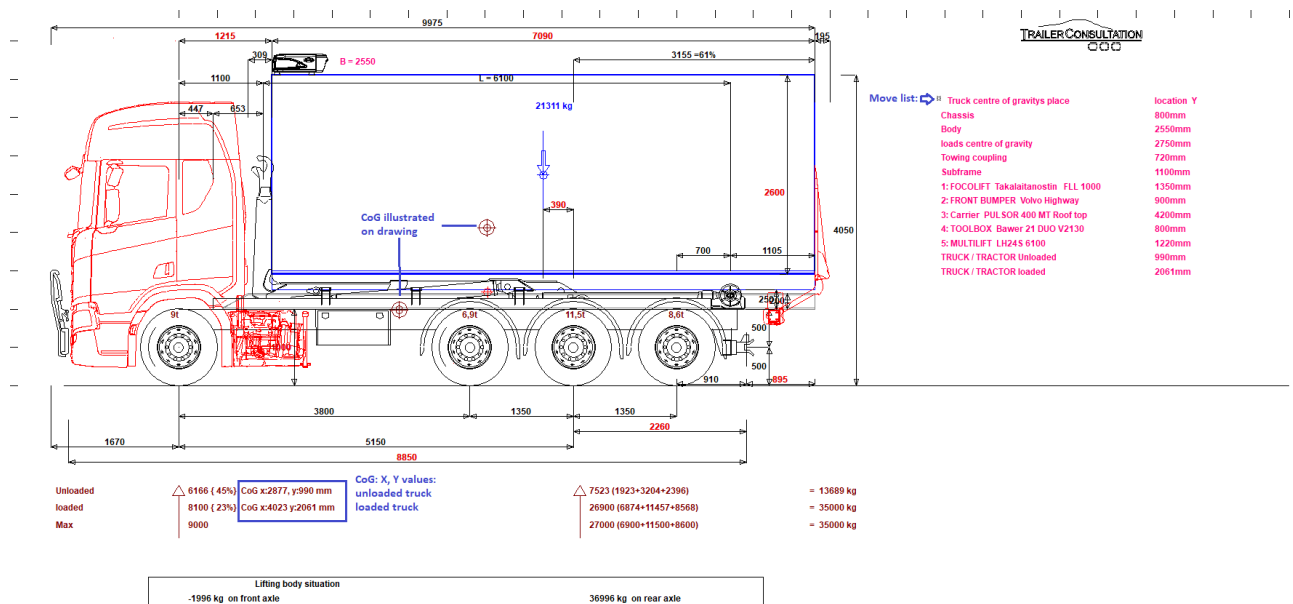
In TrailerWIN you are able to calculate vertical CoG for truck for both empty and loaded vehicle. The data for vertical CoG is not in TrailerWIN database of equipment but you can easily give proper values for Truck, body and each accessory from one single window. The CoG for load is given in Load window where you can specify separately for partloads to get a calculated total CoG point for the load. To show CoG calculation on drawing you need to activate “centre of gravities place Truck” in User options as default setting for new calculations:

centre of gravities place Truck

Or activate the function per calculation in Truck-TRUCK / TRACTOR centre of gravities place window

TRUCK / TRACTOR CoG height from ground

The value for CoG is shown after front axle weights in the drawing and as a list of devices with CoG-distance from ground level.





Giving CoG for Truck, body and equipment

When opening in menu Truck – TRUCK / TRACTOR centre of gravities place you will get a window showing CoG table with chassis and accessories. In this window you can choose & edit CoG:s:

Products	Text	CoG Y mm	Y Ground mm	Weights kg	Moment Nm
Chassis	Scania R520. 730 B8<2/4 NA	-200	800	9269	72743
Body		1300	2550	350	8755
loads centre of gravity		1300	2750	21311	574917
Towing coupling		-280	720	100	706
Subframe		100	1100	740	7985
EXTRA DEVICES	FOCOLIFT Takalaitanostin FLL 1000	-100	1350	350	4635
EXTRA DEVICES	FRONT BUMPER Volvo Highway	-100	900	80	706
EXTRA DEVICES	Carrier PULSOR 400 MT Roof top	150	4200	135	5562
EXTRA DEVICES	TOOLBOX Bawer 21 DUO V2130	-200	800	25	196
EXTRA DEVICES	MULTILIFT LH24S 6100	220	1220	2640	31596
TRUCK / TRACTOR	Unloaded	-10	990	13689	132886
TRUCK / TRACTOR	loaded	1061	2061	35000	707804

When you click on a device the picture will show the chassis frame and device chosen. You can see top of the hatched area showing zero-point for selected device, can also be seen on scale on right side. To edit CoG, fill in new value in textbox "CoG Y" and confirm by clicking on "Redraw". New CoG for truck total will immediately calculate.

ID	Name	Give CoG value here	CoG Y	Mass	Confirm by clicking on Redraw
1	EXTRA DEVICES FOCOLIFT Takalaitanostin FLL		-100	350	Redraw

Products	Text	CoG Y mm	Y Ground mm	Weights kg	Moment Nm
EXTRA DEVICES	FOCOLIFT Takalaitanostin FLL 1000	-100	1350	350	4635

Exporting data for CoG calculation

In Truck CoG window you can save the CoG window as BMP-file, take picture onto Windows clipboard or export the data from the CoG calculation to a textfile



Giving CoG for Load and partloads

When opening Load-window you can give the vertical CoG position for all type of loads. The load arrow can be dragged in Y-direction for setting CoG and in X-direction to give horizontal position for the load in the list.

Load boxes will have CoG in half of the height when resized, this can be edited by moving the label up or down or give position in list of loads. When selecting load picture you can give the vertical position for the load in the datalist for the loadpicture

The screenshot shows the 'Load' window in the TrailerWIN software. It features a main diagram of a truck with a load, a list of load items, and a detailed 'Edit CoG vertical position' dialog box.

Load Window: Shows a truck with a load of 11311kg. The carrying capacity is 21311kg, and the current load is 3457.827kg. The load is positioned at 0mm from the front axle.

Load List:

	kg	mm	mm	L	H	CoG H		
1								
2	S130	Box	11311	1940	3210	1220	2240	810
3		Picture	2465	4470	690	->		860
4		Arrow	700	6910	-1760			920
5		.						
6		.						
7		.						
8		.						
9		.						
10		.						
11		.						
		Σ =	14476					

body centre of gravity mm 4760 390
body weight kg 350
body weight/m kg/m 49

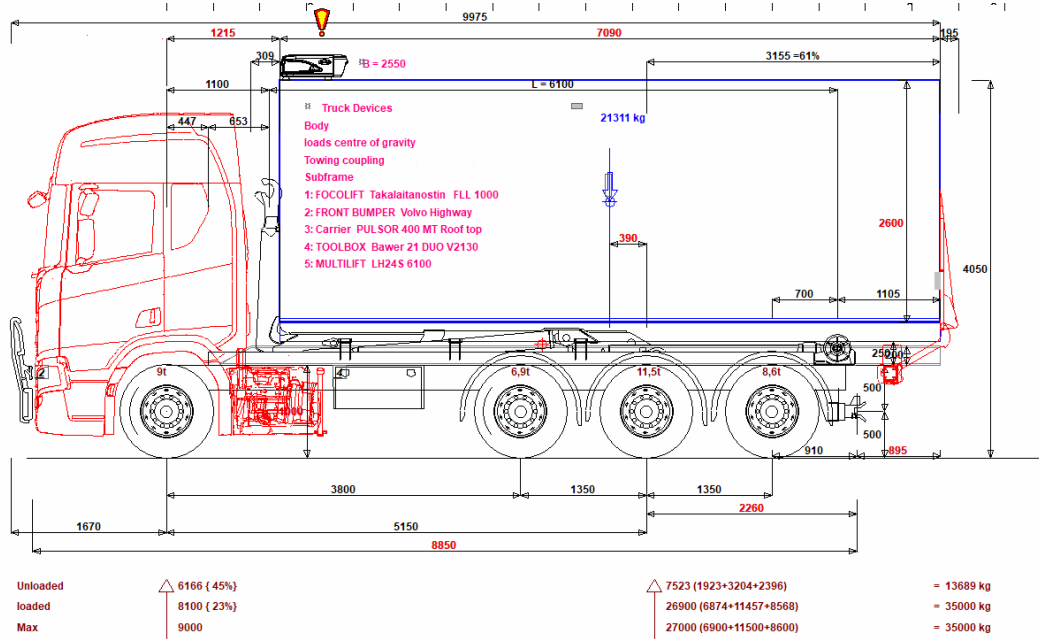
Load Pictures: Aerial ladders /Iveco-Magirus /Metz, Aichi, Ajax Fiori Transit Mixer, Altec, Aircraft, Animals, Apollo Concrete Mixer, Axo Shredders, Autohydrolits PSS, Bergkamp Inc, Beyer, Bobcat

Edit CoG vertical position: devices first spot, measured backwards from front axle: 3170; dy: 0; S130; length: 3152; extra devices weight: 2465; centre of gravities place: 1300, 1852, H: 860. Includes a warning: 'extra devices weight ?? centre of gravities place ??'.



List of equipment on drawing

(Truck CoG function not activated)



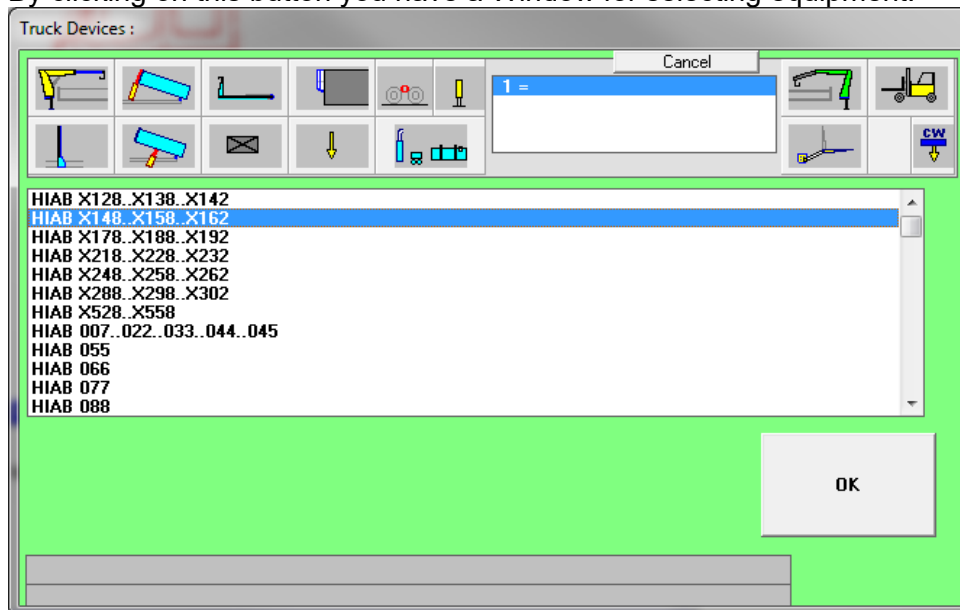
When CoG Truck function isn't activated you will find a list of devices on the truck in a moveable textbox:

The textbox can be moved by dragging the gray -handle, the textbox can be moved in X and Y direction to desired position to prevent overlapping.

Equipment

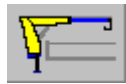


By clicking on this button you have a Window for selecting equipment.





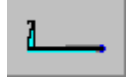
Buttons for choosing the equipment type:



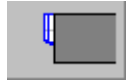
Crane (front of the body)



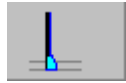
Tipping gear (Front Tipping Gear or Underbody Tipping Gear)



Hooklift body



Cooling unit

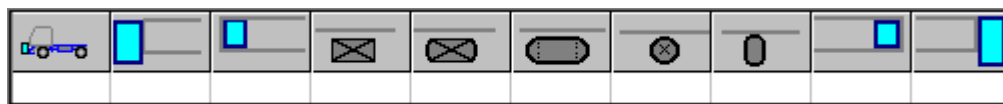


Cab safety wall



Point weight, with following alternatives

t



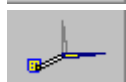
1. For example Winch front
2. Box between the cab and body
3. Box inside the body (e.g. toolbox inside the tank)
4. Rectangular Box
5. Box with rounded corners
6. Box with round ends
7. Circular Box
8. Air dryer
9. Box inside the rearbody
10. Box behind the body



Point weight (as vector)



Rear mounted crane



Rear Lifter (Tail gate lifter)



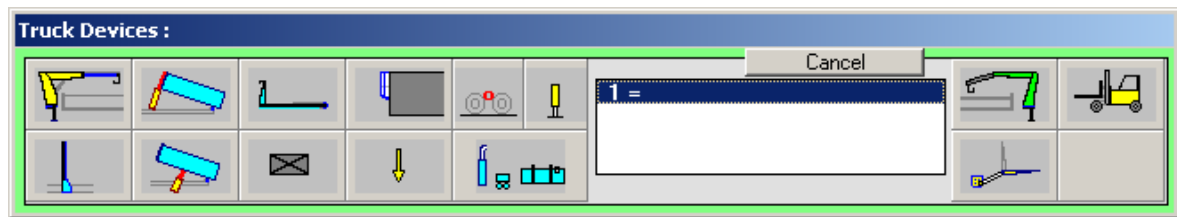
Truck mounted truck



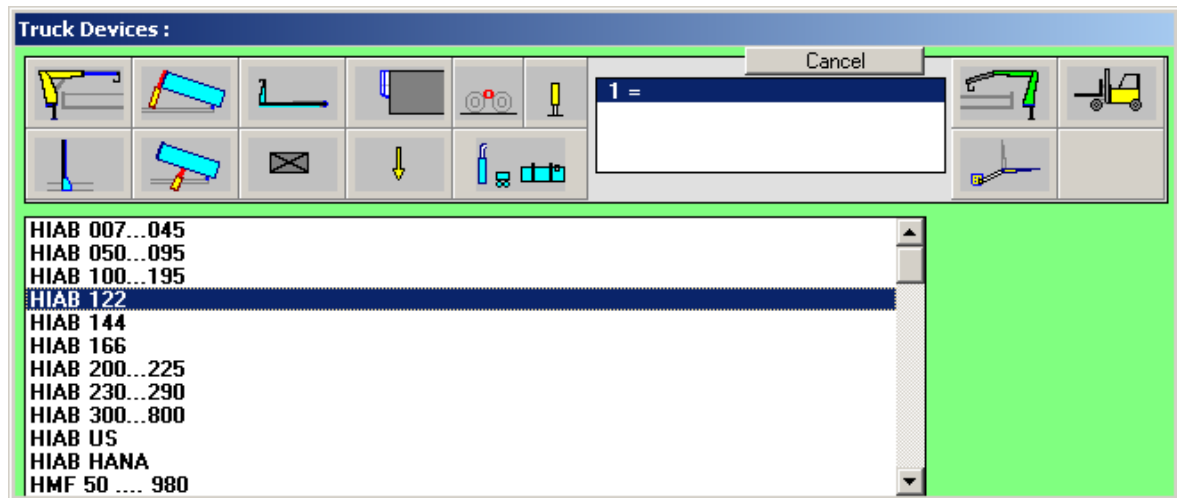
Counter weigh



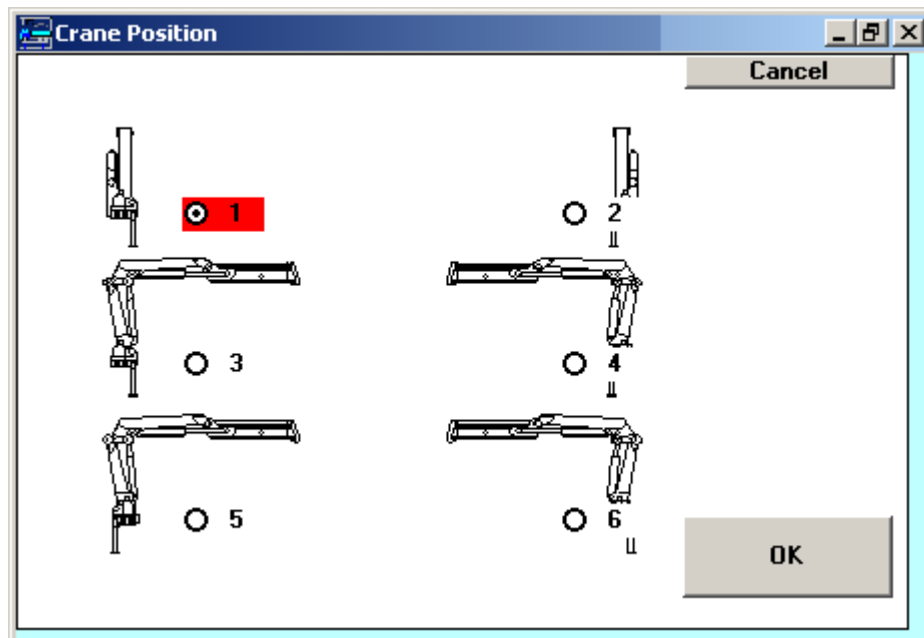
Choosing a crane



Choose Crane or Rear Mounted Crane



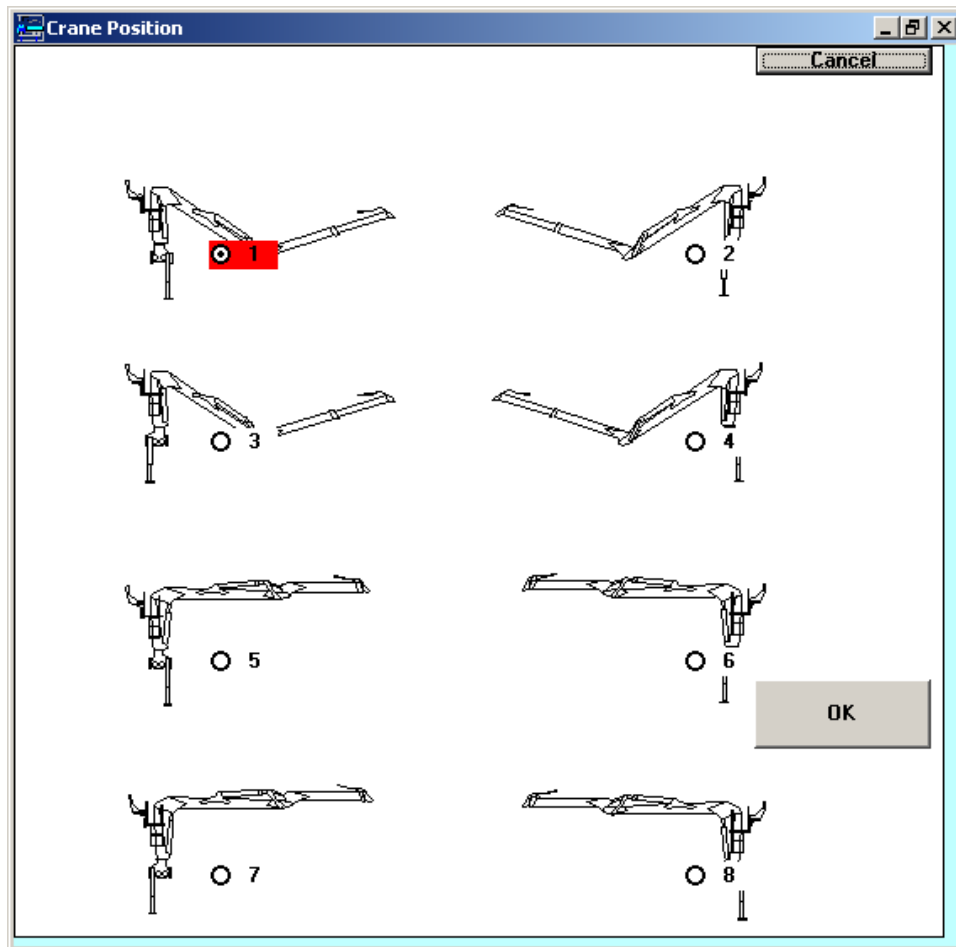
After choosing a crane model, we get a window with different possible crane positions.



Depending on crane model, there can be 4 , 6 or 8 positions.



Following example crane position picture with LOGLIFT F 105 ST 96





1: Hiab 122B-3 DUO

Cancel

Hiab 122B-3 DUO	
Cranes first spot, measured backwards from front axle length	547
length	826
Crane weight	1640
Mountings part weight	39

Support legs

- 3600mm Man Fixed
- 4500mm Hyd Fixed
- 4500mm Hyd Man tilt
- 5500mm Man Fixed

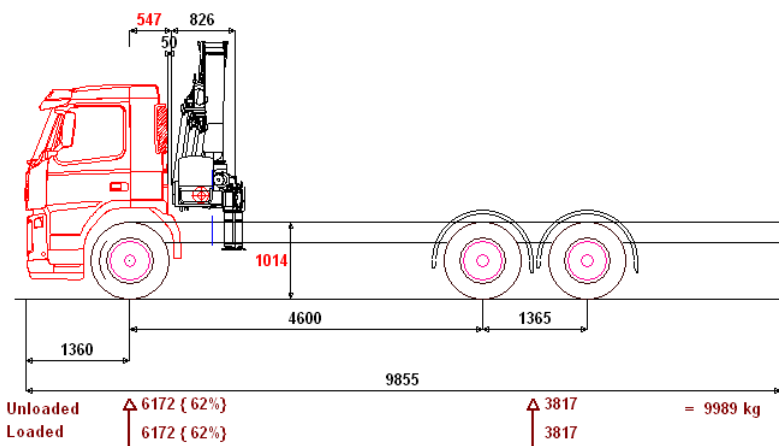
Support legs weight	195
---------------------	-----

devices centre of gravities place, from centre of cranes frame

-145

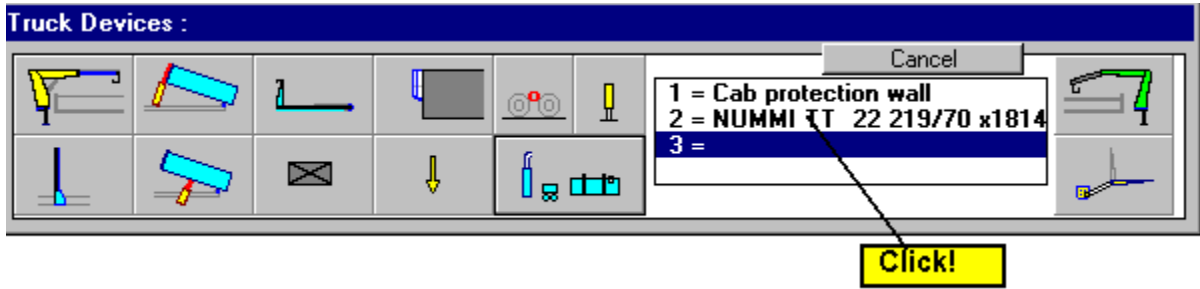
Distance Cranes slewing centre - Crane First point	529
devices corner width	2500
corner length (body - devices corner)	826

OK

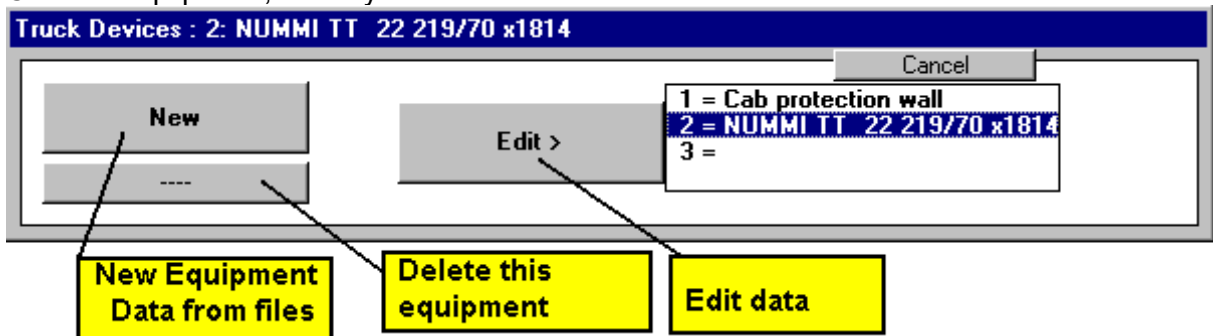




Modifying equipment

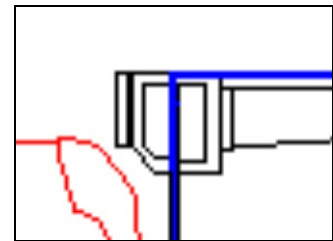


Click the equipment, which you want to edit.

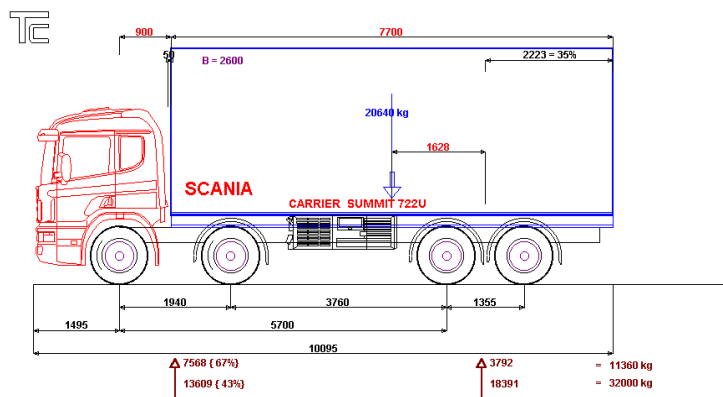


Cooling units

- You can move the **cooling unit** to horizontal and to vertical direction. Type dx for horizontal and dy for vertical moment in Refrigerator data editing window.



Under Body cooling units .



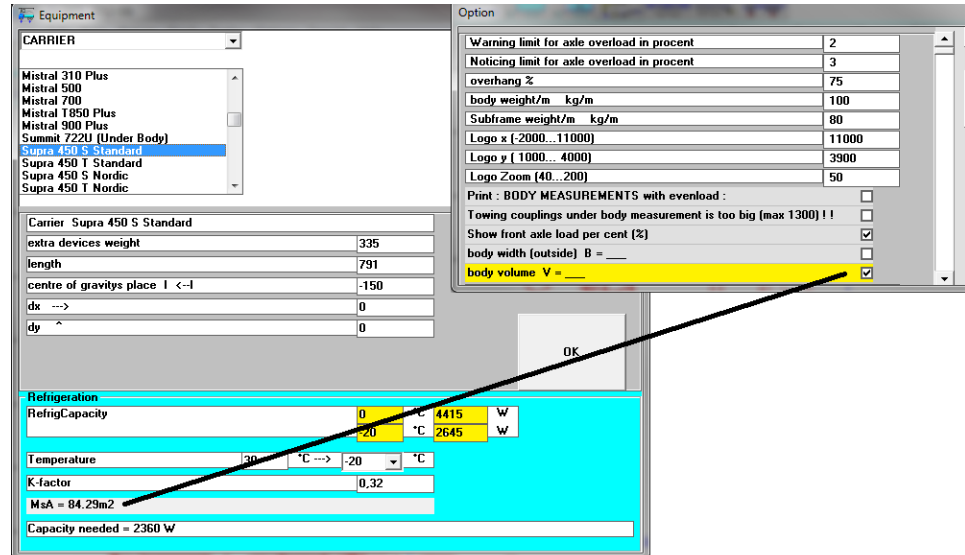


Capacity details on refrigerators

Now we have updated some refrigerator models with capacity data. This capacity data is now automatically shown in TrailerWIN for some of the cooler-models.

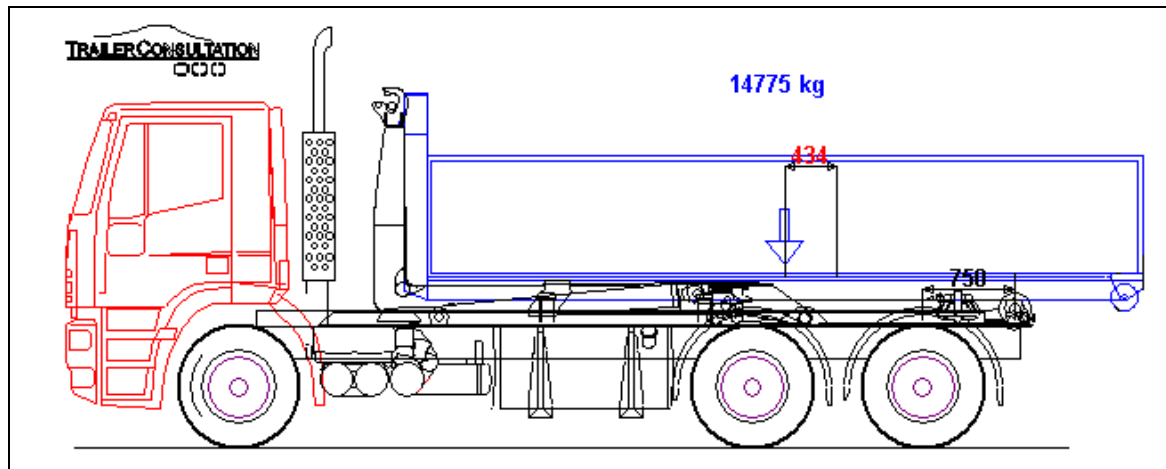
MsA-calculation

To get the MsA-value the User option for “body volume” must be shown (checked).

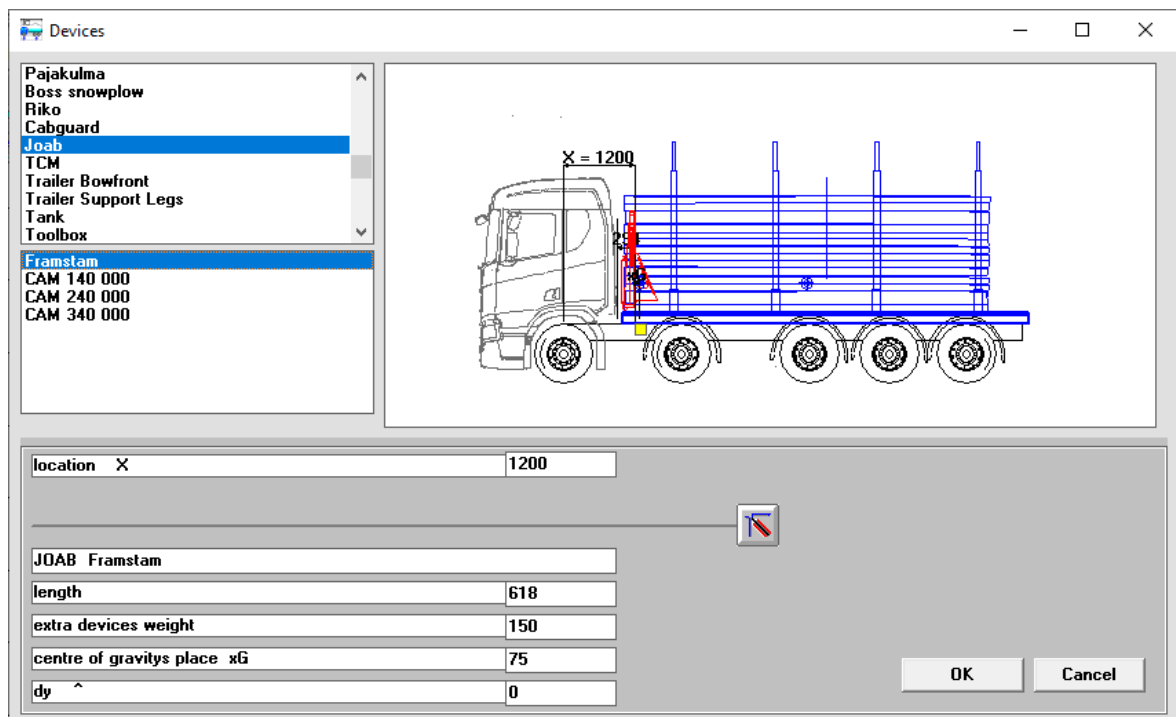




Mixed Equipment: Exhaust pipes, Tanks, Air Tanks, Stabilizers ...



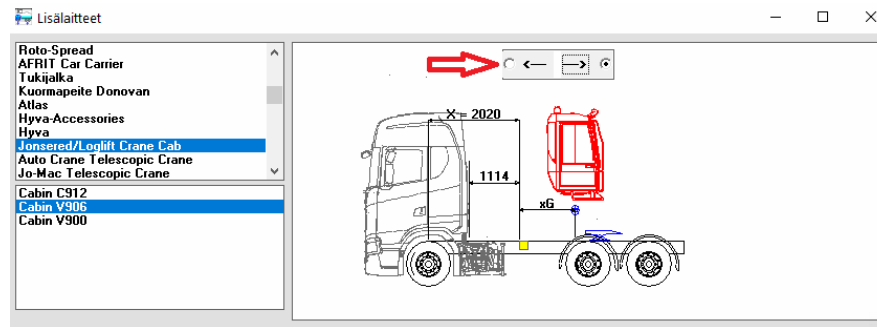
Mixed equipment





Mirroring mixed equipment

You can mirror equipment in TrailerWIN. With mirroring the complete drawing will be turned around it's zero-point and the CoG position will be also turned opposite way. In some cases mirroring will flip the drawing around it's first point and when zero-point is in the middle of the equipment it will simply mirror the drawing.



Demountables, Hooklifts

For choosing the Hooklifter or some other demountable, you can check the details (how much there is place available etc) in the preview picture.

Hooklift stability

TrailerWIN calculates the axle weights when hookliftbody's weight and payload weight is on the rolls or on tipping axle. Weights can be seen under the picture.

tipping hinge, backwards from rear axle	700
frame overhang from rear axle	1200
MULTILIFT LH16S 4600	
length	5253
extra devices weight	1850
devices centre of gravity, forwards from tipping gear axle	2550
dy ^	

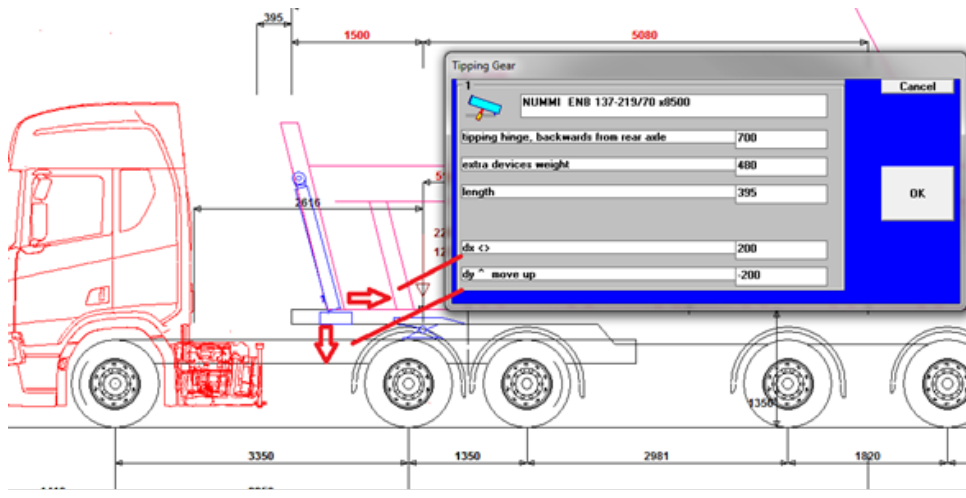
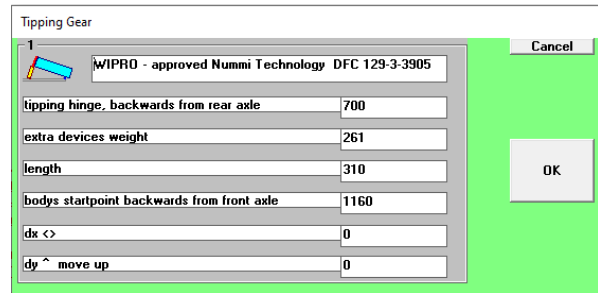
1403 kg on front axle 24597 kg on rear axle

Note ! Hooklift stability calculation don't use the calculation method in DIN 30722-1.



Tipping cylinders

In TrailerWIN you have possibility to define both tipping hinge and position for the tipping cylinder. You can move tipping cylinder also in height direction by giving dy-measure. A positive value moves the tipping cylinder upwards and a negative value moves the cylinder down. For front tipping gear we have also added the possibility to move the cylinder backwards into the tipping body. This is useful when the front tipping cylinder is built within the tipping body. For trailers the rear-overhang will also be automatically shortened to position of hinge.





Mixed Equipment

In the Group "Mixed Equipment" program user can find for example Snow Ploughs.

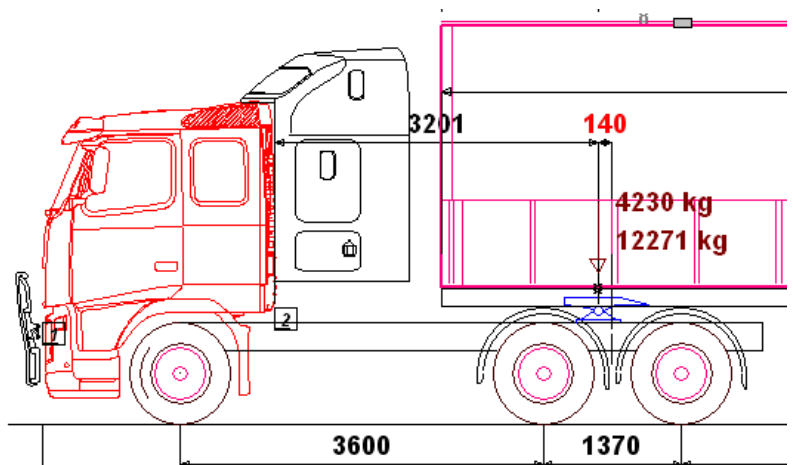
The screenshot shows the 'Truck Devices' menu with 'Mixed equipments' highlighted. Below it is the 'Devices' configuration window for a snow plough. The window includes a list of devices, a diagram of the truck chassis with a snow plough mounted, and a table of configuration parameters.

location X	1600
Snow_Plough	Sidoplog HDU 12 fot
length	4843
extra devices weight	630
centre of gravitys place xG	1530
dy ^	-900

Menu mixed equipment include also sleeper cabin & bull bar

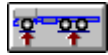
Sleeper cabins and bull bars
Included into program menu:
"mixed equipment"

Feature especially for the
Australian B-doubles
and road trains.





Weight table



The weight calculation data in table format.

The dimensions of the centre of gravity x is measured from the centre of the first axle. You cannot edit data in this table.

Weights				
	x CoG	Fa	Ra	Total
+ Chassis weight		4635	2260	6895
+ number of persons 1	0	75	0	75
+ body weight 0 kg/m	735	0	0	0
= weights unloaded :		4710	2260	6970
+ carrying capacity	735	0	0	11030
= Weights loaded :		4710	2260	6970
:: Gross Vehicle Weight		7100	11500	18000



Chassis Frame Overhang

Fifth Wheel Coupling / Trailer Coupling



Choosing Fifth Wheel Coupling or Trailer Coupling. The program calculates optimum place for fifth wheel coupling. For trailer coupling you can give position in different ways:

1. Measure from rear axle to trailer coupling,
2. Measure from bogie centre to trailer coupling,
3. Measure from tipping axle in case we have hooklift or tipping gear selected
4. Measure from trailer coupling to body rear wall.
5. Position in vertical direction from frame or from road
6. Weight of the trailer coupling in kg.

Trailer Coupling can be located on the chassis frame or under the chassis frame.

frame overhang from rear axle	800
Chassis frame original overhang To Body Rear	2114
Towing couplings location : from rear axle	1815
Towing couplings location : backwards from centre of bogie	2540
Towing coupling -> Tipping Gear Axle	1115
Towing coupling Y	-10
Height of the coupling over roadway	885
towing couplings under body measurement	299
Towing coupling Weight	50

You can choose the Frame Overhang. By clicking on the buttons you can choose the frame overhang as chassis original frame overhang or overhang to body rear.

Give position of towing coupling in Y-direction

You can now give the position of the towing bar in Y-direction. The value is calculated from the midpoint of the frame and a negative value moves the towing bar lower.

You can also use the radio-buttons for standard height positions.

frame overhang from rear axle	1481
Chassis frame original overhang To Body Rear	1481
Towing couplings location : from rear axle	1190
Towing couplings location : backwards from centre of bogie	1190
Towing coupling Y	-186
towing couplings under body measurement	291
Towing coupling Weight	100



Rear Overhang Max Min Warning Limits

On the Chassis Data Window you have now four new data fields.

Overhang Max = Maximum allowed overhang for this chassis

Overhang Min = Minimum allowed overhang for this chassis

Loadpoint y Max = Center of the Gravity of Loading, Maximum from rear axle

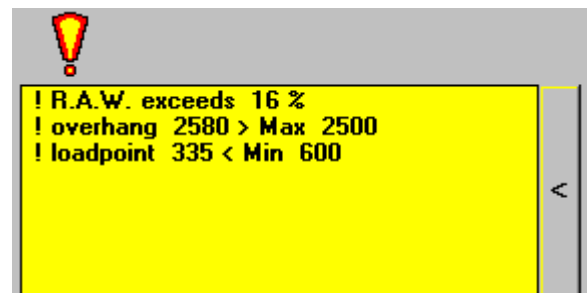
Loadpoint y Min = Center of the Gravity of Loading, Minimum from rear axle

Chassis	
measurement: front axle-rear of cab	465
frame overhang from rear axle	1720
overhang Max	0
overhang Min	0
loadpoint y Max	0
loadpoint y Min	0
number of persons	2
Weight / 1 person	70
persons centre of gravity, backwards from front axle	0

At the beginning all the values are 0. Chassis data files do not include these values.

If you have typed some values for these limits, you will get warnings, if **overhang** or **y** is over or under the limits.

You can turn this function **ON / OFF** from **Menu - Options - User Options**





Loadcurve

The load curve shows, how much you need to decrease load, if the center of the gravity of the load is not on correct place.

The load curve is now also shown in red and blue, depending on if the front-axle weight (red) or the rear-axle weight (blue) limits the load. When checking the box "Axle weights" below the picture, You can also see the actual front-axle and rear-axle weight at a specific point when the vehicle is loaded according to the weight shown on the load-curve. The coordinate window shows the distance from the body start point and the kg:s to the point where the mouse pointer is on the diagram. With this it's easy to check the allowed load for a specific point of the body. For example

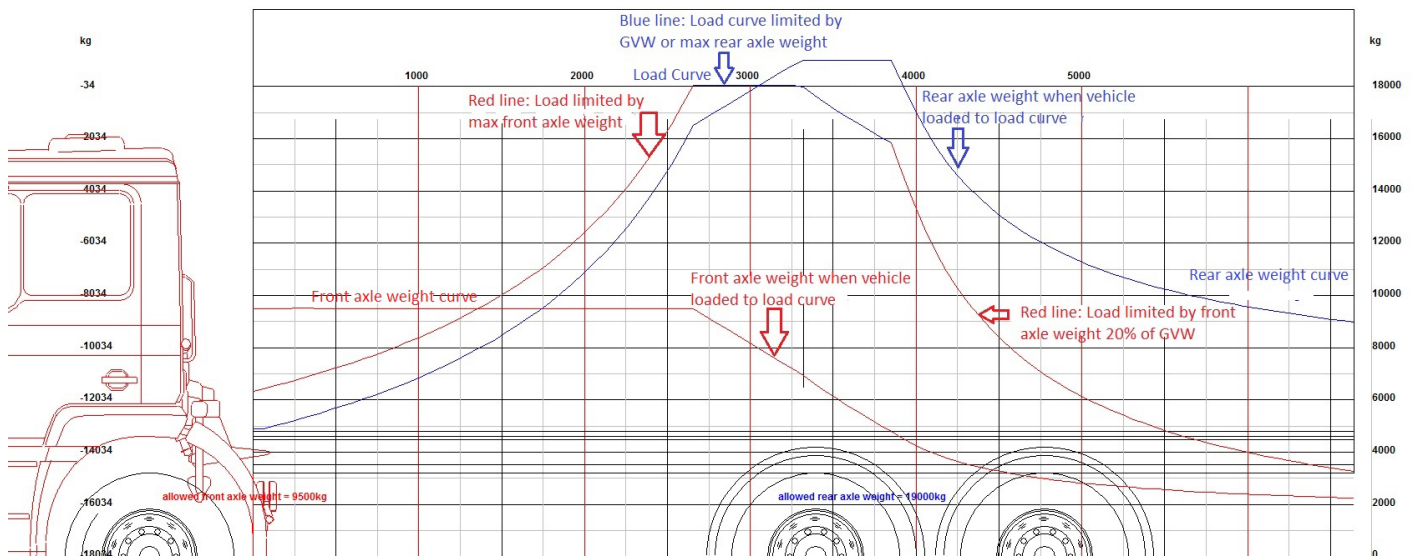
Axle Weights

2651 ; 16517kg

On this picture you can read, that if the centre of the gravity of the load is located 2500 mm from the front wall of the body, you should have 2000 kg less load for preventing overloading on the front axle.

ERF ECS 6 Litre 6x4 Rigid -5400 Day cab

Load Curve: Truck



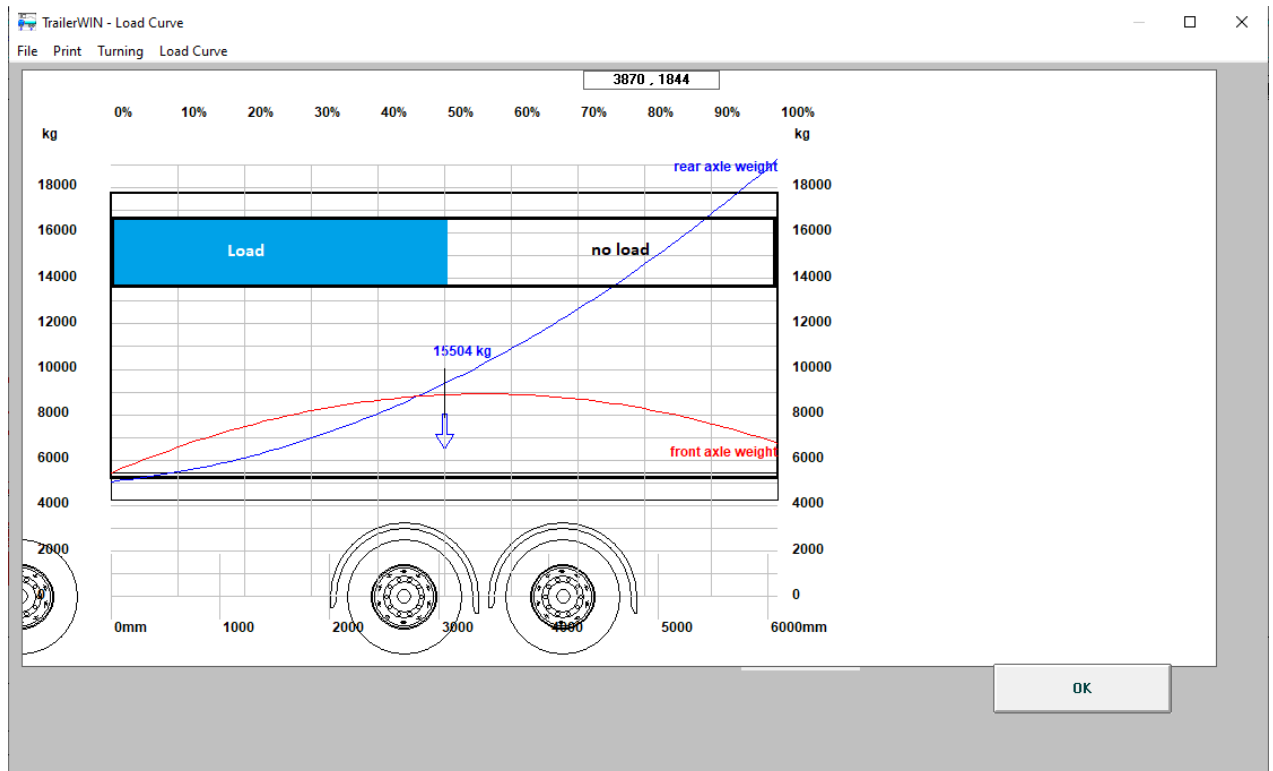
For Centre Axle trailers You can also give minimum and maximum towing coupling weight to get a load curve meeting the allowed weights for the towing coupling.

Load Curve	
Min Towing coupling Weight	120
Max Towing coupling Weight	1000
Ok	





Deloading Curve

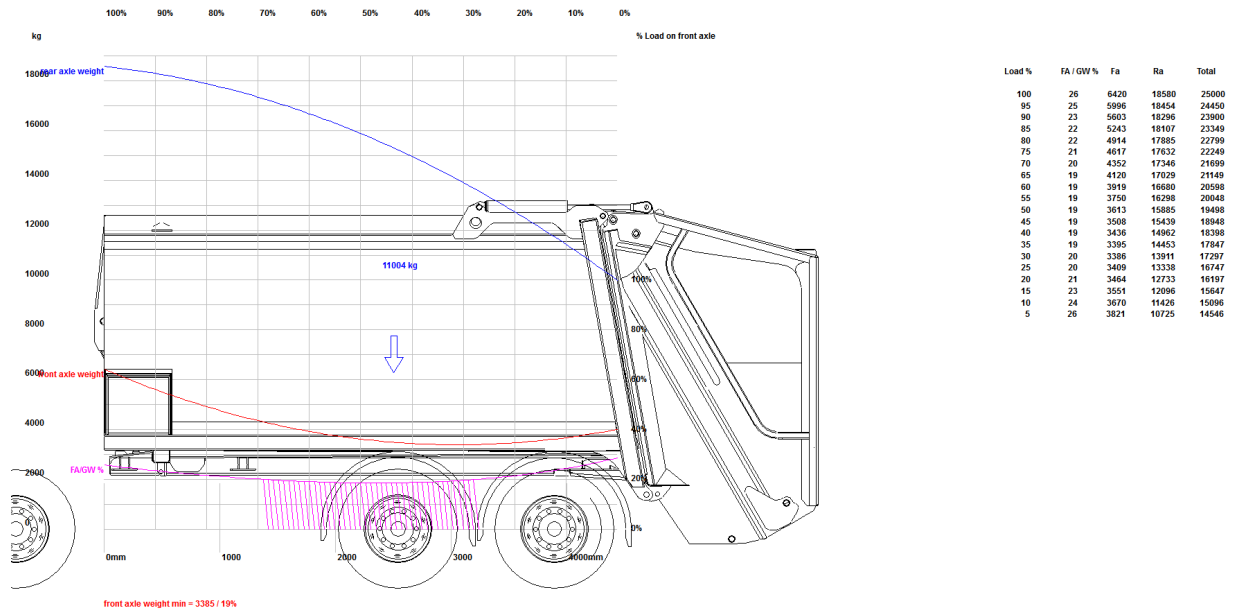


Deloading Curve shows, how the axle loads are changing when you take load away from the rear of the body. For example this curve shows that when you have 50% of body loaded, the front axle weight of the vehicle is approx 9 000 kg and rear axle weight 9 500 kg when we at a full loaded (100%) have below 7 000kg on front axle and 19 000kg at rear axle. This curve is useful for choosing right front axle capacity for the truck.

In this diagram you can also use the mouse cursor to see distance from body startpoint and the actual load value the cursor is pointing on. Note that the cursor position will determine the weight in coordinate window, not the curve itself.



Rear loading-curve/weight table (waste compactor vehicles)



Now You can see a loading situation where the load is added from rear of the body. The diagram shows front and rear-axle weights during loading and also percentage of weight on front axle during loading. The area where front-axle weight is below 20% of total weight the diagram is hatched. On right side You also see a table with weights during loading the compactor from rear end.



Truck Turning

Truck turning, outer turning radius and kerb radius on max steering wheel angle. Default value for max steering angle is in the picture below 50 degrees. The user can change this value. The correct value depends on the truck model.

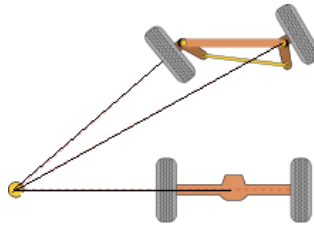
Features in turning calculation

For calculating turning there are now some new features implemented. Chassis data has new data: "Front track", default value 2000 mm. If data is available TrailerWIN shows the track for actual truck selected.

In Turning window the static turning picture all angles for turning axles are shown, for inner- and outer wheel and mid-angle.

When looking at Truck turning separately You now also see front track measure on the picture. There are also new features for defining turning angles.

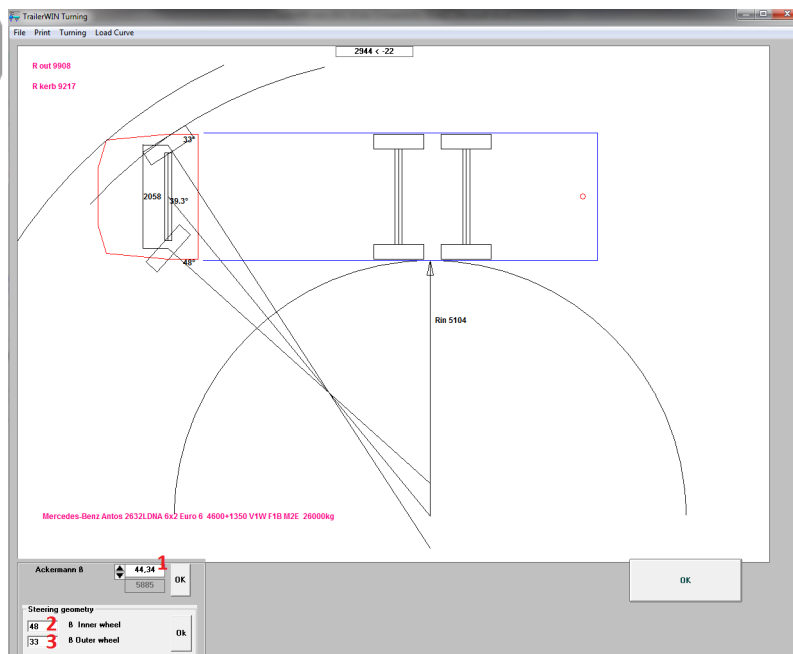
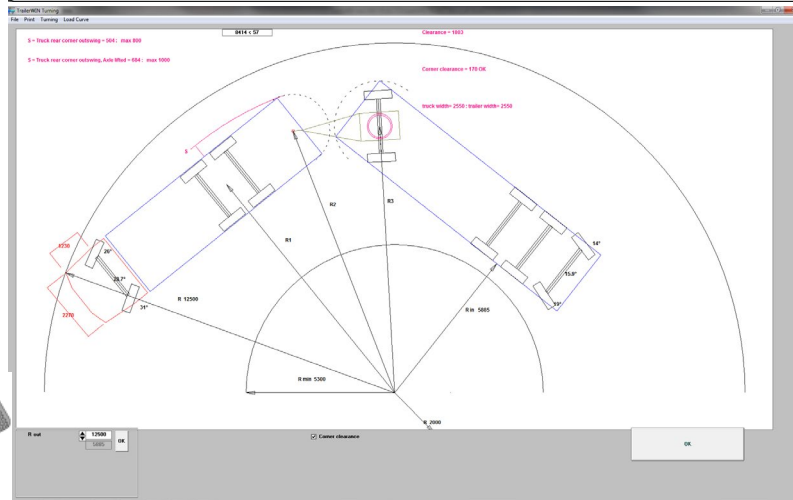
- Calculating turning to Ackermann principle:
Give max turning angle
for inner wheel in
textbox 1 and
press the ok-button to the right of the
textbox. The program then calculates
turning so that the outer wheel tangent
points to the middle of the turning circle.



- Calculating turning for max angles on inner and outer wheel: Give max angles for inner wheel in textbox 2 and for outer wheel in textbox 3 and press the ok-button in the light gray area. The program defines turning between the tangents for inner and outer wheel.

If the max-angles are given for the vehicle the calculation is defined using them at first opening. If angles are not given in vehicle data, the values are 0 and the turning calculation is done using 50° in Ackermann calculation.

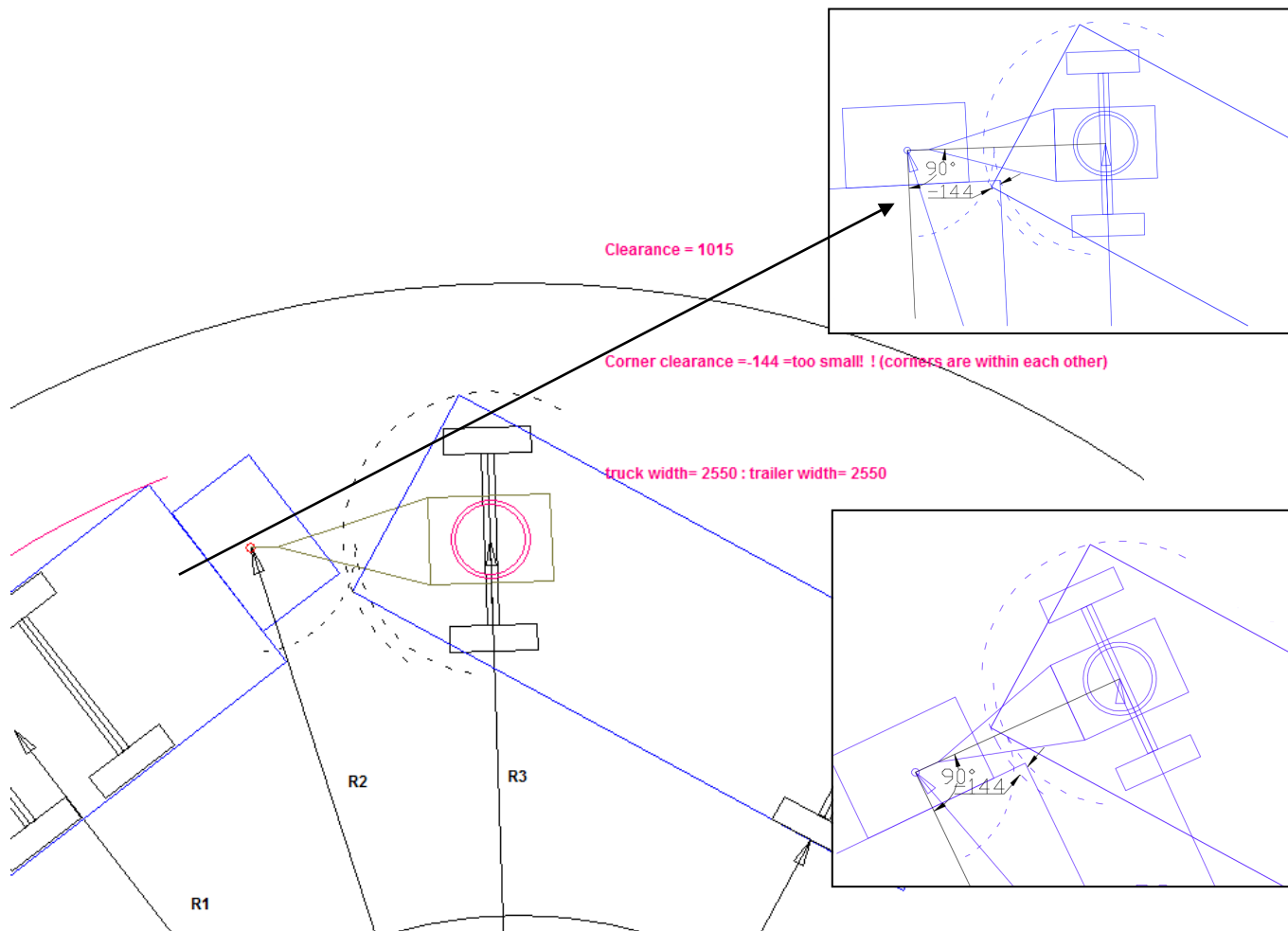
Chassis	
G.V.W. rear axle kg	19000
Max G.V.W. rear axle kg	21500
G.V.W. total kg	26000
Chassis weight, front axle	4928
Chassis weight, rear axle	3360
basic wheelbase (front axle- first rear axle)	4600
Front track	2058
bogie wheelbase	1350
first bogie axle kg	11500





Corner clearance calculation when towing bar is behind the end of the body

The corner-clearance calculation has been re-fined for trucks with towing coupling behind the end-point of the body. Minimum corner clearance is calculated for situations where the truck is turned in 90° angle towards towing bar on trailer. The corner-movement is drawn as 2 short arcs to show where the corner of the truck rear end will be closest to the front corner of the trailer. The measure is calculated when the truck is 90° towards towing bar.





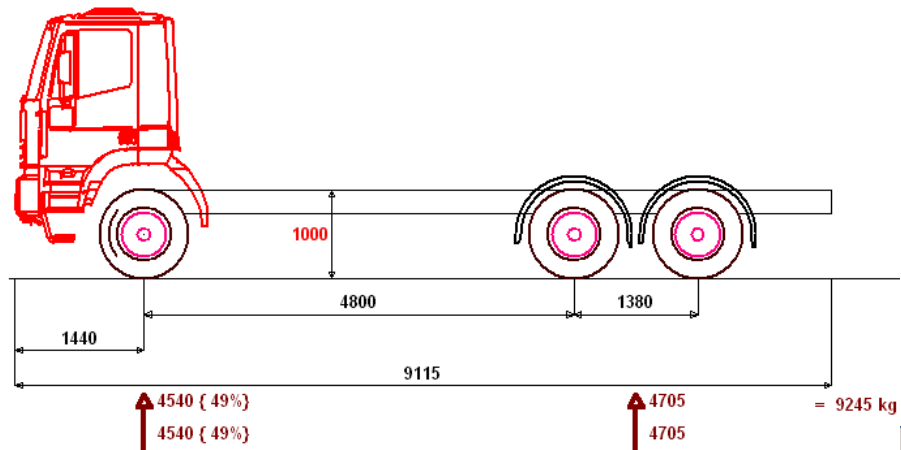
Adding Axles and Changing Axle Properties

From menu **Truck – Truck Axles**

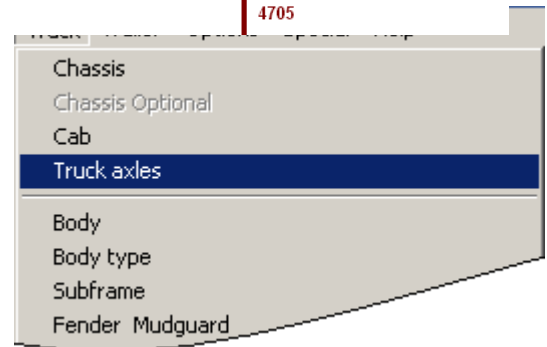
program user can choose some axle details and also add more axles.

Example:

We choose at first the basic vehicle, in this example a 6x4 chassis.

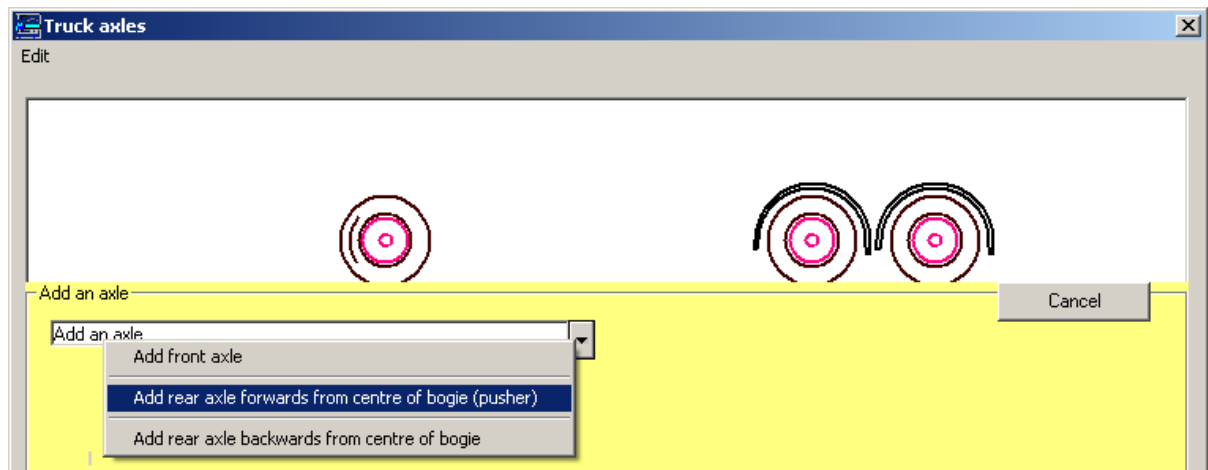
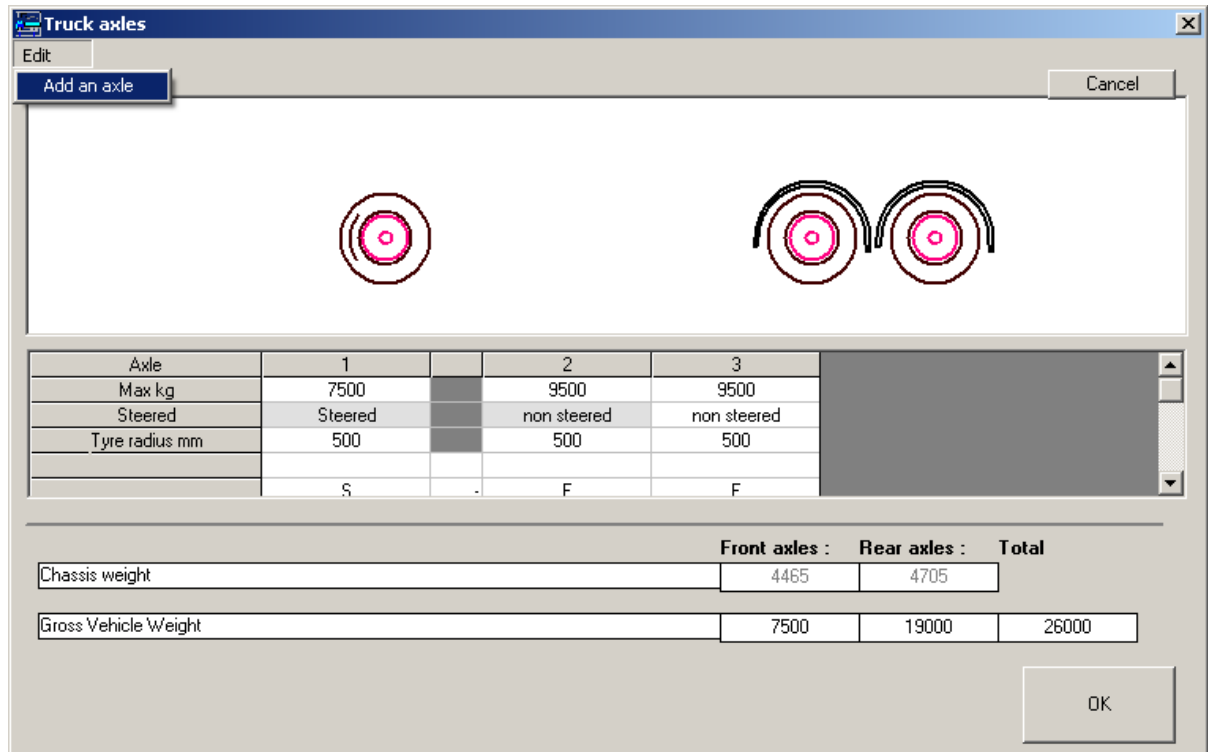


Click Menu
**Truck – Truck
Axles**





In Truck Axles Window:
Click Menu **Edit** - **Add an axle**

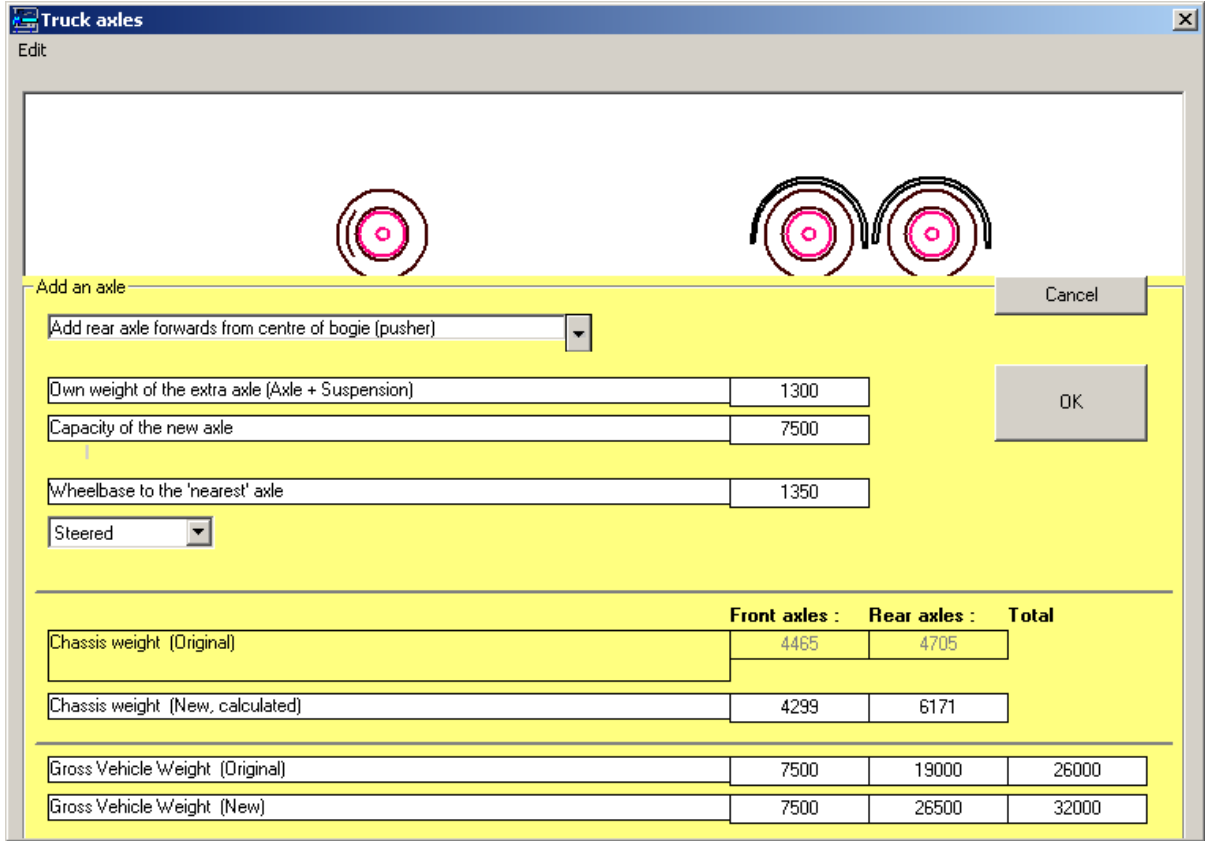


Click Arrow button on combo box “Add an axle” and then choose the axle to add.
There are 3 possibilities given in the menu:

- Add front axle
- Add rear axle forwards from the original rear axles (pusher axle)
- Add rear axle backwards from the original rear axles

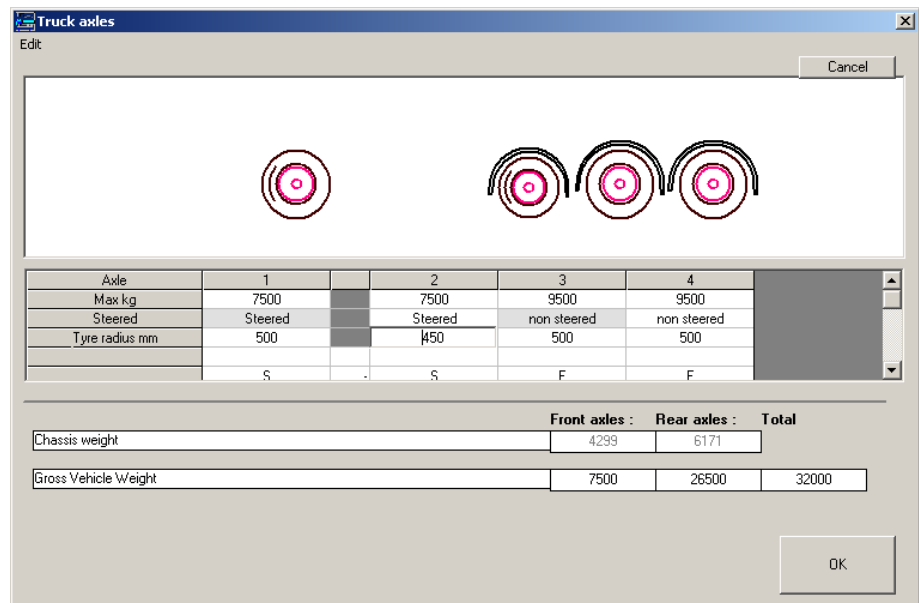
Depending on truck type, the all of the possibilities are maybe not enabled.
You can build a truck with 2 front axles and 4 rear axles.

In this example we choose a pusher axle.



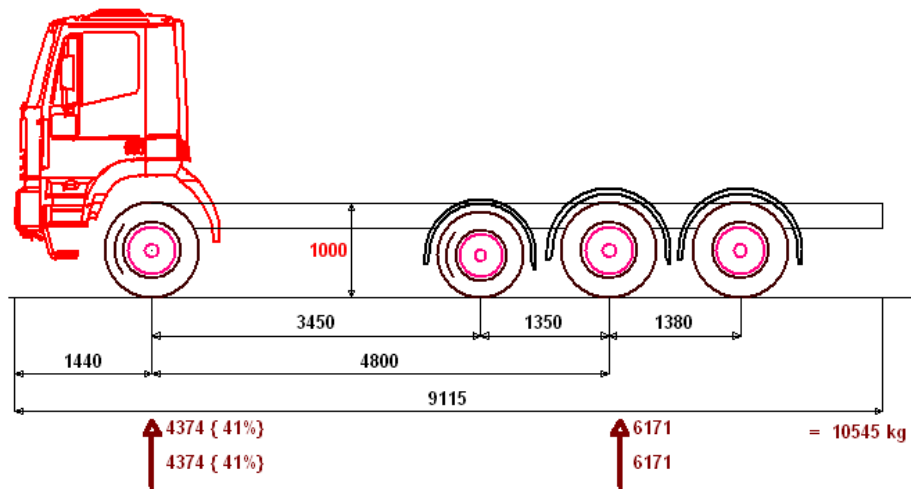
Fill the technical data for the new axle and check new chassis weights and new Gross Vehicle Weights.
 TrailerWIN calculates the default value for new chassis weights on front and rear.
 Check, if You can accept this value or type your own value.
 You can also choose, is the new axle steered or not.

It is also possible to have different wheel radius on extra axles.
 You can type wheel radius values on the row "wheel radius".

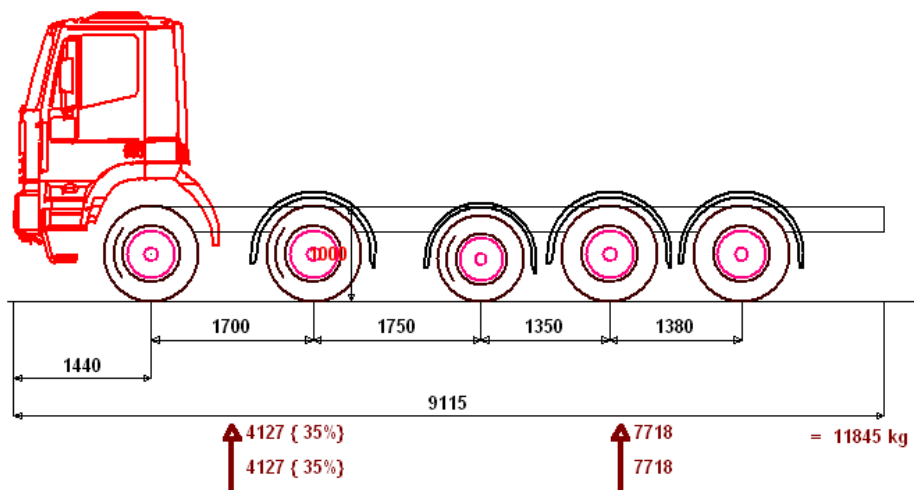




Now the chassis has a pusher axle with small wheels.



We can also add an extra front axle.

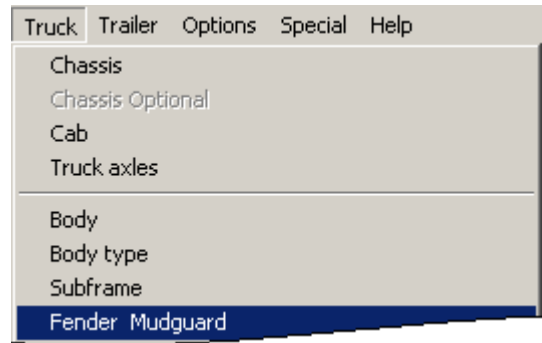




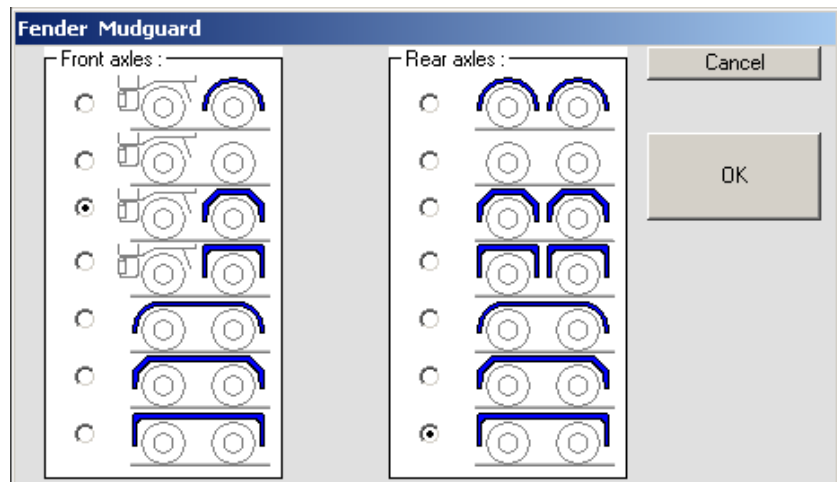
Fender type

Menu Truck – Fender

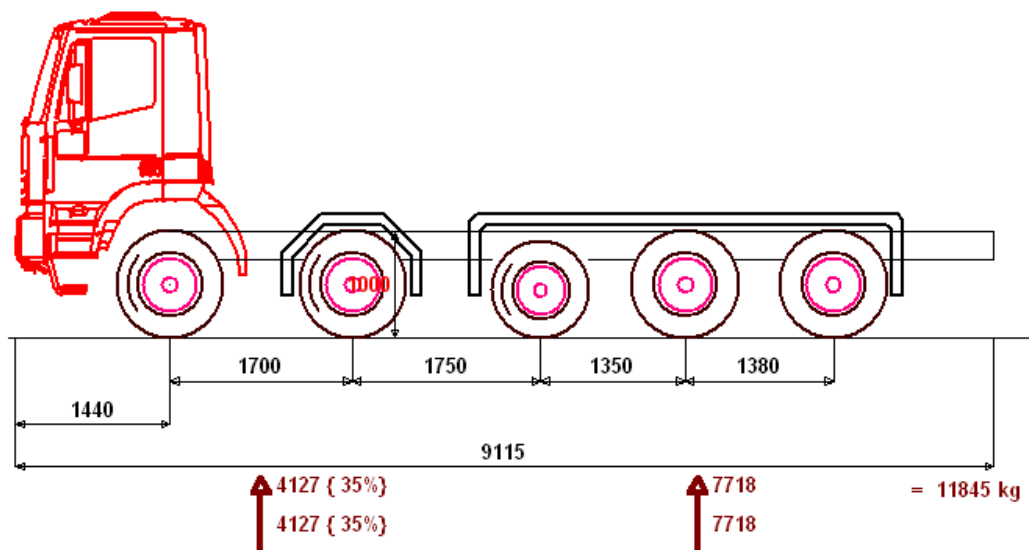
gives You a possibility to choose different types of fenders or make a truck without fenders.



In Fender Window you can choose Fender types on front and rear axles.



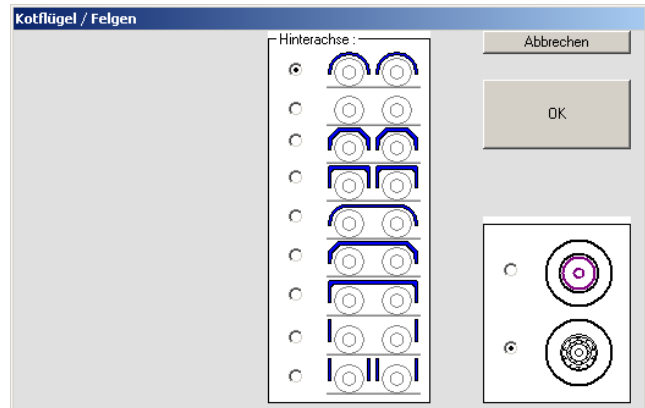
An example end result as in the picture below:






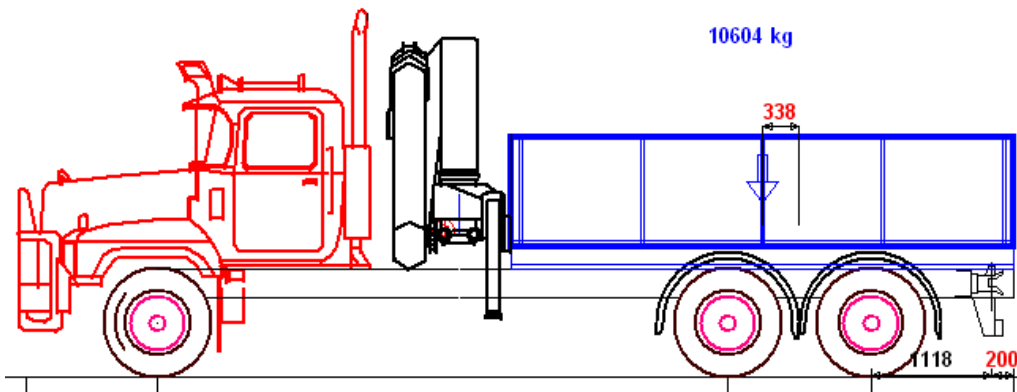
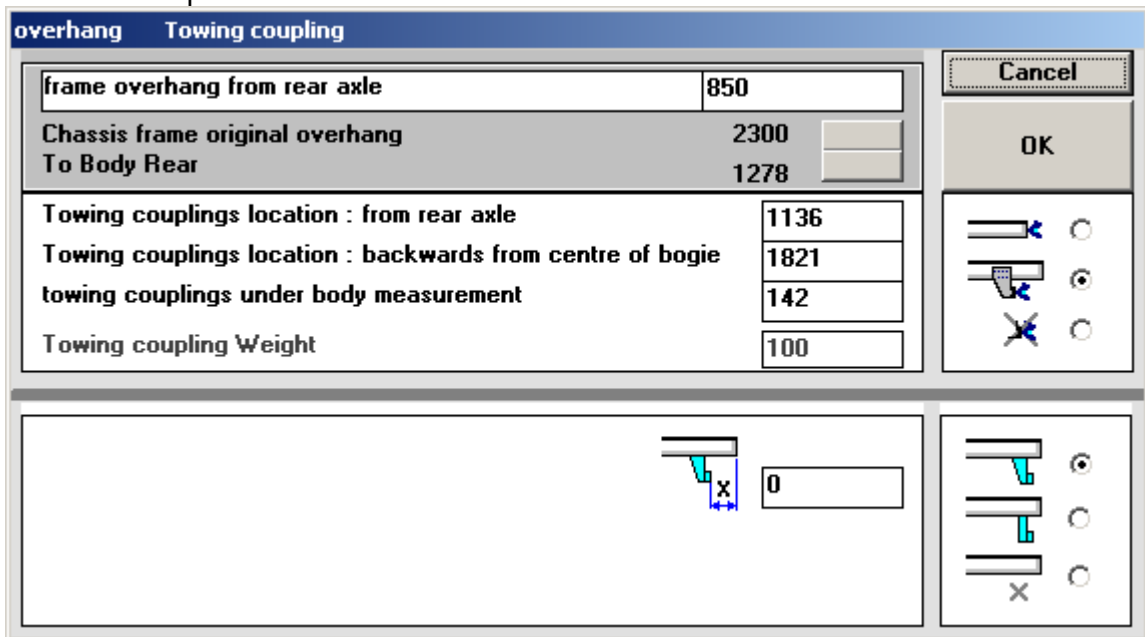
Wheel (Rim) type

Menu:
 Truck -> Fender Mudguard /
 Wheels
 or same for trailers
 Menu:
 Trailer -> Fender Mudguard /
 Wheels



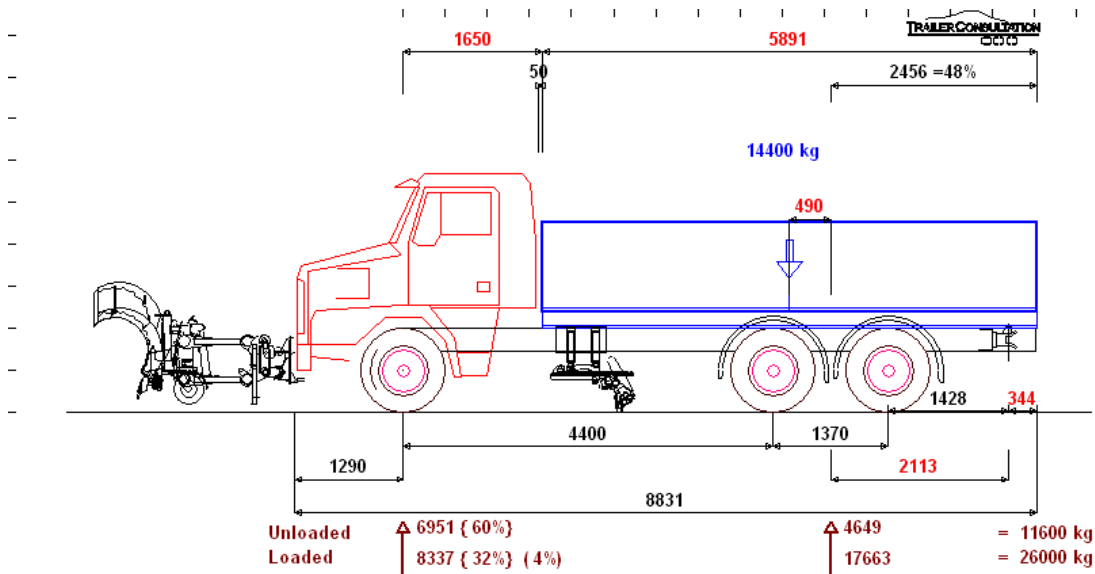
Rear Bumper

Menu Truck – Frame rear overhang or button 
 On the window for Trailer Coupling and Frame overhang you can now choose also the Rear Bumper.

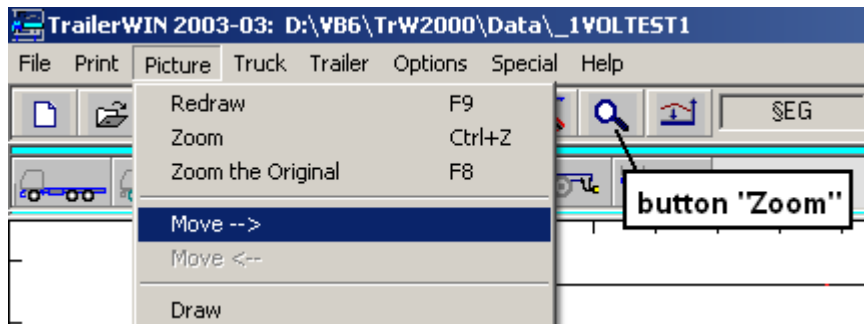




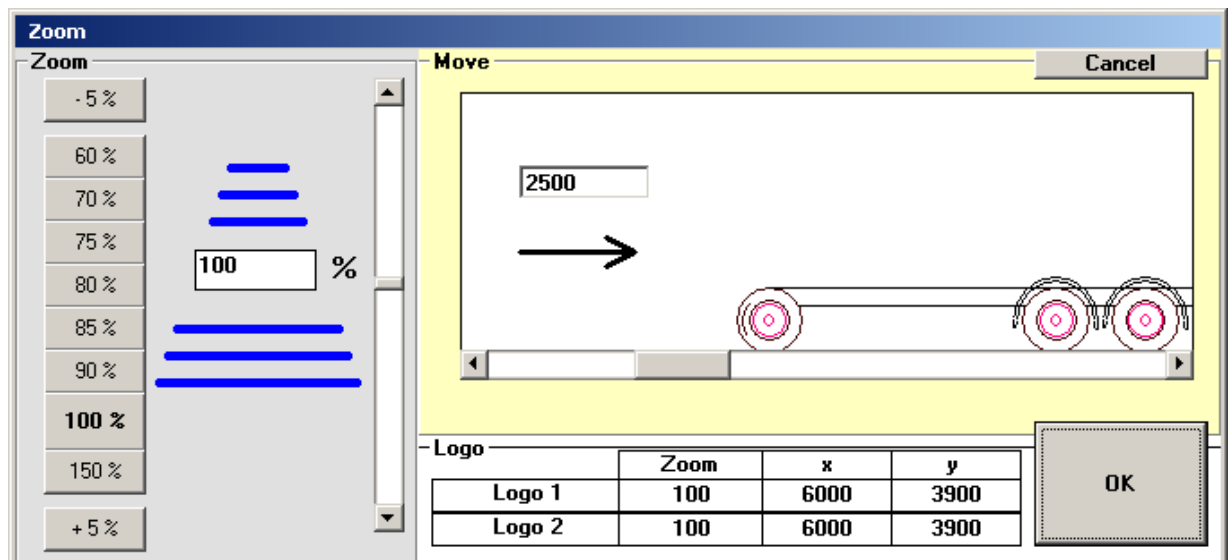
Zoom and Move picture in TrailerWIN -->



If needed, you can move the picture of the truck 2.5 meter to the right using Menu: Picture – Move --> and back to left by clicking Menu: Picture – Move <--



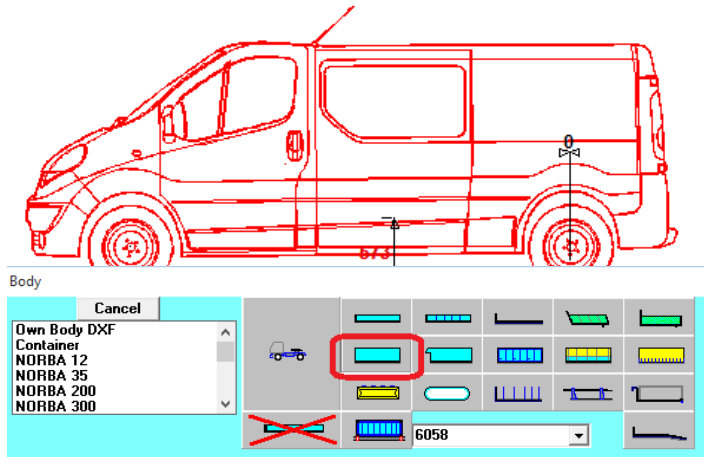
From Menu Zoom or with button „Zoom“ you can choose other move dimensions. Write dimensions over the big arrow on the following picture.





Building Panel Vans in TrailerWIN

When You build Panel Vans in TrailerWIN there are a few steps to do before You can start adding equipments and make load calculations. In TrailerWIN You normally always add a body to the chassis before You make any weight calculations etc. The same is for Panel Vans, first thing is to define the load space (=body).

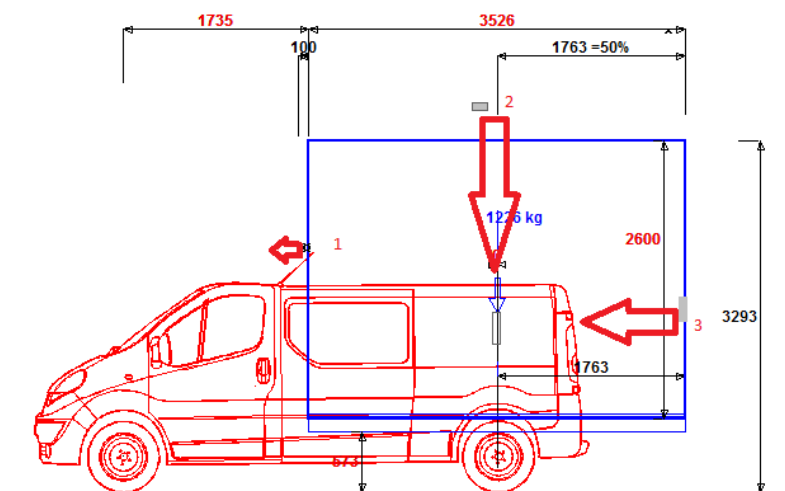


First we add a box-body and in next body details window we modify following values:

Body weight kg/m -> 0 (or to weight of possible added innerpanels or similar)
 Body width to width of vehicle.
 We accept by clicking "Ok" button and go back to main-window. Now we have a body added onto the Van, now we have to adjust the position, length and height to suit the load-space of the Van. This is easiest to do by dragging the handles on the picture:

Body		Cancel
body's startpoint backwards from front axle	1735	Optimum OK
Body length	3526	
body height	2600	
body weight kg/m	0	
subframe height	120	
frame overhang from rear axle	1763	
body width (outside)	1800	
dy ^ move up	0	
Rear corner: Chamfer dx (direction length)	0	
Rear corner: Chamfer dz (direction width)	0	

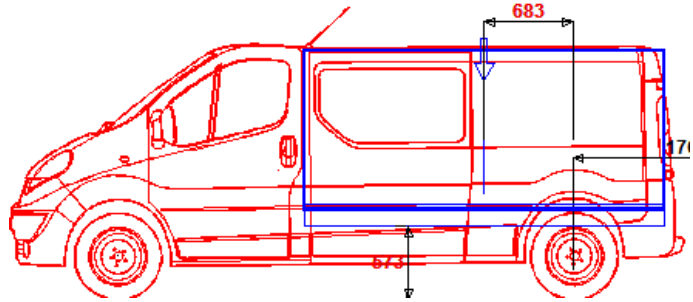
1. Move the body-start to where load-space starts behind the cab.
2. Adjust the height of body to the roof of the Van
3. Adjust the length of the body to back-door of the Van



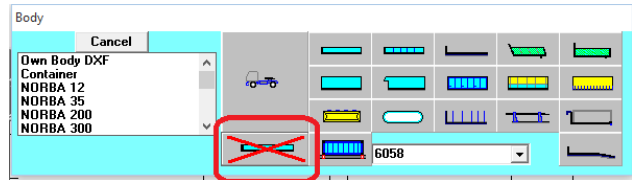


- The result should be something like this:

Now we can “hide” the body, select from the Menu Truck-Body Type to open the body-type window again and select the “crossed” body type:



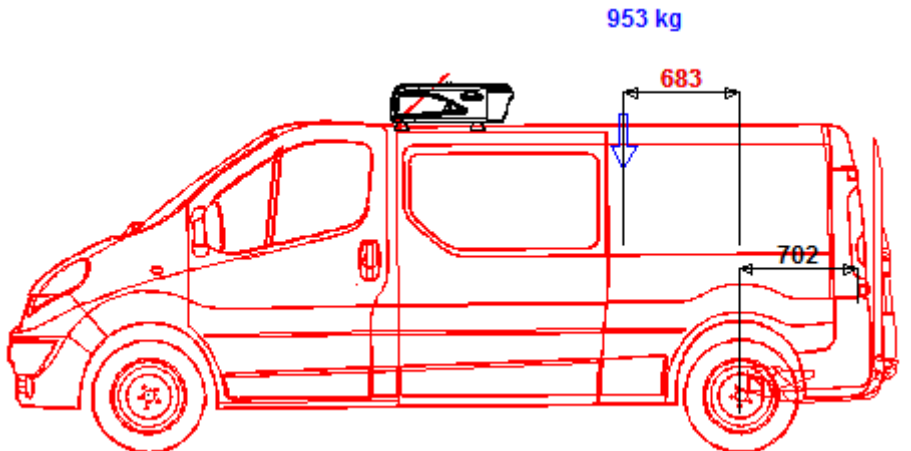
Now we have defined the load-space for the Panel Van and we can now see that TrailerWIN calculates load to the Van. Now we can also add equipments as tailgate lifters and cooling machines.



These are equipment types that are bounded to the body. Tailgate lifter will always be added to the end of the body and cooling machines to the upper corner of the body. Without doing the previous steps these equipments will be set to front-axle and can't be placed correctly.

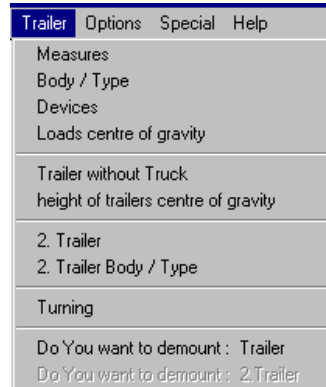
Note that You might need to adjust the dy-measure of the tailgate lifter to get it installed in correct height position. You can also adjust needed space between body and tailgate lifter in order to get the x-position correct.

Below an example where we have added tailgate lifter and cooling machine to previous example:





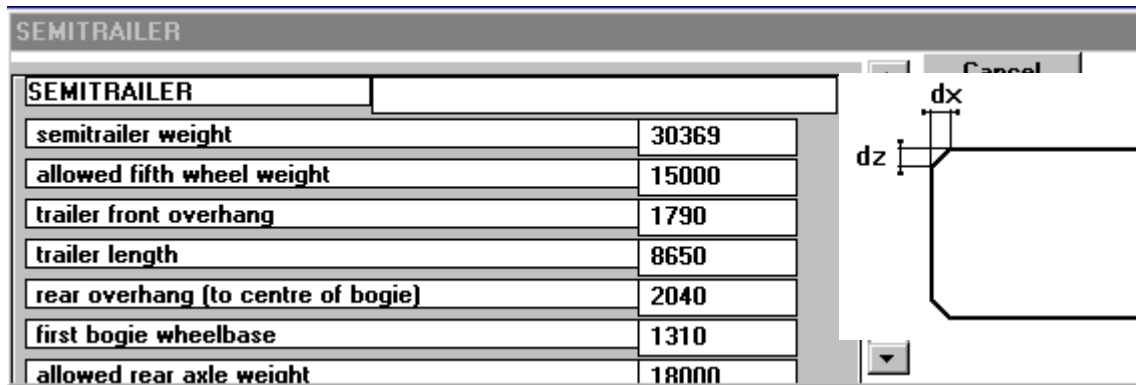
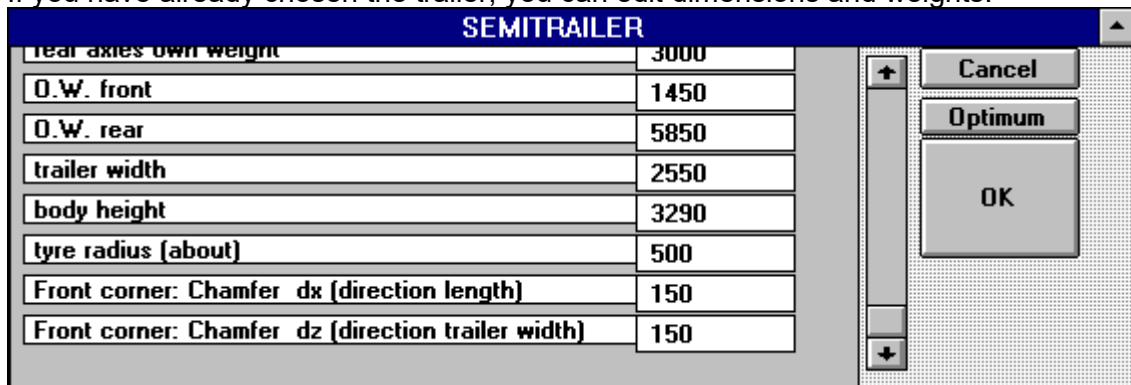
Menu TRAILER



Choosing or editing the semitrailer- or trailer data

Trailer Measures And Dimensions

If you have already chosen the trailer, you can edit dimensions and weights.

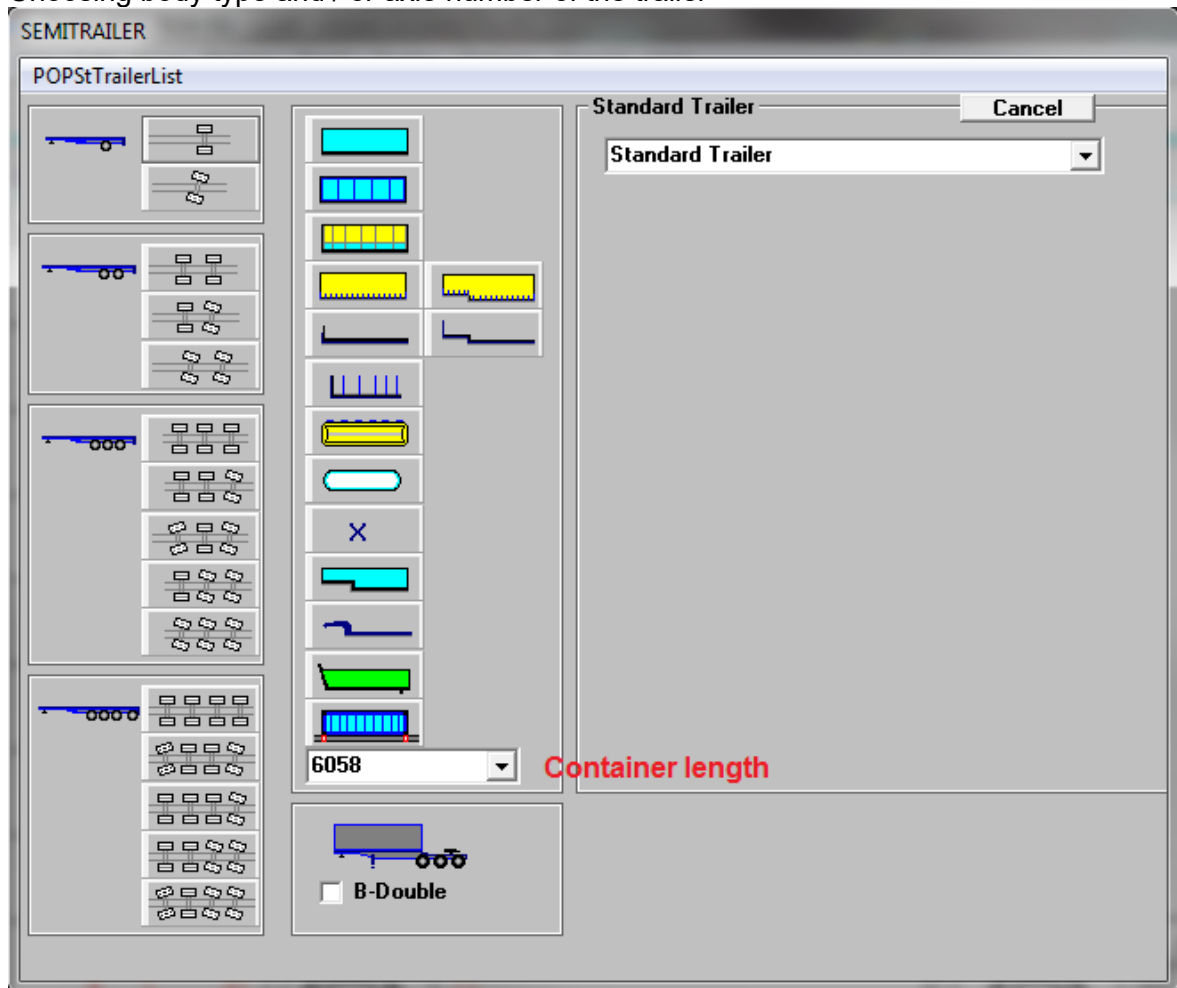


- Front corner of the Trailer can be chamfered.
For doing it type dimension dx (longitudinal) and dz (latitudinal) in mm.



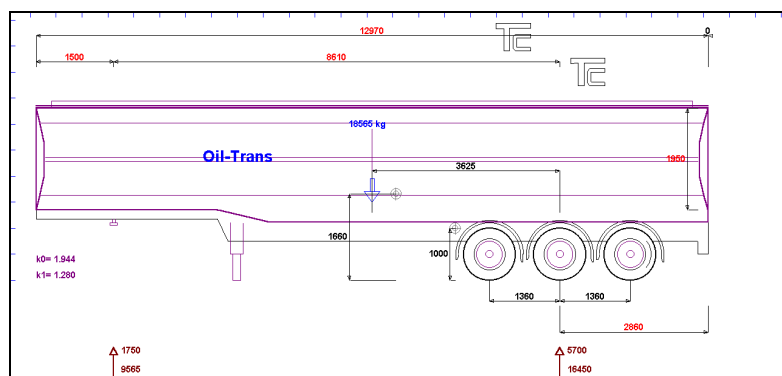
Body / Bodytype for semitrailer

Choosing body type and / or axle number of the trailer



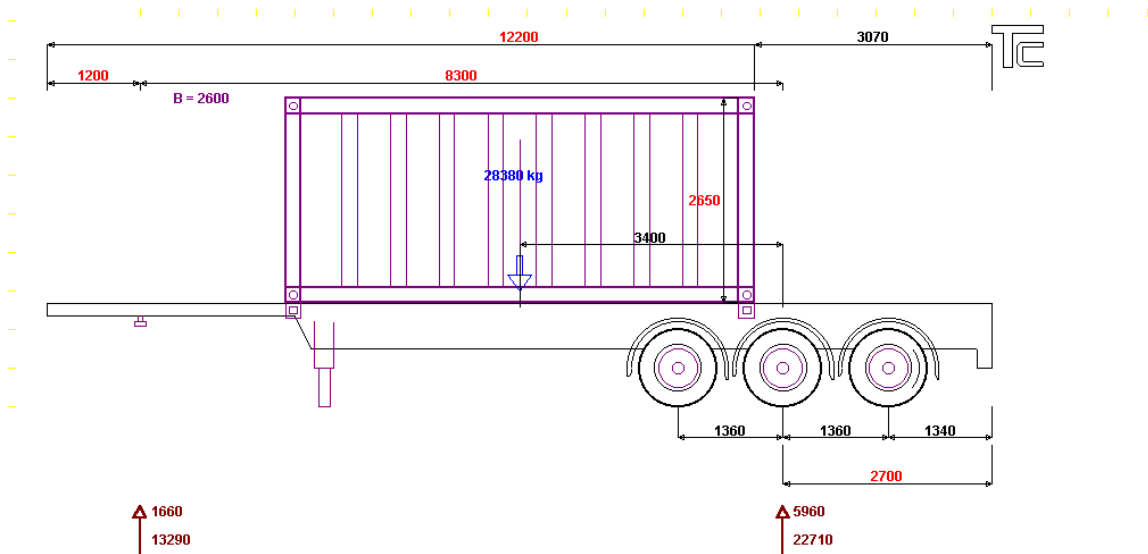
Tank Semitrailer

It is possible to give different heights for the front and for the rear of the tank semitrailer. The point of the change you can give with “**x_step**” (mm to the back from the king pin) and the height difference with “**y_step**”.





Container



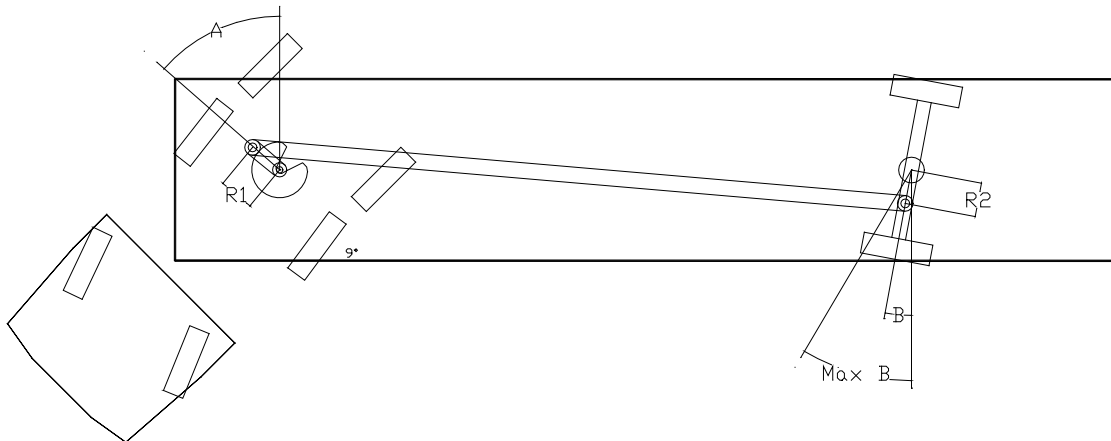
To change Container-Length or Container-Location (changing Body overhang) do not automatically change the center of the gravity to the center of the Container. Note that containers might be added as a load picture from load-window as well.

CityTrailer

One axle semitrailer with steeraxle.

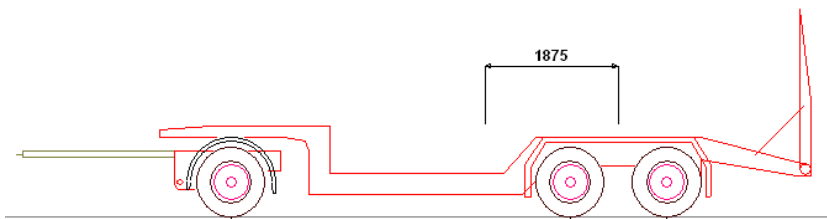
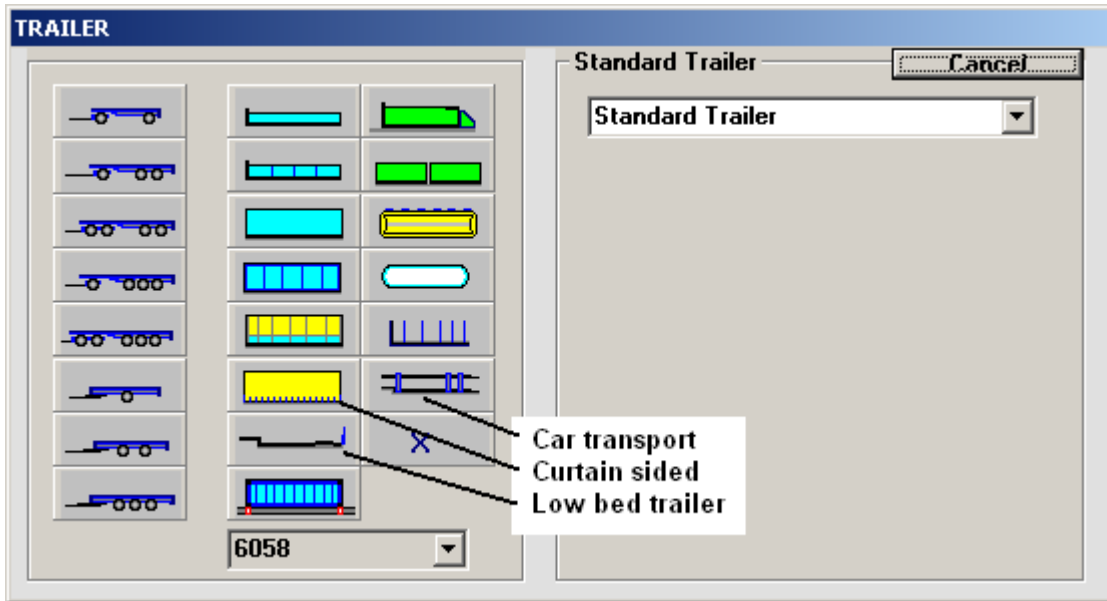


The picture shows the principle of the steering system. For finding the correct linkage geometric, you have to give the correct maximum steering axle on trailer rear axle, also steering angle in this situation when the angle on fifth wheel (A) is 90 degrees. Typically values for the maximum steering angle on the trailer axle are 26, 30, 35, 40 degrees. TrailerWIN uses 30 as default. When needed change it from Trailer Data window (**Trailer Button** or **Menu Trailer - Measures**).

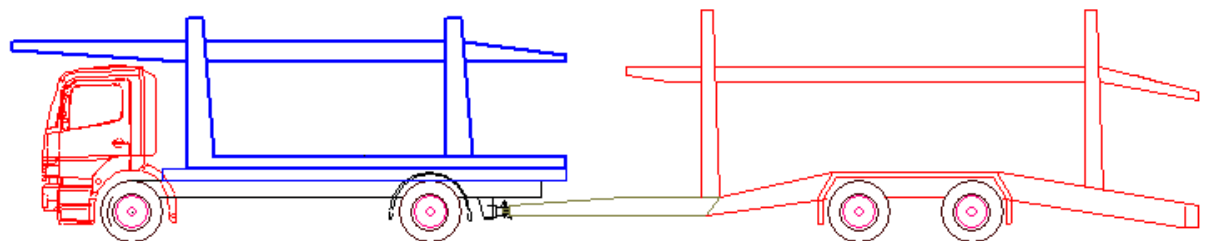




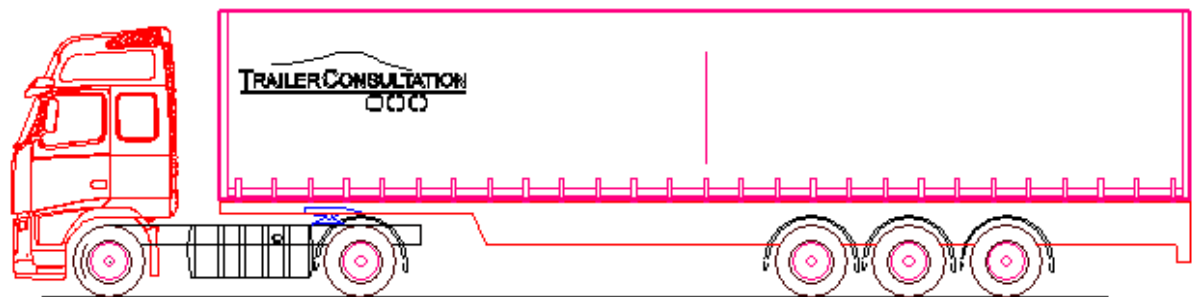
Trailer bodytypes



Low bed trailer type



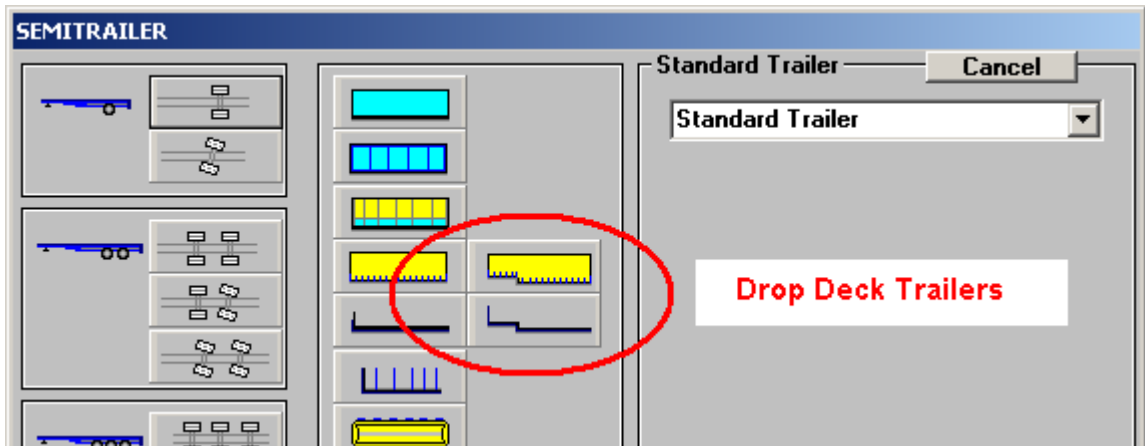
Car transport type



Curtain sided semitrailer type

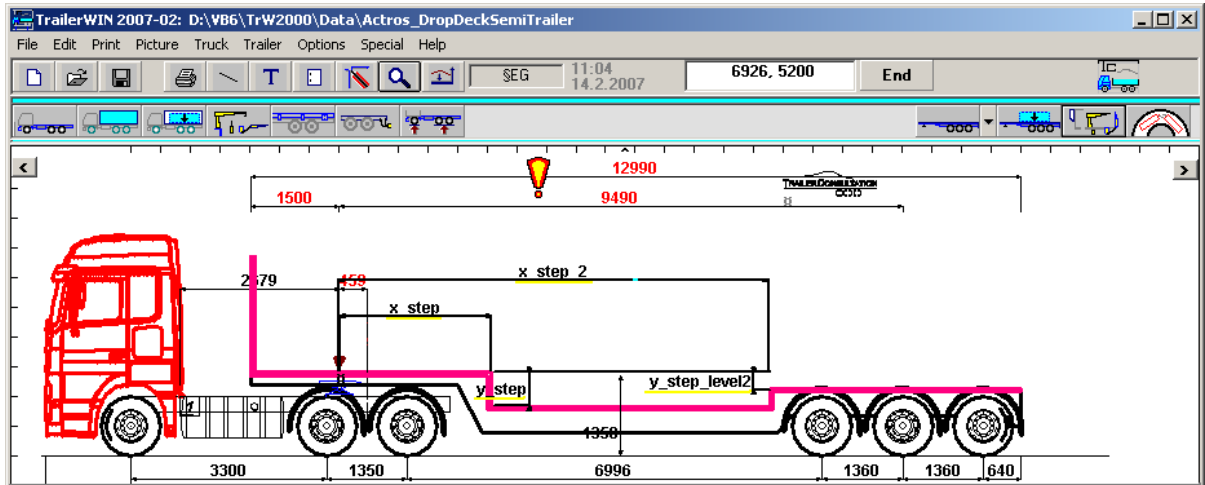


Drop Deck Semitrailers: Drop Deck Flat Bed , Drop Deck Curtainsided

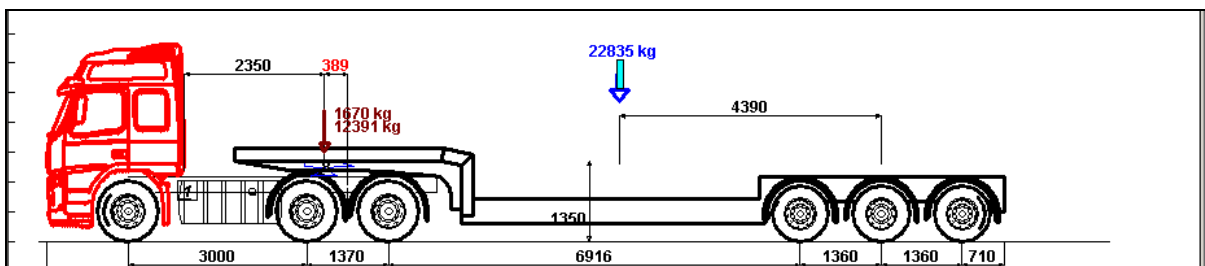


Step places and heights as in following picture:

SEMITRAILER	
Chassi frame height from road	1350
Tyre radius (about)	500
x_step	2500
y_step	575
x_step_2	7300
y_step_level 2	275



Lowloader body type

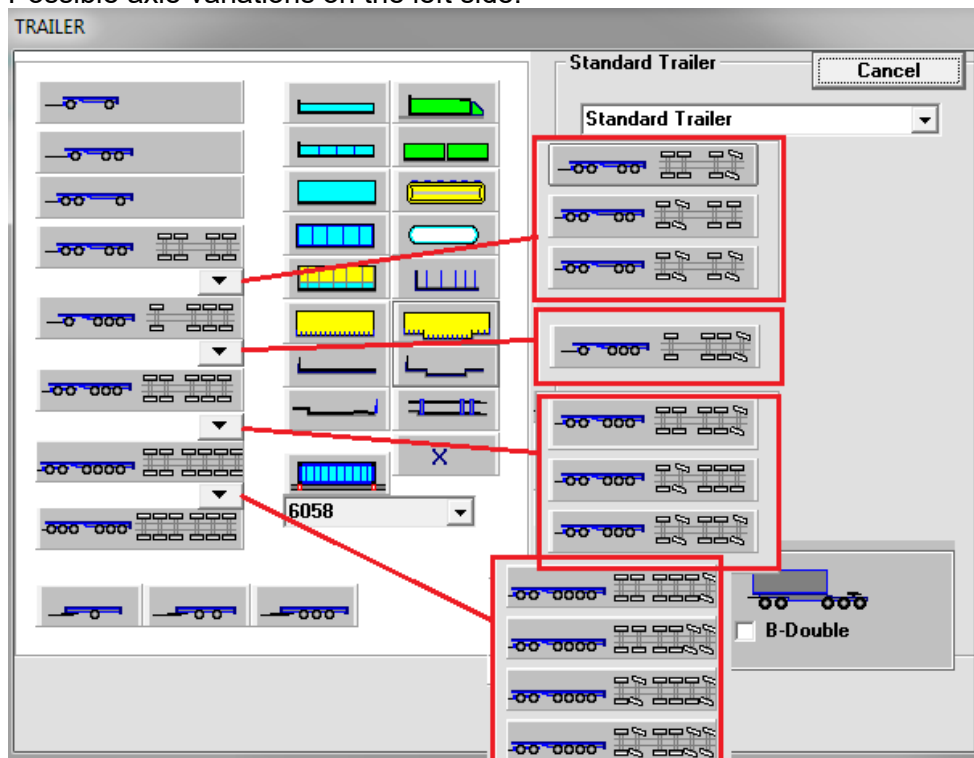




TRAILER AXLE POSSIBILITIES AND BODYTYPES

IN TRAILER TYPE MENU

Possible axle variations on the left side.



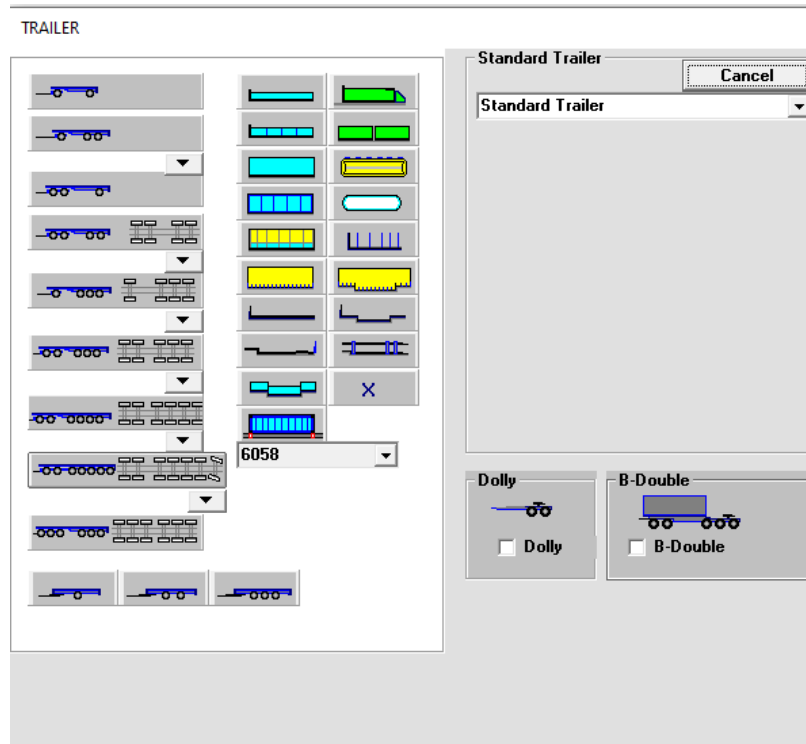
To see steering options for some of the trailer combinations, please click on the arrow-button below to open up the steered axles combinations. Possible body types on the right side.

You can choose Your body choice by clicking with a mouse.



SEMITRAILER AXLE POSSIBILITIES AND BODYTYPES IN TRAILER TYPE MENU

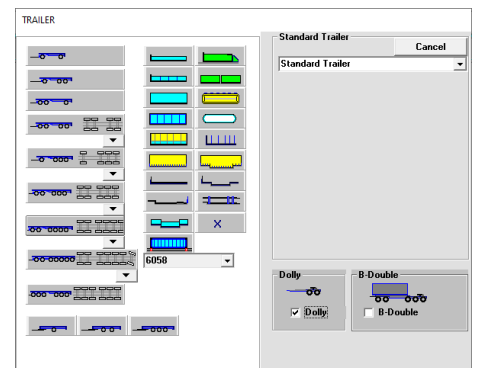
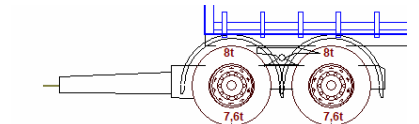
In this window you can see possible axle variations on the left side and in dropdown lists different variations of steer options. You can choose your axle choice by clicking with a mouse. If you want to build a dolly + semitrailer or a b-double you check the checkboxes before you choose body type.



Next you select desired body type on the right side of the window.

Dolly with rigid drawbar

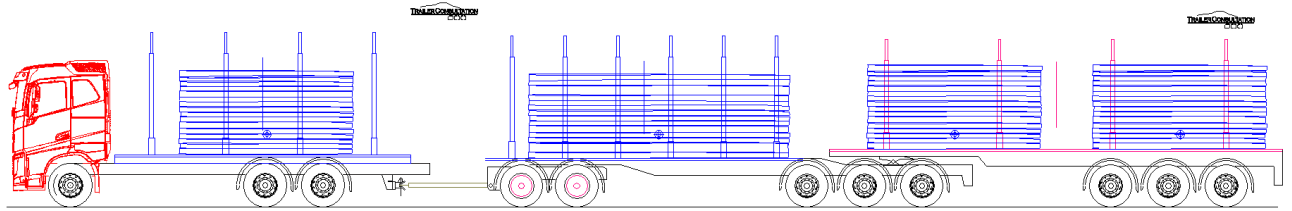
You can select dolly with rigid drawbar in trailer-menu. When you put checkmark in "Dolly" you will get separate row to give weight for dolly and also calculation for V-value for trailer coupling. For dolly with articulated drawbar, leave this checkbox unchecked.



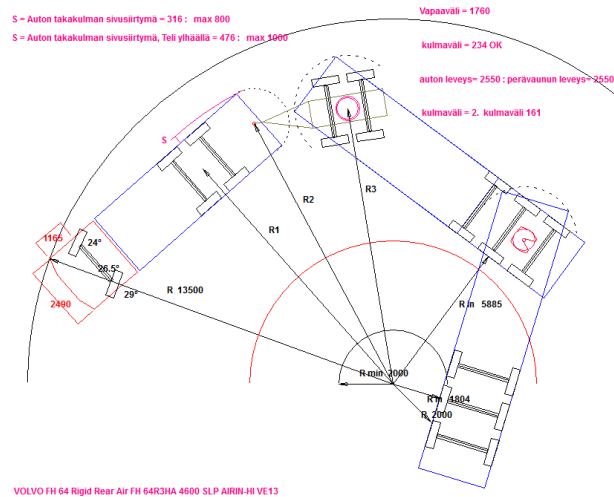


Trailer type and combination ETT

A combination type ETT is available in TrailerWIN. (not available in US-versions)



This trailer type can be used for all body-types. This trailer type can also be used in CornerWIN for turning calculations.



Load on trailer



You can edit the centre of gravity of the load on semitrailer or trailer. You are also able to move it with the mouse from the picture.

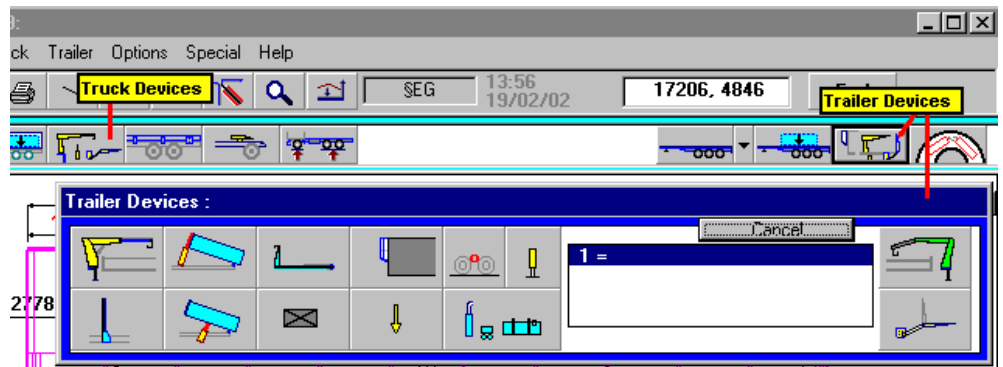
Devices on trailers



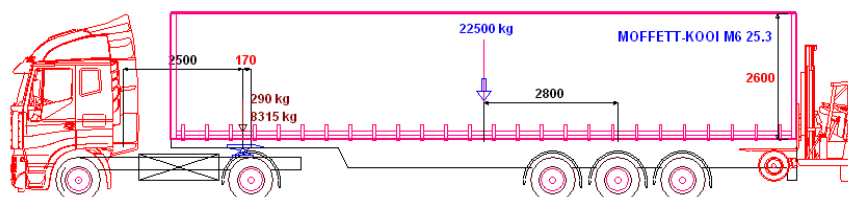
Rear mounted crane on trailers

The option to select rear-mounted crane on Trailers is disabled, to mount crane on rear of trailer, choose Crane at front and modify startpoint for crane to meet specifications needed.

Rear mounted cranes can only be used for on trucks.



Truck mounted forklifts on truck or on trailer





Lift axle situations on centre axle trailers

For centre axle trailers You can now see towing bar weights and rear axle weights when You have lift-axes. You have additional data in Trailer-data window:

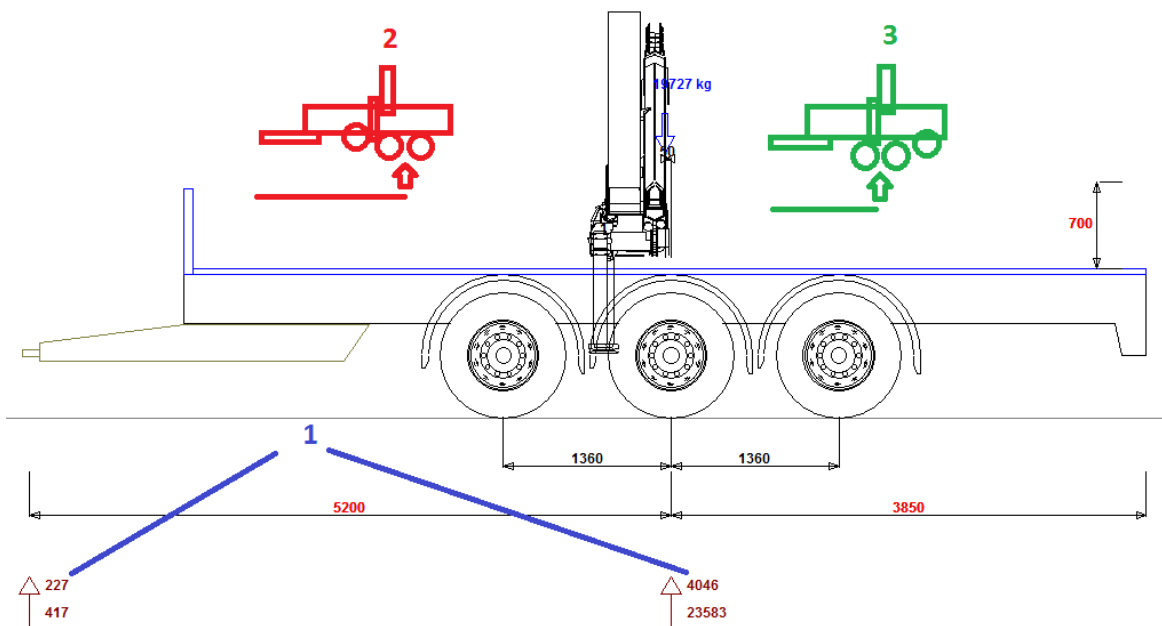
1. First You now see weights on towing bar and rear axles including equipments, this is the same as You see in the main-window. You can only change the own weight for the trailer itself, program calculates the total weight depending on the equipments added.

2. Front axle lifted – situation. Here You see how the weights are on trailer coupling and rear-axle if You have a lift-axle at front and this is lifted. The weights are calculated for trailer with equipment but without load. You can also see the measure from trailer coupling to bogie steering centre with lifted axle.

3. Rear axle lifted – situation. Same calculation as previous but here we have only rearmost axle lifted.

Centeraxletrailer	
Centeraxletrailer	
trailer front overhang	3950
rear overhang (to centre of bogie)	3850
BOGIE WHEELBASE: bogies first axle - middle axle	1360
BOGIE WHEELBASE: bogies middle axle - rear axle	1360
first bogie axle kg	8000
middle bogie axle kg	8000
rear bogie axle kg	8000
Towing Bar Weight (loaded)kg	1000
trailer gross weight kg	24000
Towing Bar Weight (Unloaded without devices) kg	150
Trailer weight at rear suspension (Unloaded without devices) kg	2980
towing bars measurement a (to centre of axle)	5200
Towing Bar Weight Unloaded (trailer+Devices) kg	227
axle weight Unloaded (trailer+Devices) kg	4046
trailer centre of gravitys place (unloaded) -> Towing coupling (trailer+Devices) mm	4924
Towing Bar Weight with raised 1. liftaxle (trailer+Devices) kg	695
axle weight with raised 1. liftaxle (trailer+Devices) kg	3578
trailer wheelbase to bogies steering centre point with raised 1. liftaxle (trailer+Devices) mm	5880
Towing Bar Weight with raised 3. liftaxle (trailer+Devices) kg	-382
Trailer weight at rear suspension with raised 3. liftaxle (trailer+Devices) kg	4655
trailer wheelbase to bogies steering centre point with raised 3. liftaxle (trailer+Devices) mm	4520
trailer width	2550

These weights are only in this data window and doesn't come on outprints.





Lift axle function in TrailerWIN

In TrailerWIN you can find a feature for calculating weight and turning with axles lifted. You can also switch into CornerWIN and do turning simulations with axles lifted. This feature works for rear axles on trucks, full trailers and semitrailers on both first and second trailer. For centre axle trailers you can use this function only for first trailer and turning calculation is possible only in TrailerWIN.

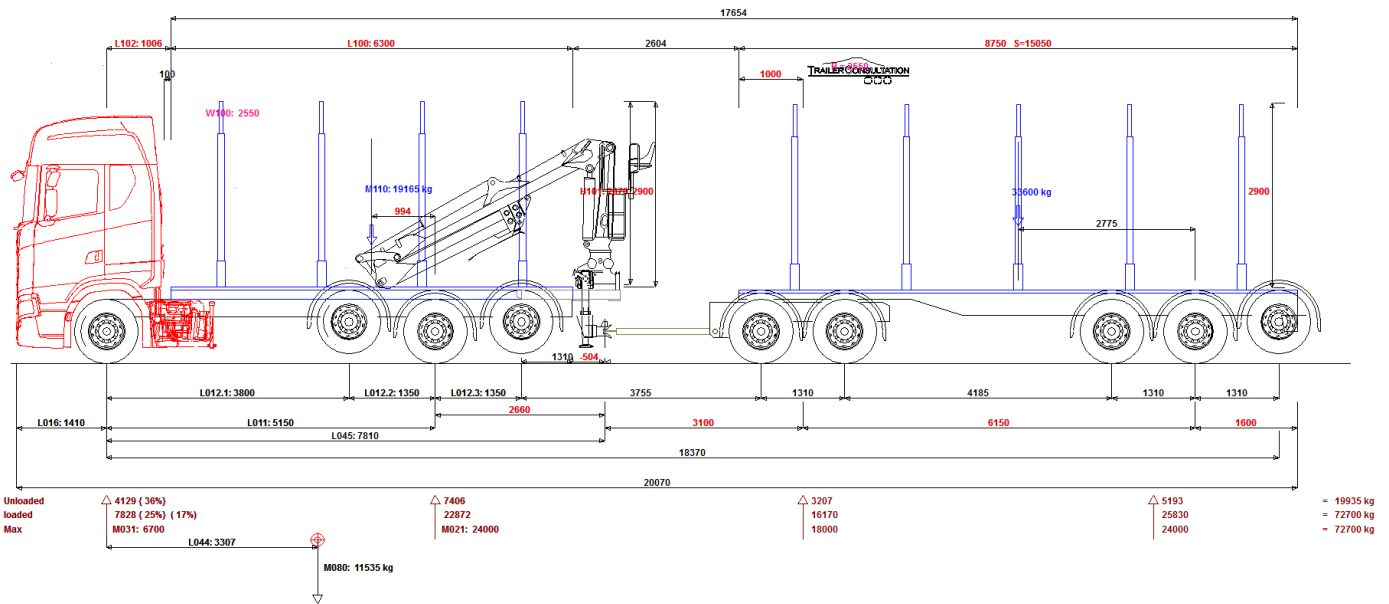
To use this function, first select a truck (or trailer) and in chassis data window give lift-axles separated with comma starting with first rear axle. The axle numbers are calculated from first front axle so for a 3 axle truck the first rear axle will be "2". If we for example have a 4-axle truck with first and last rear axles steered we will give lift axles: "2,4". When we then check the checkbox we can see a calculation with axles lifted.

Axle lifted

Chassis		Cancel
Truck make	Scania	OK
Type	R410, 500 AG2 NA	
model (wheelbase, cab etc.) R20H -2950		
G.V.W. front axle kg	6700	
Max G.V.W. front axle kg	6700	
Minimum truck front axle weight kg	0	
G.V.W. rear axle kg	17600	
Max G.V.W. rear axle kg	17600	
G.V.W. total kg	24300	
chassises weight to front axles	5050	
Chassis weight rear axle	2823	
liftaxle (2,3)	3	
basic wheelbase (front axle - first rear axle)	2950	
Front Track	2000	
bogie wheelbase	1300	
first bogie axle kg	10500	
rear bogie axle kg	7100	
Front overhang	1410	
front overhang to bumpers corner	1250	
width to bumpers corner	2340	
measurement: first front axle - rear of cab	895	
frame overhang from rear axle	775	
overhang Max	0	
overhang Min	0	
loadpoint y Max	0	
loadpoint y Min	0	
number of persons	1	
Weight / 1 person kg	75	
persons centre of gravity backwards from first front axle	-15	
1. Tyre radius (about)	500	
2. Tyre radius (about)	500	
3. Tyre radius (about)	500	
chassi frame height from road	1000	

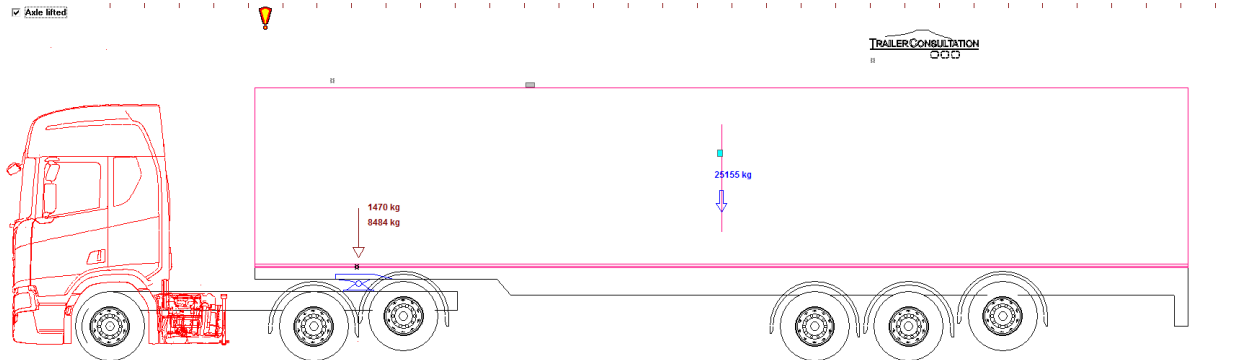
liftaxle (2,4)

2,4

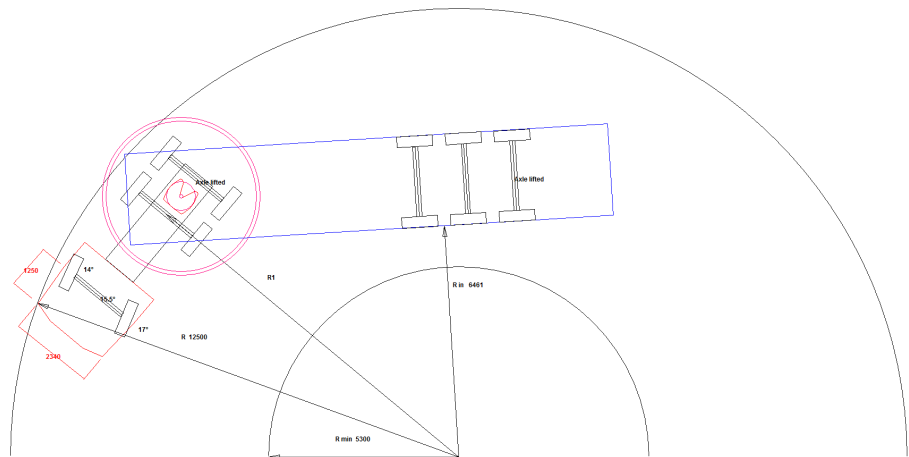




To make the turning simulation with lifted axles, simply specify the lift axles in TrW and check the “Axle lifted” checkbox.

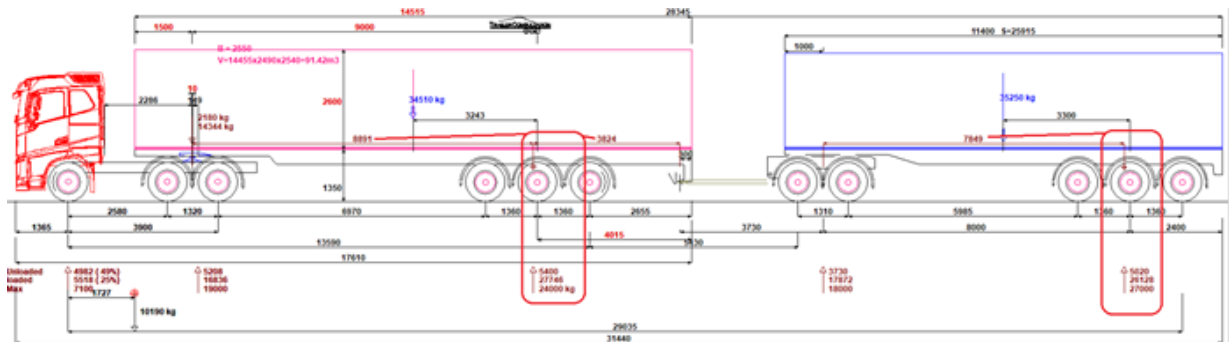


When moving into CornerWIN the lifted axle situation will be automatically set so you can do turning simulations directly with lifted axles in CornerWIN. Please note that if you have selected a center axle trailer you are not able to simulate axle lifted in CornerWIN. For such combination you can also see turning picture in TrailerWIN.



Measures to boggie COG

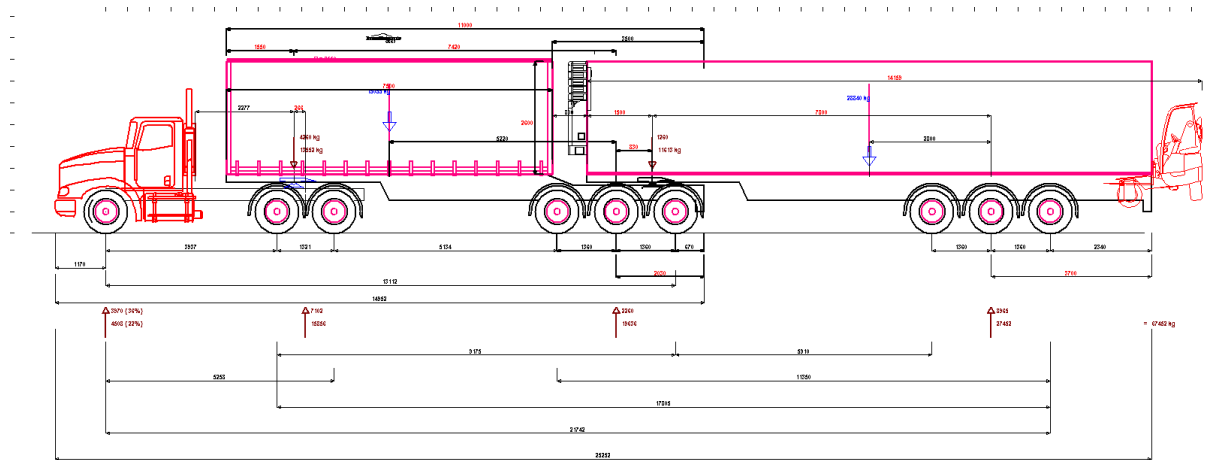
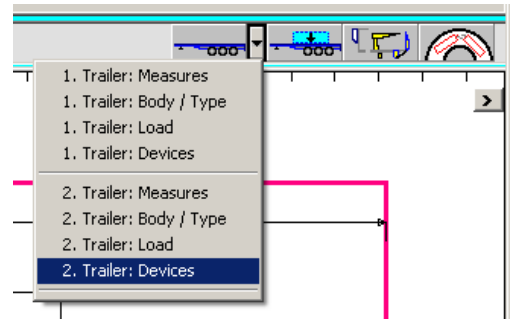
These measures come visible if the boggie weight center is on a different location than the geometric center of the axles. These measures are used in stability calculation for HCT vehicles in Finland. The measures will be shown in brown color to differ from the axle distance measures.





Devices for the second trailer

You can also choose devices (equipments) for the second trailer in the combination. You find this in trailer menu "2. Trailer: Devices"



Trailer without truck

If You want to calculate the trailer without truck, you can choose trailer type when you start the calculation:

Calculation

You can add the truck later.



Demount Trailer.

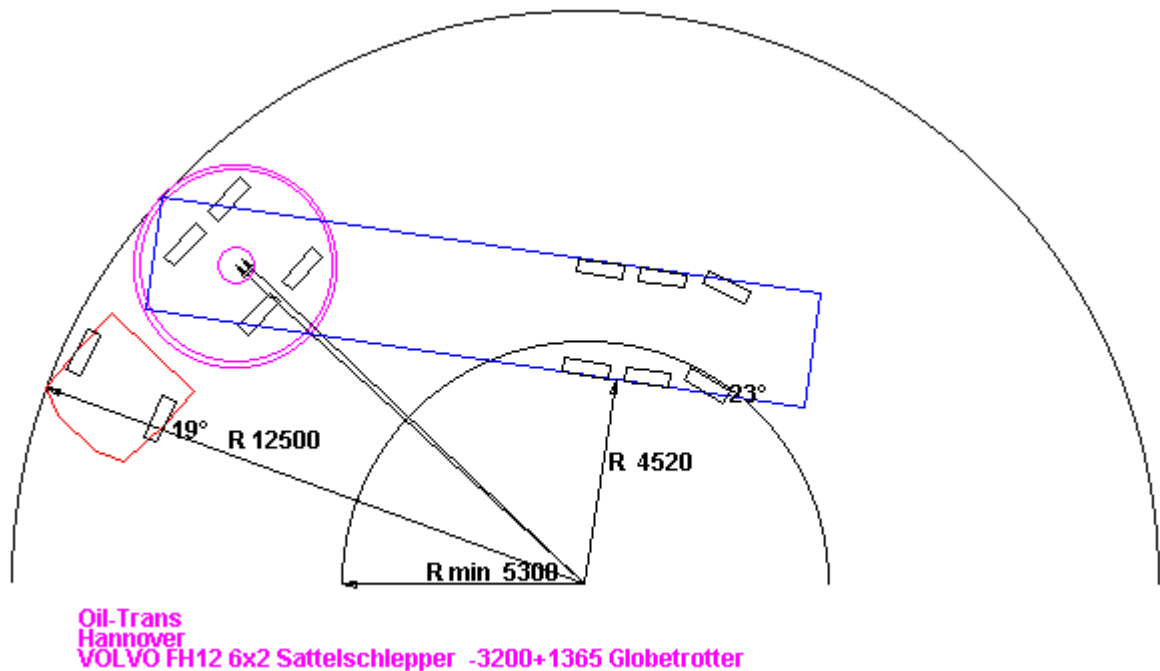
You can also demount a trailer from a combination. From Trailer menu choose: Demount trailer. Note that you need to demount second trailer before demounting the first one.

Turning calculation



Static turning calculation for the combination in the 12.5m radius circle.

In the picture you can also see the theoretical steering angles.



Circles $R=2100$ mm and $R=2300$ mm (Center in the centre of the Fifth Wheel Coupling) show the needed free spaces to cab and to chassis rear frame.

For long combinations you usually need to do a turning simulation 180° or 120° in CornerWIN program.

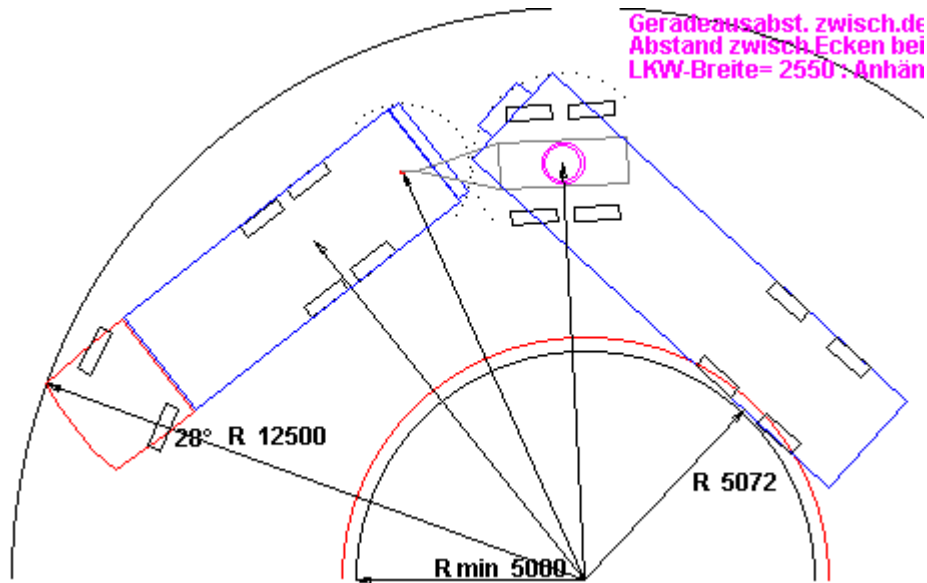


SISU SR__CAKH-8x2 -3300- kurzes Fahrerhaus

R out 16200 OK

SISU SR__CAKH-8x2 -3300- kurzes Fahrerhaus

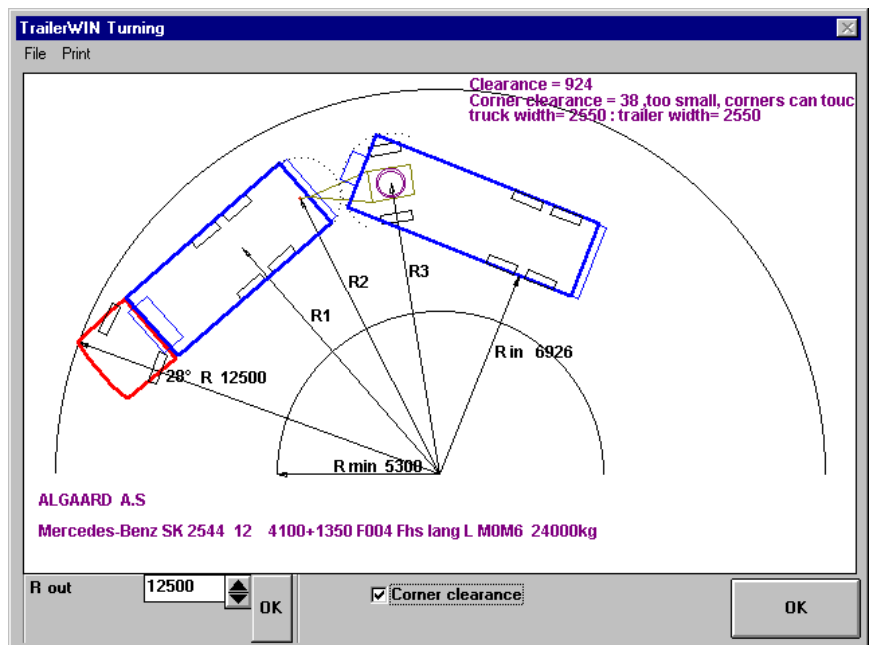
R out 16200 OK



The arcs between body and trailer show how the corners can move. If you have rear lifter or / and refrigerator the radius of the arc is chosen to the corner farthest out.

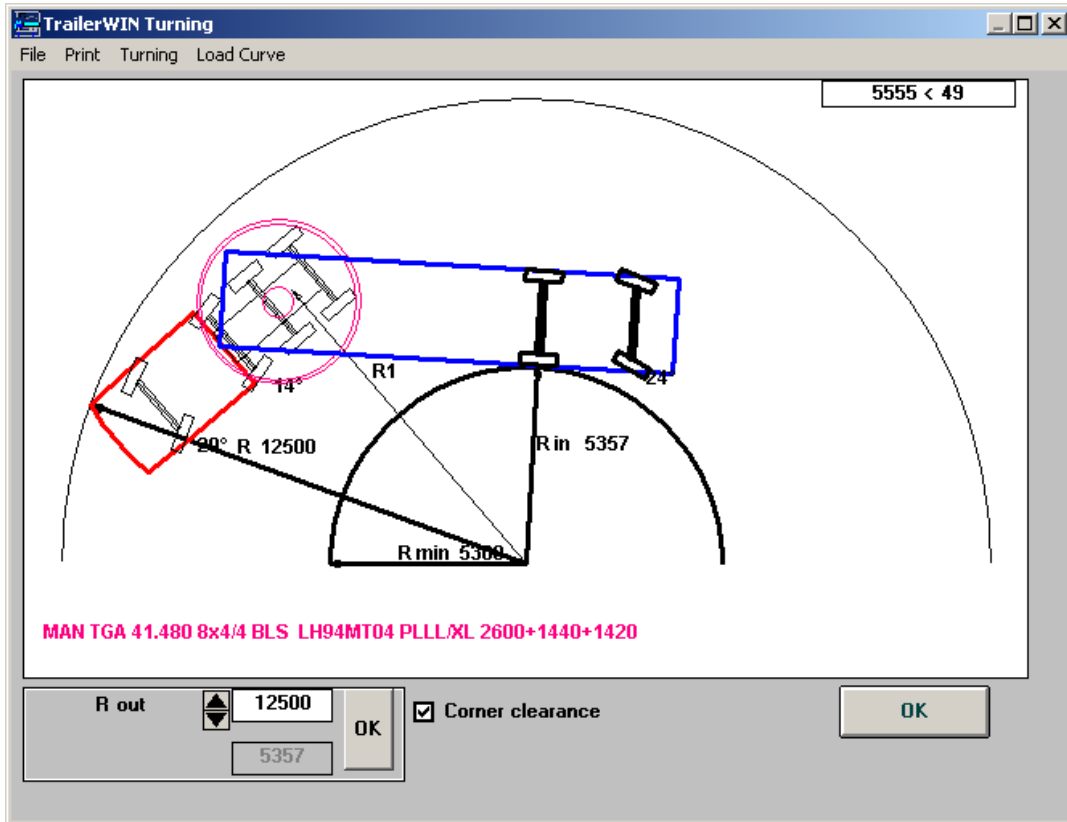
If You do not want to have the **text Corner Clearance** ... on the printout, You can turn it off using check box "Corner clearance" under the turning picture.

If You do not want to have "Optimum body measurements with even load" on the printout, You can turn it off using Menu Options - User Options.



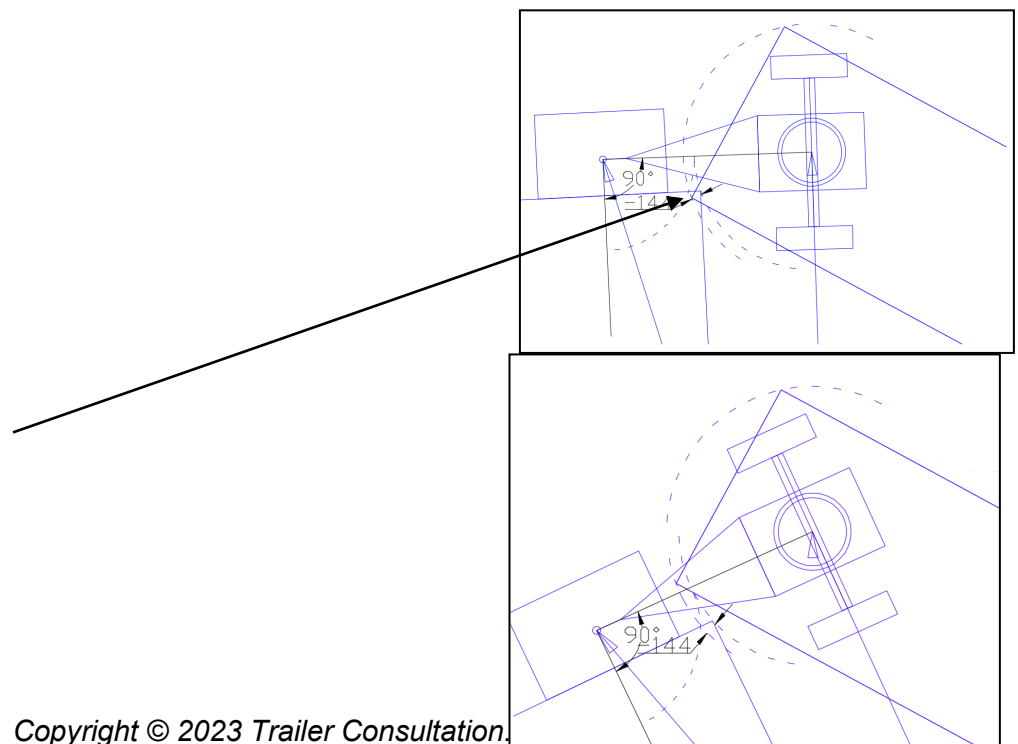
Coordinate window in TrailerWIN turning picture

In turning picture you see now a coordinate window. It shows the place for mouse cursor in polar coordinates. You are able to measure dimensions in the picture. On the starting point (point 1): Push Left Mouse Button down, hold it down and move mouse to the end point (point 2). Coordinate windows shows the measurement and direction from point 1 to point 2. In the example picture 555 < 49 means measurement 5555mm to the angle 49 degrees.



Corner clearance calculation when towing bar is behind the end of the body

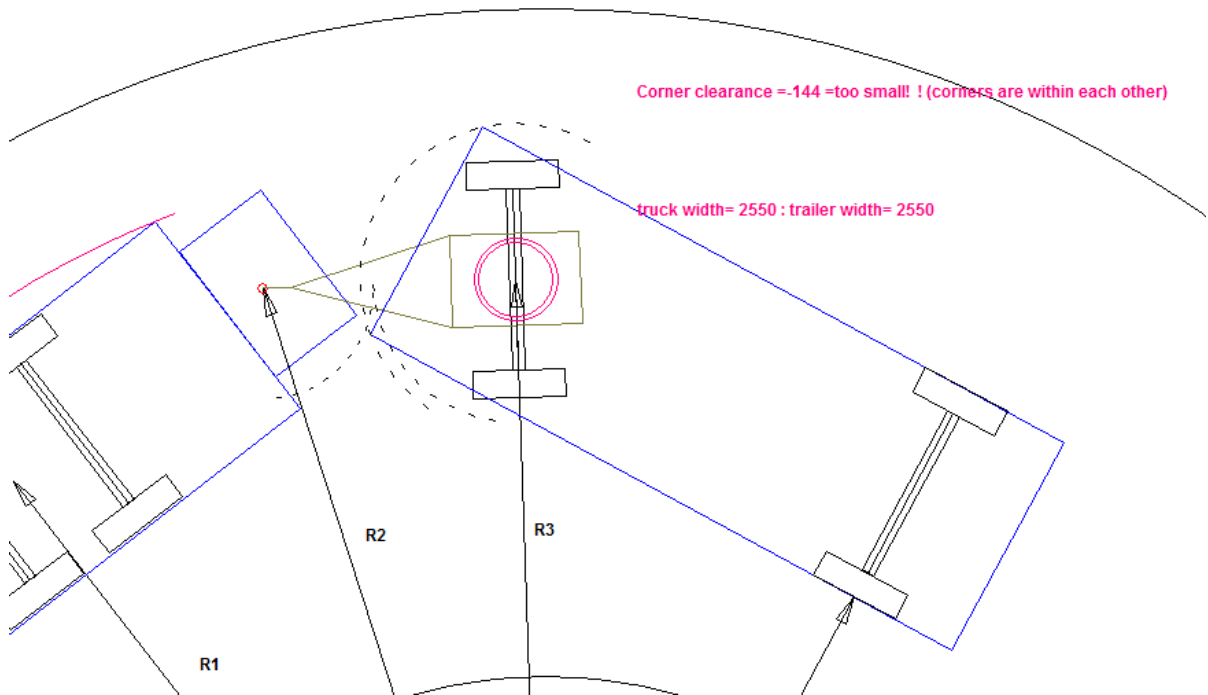
The corner-clearance calculation has been re-fined for trucks with towing coupling behind the end-point of the body. Minimum corner clearance is calculated for situations where the truck is turned in 90° angle towards towing bar on trailer. The corner-movement is drawn as 2 short arcs to show where the corner of the truck rear end will be closest to the front corner of the trailer.





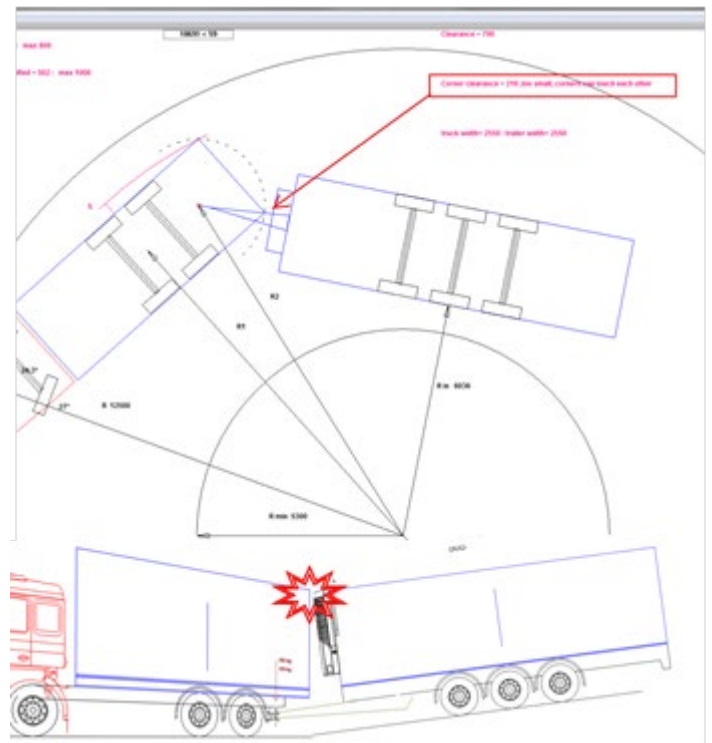
The measure is calculated when the truck is 90° towards towing bar.

Clearance = 1015



Corner clearance for center axle trailers

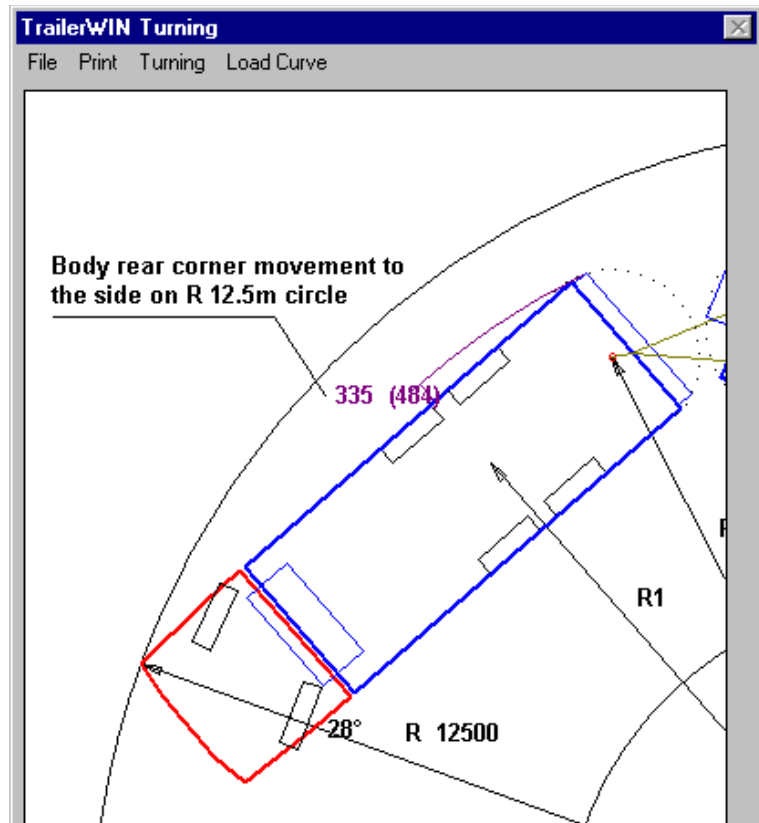
When building a center axle trailer you will have a warning if the corner distance is below 250mm. Please note that TrW can't recognize all situations and especially when there is a full body on truck & trailer and cooling machine or other device at front of the trailer it is a big risk that corners can touch if the combination is driving downhill onto a flat surface on a turn.





Body rear corner movement to the side

On the turning picture you can see now also the movement of the body rear corner. Number in brackets means corresponding value if the rear axle of the bogie is lifted up. (The program does not know if the model includes the lifting device or not. **Notice!** The value shows in the picture in every cases)



Menu OPTIONS



Regulations

If you have optional regulation-modul in your program, choose it from here. The alternatives are now: Australia, Belgium, Holland, EU, Finland, France, New Zealand, Norway, Sweden South Africa and U.K..

The text on the toolbox line shows, what regulation is in use:



If you need more rules in the program, please contact your dealer.



Coordinates

The current cursor position

Coordinates-Window (right top corner on the screen) shows the current cursor position. With double-click you can turn this function on or off.

Origo (X=0, Y=0) is on the front of the vehicle on the road level. With these coordinates you can measure dimensions directly from the picture.

When using hotspot dimensions; double-click on hotspot dimension; you see the old dimension and the given new dimension in the coordinates-window.

Coordinates-Window as measuring tape

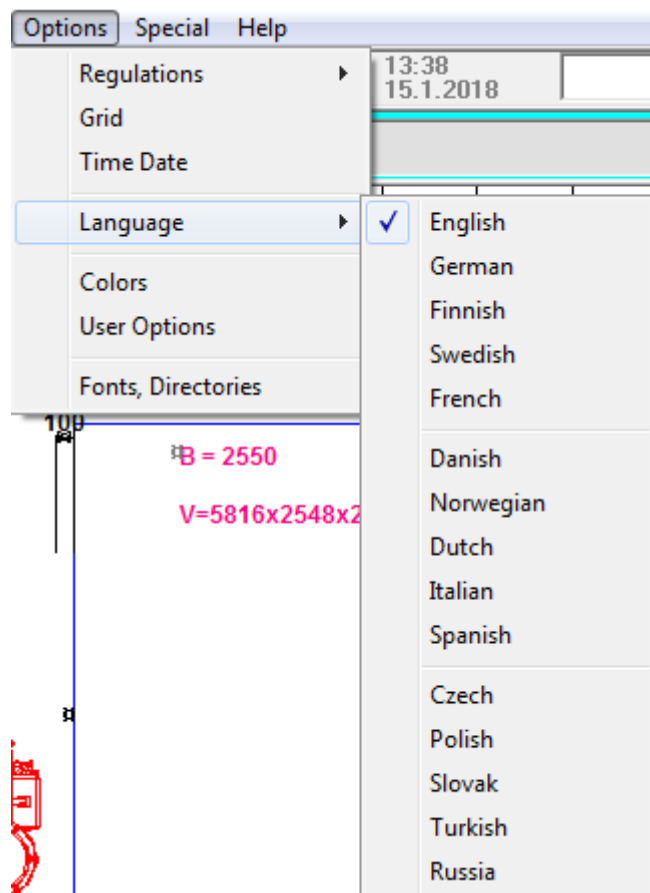
You can measure dimensions in the picture.

Move the cursor into the start point. Press the mouse button, hold it down, and then drag the cursor.

Coordinates-Window shows the moved dimensions in x-direction and in y-direction.

For example 500, 1200 means that cursor has moved 500 mm in x-direction and 1200 mm in y-direction.

Language



The wanted language can be chosen from here, if you are using multi language program. If you need more languages, please contact your dealer.



Colors

You can choose the colours separately to the different parts of the vehicle, for example: cab, tyres, body, crane, rear lifter, dimension numbers, weight numbers etc.

You can also choose text colour and background colour for warnings list box. All colour combinations are not good for all computers.

User Options

Option	
Warning limit for axle overload in procent	3
Noticing limit for axle overload in procent	2
overhang %	75
body weight/m kg/m	80
Logo x (-2000...11000)	11000
Logo y (1000... 4000)	3900
Logo Zoom (40...200)	100
Print : BODY MEASUREMENTS with evenload :	<input type="checkbox"/>
Towing couplings under body measurement is too big (max 13000) !!	<input type="checkbox"/>
body width (outside) B = ____	<input type="checkbox"/>
body volume V = ____	<input type="checkbox"/>
chassi frame height from road	<input type="checkbox"/>
subframe height	<input type="checkbox"/>

Buttons: Cancel, OK

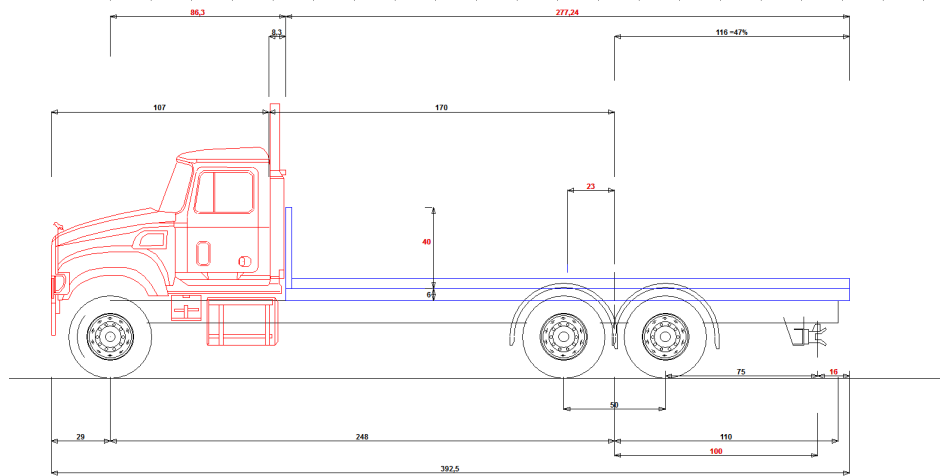
You can set some values for program functions. Your User Options values are saved, when exiting the program.

1. Warnings limit for axle overload, in percentage. Warning Beep and ! on the screen.
 2. Noticing limit for axle overload, in percentage. Writing percents onto picture (screen and paper).
 3. Warnings limit for rear overhang on truck.
 4. Load spaces own weight / m kg/m.
- Logo zoom: default value for Company Logo zoom.
 - Warning Tone Beep: if you find warning signal tone too noise or too "slowly" you are able to turn it off with checkbox Warning Tone. With no checked: only very few things give a warning signal. You can also change signal tone from Windows control panel.
 - Linear scale on printout on/off.
 - On printout you have company name text as footer. You can choose Text size for this text. Default size is 100. Please test with your printer.



US-dimension system

On US-versions there is a new User Option that changes the way TrailerWIN shows wheelbase and other measures on drawings. When unchecked (default) the normal TrailerWIN dimension system is used. When this option is checked for example wheelbase is measured from front-axle to middle of boogie.



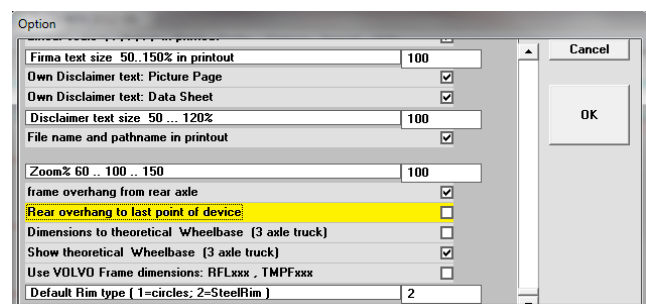
Also new measures are shown as cab-length from front-bumper, rear-wall of cab to midpoint of boogie. Checking this option will also make different text-page on output.

Note that this option is a user-based option and when sending files to other, the measures will be shown at the receiver end in standard TrailerWIN-way if this option isn't checked on his computer.

User option for rear overhang

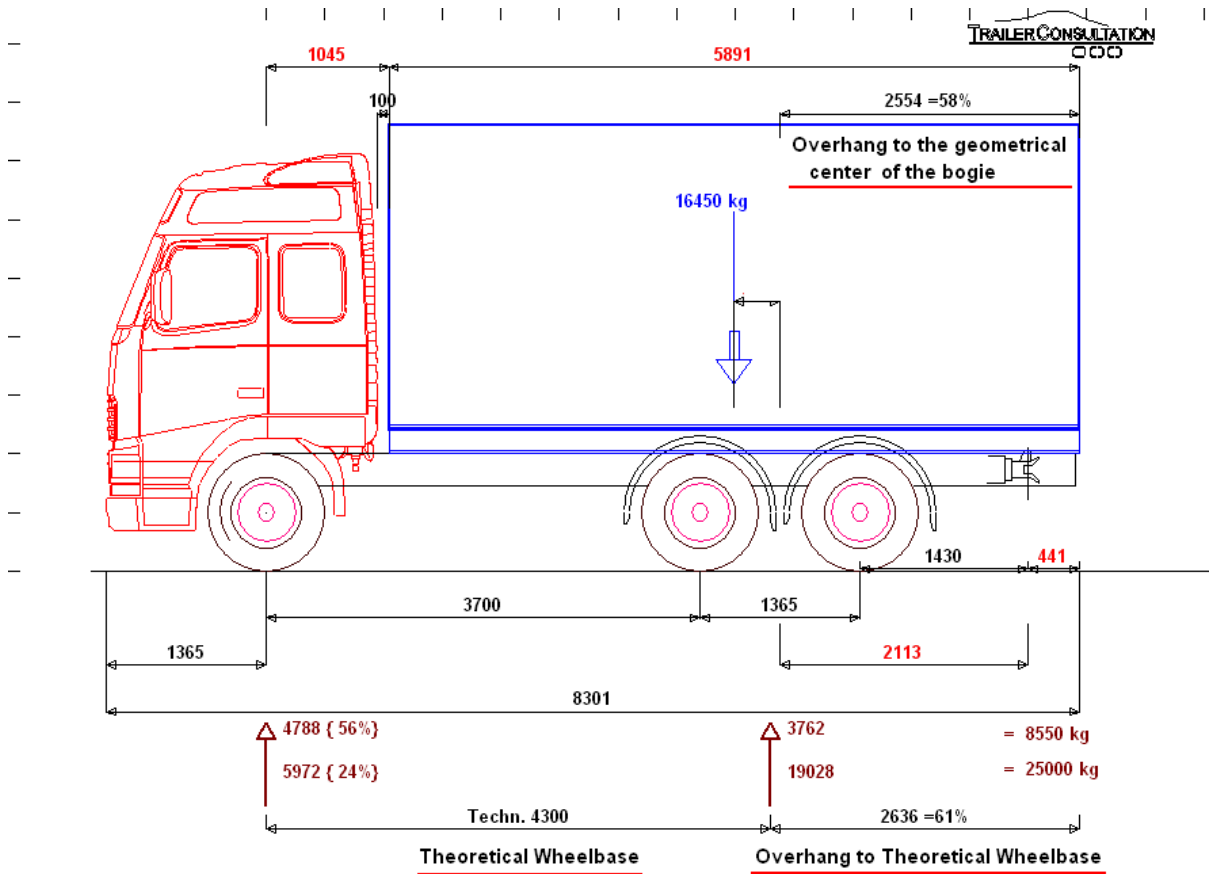
You have possibility to choose how to show rear-overhang. Default is to show overhang to rearmost device, including tailgate lifter, now You can choose to show the rear-overhang as defined in ISO 612-1978 without rear-mounted devices.

The default setting for this is with this option checked and the program will show the rear-overhang as before without changing this setting.

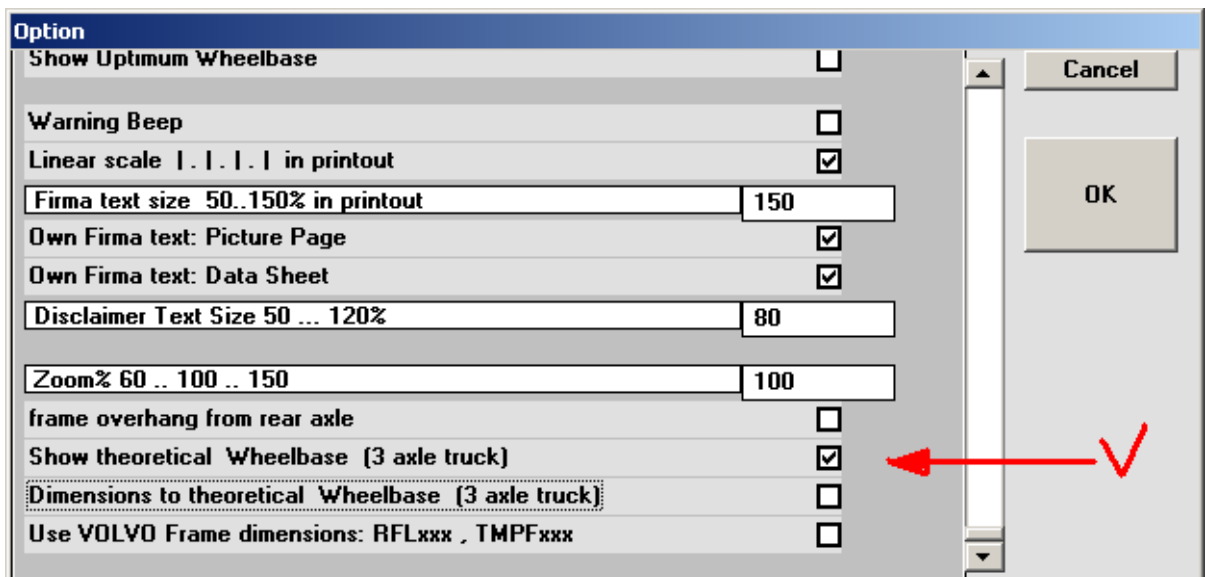




Show Theoretical (technical) Wheelbase and Overhang

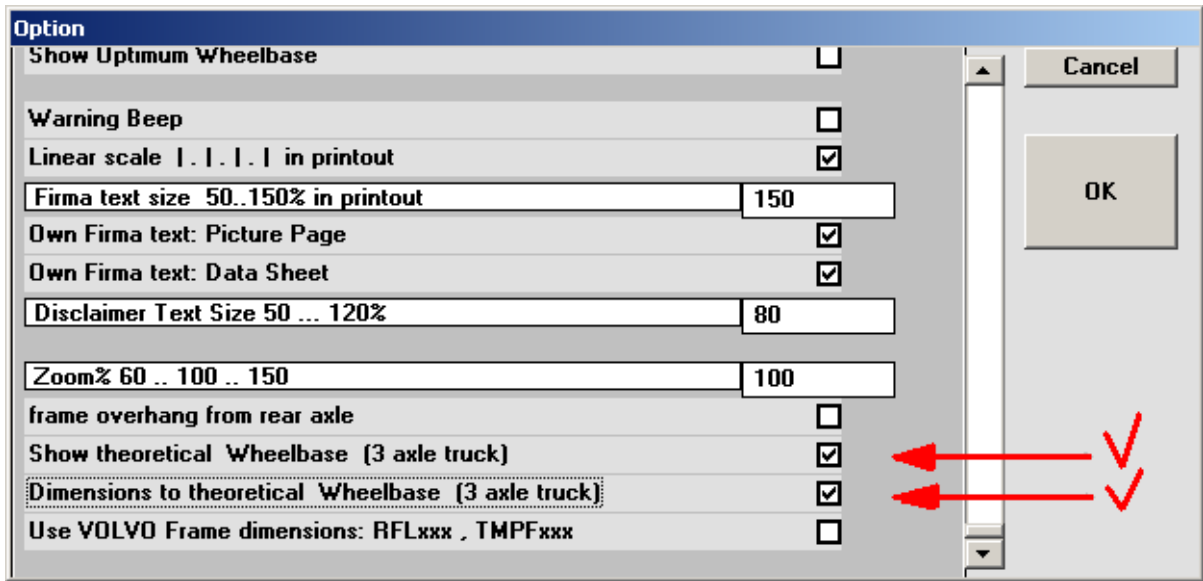


If you want the technical wheelbase dimension and corresponding overhang dimension into picture, click Menu **Options – User options** and mark there the checkbox : **“Show theoretical wheelbase”**

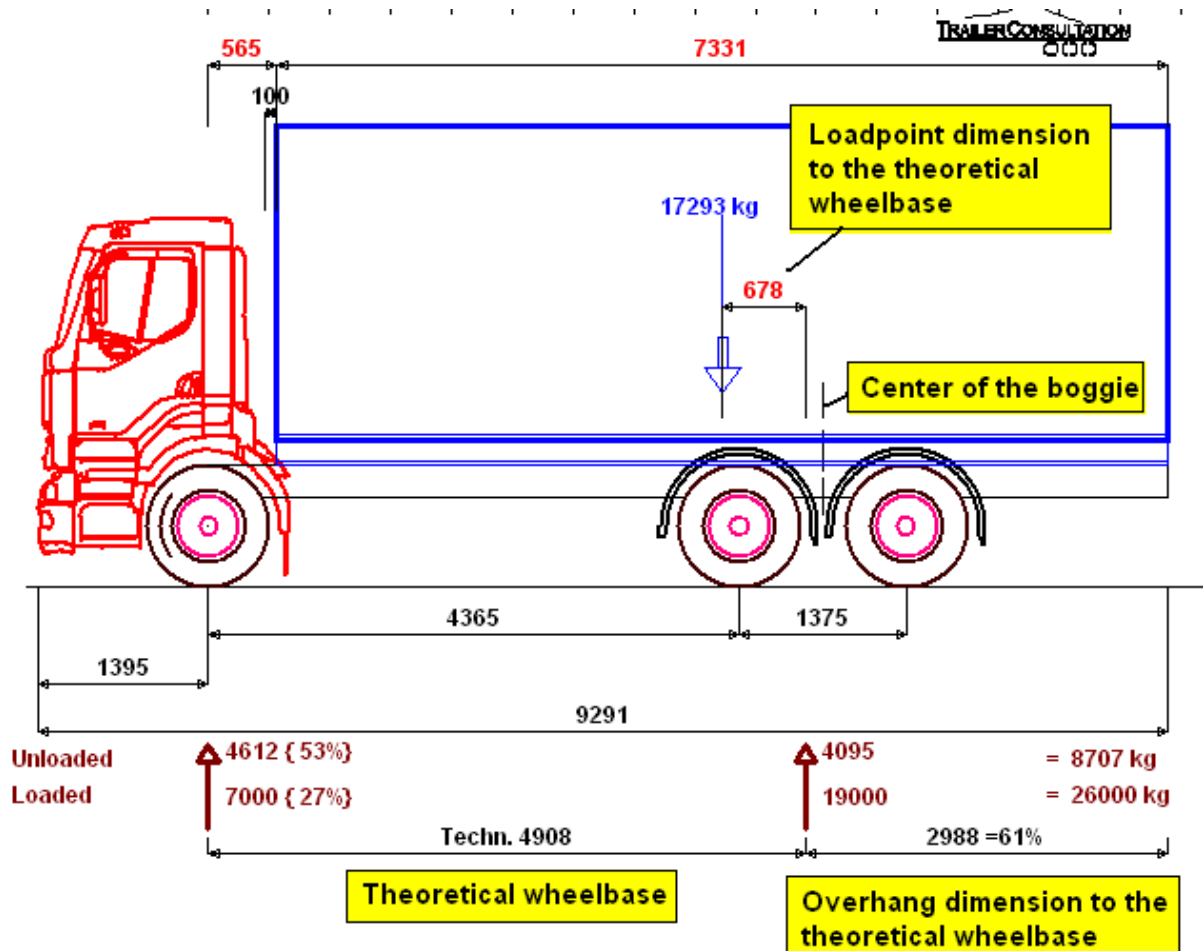




Dimensions to theoretical (technical) Wheelbase



If you have both checked in User options (Menu: **Options – User Options**) **Show theoretical wheelbase** and **Dimensions to theoretical wheelbase** You will have dimensions as in the following picture. Also warning limits for load point and overhang are now calculated to theoretical wheelbase.



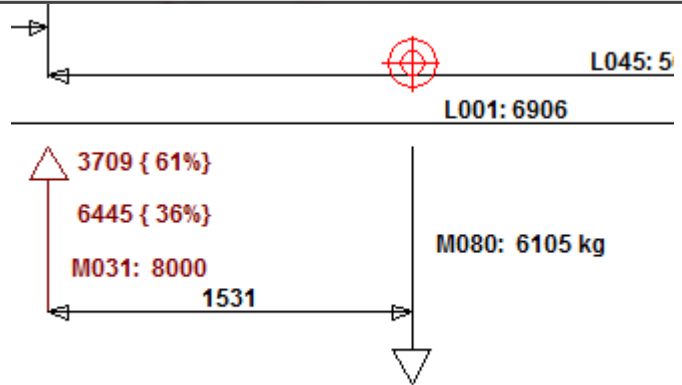
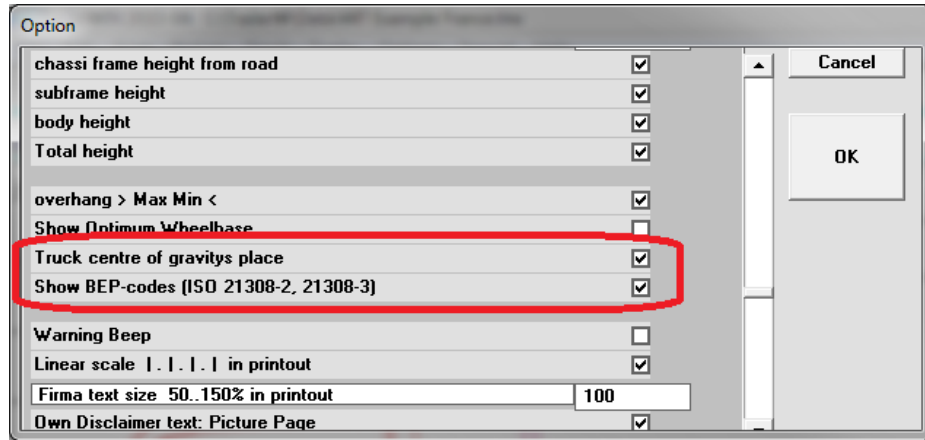


BEP-codes (ISO 21308-2, 21308-3) and CoG of truck on TrailerWIN drawing

In release 2015-04 we have added the possibility to show BEP-codes on the TrailerWIN drawing. The BEP-code system makes communication between chassis manufacturers and bodywork manufacturers more clear.

From User options You can now select to show or hide BEP-codes and truck CoG arrow on the drawing.

When BEP-codes are selected You will see the BEP-code for certain measurements on the drawing.



File name in Printout

If you have loaded the calculation, you will have File Name in printout on the bottom of the page after the date.

For example the path **C:\TRAILERW\DATA\VOLVO-3.EXP** shows, that the file **VOLVO-3.EXP** is in directory **DATA** in the subdirectory **TRAILERW**.

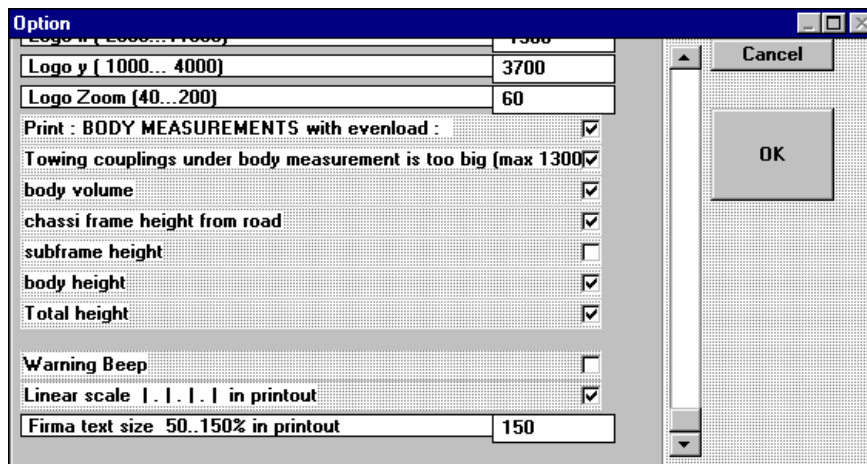
Company Logo size

Default size 100% .

You can change the size using Zoom  or from Menu: Picture Zoom.

Type zoom percent in the textbox **Logo 1 Zoom** and **Logo 2 Zoom** use percentage between 40 ... 200 .

User Options





Menu OPTIONS - HARDWARE

Printer and screen fonts

You can choose Font Type and Size for Pictures Pages and different Font Type and Size for Text Pages.

Font: Printer Default means, that TrailerWIN do not try to change font.

The screenshot shows the 'TrailerWIN Hardware' dialog box, specifically the 'Fonts' tab. The dialog is divided into several sections:

- Screen:** Shows 'Arial 10' and 'Line Width' with values 1 and 2.
- Printer Picture Page:** Shows 'Printer Font Size' (12), 'Printer Font Up' (0), and 'Line Width' (3 and 5).
- Printer Data Sheet:** Shows 'Printer Font Size Data Sheet' (11).
- Printer Default:** A list of fonts including Roman, Script, Modern, Marlett, Lucida Console, Lucida Sans Unicode, Symbol, Proxy 2, ISOCP, and ISOCP2.
- Directories:** Includes 'Program Directory' (D:\VB6\Trw2000), 'Chassis data' (d:\tb), and 'Save Data' (D:\VB6\Trw2000\Data).
- Buttons:** 'Default Fonts', 'Cancel', and 'OK'.

Callouts provide additional information:

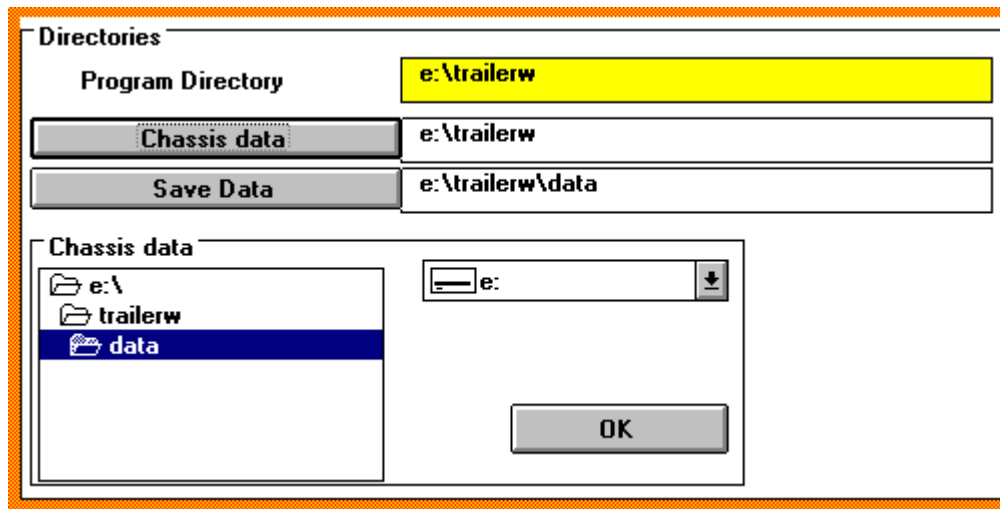
- 'Choosing PrinterFonts for Picture Pages Clicking this button shows font alternatives in FontListBox' points to the 'FontListBox'.
- 'Number of PrinterFonts on Your system' points to the font list.
- 'Choosing Printer Font Size for Text Pages. Default value = 50' points to the 'Printer Font Size' field.
- 'You can choose picture Line Widths on printout. The correct values depends on your printer dpi resolution. The second number = linewidth on bodywork and tyres. The first number = other lines' points to the 'Line Width' fields.
- 'Current (selected) Printer Font for Text Pages Clicking this button shows font alternatives in FontListBox' points to the 'Printer Default' list.
- 'Choosing Printer Font Size for Text Pages Default value = 12' points to the 'Printer Font Size' field.
- 'Dimension Number vertical location from dimension lines: Default value 90.' points to the 'Printer Font Up' field.

Notice !

The printer cannot always use all the fonts. In this case number can be in wrong direction. If so you have to choose font from the basic fonts: for example Arial, Courier New or Times New Roman.



Directory settings in TrailerWIN



You can choose directories for TrailerWIN.

Program directory

C:\TRAILERW

Here you should have name and path of this directory where you have installed the Program TrailerWIN (.EXE-file **TRAILERW.EXE** and other program files).

Directory for Chassis data

You need about 8 Mb free for these files in your harddisk.

Chassis data can be installed in the directory **C:\TRAILERW\.....**

(If you have or had also older DOS-Program TrailerPC, you have chassis data files loaded in directory **C:\RL\...** . You can use this directory so you do not have to load data in two directories)

Directory for saved calculations

C:\TRAILERW\DATA

Setup creates this directory for your calculations. From here you can choose any other directory for this.

When saving the calculation, the program uses this directory. Of course you can also choose another path.



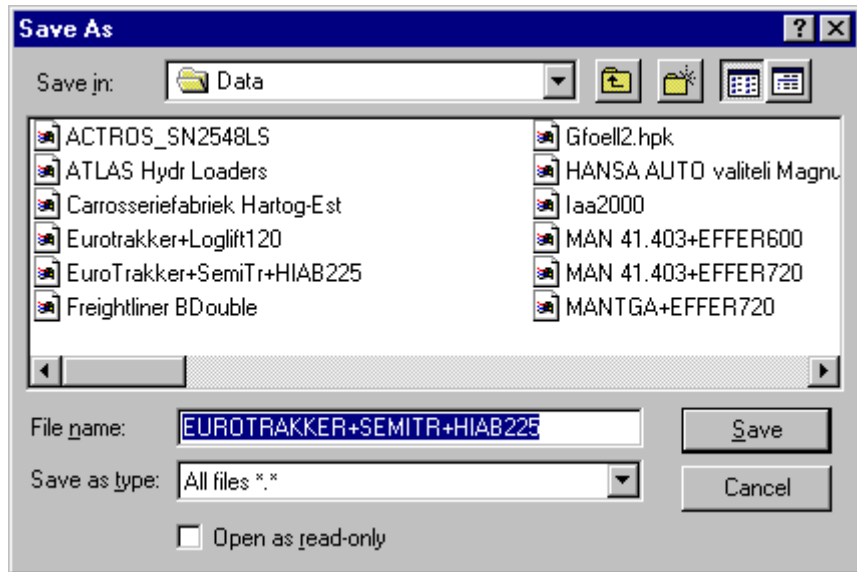
Sending a TrailerWIN file as attached TRW-file by email to a colleague

Save file as



In the "Save as" Dialog box it is possible to use long file names.

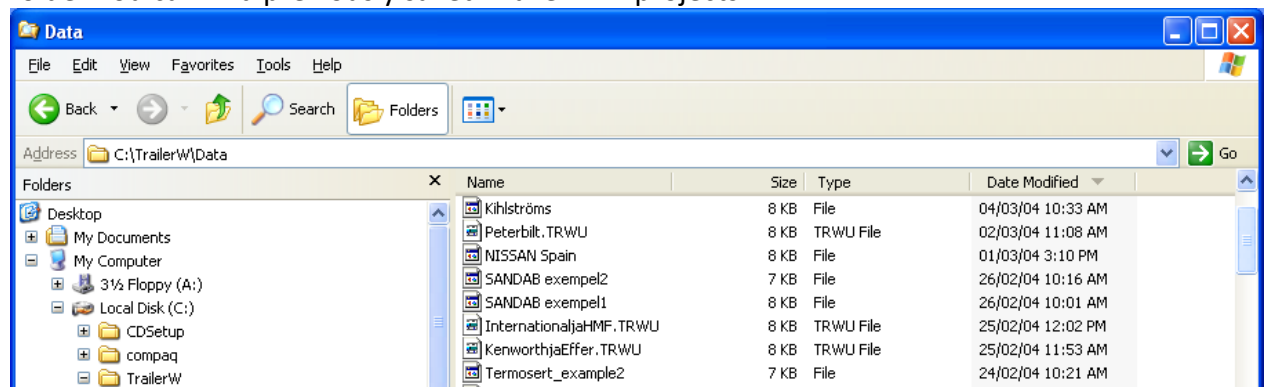
You can choose the directory for your files.



It's a good idea to make own directories for most important customers.

When running SETUP a directory "DATA" is made for default directory for your Data files. The path could be for example: **C:\TRAILERW\DATA**

Open program: **Windows Explorer** and go to folder **C:\TRAILERW\DATA** in this folder You can find previously saved TrailerWIN projects.



You can choose the file that You want to email and simply drag it with mouse onto Your email message in Outlook program Outlook express or some other email program.

These TRW -files can only be opened with TrailerWIN program. The receiver of Your email must also have TrailerWIN program to open attached TrailerWIN project.

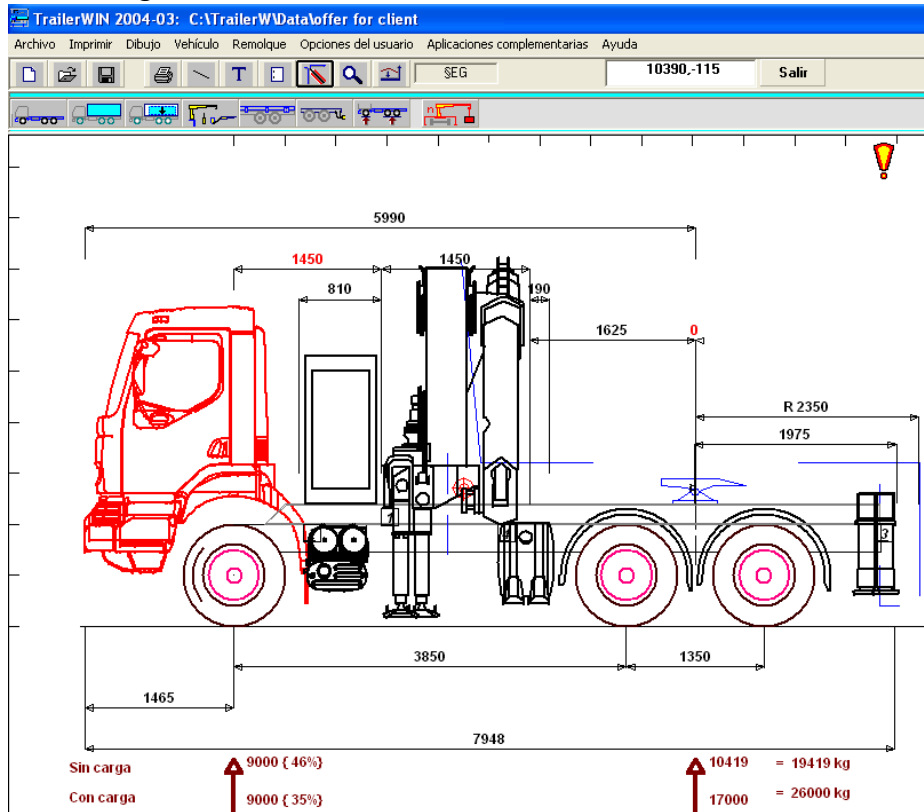
If receiver of Your email does not have TrailerWIN, then it is better to send attached file in some other file format, so that receiver can be able to open the received file.

AutoCAD DXF, Acrobat Reader PDF, Word DOC, Excel XLS, BMP, JPG etc.



How to take TrailerWIN pictures into Word document or Excel file

When You are finished with a project in TrailerWIN, CraneWIN and FrameWIN and now You want to transfer the results and pictures into Word document or Excel file For making an offer for Your client.



Choose from menu: **File** and **picture onto clipboard**

Then You can go back to the offer document that You are making for Your client with Word or Excel. In Word or in Excel choose from **menu: Edit & Paste** Or click on right button on mouse and choose paste.

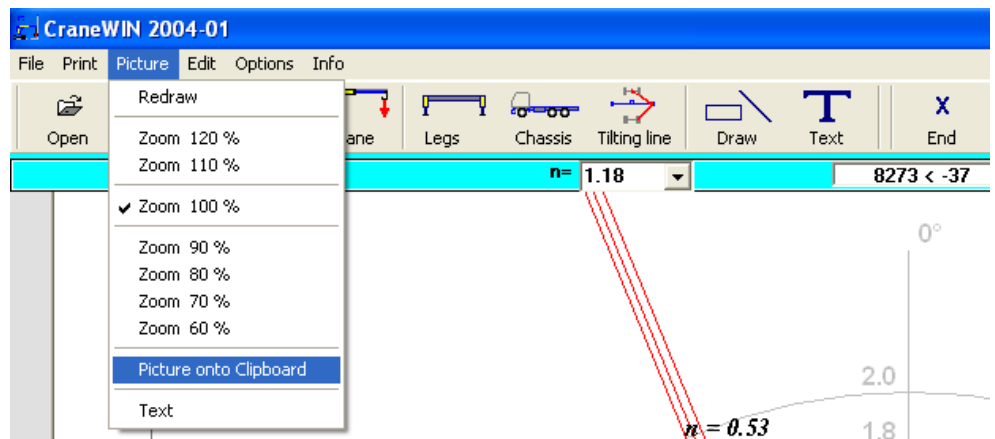
Now You get TrailerWIN picture on the offer document.





In CraneWIN You can take the stability diagram onto offer like this.

Choose in CraneWIN: **Picture & Picture onto clipboard**



Then You can go back to the offer document that You are making for Your client with Word or Excel and choose from **menu: Edit & Paste** Or click on right button on mouse and choose paste.

Now You get CraneWIN crane stability picture on Your offer document.

In FrameWIN You can take the stability diagram onto offer like this.

Choose in FrameWIN: **Picture and Picture onto clipboard**



Then You can go back to the offer document that You are making for Your client with Word or Excel and choose from **menu: Edit & Paste** Or click on right button on mouse and choose paste.

Now You get FrameWIN subframe profile picture on Your offer document.



How to get the data sheet onto email message.

You can choose from menu:

"File" -

"Data Sheet:Save As"

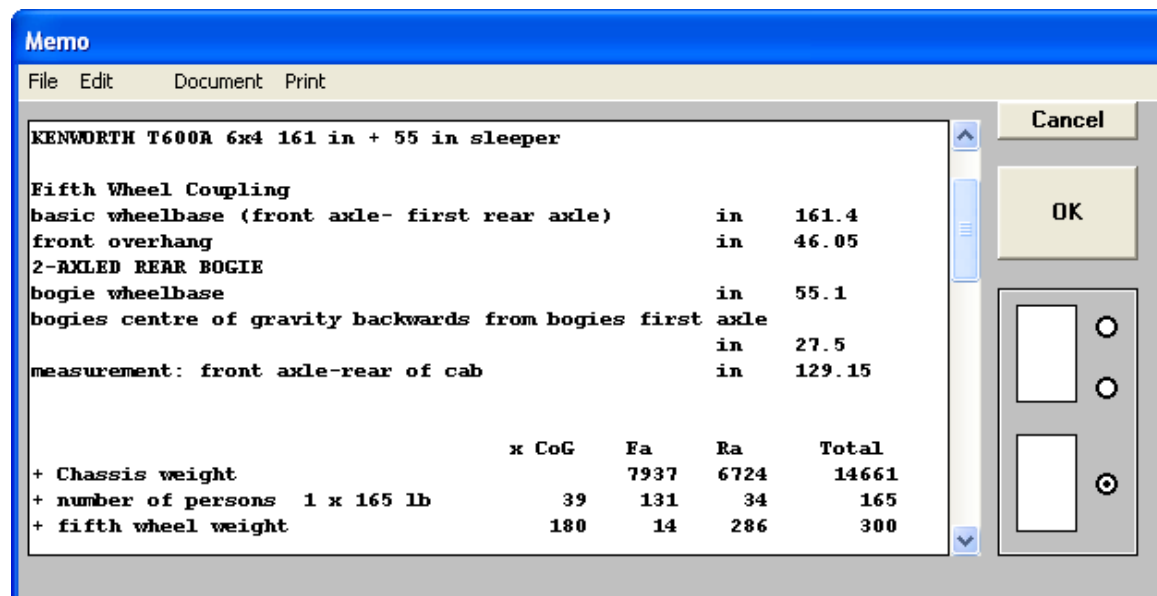
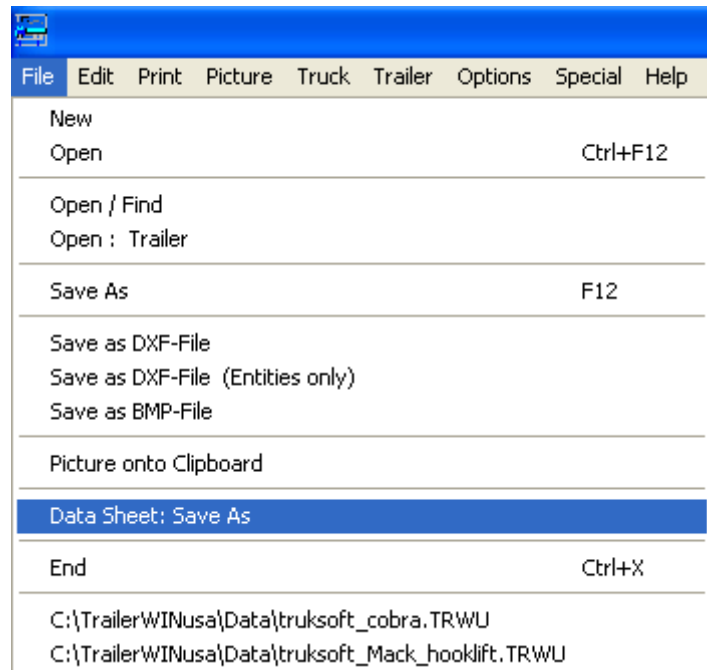
Save the data sheet on a folder where You can find it for the email message.

You can save data sheet for example as TXT file.

Now You can attach the data sheet TXT file on the email or

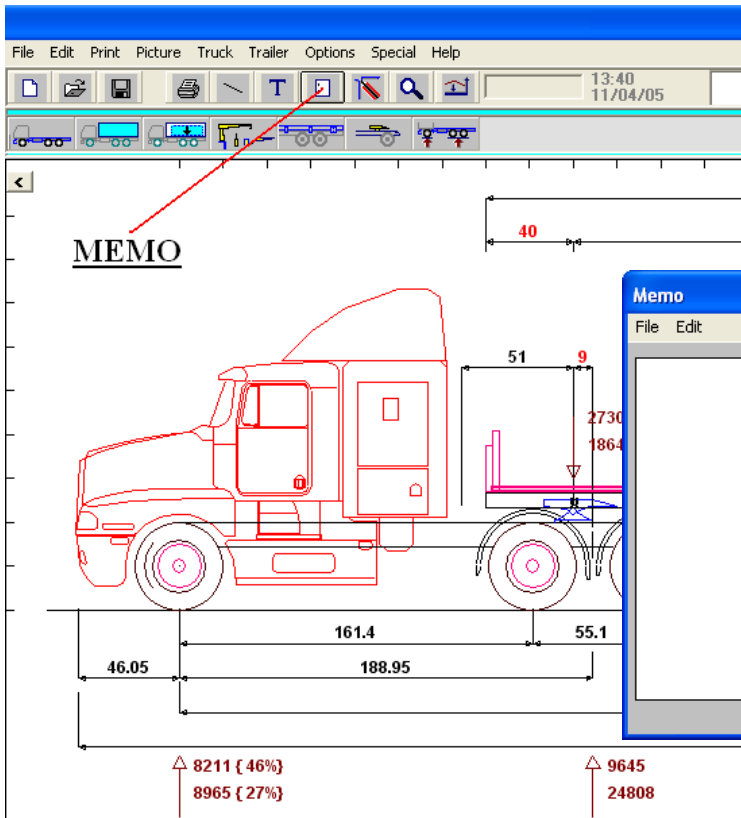
Copy – Paste

the contents of this data sheet file into Word or Outlook email message.



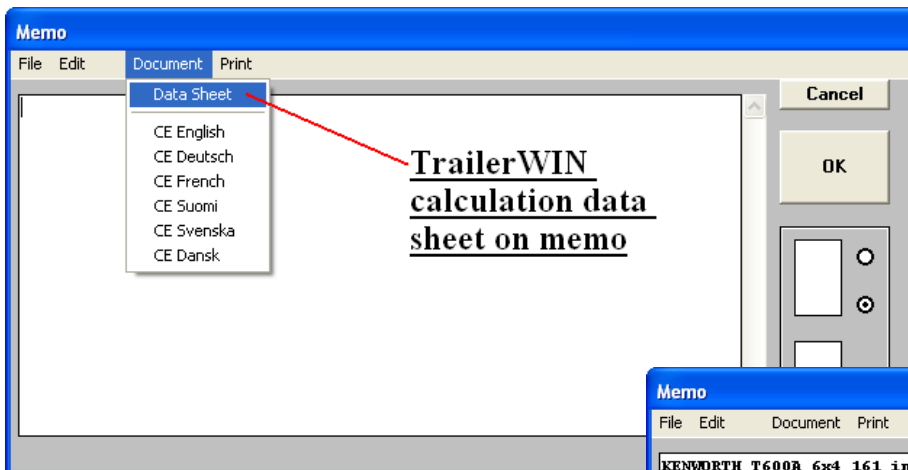
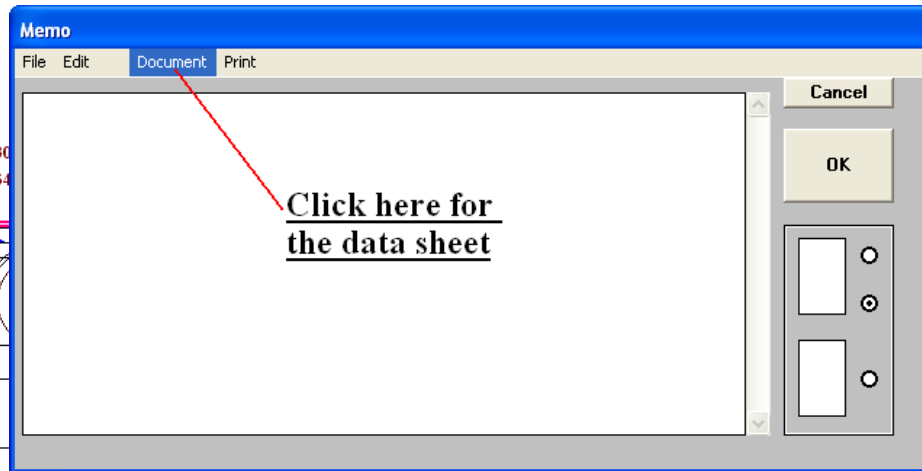


Another way to get data sheet in file format, is with MEMO function



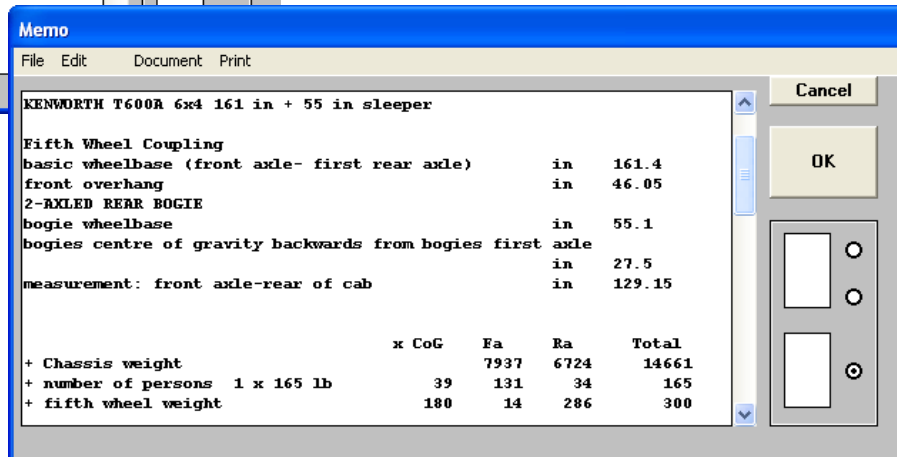
1. Click on "MEMO" button

2. Click on "DOCUMENT"



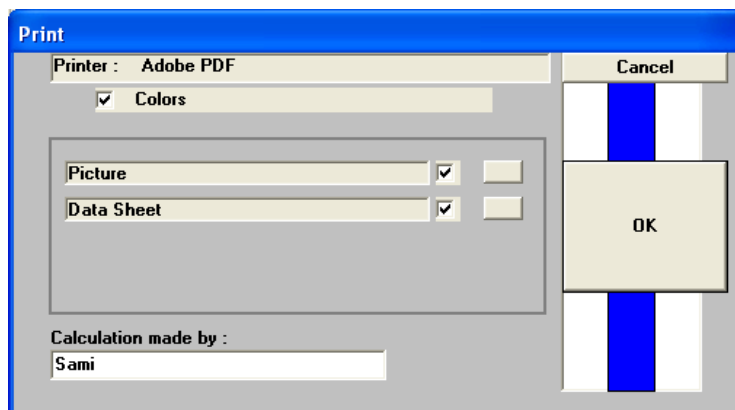
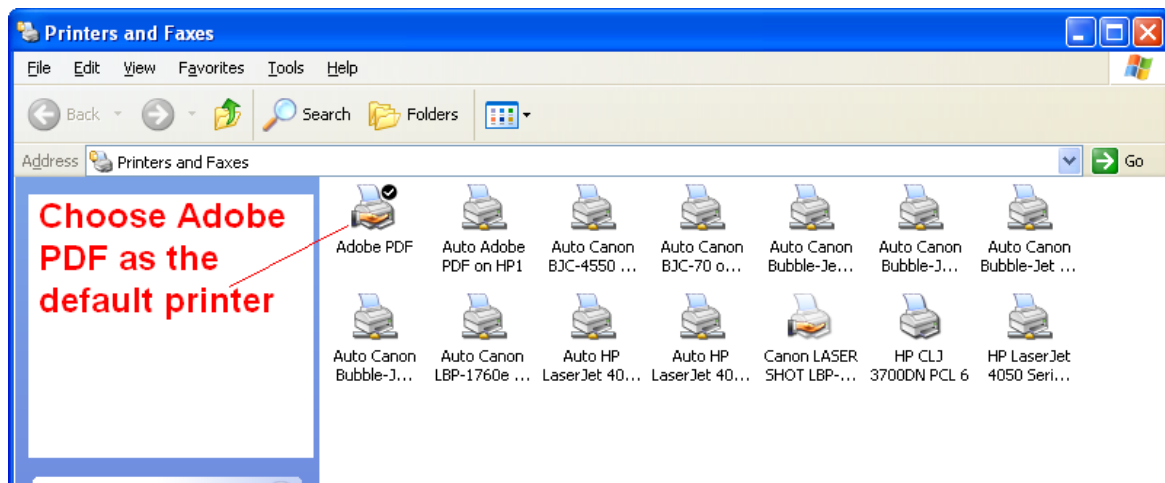
3. Click on "DATA SHEET"

4. Now You can save the "DATA SHEET" for example in TXT file format





How to make a PDF file from TrailerWIN, CraneWIN, FrameWIN



Choose print function in TrailerWIN from file: print or from button



Then choose the directory where You want to save the PDF file and type the file name.

TrailerWIN gives each printout sheet to Adobe PDF as separate file so finally You need to combine all PDF files that You have made and form a new combined PDF file with all pages from TrailerWIN, CraneWIN and FrameWIN printouts.

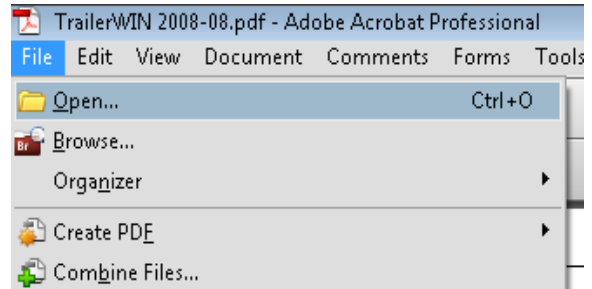


Add several PDF-files to one document

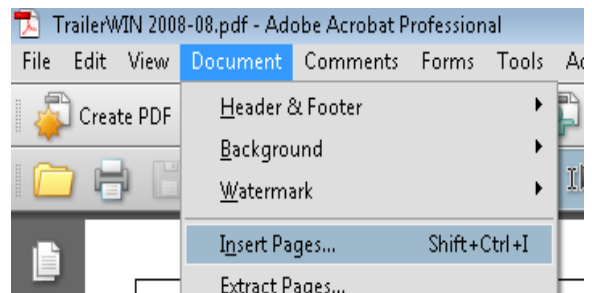
TrailerWIN prints every page to separate pdf-files. You can combine these files to one pdf-document in two ways. You can add several pdf-documents to one file or collect several files and make a pdf-package.

Here is a short description of making one large file with different pdf-files combined. This is useful for making offer from TrailerWIN, CraneWIN and FrameWIN files in one pdf file.

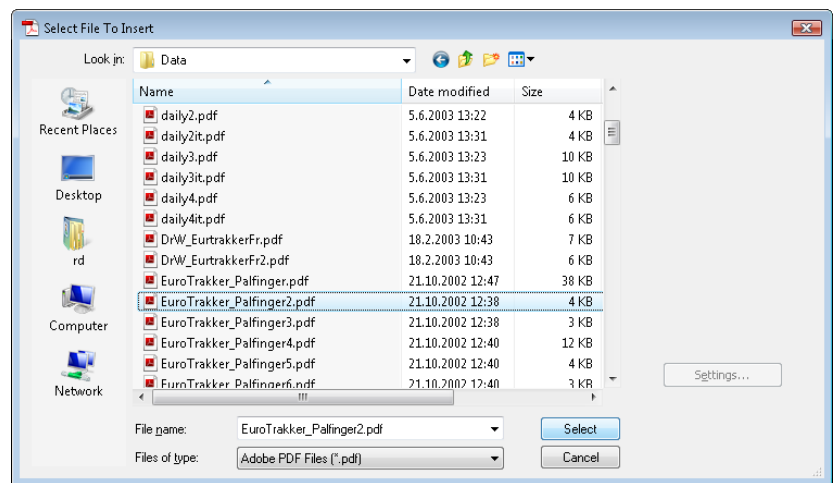
In Acrobat Professional open the first file menu **File Open**



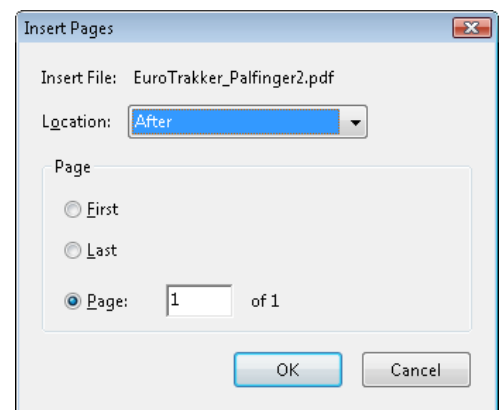
Then choose **Document – Insert Pages**



Then choose the next file You want to add to the document, in this example EuroTrakker_Palfinger2.pdf .



Then choose where You want to place the new file in the document, first or last. The new file is now added to your previously opened pdf-file.



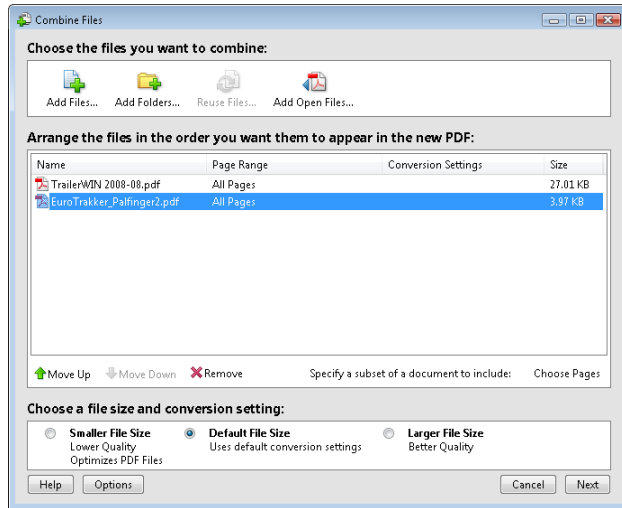
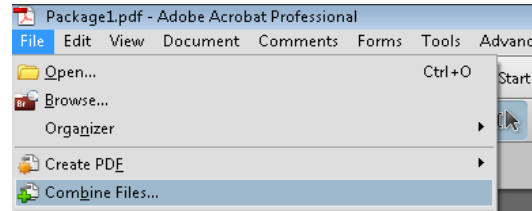


How to make PDF-packages (in Adobe Acrobat Professional v. 8.0 on)

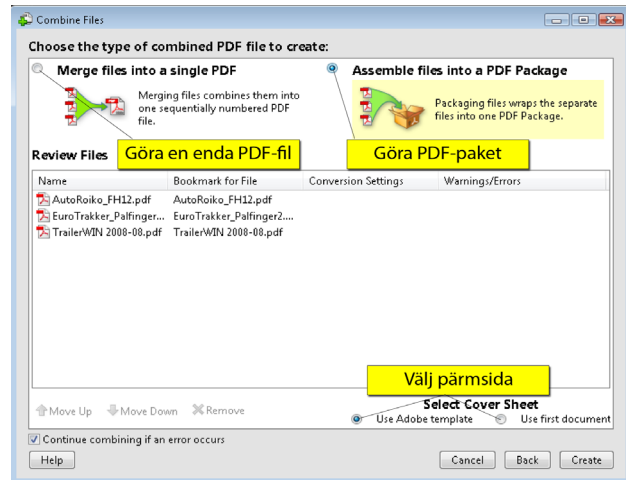
From version 8.0 on You can also make pdf-packages wich includes several pdf-files.

This option is useful for collecting several files to one larger package. This function makes it easy to add and collect many files.

Start by choosing **File – Combine Files...** from menu. Then choose Pdf-files that You want to add by clicking **Add Files..** . You can easily position the files in right order and remove files.



Then press **Next** button and next window appears. Here you can choose if You want to make one large document or collect files to a pdf-package. It also makes it possible to choose a cover page for your pdf-document.



When using pdf-package function it's recommended that the end-user has installed Acrobat Reader version 8.0 or newer.

If you choose to **Use Adobe Template** as cover page the following cover will be added to the package. This helps the user to find latest Reader version.

Multiple files are bound together in this PDF Package.

Adobe recommends using Adobe Reader or Adobe Acrobat version 8 or later to work with documents contained within a PDF Package. By updating to the latest version, you'll enjoy the following benefits:

- Efficient, integrated PDF viewing
- Easy printing
- Quick searches

Don't have the latest version of Adobe Reader?

[Click here to download the latest version of Adobe Reader.](#)

If you already have Adobe Reader 8, click a file in this PDF Package to view it.



Menu SPECIAL

From this menu you can start other Trailer Consultation-programs, if you have any.

Tipper

For calculating NUMMI tipping gears.

NUMMI = manufacturer for Tipping gears

NUMMI OY AB P.O. BOX 9

FIN - 25501 PERNIÖ, FINLAND

CraneWIN

COMPUTER PROGRAM FOR CALCULATING CRANE STABILITY

The stability calculation program is used together with TrailerWIN, which calculates vehicle combinations.

The vehicle weight and dimensions are calculated first, and crane type is selected and positioned, using TrailerWIN. Next you can calculate the crane stability by using the CraneWIN.

CraneWIN must be located in the directory, that you have chosen as chassis data directory.

CornerWIN

Computer program for calculating the TURNING AROUND THE CORNER

The possibilities are:

- 90 deg rectangular corner.
Swedish rule.
- Turning in 120 deg arc.
- Circle with chosen radius.

CornerWIN must be located in the directory, that you have chosen as chassis data directory

FrameWIN

Program for subframe stress calculation.

Trucks with crane, chassis frame with subframe

FrameWIN must be located in the directory, that you have chosen as chassis data directory.

Menu INFO

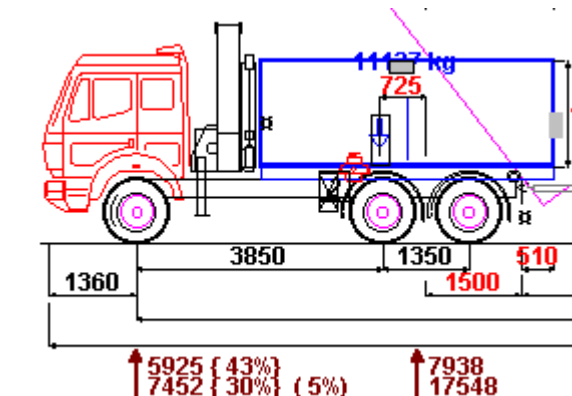
Information:

Telephone and Fax numbers for contacting the maker of the program or the agent.

Data about Windows



Measures and Weights on the Screen



The numbers under the picture show the axle loads for loaded and unloaded vehicle.

The figures show the front axle load percent. (Needed in judging the steering abilities.) (in this example :unloaded {43%} , loaded {30%})

The second line (5%) means 5% overload on front axle.

Noticing limit for axle overload, in percent can be set from menu OPTIONS - USER OPTIONS..

Wheelbase

In the picture you have also the dimension from the last axle on the truck to the first axle on the trailer.

Picture:

- The Width of the Vehicle is now printed in the picture e.g. B=2550.
- The dimension: Height of the chassis frame is in the picture. You can give this dimension manually. Later it will be read from the data files on new chassis models.
- The dimension body length will not include the length of the rear lifter.

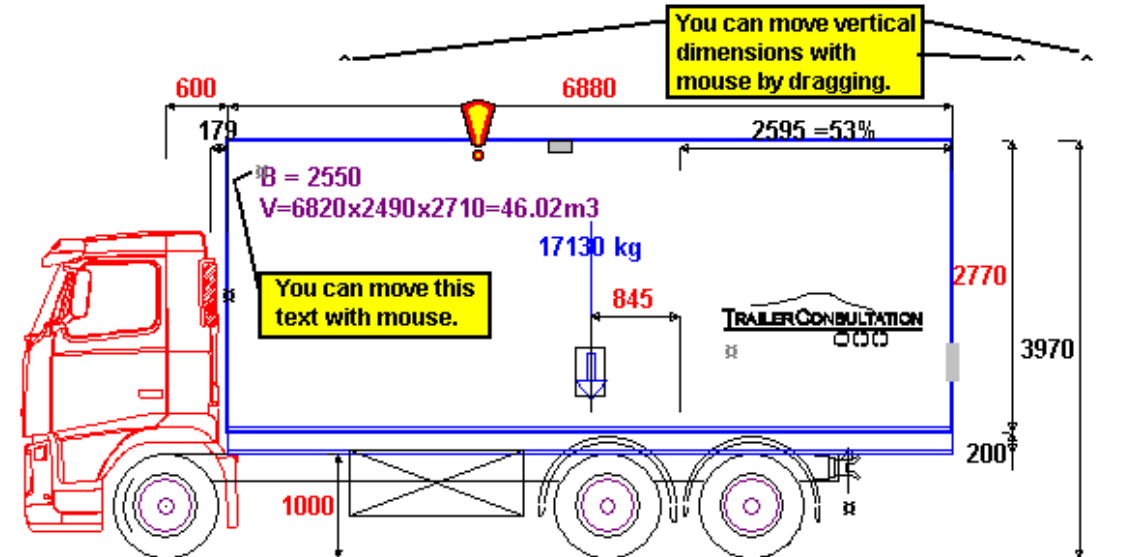
Body dimensions:

You can give following dimensions, and they will be printed on the text page:

- **Length of the body (outside)**
- Wall thickness front
- Wall thickness rear
- Length inside L1
- **Body Width**
- Wall thickness left
- Wall thickness right
- Width inside B1
- **Body Height**
- Floor thickness
- Roof thickness



- Height inside
 - $H1V = L1 \times B1 \times H1 = \dots\dots\dots m^3$
- You will see this last text in the picture and you are able to move this text ($B = xxx \quad V = xxx$) with mouse.
 You are also able to move the vertical dimension on the picture.



In **Menu: Options - User Options** you can choose whether to have these dimensions and text on the picture

Option	
Warning limit for axle overload in procent	2
Noticing limit for axle overload in procent	2
overhang %	60
body weight/m kg/m	150
Logo x (-2000...11000)	10500
Logo y (1000... 4000)	3000
Logo Zoom (40...200)	100
Print : BODY MEASUREMENTS with evenload :	<input checked="" type="checkbox"/>
Towing couplings under body measurement is too big (max 13000 !!)	<input checked="" type="checkbox"/>
body width (outside) B = ____	<input checked="" type="checkbox"/>
body volume V = ____	<input checked="" type="checkbox"/>
chassi frame height from road	<input checked="" type="checkbox"/>
subframe height	<input checked="" type="checkbox"/>

Print : BODY MEASUREMENTS ..

Optional Body dimensions printing yes or no.

Towing couplings under body Warning / no Warning

Body Volume : Text $V = L1 \times B1 \times H1 = \dots m^3$ in picture or not

Chassis frame height, subframe height, body height, total height
 Dimensions in picture or not



Make changes directly on the drawing

Drag-Drop with Grips

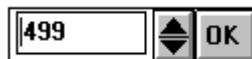


You can change some dimensions only by dragging a grip with the mouse. Move the mouse on to the grip, press the left mouse button down, keep it down and move the mouse to the new place. So you can for example make the body longer or shorter. There are two different designed grips, rectangle and symbol "α".

With grips -drag-drop you can change for example:

- body length (from the rear wall)
- body placement (from the front wall) = to move the body without changing length
- body height (from the body over edge)
- Fifth wheel coupling placement
- trailer coupling placement (horizontal)
- some devices; point weight as tank and point weight as a vector.
- own texts in picture

"Hotspot" dimensions



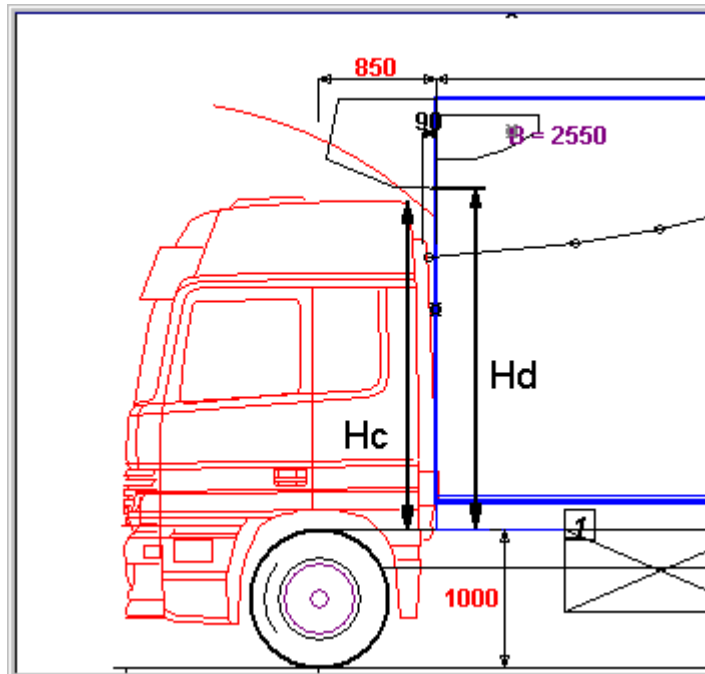
You can change some dimension values directly with Mouse-DoubleClick. These Dimension numbers are shown as **red** on the screen. Double-click on the red number and the editing box opens, where you can type new value or edit the old value. With spin arrows you can change the value with 10 mm steps. At last you click OK or press Enter (Return) on the keyboard. Clicking outside the editing box cancels the value editing.



Cab tilting arc

From **Menu - Picture - Cab Tipping Radius** you can choose **Cab Tilting Arc** shown in the picture.

This function is not including on all Cab models.



Important to know:

The cabin pictures on TrailerWIN are not absolute on the correct height on the chassis frame.

You should also control the Height dimensions Hc and Hd on the picture, and compare these dimensions on dimensions of the truck.

In TrailerWIN picture you can measure distances using the mouse.

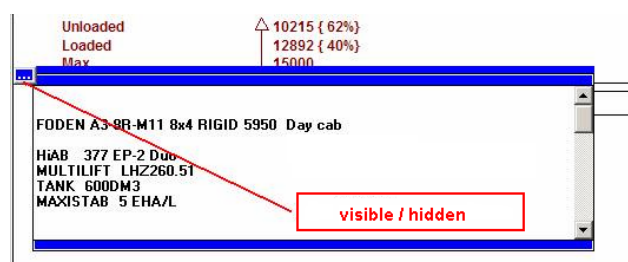
Coordinates-Window as measuring tape

You can measure dimensions in the picture.

Move the cursor into the start point. Press the left mouse button down, hold it down, and then drag the cursor.

Coordinates-Window shows the moved dimensions in x-direction and in y-direction. For example 500, 1200 means that cursor has moved 500 mm in x-direction and 1200 mm in y-direction.

Button for choosing Data field visible or hidden / invisible





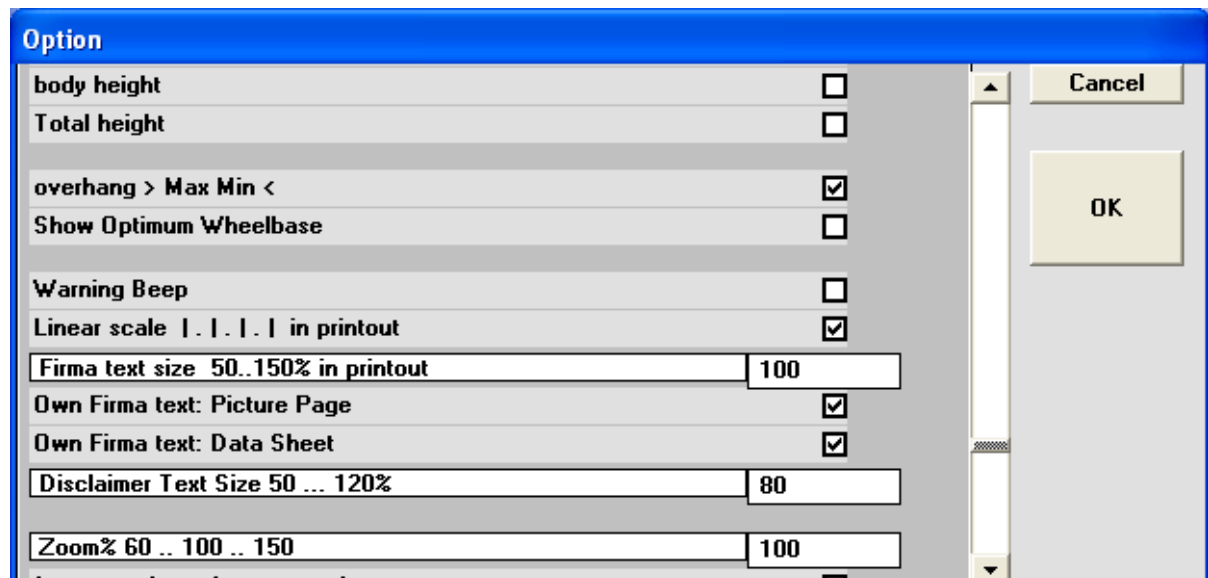
Own company text on the end of every printout paper

Own company text on the end of printout paper on the text page and/or on the picture page.

Text example:

This calculation is based on manufacturer's published data.
Our Company Ltd will not guarantee that the weights and crane performance achieved in practice will match the figures quoted above.

From Menu **Options - User Options** you can separately choose, if you will have this text on the text page and on the picture page.



Writing the Own company text (under header).

You edit or make this ASCII-Text file by using TrailerWIN Memo or Windows Notepad or DOS EDIT or some other text editor. When you save it, you must save it as ASCII Text format in TrailerWIN program directory, also usually **C:\TRAILERW**.

The file name is **trwDisclaimer.TXT**.

The text can include maximum 7 rows.

If TrailerWIN finds this file (or earlier used file name FRTXT.WDS), it is used as own company text.

The program reads this text when you start the TrailerWIN program. This means that when you make or change this text, the new text is in the program only after closing and restarting of TrailerWIN.

Possibility to change the disclaimer text size between 50 %-120 % compared to other text on printout.

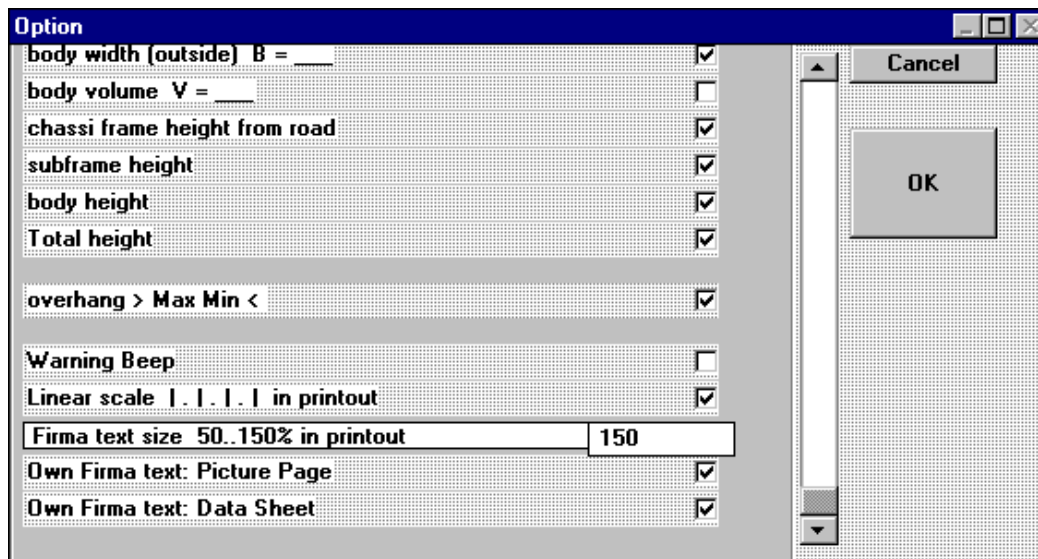


How to make disclaimer text on TrailerWIN printout papers

Own company text on the end of printout paper on the text page and/or on the picture page. Disclaimer text can be for example something like this:

```
This calculation is based on manufacturer's published
data. Our Company Ltd will not guarantee that the
weights and crane performance achieved in practice
will match the figures quoted above.
```

From Menu **Options - User Options** you can separately choose, if you will have this text on the text page and on the picture page.



Writing the Own company text (under header).

You edit or make this ASCII-Text file by using TrailerWIN Memo or Windows Notepad or some other text editor. When you save it, you must save it as ASCII Text format in TrailerWIN program directory, normally this directory is **C:\TRAILERW**. The file name for this ASCII text file must be **trwDisclaimer.TXT**.

The text can include maximum of 7 rows of text.

If TrailerWIN finds this file (or earlier used file name FRTXT.WDS), it is used as own company text.

TrailerWIN reads this text when You start TrailerWIN program.

This means that when you make text or change this text, then the new text is in use for program only after closing and restarting TrailerWIN.

Own Company Text for multilingual programs:

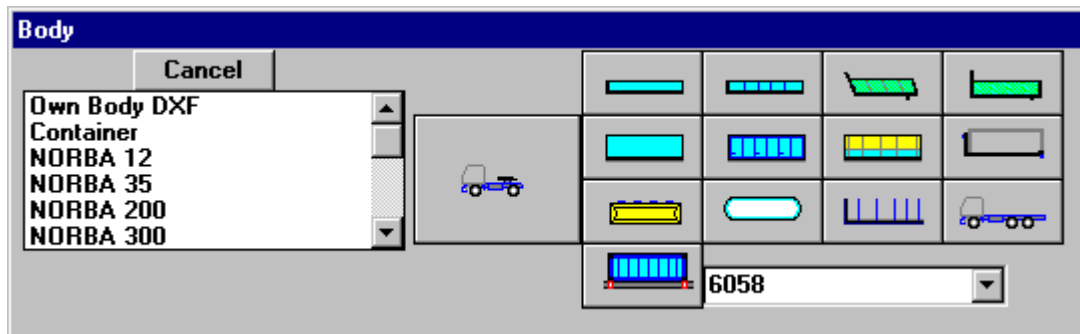
If you want to have different text for different languages, you have to make different files. Use such file names as:

english: FRTXTE.WDS , german: FRTXTD.WDS , french: FRTXTFR.WDS ,
 finnish: FRTXTF.WDS , swedish: FRTXTS.WDS, Dutch: FRTXTDU.WDS,
 Danish: FRTXTDK.WDS, Norwegian: FRTXTNO.WDS, Italian: FRTXTIT.WDS
 Spanish: FRTXTIT.WDS, Zcech: FRTXTUC_CX.WDS, Polish: FRTXTUC_PL.WDS
 Slovak: FRTXTUC_SL.WDS, Turkey: FRTXTTUR.WDS

If you do not want to have different language or do not find language specified file, use file name as **trwDisclaimer.TXT** .

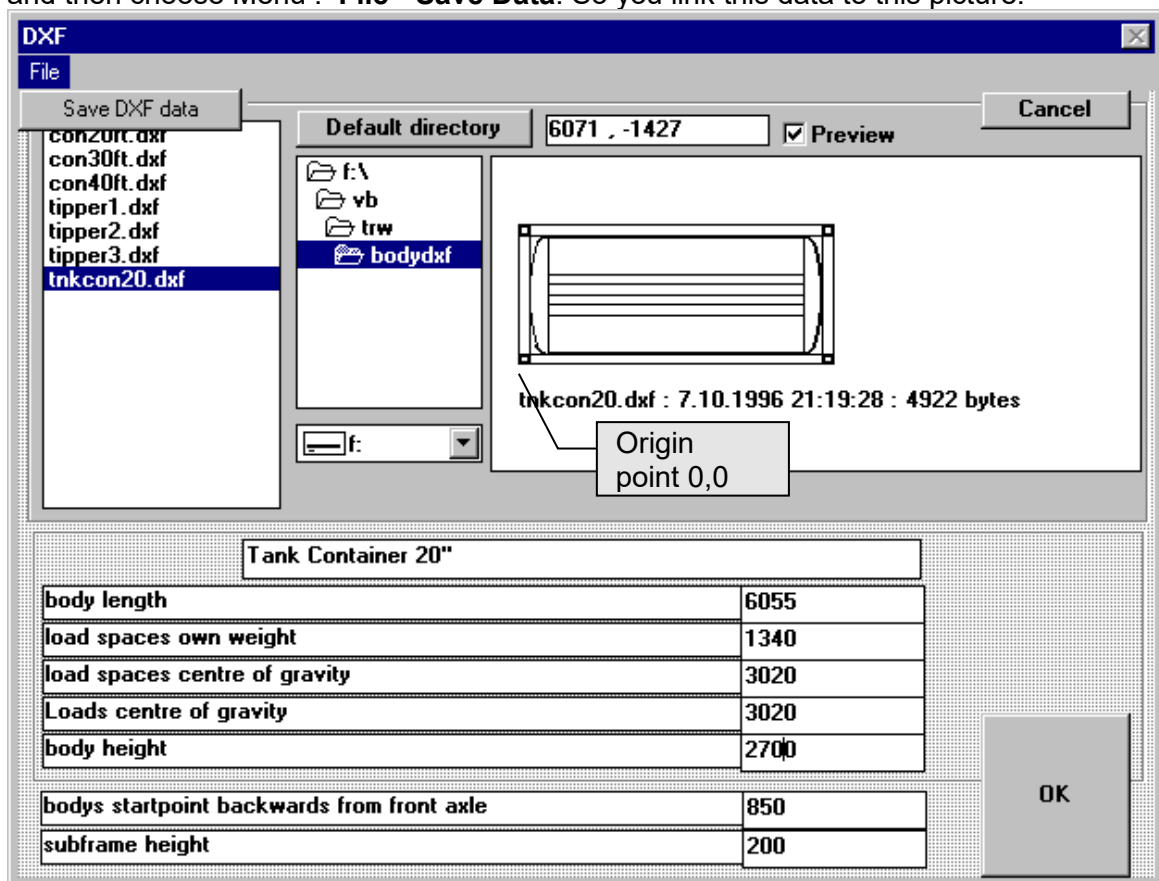


Using DXF-pictures as Body picture.



In this BODY-Window you can select **Own Body DXF** with double-clicking on it or clicking OK.

Choose BODY-picture from the list. Technical Data is under the picture.
If you want to change some data permanently, type first the data on the textboxes and then choose Menu : **File - Save Data**. So you link this data to this picture.

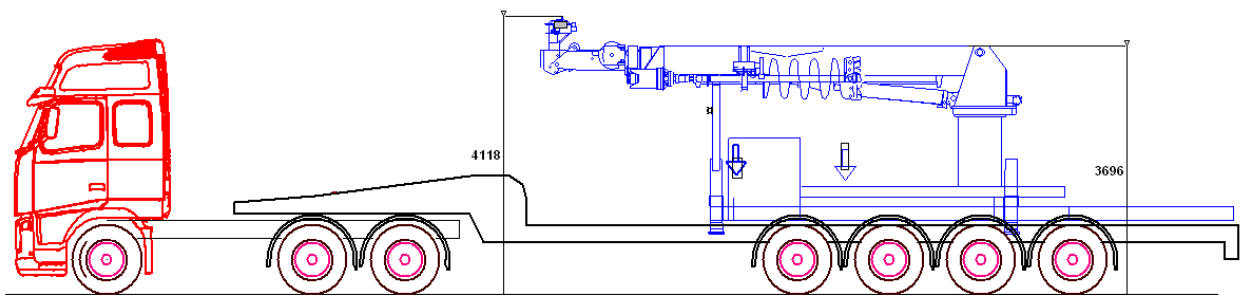


To take this picture as body on the chassis click OK.
You are not available to change this picture in TrailerWIN, no changing length or height, you can only move it horizontally and vertically using two last textboxes on this dialog box.



How to add own DXF-pictures

1. Draw a picture in AutoCAD or some other CAD-program. (tested with AutoCAD, recommendation AutoCAD or AutoCAD LT). The picture should be a simply drawing, no blocks, no texts with fonts. The picture must be in scale 1:1 in mm:s . Origin point (0,0) must locate in lower left corner of the body.
2. Choose Menu SAVE AS and then choose file format as DXF
(choose AutoCAD R12 DXF).
(In older CAD versions you need to use command **DXFOUT** in AutoCAD)
Give name for this picture.
Choose directory **\BODYDXF** under TrailerWIN-directory, also usually **C:\TRAILERW\BODYDXF**.
3. After that AutoCAD ask **“Enter decimal places of accuracy (0 to 16)/Entities <6>”**.
Choose at first Entities **E** and enter, and after that 0 decimals.
4. When You take this picture at first time in TrailerWIN, all data fields show 0. You must then give Length, Height, Centre of Gravity. TrailerWIN makes then other file for this data using the same filename, but extension part is .DXD



DXD file structure:

Tipper 1 - Body name (on 2 rows)
BR 0 - Body width
HE 1300 - Body height
LN 6100 - 6100 is body length
WE 1520 - 1520 is body weight
PP 2800 3050 - 2800 is body centre of mass, and 3050 is payload centre of mass. Measured from body start.

Following values optionals only

SFH 150 (optional) – Height of subframe (if included in the picture)
BS 950 (optional) - Body startpoint (if fixed position from front axle always)



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