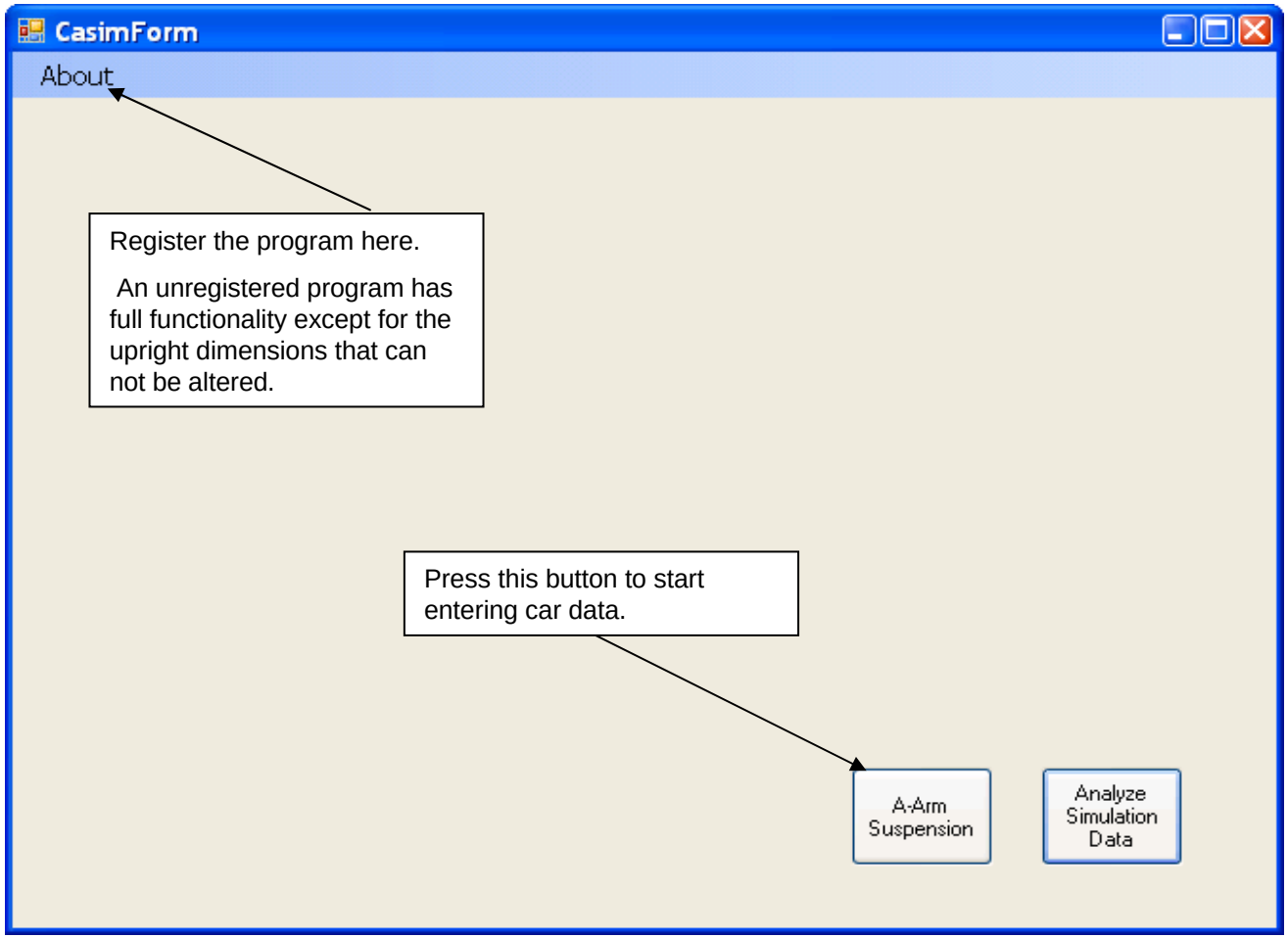
CASIM

KNOWN BUGS

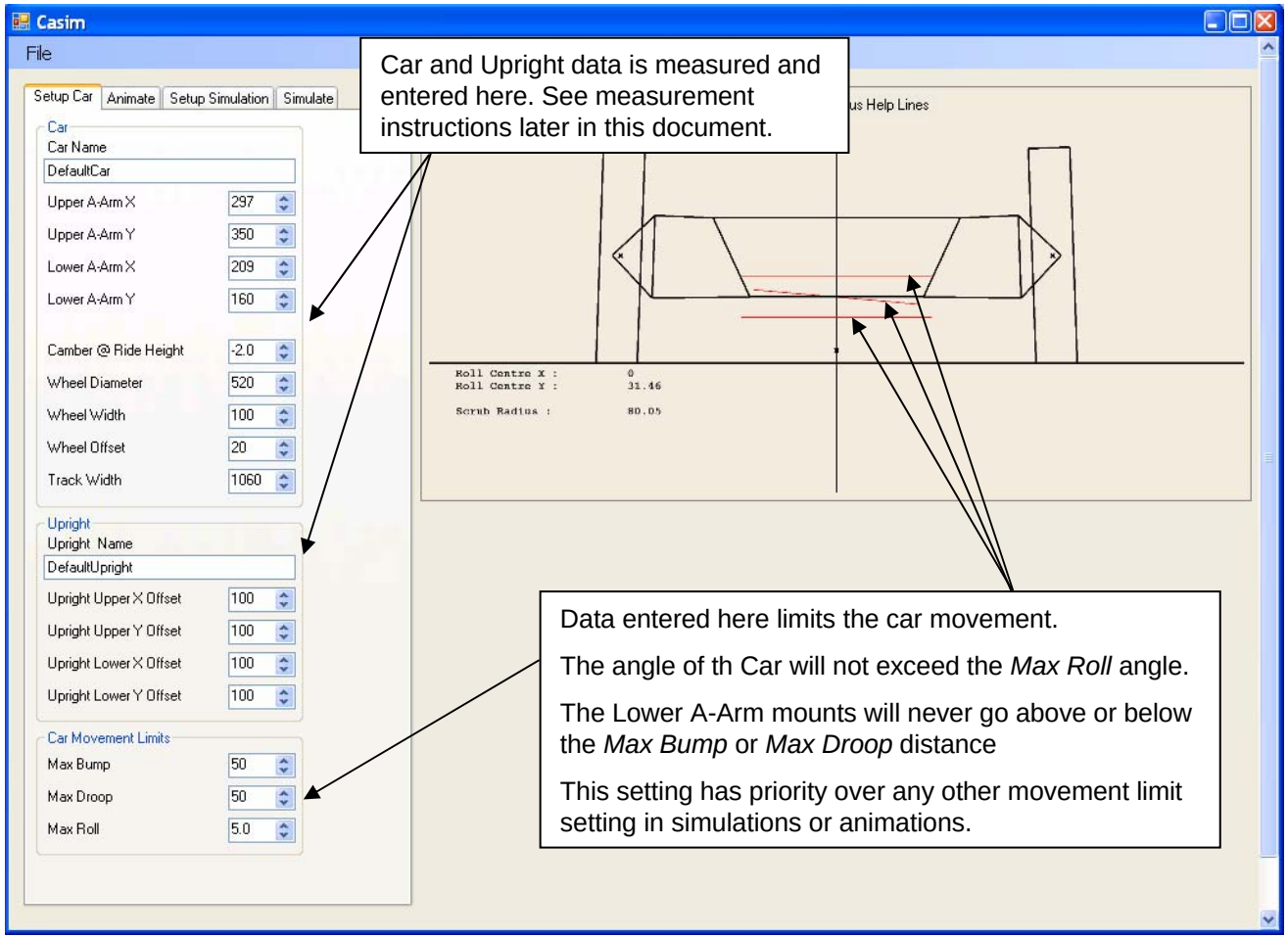
- No real check if dimensions of the suspension is reasonable with regards to the movements.
  I.E Program may hang if movements are not limited enough so that solid suspension details would have to ”stretch”.
- Program may crash or hang for unexpected input. Some checking is done. Use reasonable dimensions.
- Screen update is slow (it sucks, but on the other hand it is not an arcade game)
- No caster setting causes dimensions for upright to be slightly wrong during calculations.

BRIEF DESCRIPTION OF THE PROGRAM

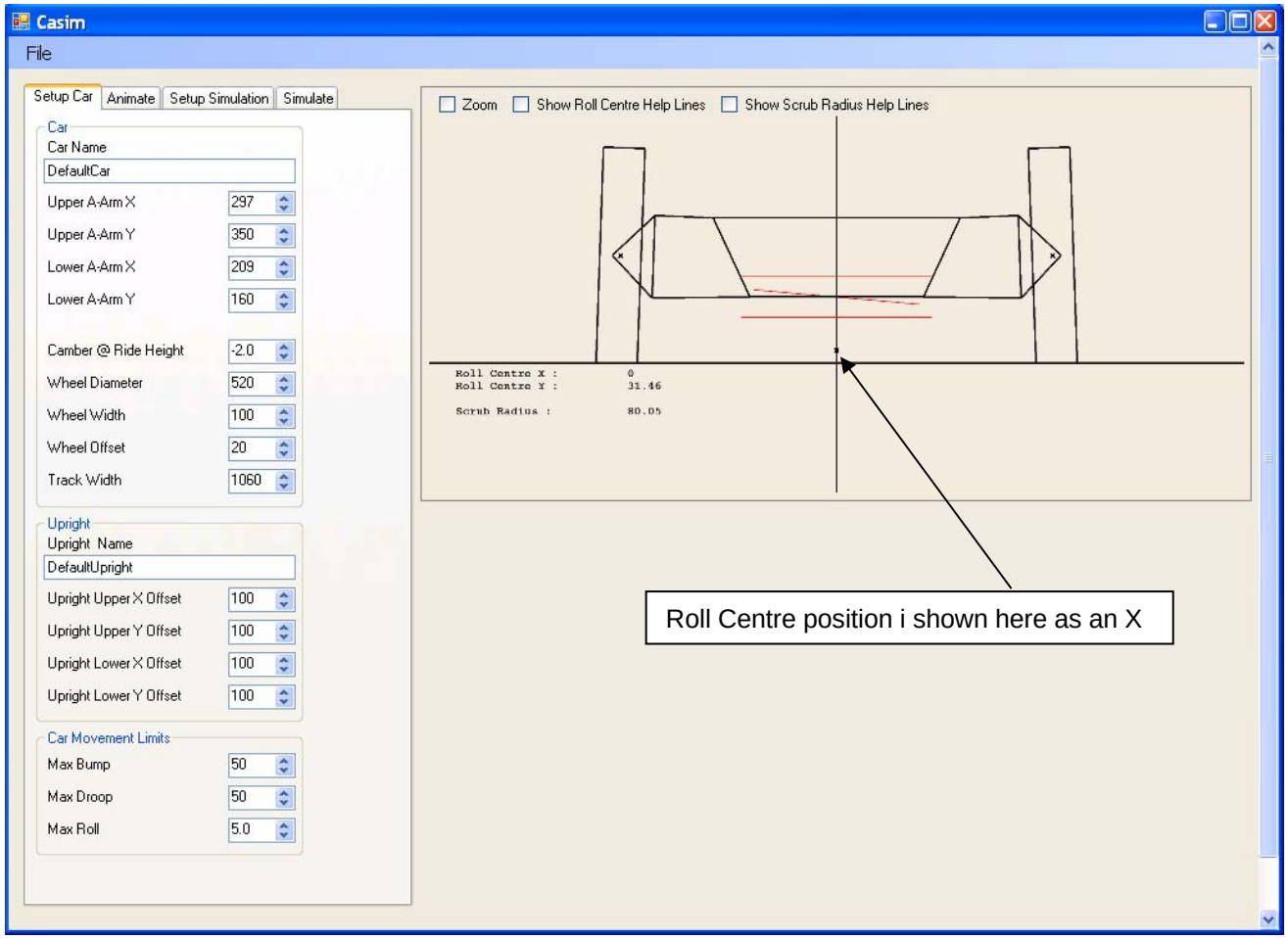
STEP 1: REGISTRATION MAIN WINDOW



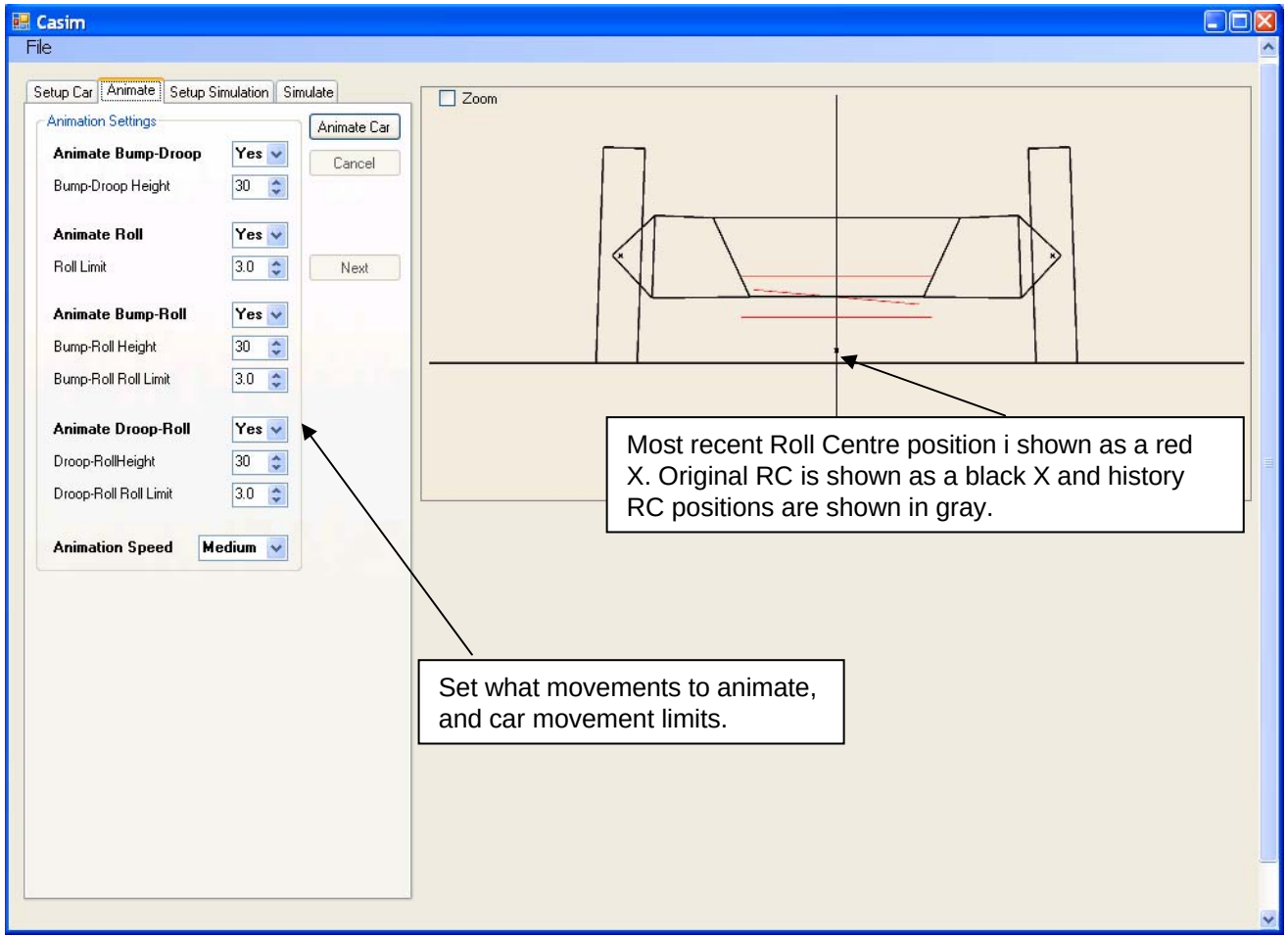
STEP 2.1: SETUP CAR DATA
"SETUP CAR" TAB



STEP 2.2: ROLL CENTRE
"SETUP CAR" TAB



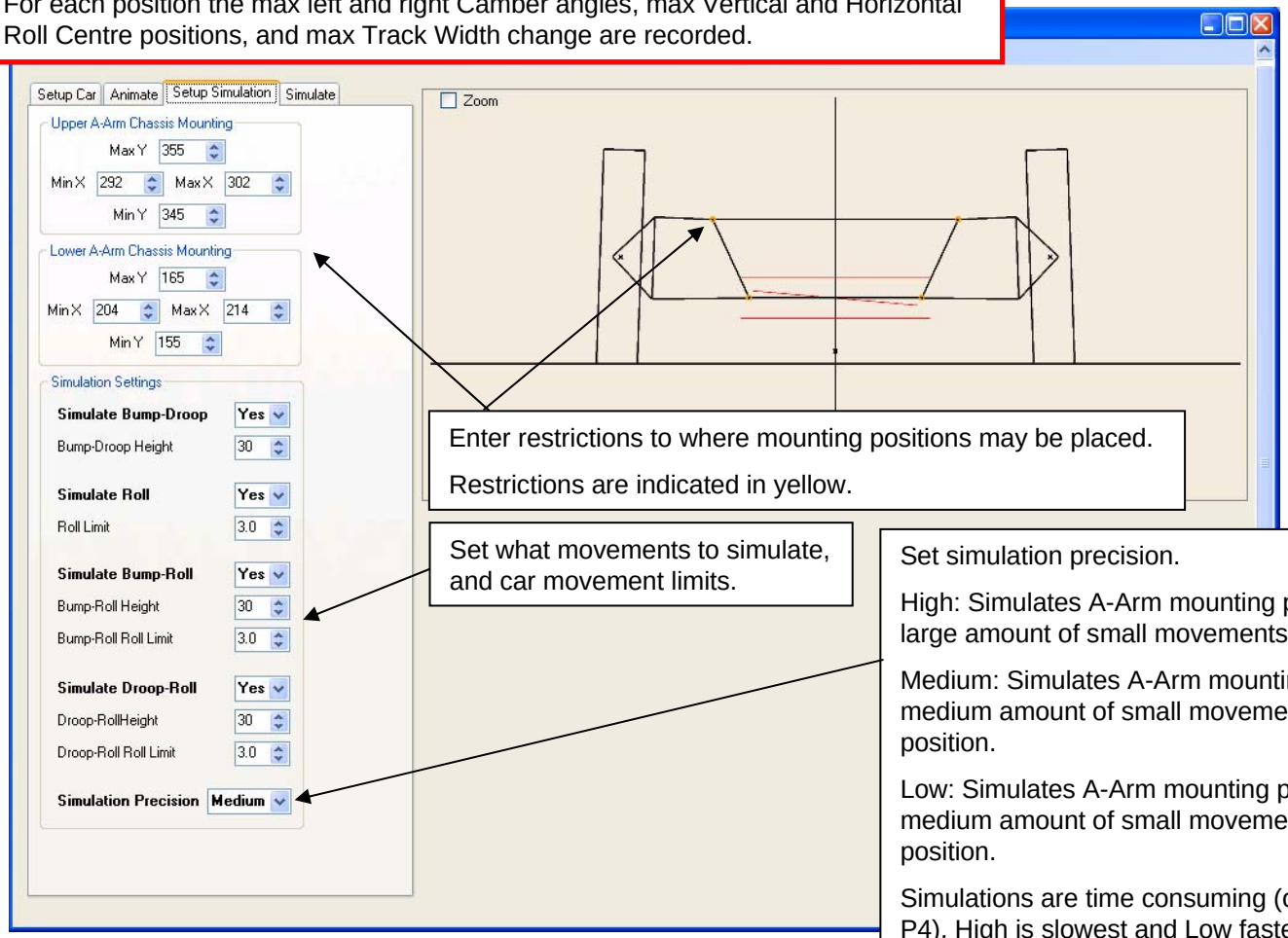
STEP 3: ANIMATE CAR
"*ANIMATE*" TAB



STEP 4.1: SIMULATE CAR
"SETUP SIMULATION" TAB

The program simulates car movements for different mounting positions of the A-Arms to the chassis.

For each position the max left and right Camber angles, max Vertical and Horizontal Roll Centre positions, and max Track Width change are recorded.



Enter restrictions to where mounting positions may be placed.

Restrictions are indicated in yellow.

Set what movements to simulate, and car movement limits.

Set simulation precision.

High: Simulates A-Arm mounting positions every 1 mm. With a large amount of small movements around Roll Centre per position.

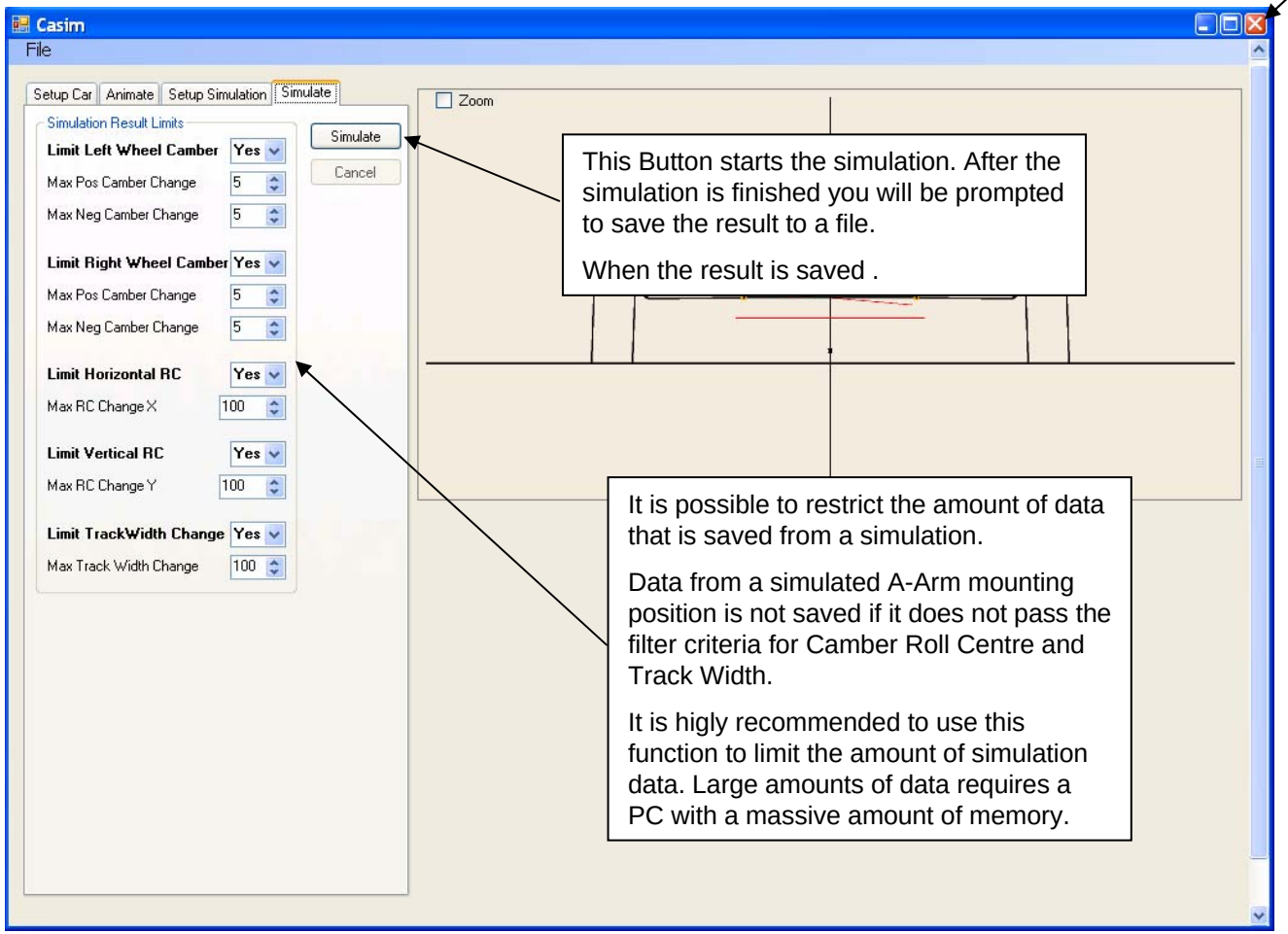
Medium: Simulates A-Arm mounting positions every 1 mm. With a medium amount of small movements around Roll Centre per position.

Low: Simulates A-Arm mounting positions every 5 mm. With a medium amount of small movements around Roll Centre per position.

Simulations are time consuming (often several hours on a 2Ghz P4). High is slowest and Low fastest. To use Low first and then Medium for a small area of interest would seem like a good approach.

STEP 4.2: SIMULATE CAR
"SIMULATE" TAB

When the simulation result is saved.
Close this window.



This Button starts the simulation. After the simulation is finished you will be prompted to save the result to a file.

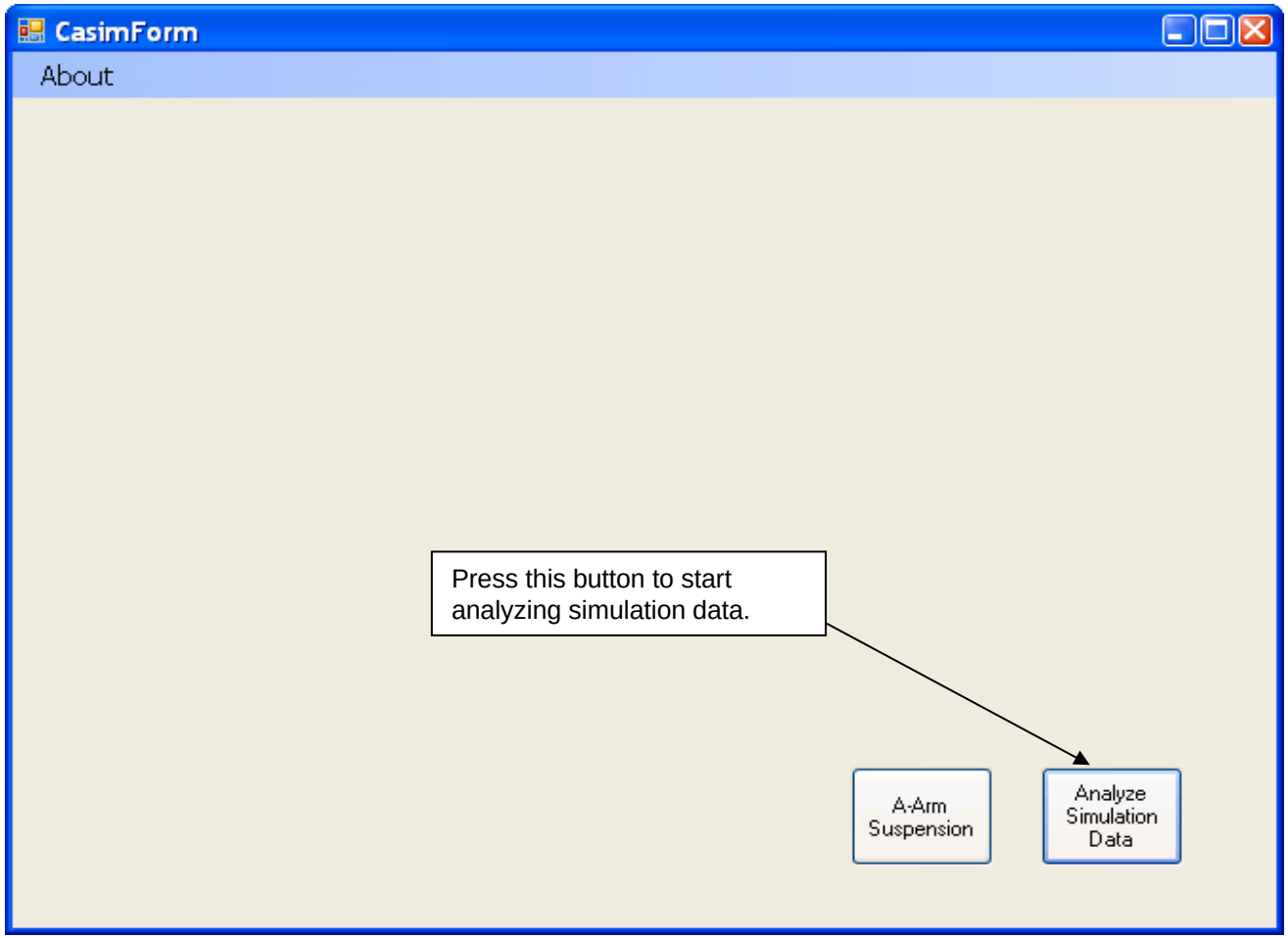
When the result is saved .

It is possible to restrict the amount of data that is saved from a simulation.

Data from a simulated A-Arm mounting position is not saved if it does not pass the filter criteria for Camber Roll Centre and Track Width.

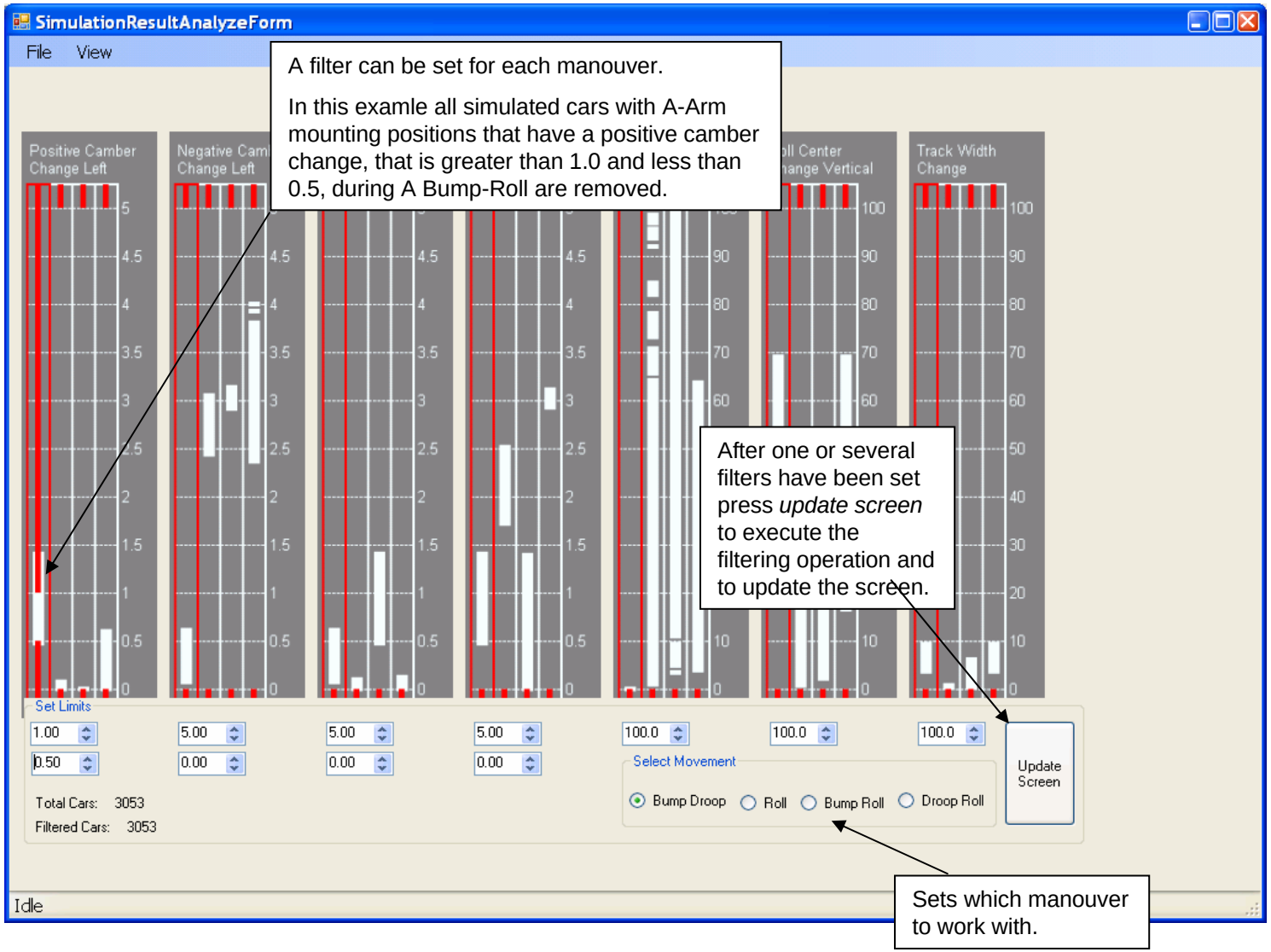
It is higly recommended to use this function to limit the amount of simulation data. Large amounts of data requires a PC with a massive amount of memory.

STEP 5.1: ANALYZE SIMULATION DATA



STEP 5.2: OPEN A SIMULATION FILE

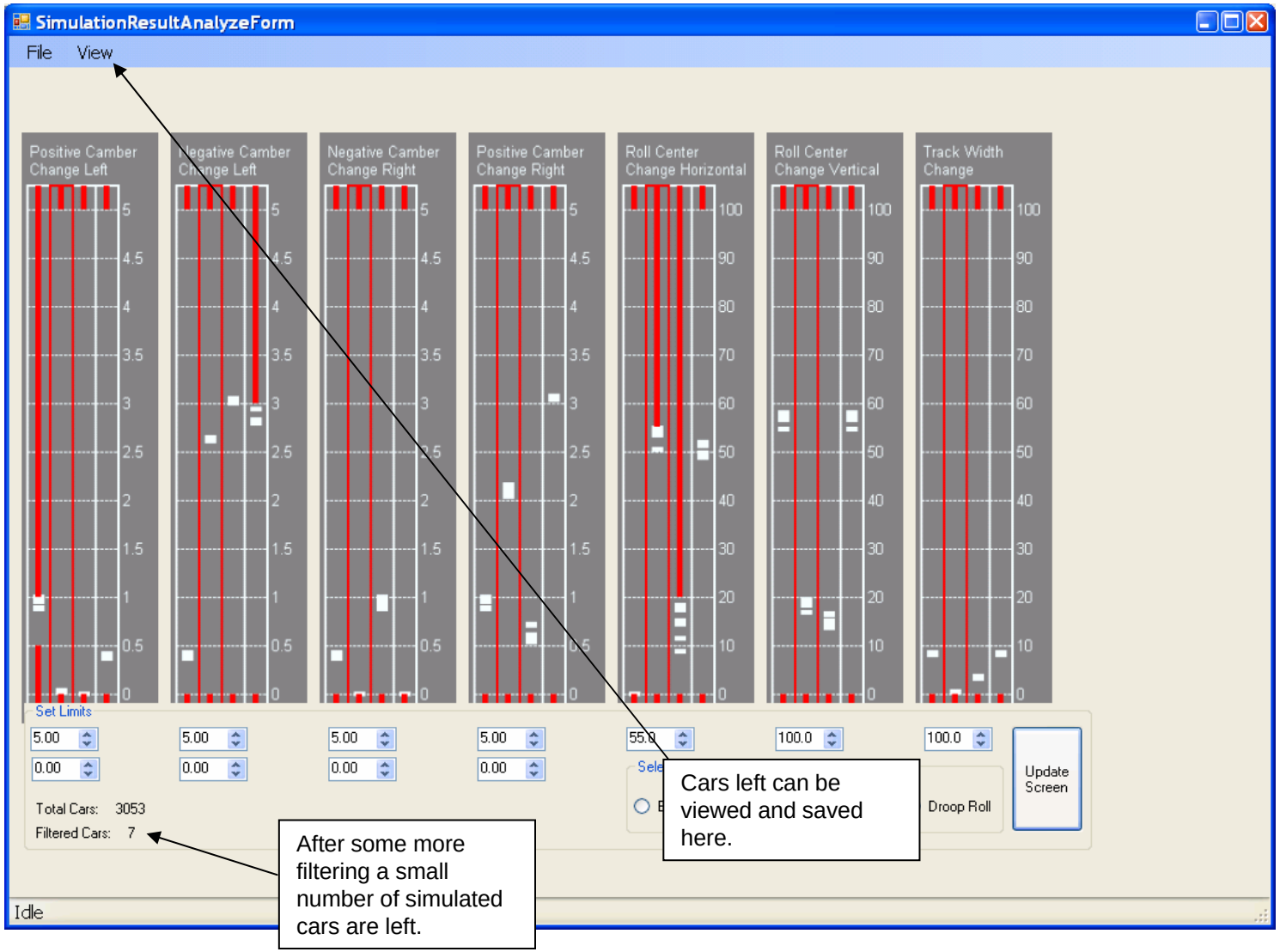
STEP 5.3: FILTER OUT CARS



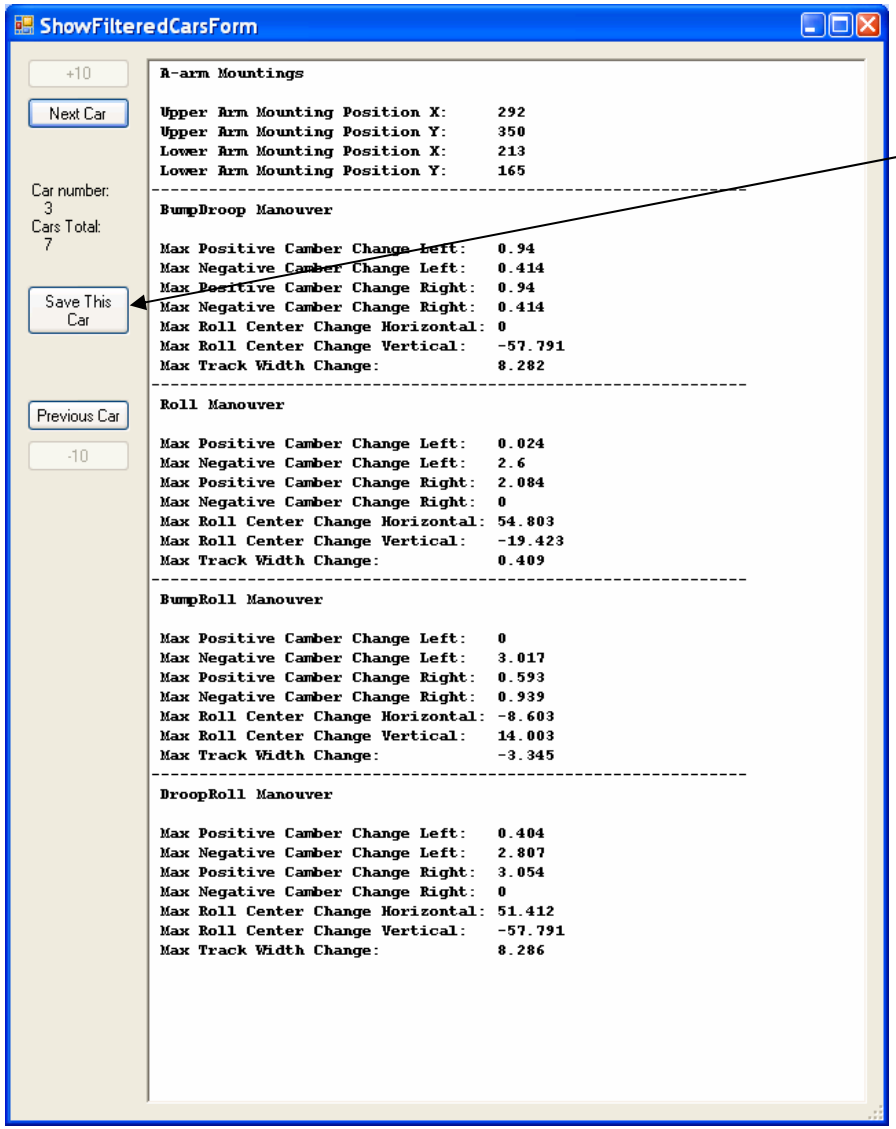
STEP 5.4: FILTER OUT CARS

After pressing *update screen* a number of simulated cars have been filtered out.

STEP 5.5: FILTER OUT CARS

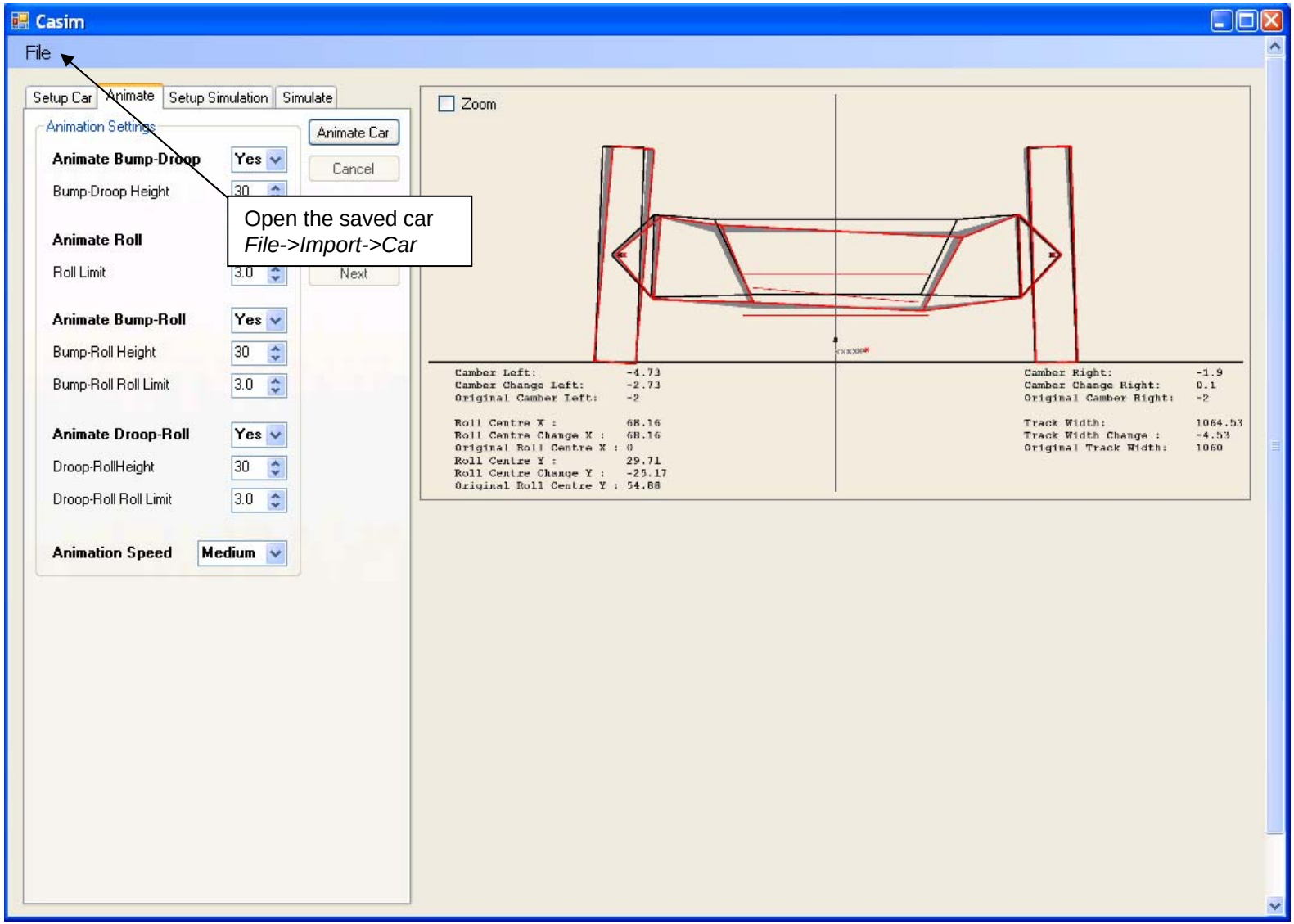


STEP 6: SAVE FILTERED CARS



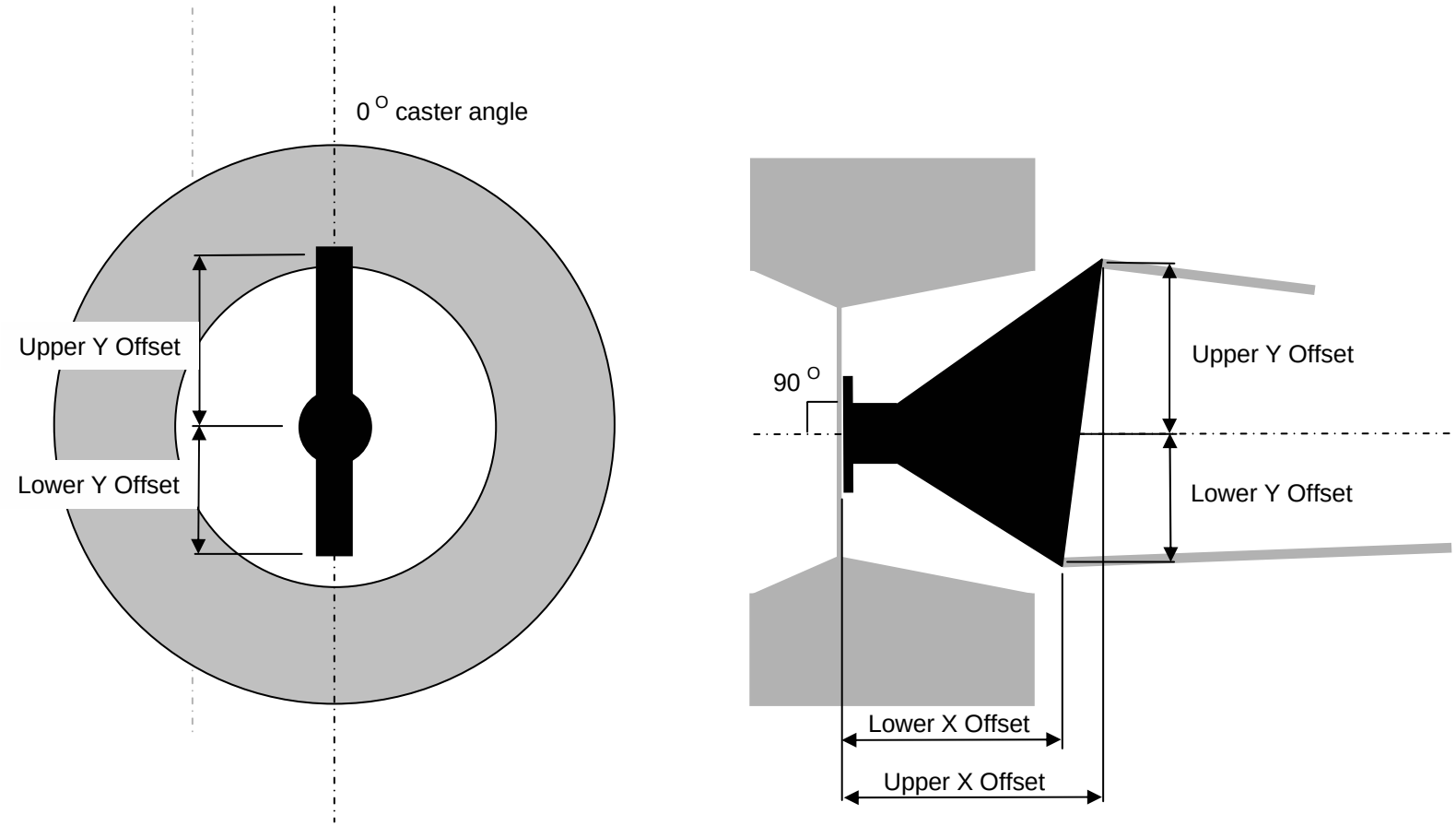
Save one or several cars and. Close this window and return to the first window where the car can be imported and suspension movements studied in detail.

STEP 7: VIEW FILTERED CAR IN DETAIL

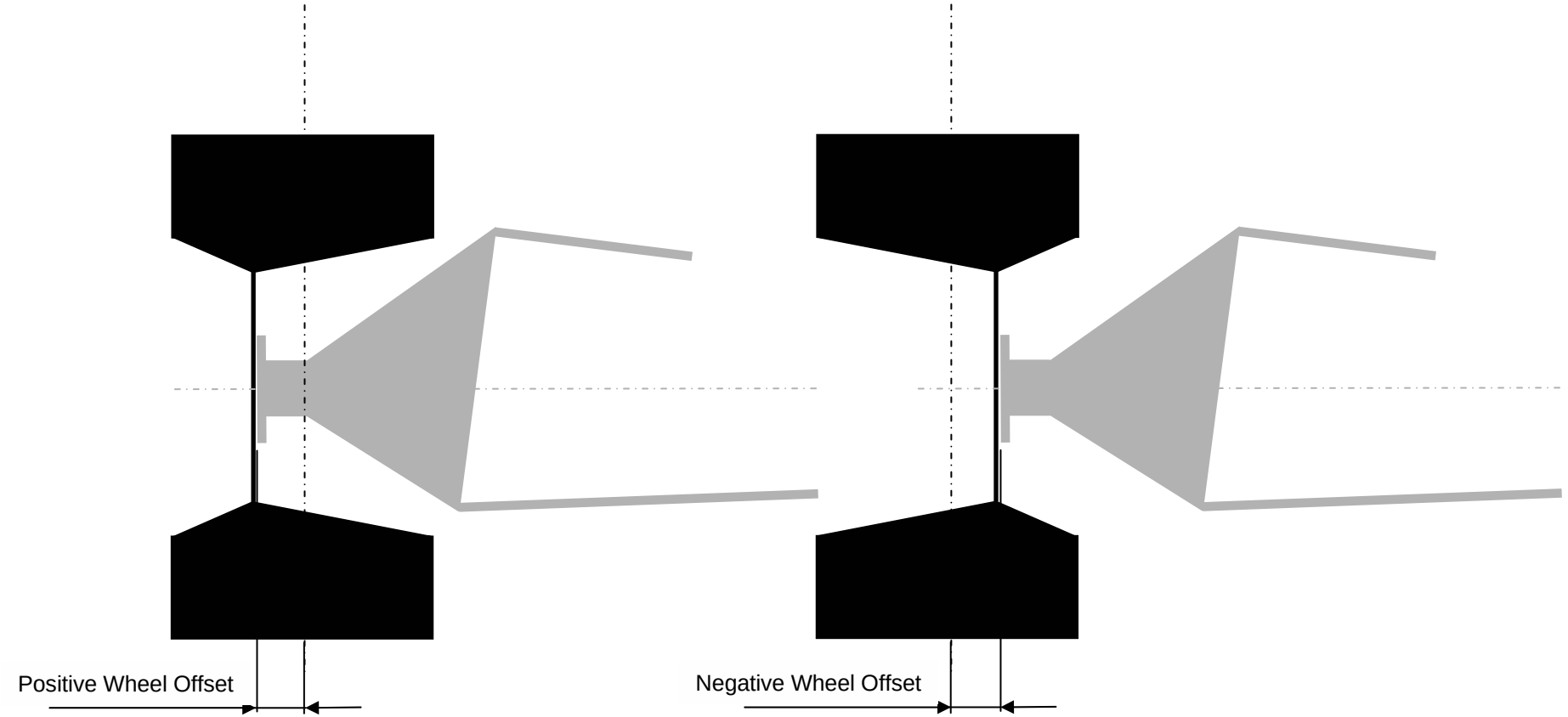


MEASUREMENTS
AND
OTHER MISCELLANEOUS INFORMATION

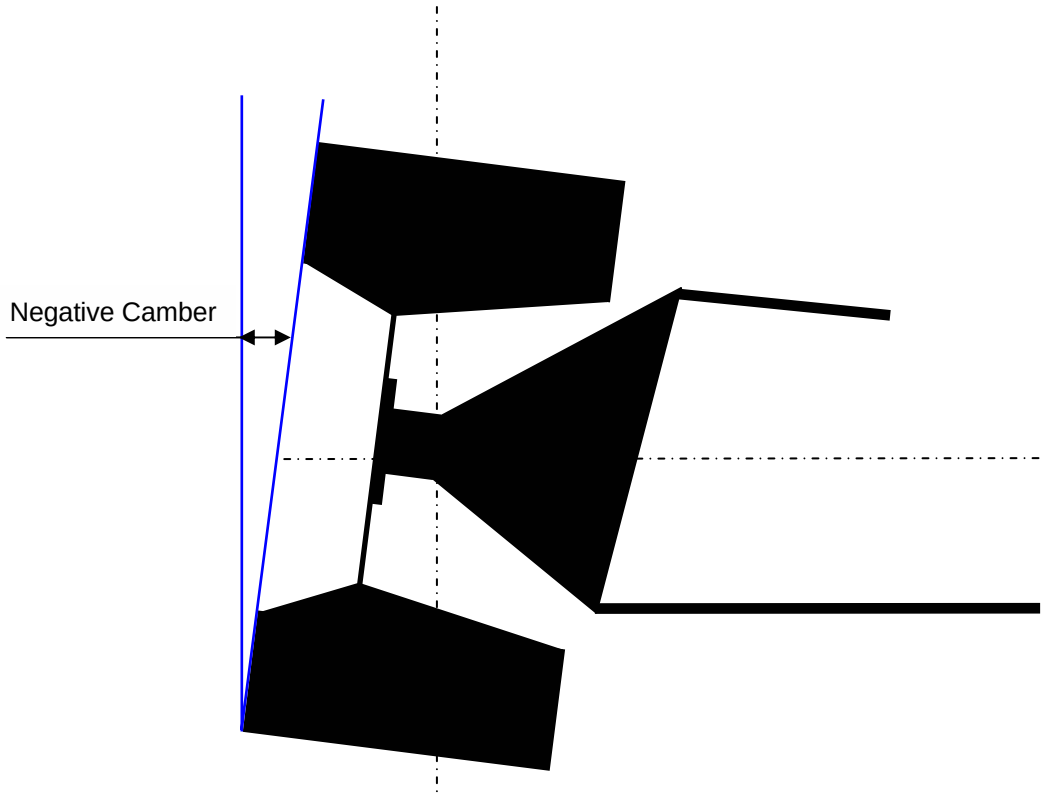
MEASURE THE UPRIGHT



MEASURE THE WHEEL OFFSET



CAMBER ANGLE



A-ARM MOUNTINGS