DriveLineWIN instructions

DriveLineWIN

Manual

TRAILERWIN
Trailer Consultation

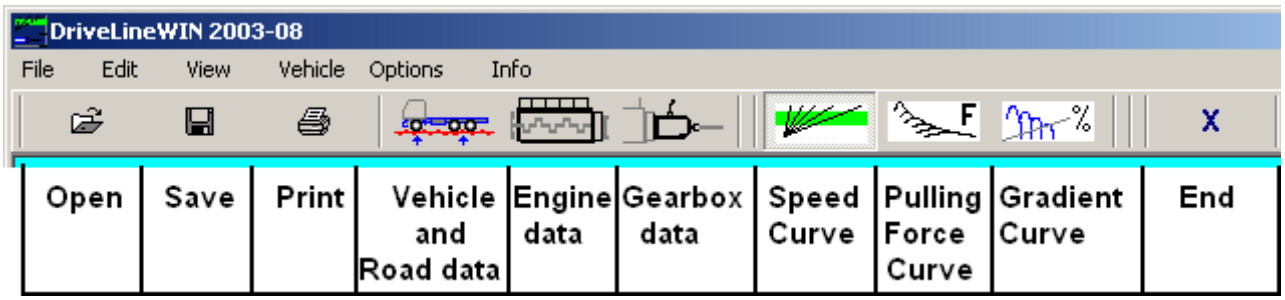
RD

DriveLineWIN

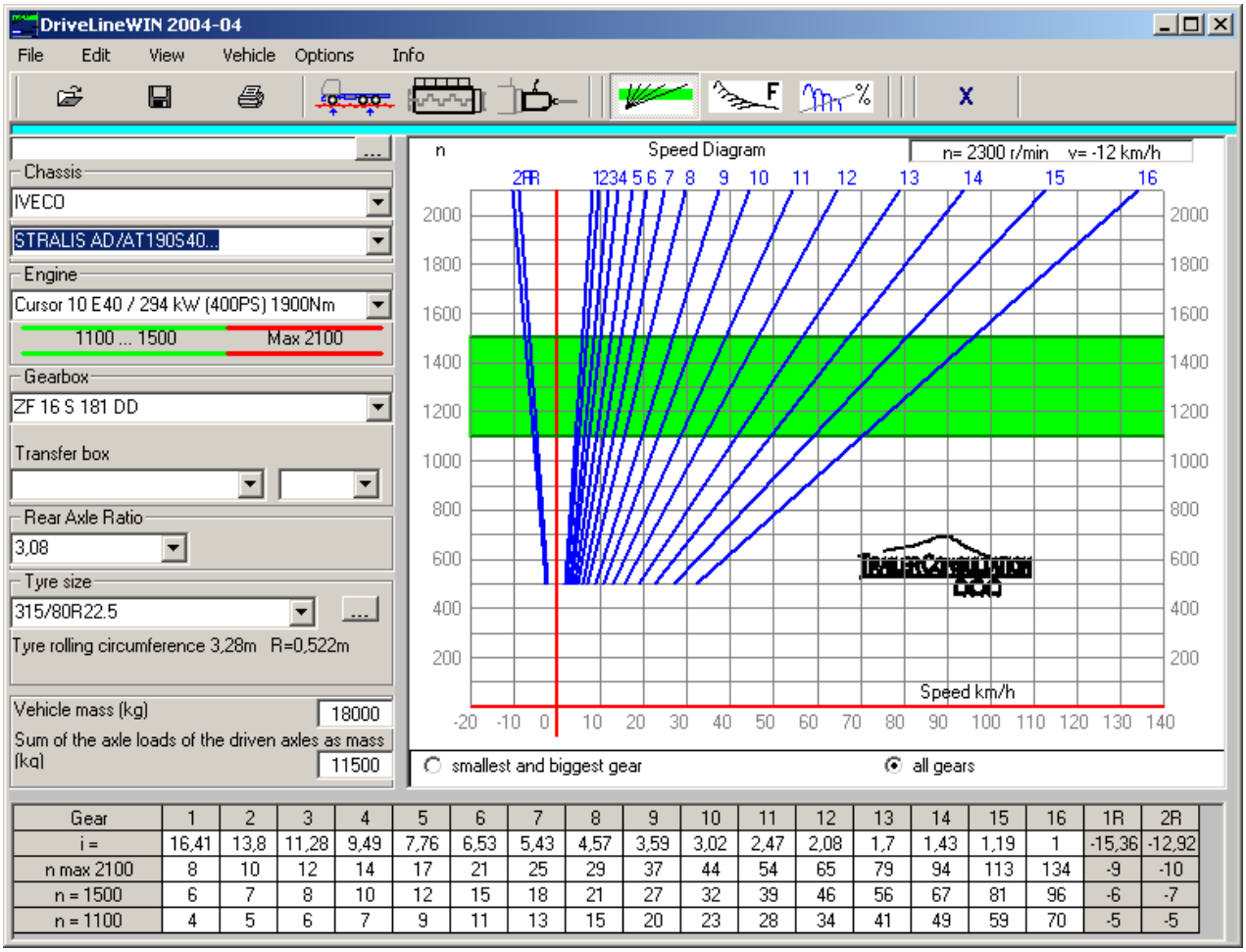
The program calculates drive speeds and pulling forces on all gears.

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

Toolbar buttons:



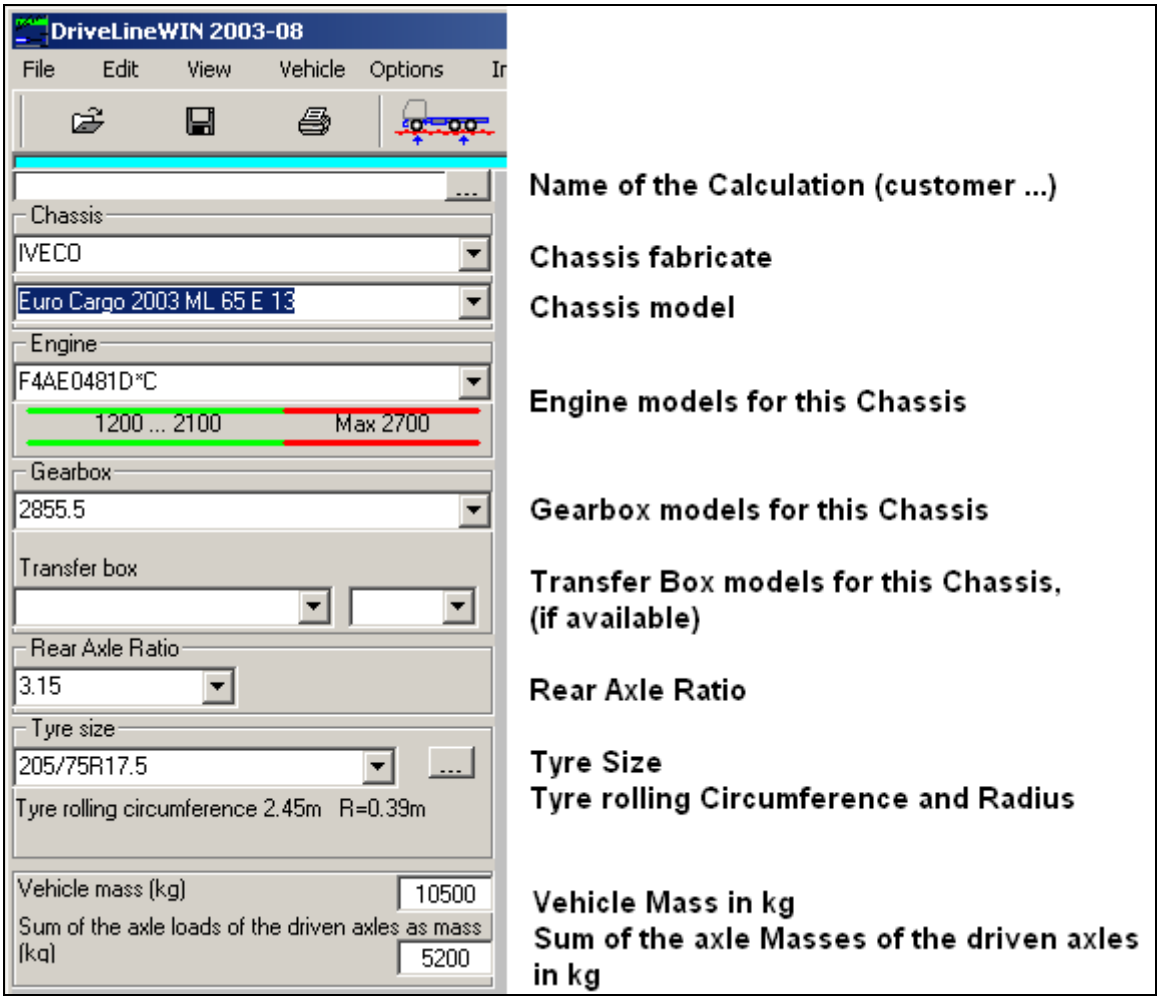
Speed Diagram:



Gear	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1R	2R
i =	16,41	13,8	11,28	9,49	7,76	6,53	5,43	4,57	3,59	3,02	2,47	2,08	1,7	1,43	1,19	1	-15,36	-12,92
n max 2100	8	10	12	14	17	21	25	29	37	44	54	65	79	94	113	134	-9	-10
n = 1500	6	7	8	10	12	15	18	21	27	32	39	46	56	67	81	96	-6	-7
n = 1100	4	5	6	7	9	11	13	15	20	23	28	34	41	49	59	70	-5	-5

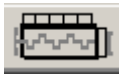
Choosing Chassis:

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.

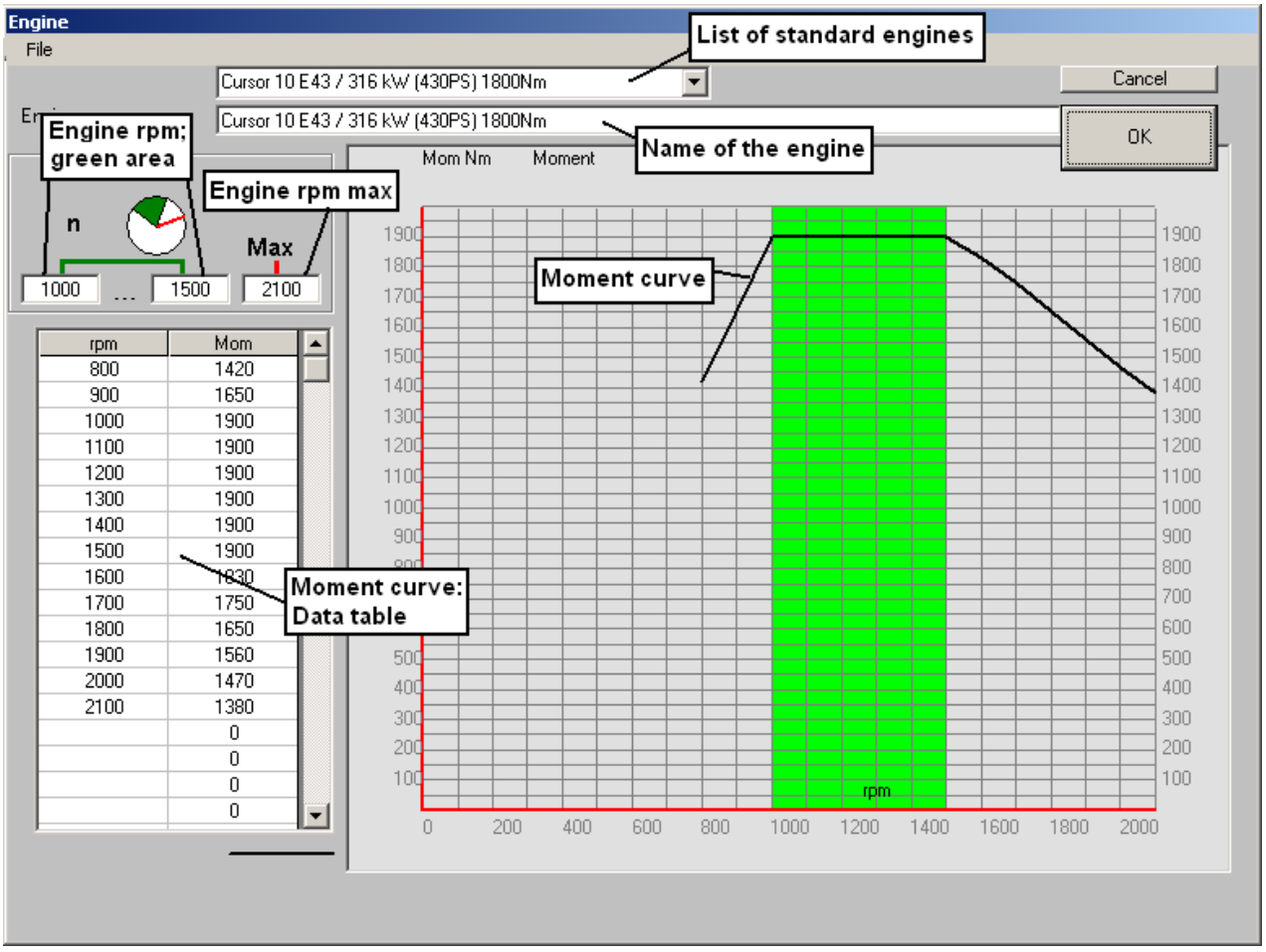


Editing Data

Engine data

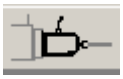
Use Engine data button 
or menu

Vehicle
Engine
Engine edit

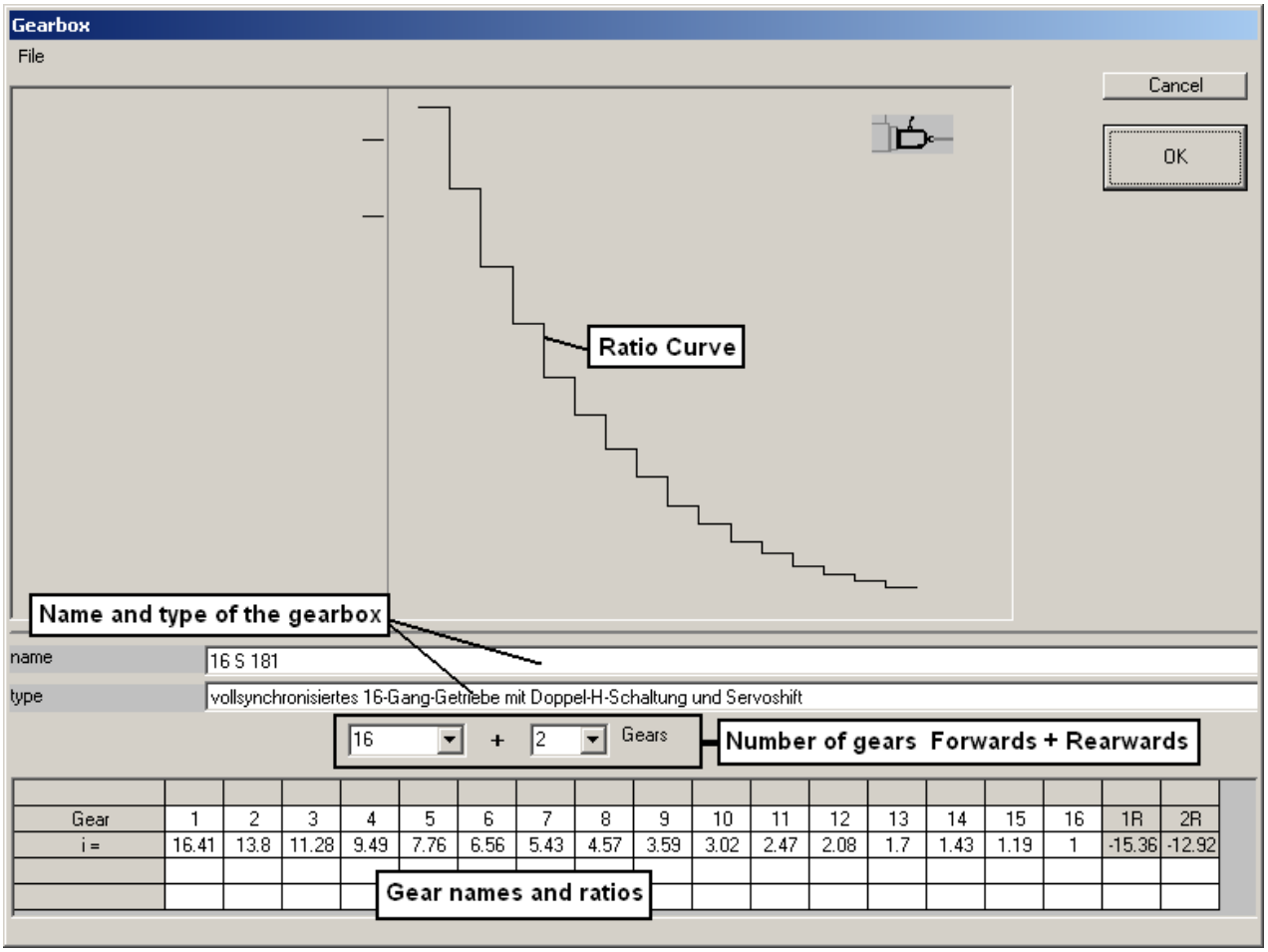


In Engine Window you can edit engine n values for the green area (economy area) and n max (rpm).
In numerical table you can change rpm and Moment values and so edit the moment curve.
By using Menu File it is possible to save edited data in .engine file, open some earlier saved engine file or delete some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

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.

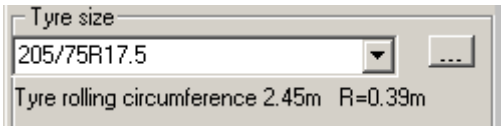
Tyre Size

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

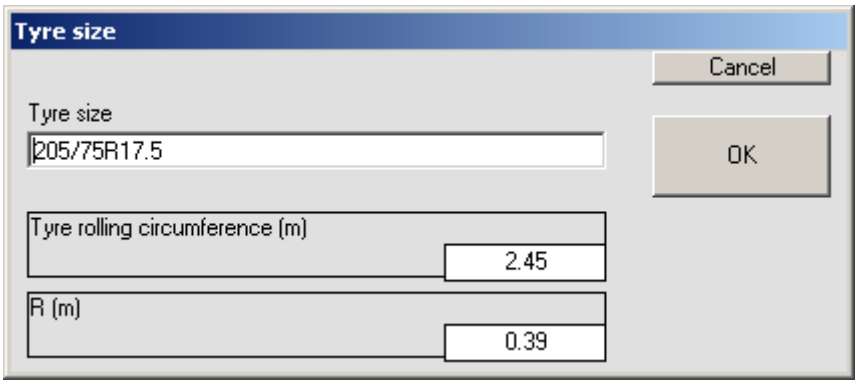
or use Menu:

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...

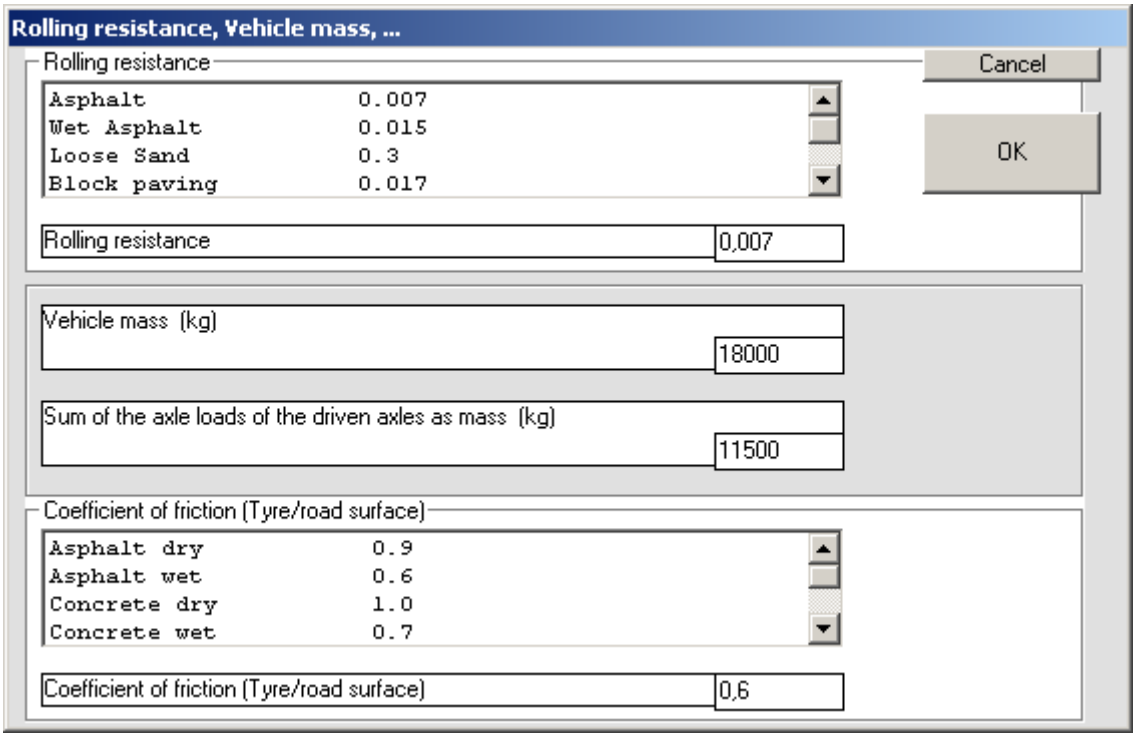
For editing data for surface and Vehicle mass etc,

Click Rolling resistance button:

or use Menu:

Vehicle

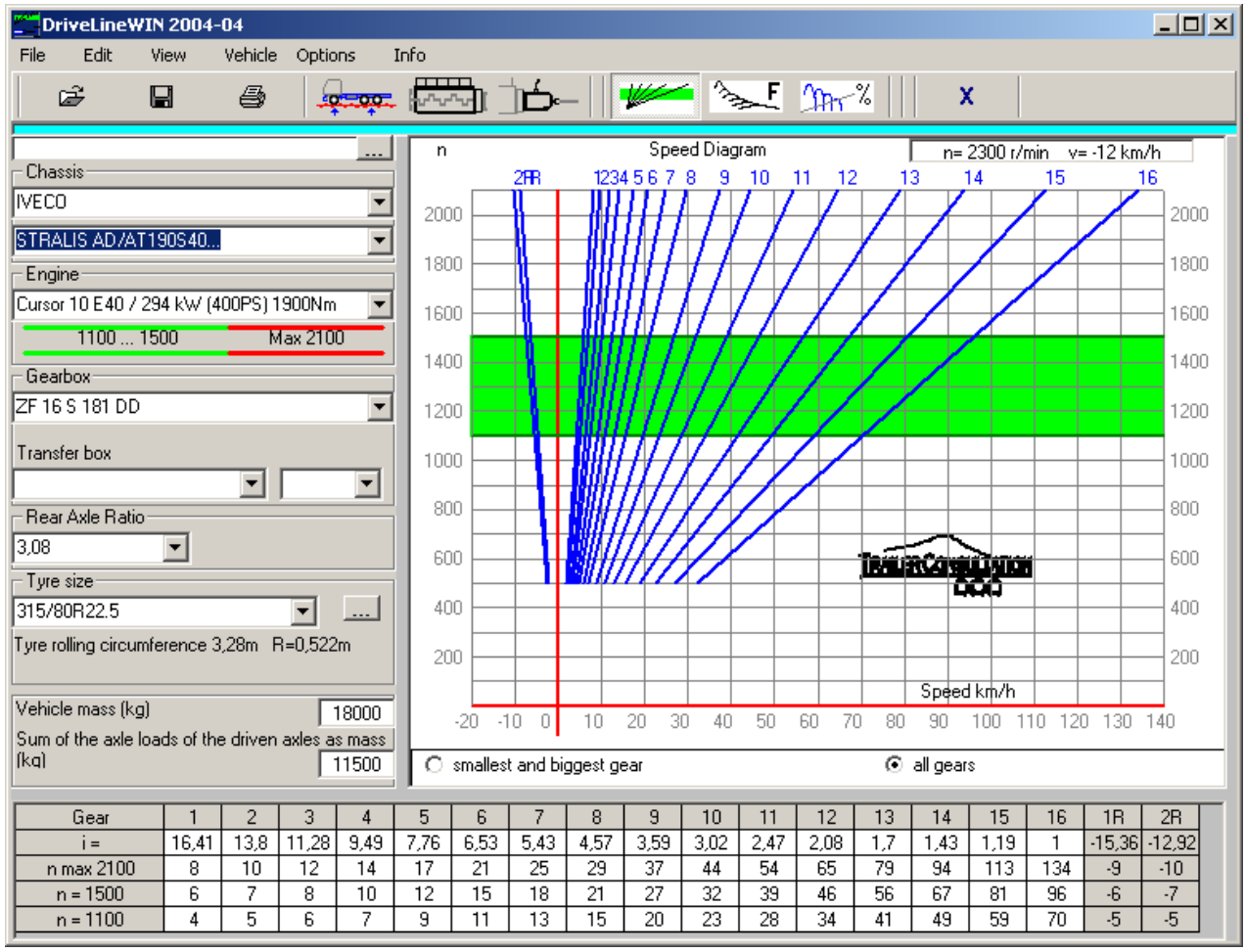
Rolling Resistance



Speed Diagram

Click button:

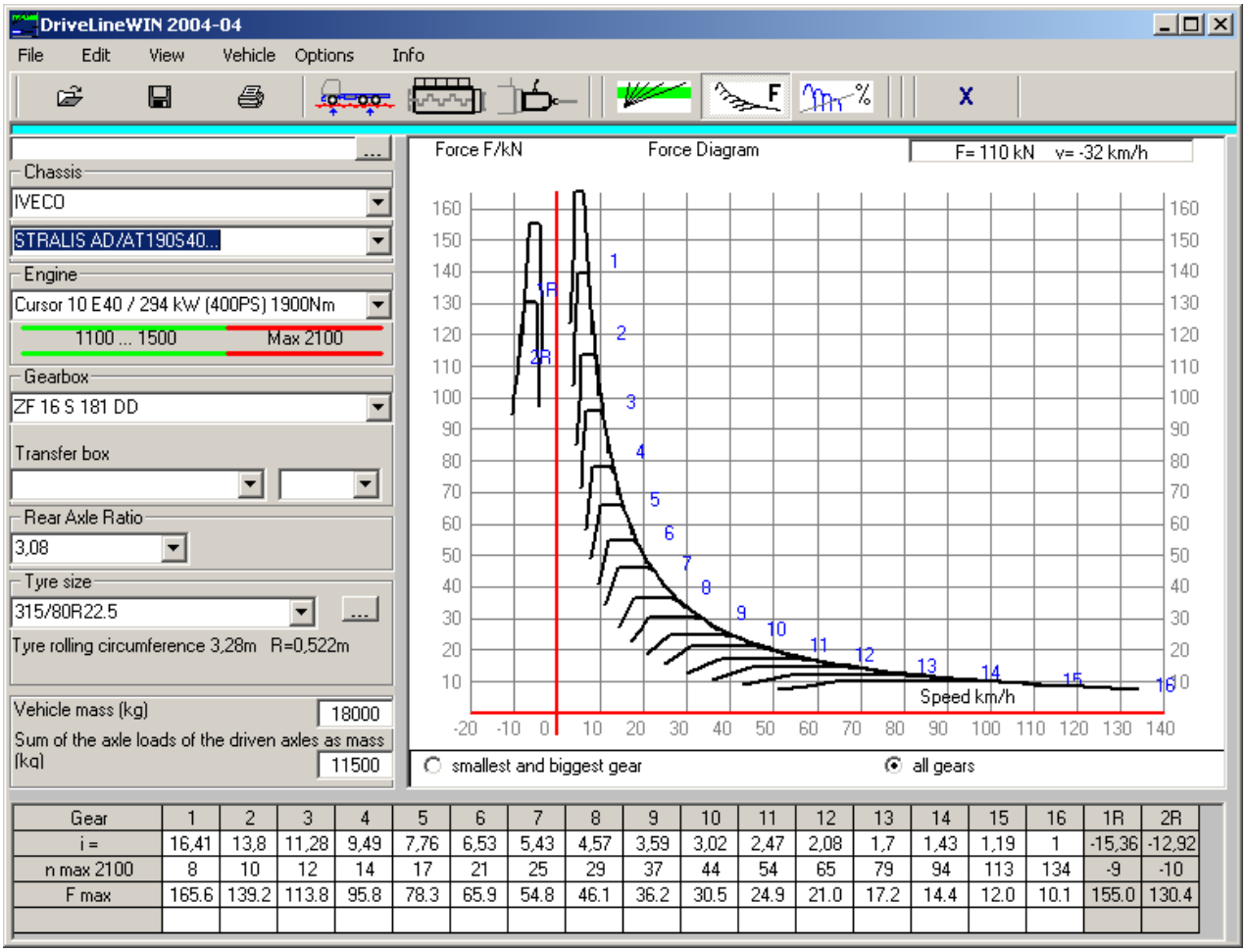
to show speeds in all gears. Under the diagram You will also find a table showing speeds under the diagram.



Gear	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1R	2R
i =	16,41	13,8	11,28	9,49	7,76	6,53	5,43	4,57	3,59	3,02	2,47	2,08	1,7	1,43	1,19	1	-15,36	-12,92
n max 2100	8	10	12	14	17	21	25	29	37	44	54	65	79	94	113	134	-9	-10
n = 1500	6	7	8	10	12	15	18	21	27	32	39	46	56	67	81	96	-6	-7
n = 1100	4	5	6	7	9	11	13	15	20	23	28	34	41	49	59	70	-5	-5

Force Diagram

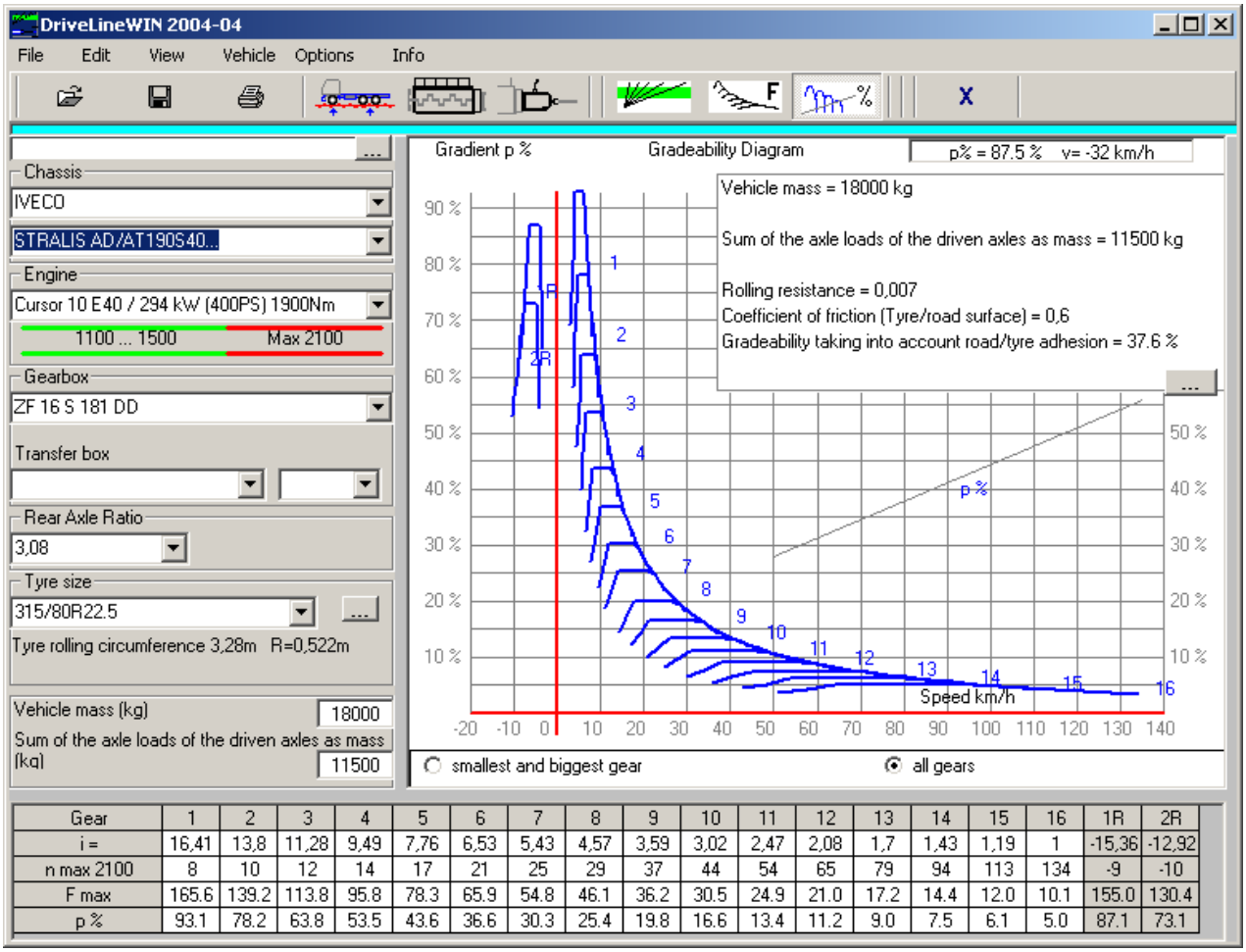
This diagram shows forces on all gears. You can choose to show all gears or only smallest and biggest gear in diagram.



Gear	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1R	2R
i =	16,41	13,8	11,28	9,49	7,76	6,53	5,43	4,57	3,59	3,02	2,47	2,08	1,7	1,43	1,19	1	-15,36	-12,92
n max 2100	8	10	12	14	17	21	25	29	37	44	54	65	79	94	113	134	-9	-10
F max	165.6	139.2	113.8	95.8	78.3	65.9	54.8	46.1	36.2	30.5	24.9	21.0	17.2	14.4	12.0	10.1	155.0	130.4

Gradeability Diagram

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



Gear	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1R	2R
i =	16,41	13,8	11,28	9,49	7,76	6,53	5,43	4,57	3,59	3,02	2,47	2,08	1,7	1,43	1,19	1	-15,36	-12,92
n max 2100	8	10	12	14	17	21	25	29	37	44	54	65	79	94	113	134	-9	-10
F max	165.6	139.2	113.8	95.8	78.3	65.9	54.8	46.1	36.2	30.5	24.9	21.0	17.2	14.4	12.0	10.1	155.0	130.4
p %	93.1	78.2	63.8	53.5	43.6	36.6	30.3	25.4	19.8	16.6	13.4	11.2	9.0	7.5	6.1	5.0	87.1	73.1

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