DriveLineWIN

Manual

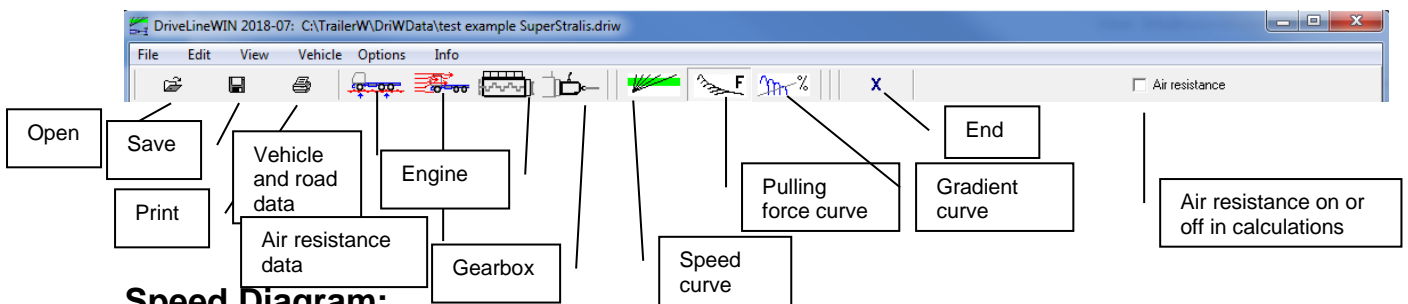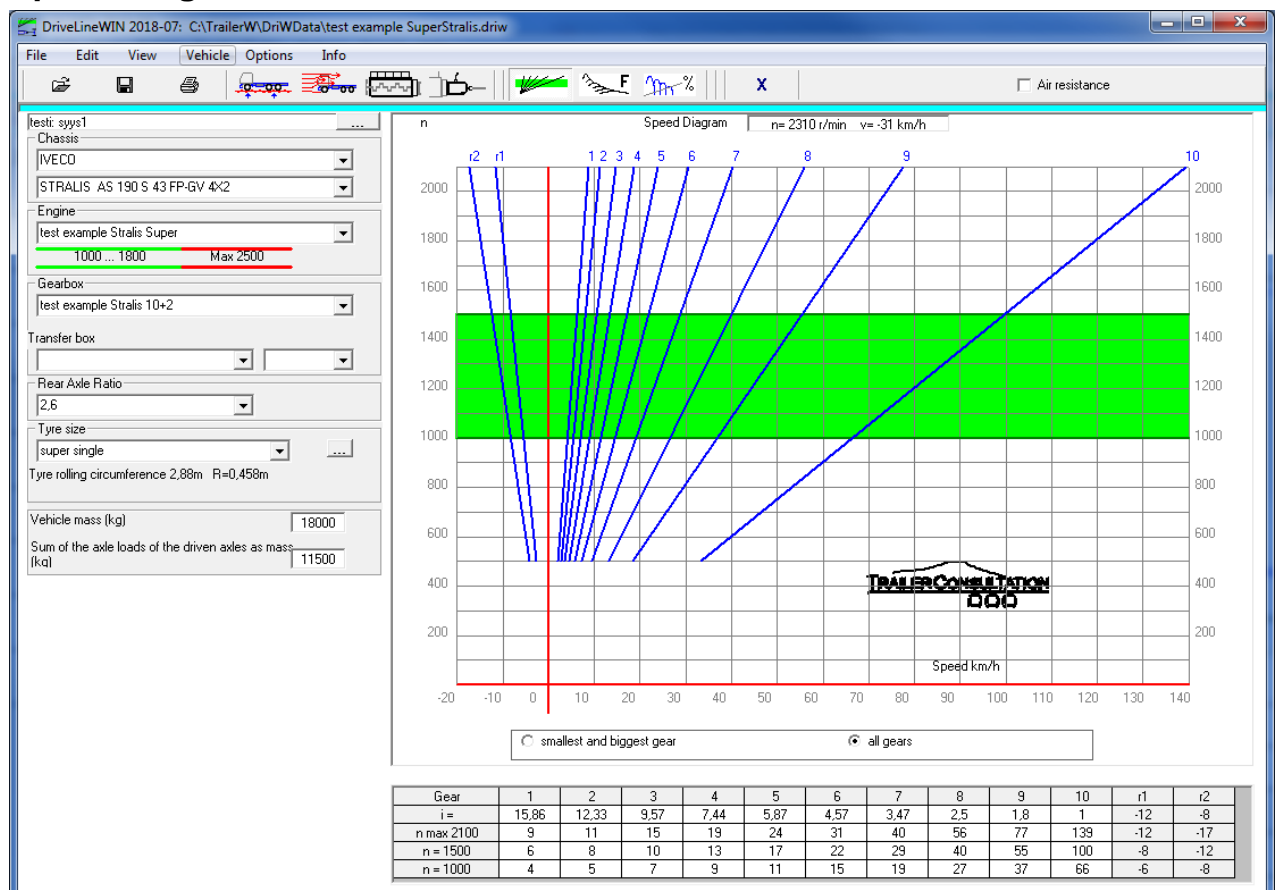**TRAILERWIN**
Trailer Consultation

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DriveLineWIN

The program calculates drive speeds and pulling forces on all gears.

The user can choose rear axle ratios and tyres and possible gearbox and engine alternatives from drop-down list.

Toolbar buttons:

Speed Diagram:

DriveLineWIN Manual

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Choosing Chassis:

After choosing Chassis Fabricate and Model, the program shows the motor type, gearbox type, rear axle ratio and tyre size.
If there are alternatives for example for gearbox, you can choose between alternative from corresponding combo box.

DriveLineWIN Manual
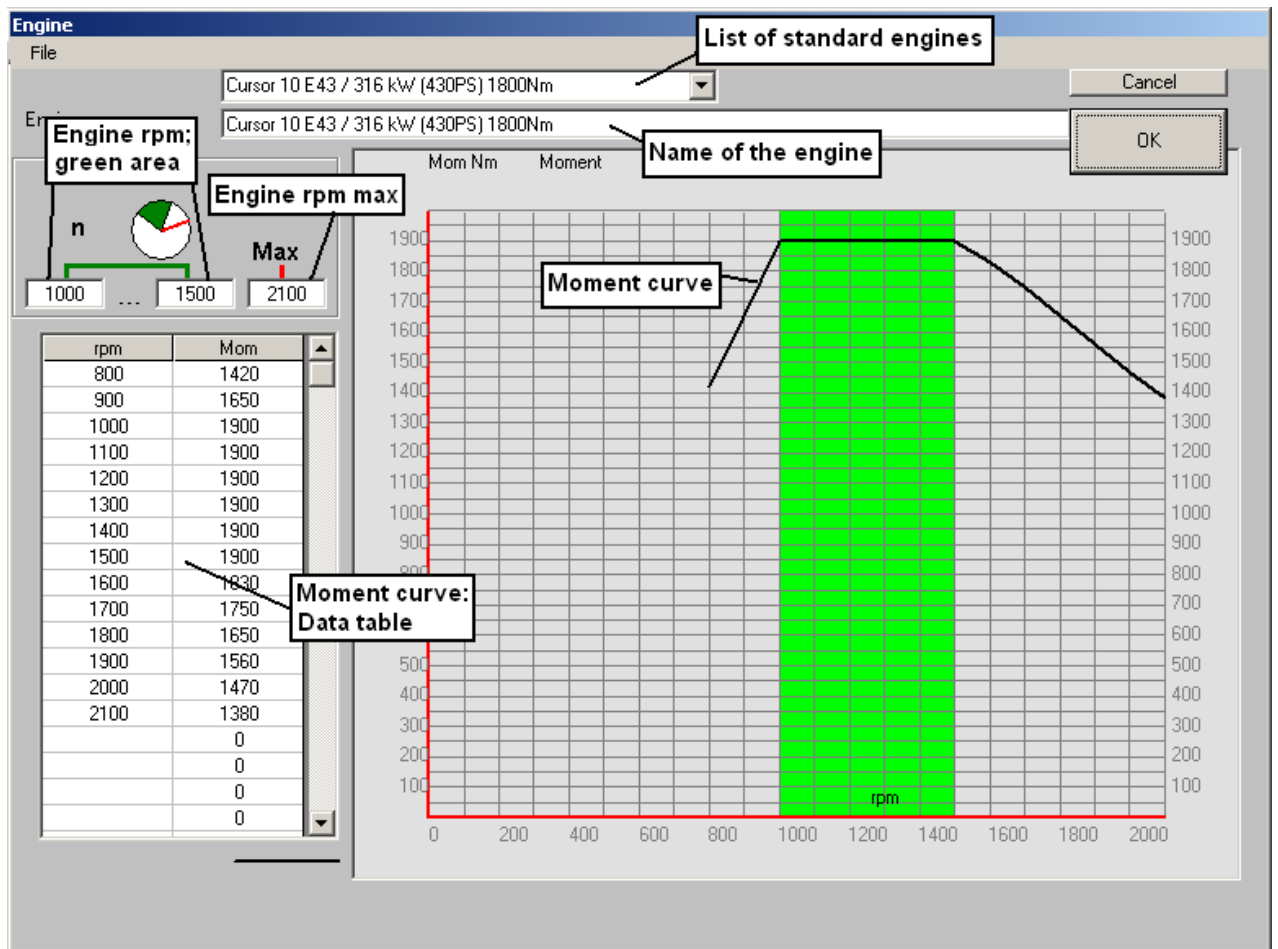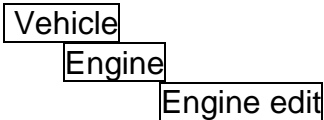
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Editing Data

Engine data

Use Engine data button
or menu

Vehicle

Engine

Engine edit

In Engine Window you can edit engine n values for the green area (economy area) and n max (rpm).
In numerical table you can change rpm and Moment values and so edit the moment curve.
By using Menu File it is possible to save edited data in .engine file, open some earlier saved engine file or delete some saved file.
Using menu : File

New

clears engine data, and you can begin write new data from empty.

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Gearbox data

Use Gearbox data button

or menu

> Vehicle
>> Gearbox
>>> Gearbox Edit

In Gearbox Window you can edit Gearbox Gear Ratio values.

By using Menu File it is possible to save edited data in .gearbox file, open some earlier saved gearbox file or delete some saved file.

Using menu : File
> New

clears gearbox data, and you can begin write new data from empty.

When you edit data, give at first step the correct number of gears (forwards and rearwards).
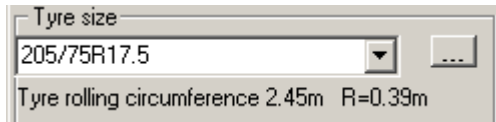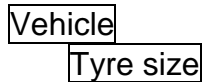
Rear Axle Ratio

If you want to calculate with such Rear Axle Ratio, which you can not find in the list the combo box, you can write the ratio value self.

Tyre Size

Click the small ... button on the right side of the Tyre Size

or use Menu:
  Vehicle
    Tyre size

The Tyre size –windows appears:
In this Window you can write own Tyre size Description and type Tyre rolling circumference value and the program calculates the Tyre Radius or you type the Tyre Radius value (R) and the program calculates the Tyre rolling circumference value
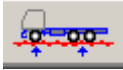If you give values in mm, the program will convert them later in m form.
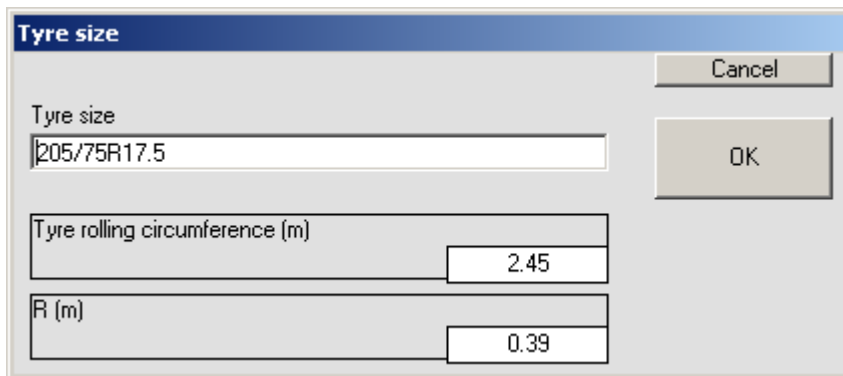
Rolling resistance, Vehicle Mass , etc...

For editing data for surface and Vehicle mass etc,

Click Rolling resistance button:

or use Menu:
Vehicle
Rolling Resistance

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Air resistance

To edit data for air-resistance calculation click
the Air resistance button:

here you can give characteristics for the vehicle
including body:
The air resistance can be calculated in Driving
Force and Gradiability curves by checking the Air
resistance checkbox:

☐ Air resistance

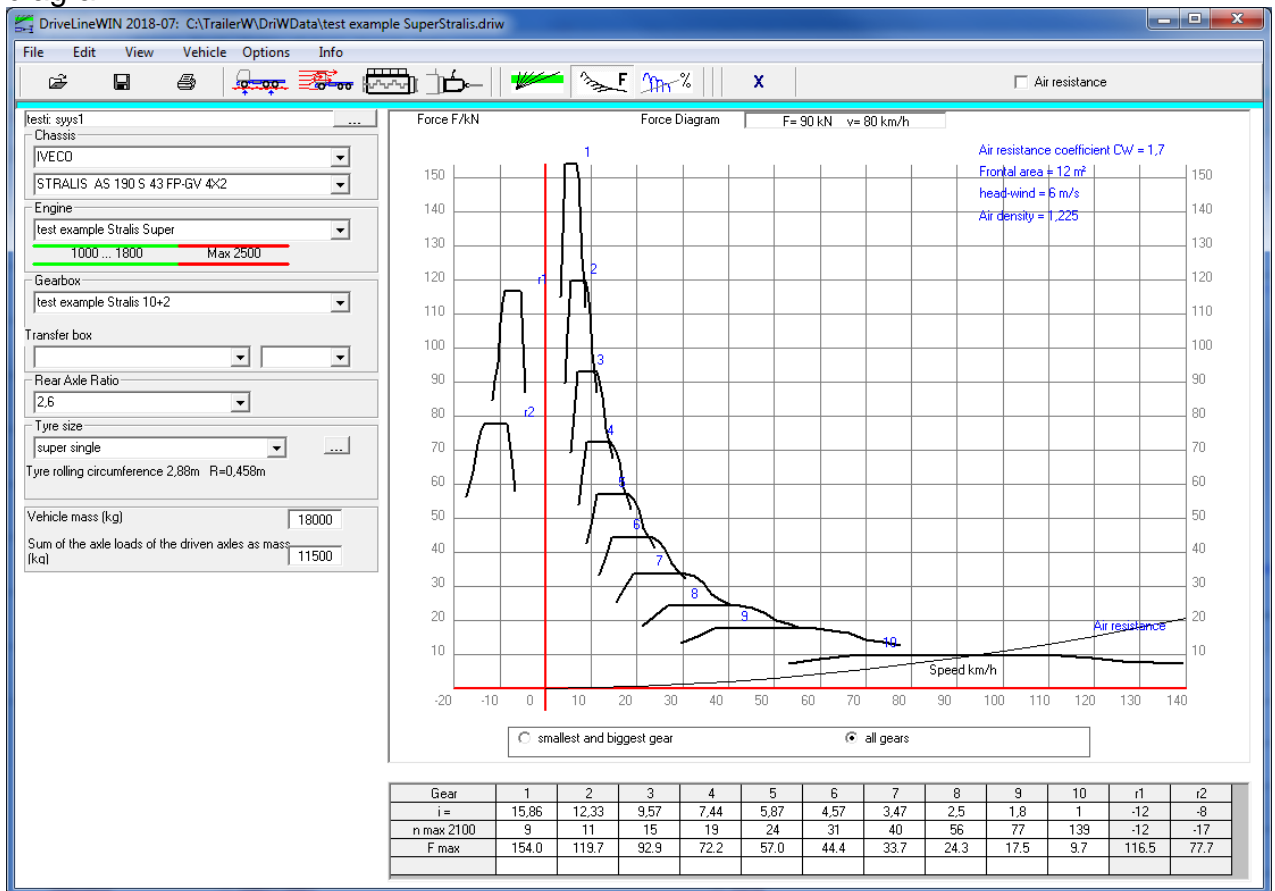| Air resistance	
Air resistance coefficient	0,9
Width	2500
Height	2800
Frontal area	7
head-wind	0

When unchecked the Air resistance will be shown as a separate curve in Driving force
diagram:

When checked the driving force (and gradiability) will calculate with air resistance.
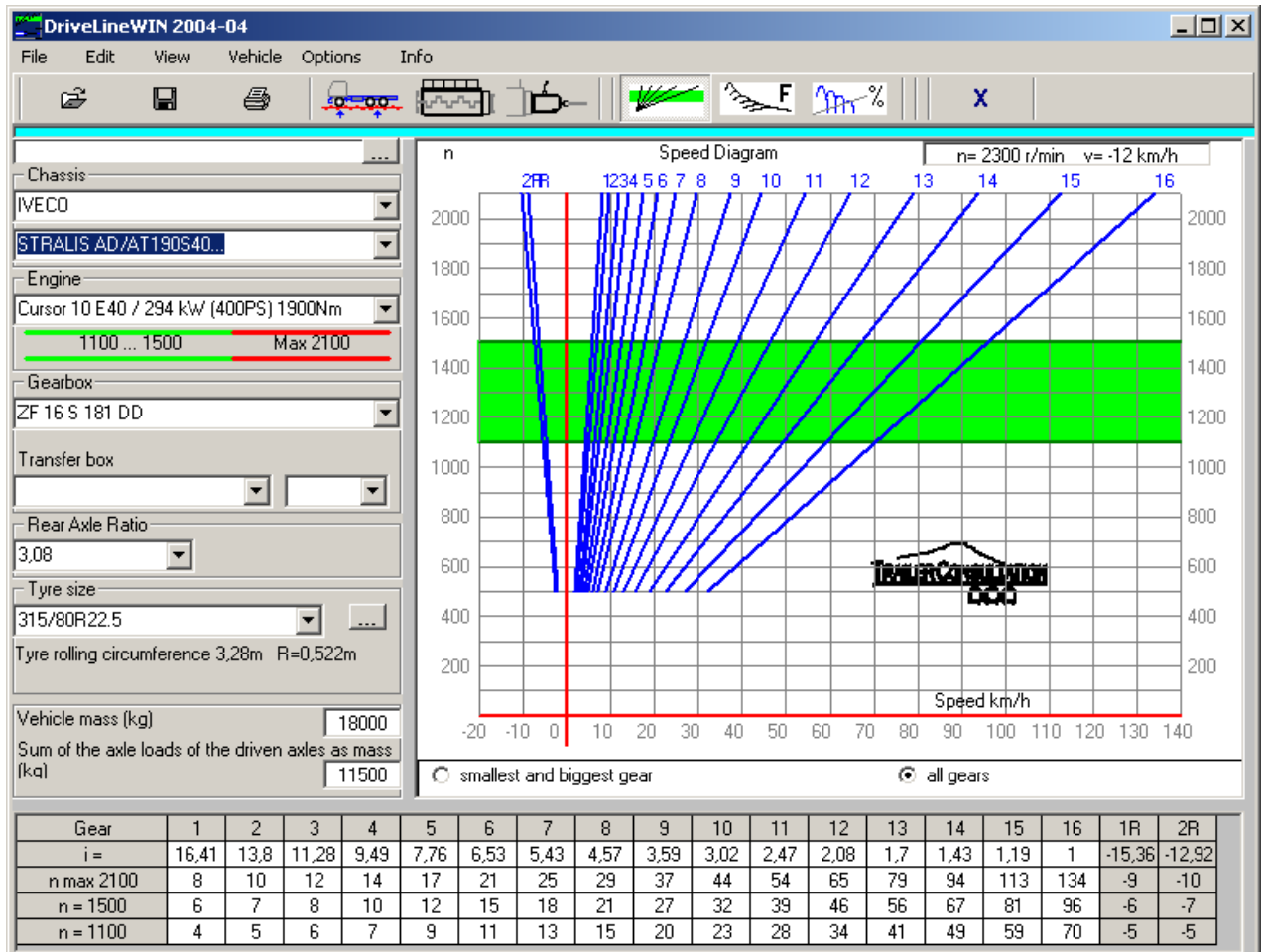
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Speed Diagram
Click button:

to show speeds in all gears. Under the diagram You will also find a table showing speeds under the diagram.
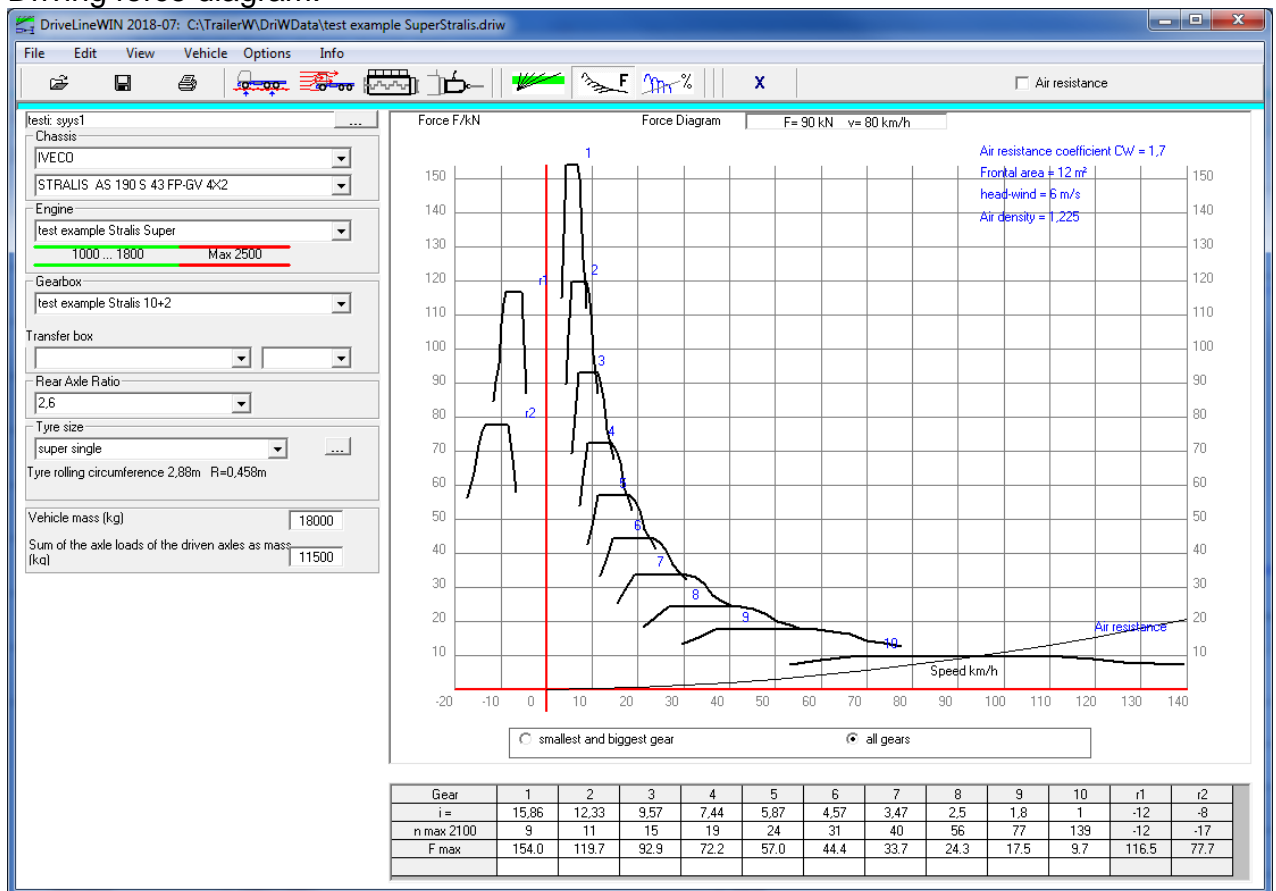
Force Diagram

This diagram shows forces on all gears. You can choose to show all gears or only smallest and biggest gear in diagram.
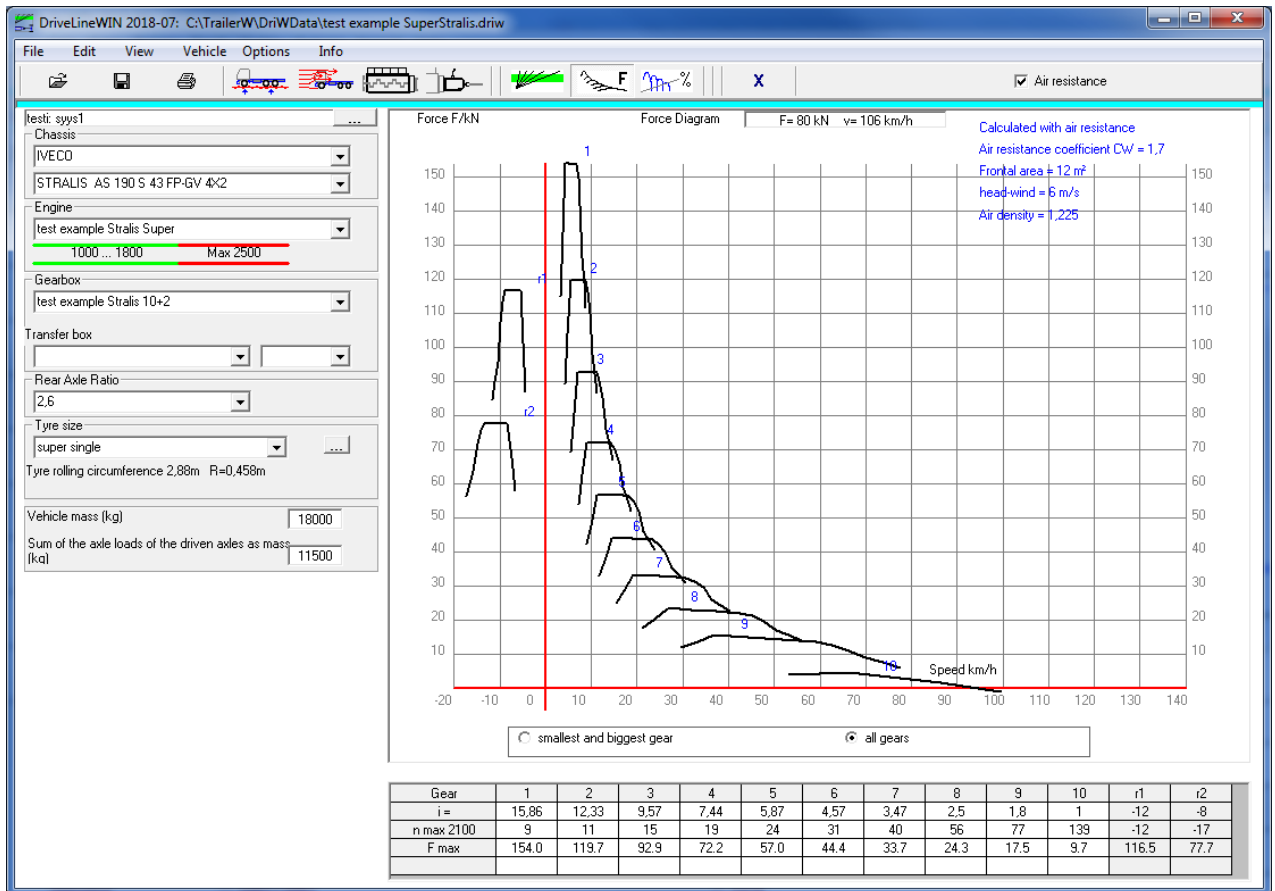
When Air resistance is unchecked the Air resistance will be shown as a separate curve in Driving force diagram:

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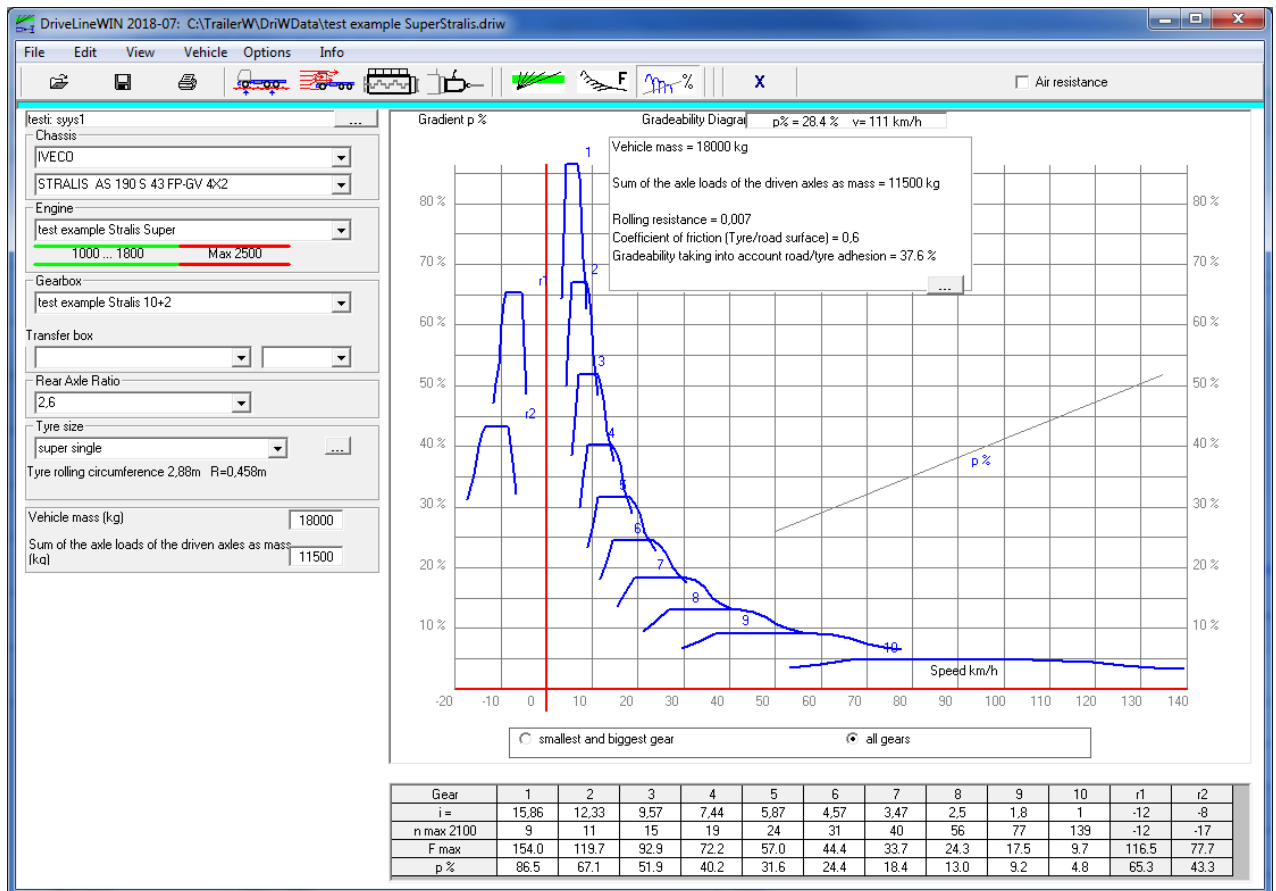When checked the driving force will calculate with air resistance.

Gradeability Diagram

with this diagram You can determine how the vehicle climbs hills in different gears.

☐ Air resistance

When Air resistance is unchecked the Air resistance will be shown as a separate curve in Driving force diagram:

Gear	1	2	3	4	5	6	7	8	9	10	r1	r2
i =	15,86	12,33	9,57	7,44	5,87	4,57	3,47	2,5	1,8	1	-12	-8
n max 2100	9	11	15	19	24	31	40	56	77	139	-12	-17
F max	154.0	119.7	92.9	72.2	57.0	44.4	33.7	24.3	17.5	9.7	116.5	77.7
p %	86.5	67.1	51.9	40.2	31.6	24.4	18.4	13.0	9.2	4.8	65.3	43.3

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When air resistance is checked the driving force will calculate with air resistance.

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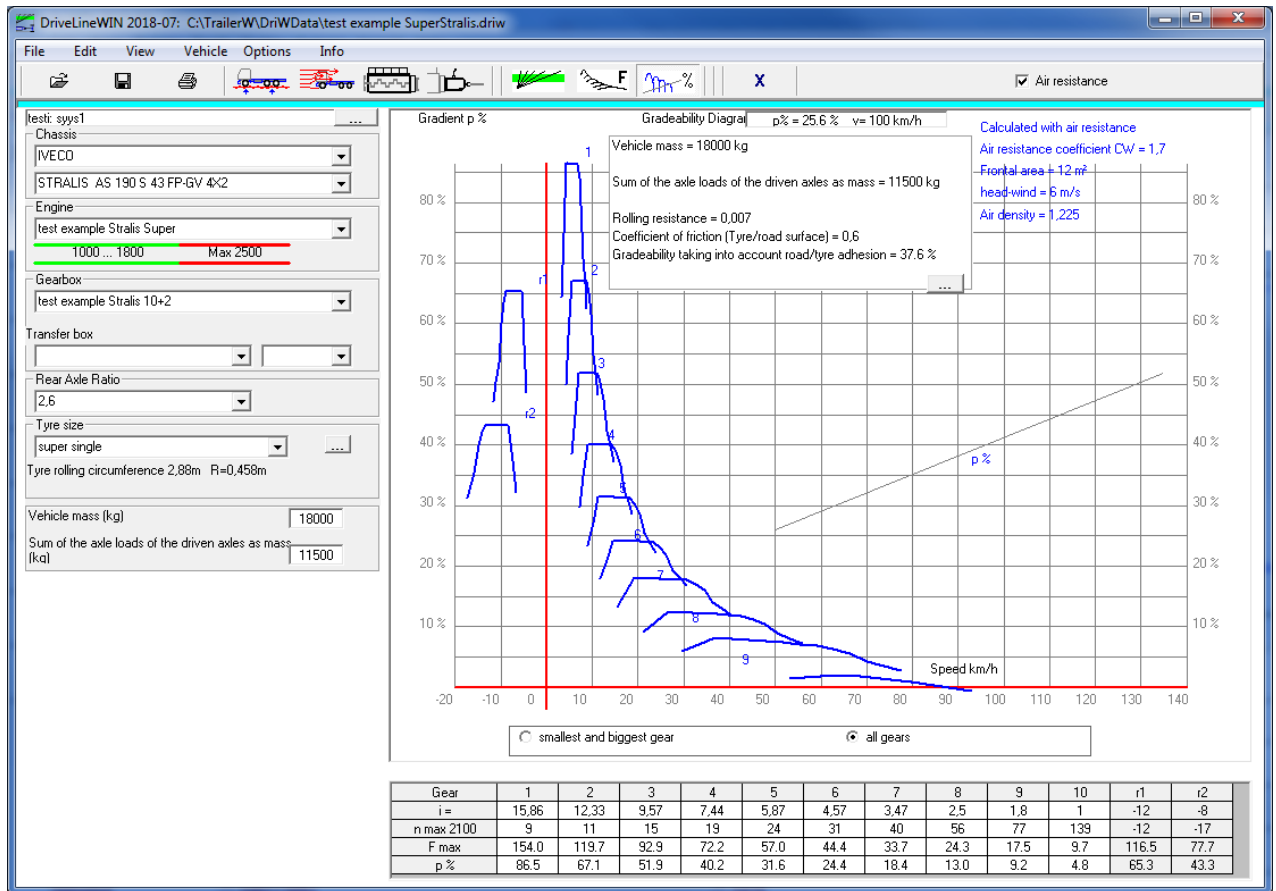
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