

## **Contents**

The **IndyCar II Setting File Editor** (Copyright © 1996 Mark and Jason Formo) program, or "**ICR2SE**" is an editor for your IndyCar Racing II (® by Papyrus) simulation program setting files. It allows you to view the setting files in a graphical format for easy viewing, editing, comparing and printing.

To contact authors for any reason, send e-mail to: [mformo@pclink.com](mailto:mformo@pclink.com) or drop by our World Wide Web site: <http://www.dreamflyr.com/~mformo/rcse.html> and fill out a feedback form.

### **Contents:**

**General Instructions**

**Track Window**

**File Window**

**Tire Compound**

**Soft Compound**

**Medium Compound**

**Hard Compound**

**Tire Pressures**

**Camber**

**Shocks**

**Gears**

**Stagger**

**Front Wing**

**Rear Wing**

**Steering Lock**

**Fuel**

**Front Anti-Roll Bar**

**Rear Anti-Roll Bar**

**Boost**

**Brake Bias**

## General Instructions

When you first see the editor screen, the first track and the first file in that particular directory is already in both windows. To edit a file other than what is displayed, first you must select the track.

To select the "Track", click on the "down-arrow" to the right of the Track window. A drop-down box will display a number of tracks. If the track you want is not displayed, scroll up or down until it is and select it.

To select the "File", click on the "down-arrow" of the File window. Again, scroll up or down until you can select the file you want to edit. The moment that you select the file, the screen will refresh and the values will appear in the appropriate boxes.

If you select the "red" lettered file, the values will be displayed in the "red" boxes. This allows you to compare it with the "blue" selected file.

To change any values, simply click on the arrow to the right of the setting you want to change. Scroll up or down until you have the value you want. You can change as many or as few values as you want.

To save the changes as the same file name, just click on the appropriate "Save" button. To save with a new name so you don't overwrite the file you started with, click on the appropriate "Save As" button.

To print one of the setting files, just click on the appropriate "Print" button. To print both files side-by-side for easy comparison, click on the "Print Comparison" button. (Be sure you have selected the files you want compared before you print.)

**NOTE #1:** The demo version only allows "viewing" the setting files, it does not allow user to save changes, and it will only print "sample" setting files. If you have a demo version and would like to order the registered version, click on the "To order registered copy" button for ordering information.

**NOTE #2:** This is the first version (version 2.1) that allows editing files for tracks that have been "converted" from NASCAR Racing tracks. It is believed that this will work, however it has not been tested. The authors do not guarantee that it will, however if you have a converted track that does not display, please contact the authors. If it is deemed appropriate to add the track, it will be done.

## Track Window

The **Track** window is used to select the track that has the setting files you want to view. The window will scroll when you have selected on the "down-arrow" immediately to the right of the window. You may also "Tab" to the Track Window, and then use the arrow keys to scroll.

Once you make the selection, the screen automatically "refreshes" and displays the first setting file in the directory in the File Window.

If you have converted NASCAR Racing tracks for use with IndyCar Racing II, they will be marked with an asterisk ( \* ) next to the name of the track.

**NOTE:** The two Track Windows are independent of each other. You can have one window displaying Atlanta, and the other displaying Watkins Glen.

## File Window

The **File** window is used to select the individual setting file that you want to view/edit. The window will scroll when you have selected on the "down-arrow" immediately to the right of the window. You may also "Tab" to the File Window, and then use the arrow keys to scroll up or down.

Once you make the selection, the screen automatically "refreshes" and displays the parameters of the setting file in the appropriate boxes.

**NOTE:** The two File Windows are independent of each other. You can have one window displaying the ace.stg file from Atlanta, and the other displaying the easy.stg file from Watkins Glen.

To select a setting file from a different track, click on the arrow next to the Track Window.

## Tire Compound

There are four **Tire Compound** boxes displayed on the screen, one for each corner of the race car. By selecting on the "down-arrow" next to each box, it will drop down a list of valid tire compounds. Simply scroll up or down until you have the value you want. Valid tire compounds are soft, medium and hard.

## Soft Compound

A **Soft** compound tire means just that... the rubber is a softer compound that will "stick" to the track better than a harder compound tire. This will allow the car to corner at higher speeds.

However, there are drawbacks to using soft compound tires. A tire that sticks better generates more heat, and more heat accelerates the wear of the tire. So, while the soft tire will stick better, the higher wear factor may come into play by forcing pit stops for new rubber, while the competition running a harder compound will pass you while you are sitting in the pits.

Because of the wear factor, soft compound tires are commonly used for qualifying, where they need only last a few "hot laps." Sometimes soft compound tires are used during a race, usually at tracks that one or more tires may not generate enough heat to give adequate adhesion. Trial and error is the best way to find the right compound for that particular track.

In general, you want the tire temperatures to be in the 230 to 250 degree range. If you find that the temperatures exceed 260 degrees, you might want to consider using a medium compound.

## Medium Compound

A **Medium** compound tire means just that.... the rubber is a compound that is harder than a soft compound, yet softer than a hard compound tire. It will "stick" to the track better than the hard tire, but not as well as a soft tire. This compound is used as a good "middle of the road" compromise when neither the hard nor the soft tire is right for the job.

If you find your soft tires are not lasting for a full run between pit stops, try changing to a medium.

If you find that your hard tires don't stick very well, or they exhibit almost no wear and can go two pit stops, consider changing to the medium.

In general, you want the tire temperatures to be in the 230 to 250 degree range. If you find that the temperatures exceed 260 degrees, you might want to consider using a Hard Compound tire.

## Hard Compound

A **Hard** compound tire means just that.... the rubber is a compound that is harder than a medium compound tire. It will not "stick" to the track as well as the medium hard tire, but they will wear longer.

If you find that your hard tires don't stick very well, or they exhibit almost no wear and can go two pit stops, consider changing to the medium.

In general, you want the tire temperatures to be in the 230 to 250 degree range. If you find that the temperatures exceed 260 degrees, you might want to consider using a hard compound tire.



## Tire Pressures

The **Tire Pressure** boxes display the individual tire pressures in pounds per square inch or "psi". By selecting on the "down-arrow" next to each box, it will drop down a list of valid tire pressures. Simply scroll up or down until you have the value you want. Valid tire pressures range from 23psi to 45psi in 1psi increments.

Tire pressures are very critical to the handling of a race car. Too high or too low each will cause uneven tire temperatures, as well as less traction.

**Too low** a pressure will cause the outer edge of the tread to heat up and wear at an accelerated pace, and of course loss of traction.

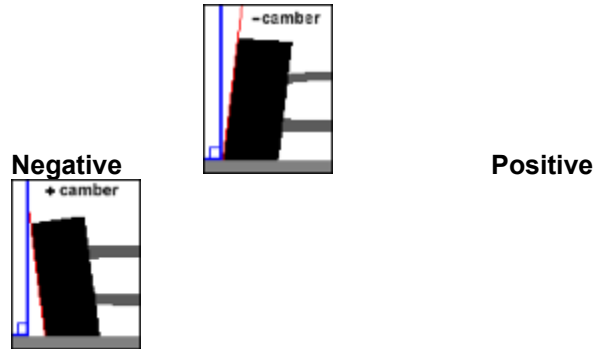
**Too high** a pressure will bulge the center of the tread area outward around the circumference. This, in effect, raises the outer edges of the tread area away from the road. Here again, the tread will overheat in the center, wear unevenly, and will cut down on the available traction.

When checking your tire temperatures, if the temp is higher or lower in the center than the outside edges, but the outside edges are even from side to side, a tire pressure change is all that is needed. However, if the inside and outside edges are NOT even, then you will need to make a camber change. See the [camber](#) area of help for more information on the effects of camber changes.

## Camber

The **Camber** boxes display the **positive** or **negative** camber. By selecting on the "down-arrow" next to each box, it will drop down a list of valid camber values. Simply scroll up or down until you have the value you want. Valid camber values range from -3.00 to +3.00 degrees in 0.10 increments.

Camber is the inward or outward tilt of the center axis of a wheel from perpendicular. This value is measured in degrees. A positive value means the top of the wheel tilts outward. A negative value means the top tilts inward.



When a race car is cornering at speed, the outside of the tire has more weight than the inside of the tire. If the tire is perpendicular to the road, this will cause the outside to heat up and wear faster, causing a loss of traction. To counteract this, you need to add negative camber. This will "raise" the outside of the tire slightly, so when cornering, the weight will be transferred more evenly over the width of the tread surface.

Ideally, you want to have the tire temperatures equal across the tread area. Test any camber changes by running a number of practice laps to get a consistent reading of the tire temps. (Remember, if you make a stagger change, it may mean a change in camber.)

## Shocks

There are **Shock** boxes for each corner of the car also. By selecting on the "down-arrow" next to each box, it will drop down a list of valid shock settings. Simply scroll up or down until you have the value you want. Valid values range from 0 to 100% in 5% increments.

In general, you don't want to be making too many shock adjustments once you get a good handling car. Stiffening or softening the shocks will change the amount of weight being transferred to that particular wheel.

When trying to get your tire temperatures in the desired range, (220-250 degrees) shocks are an area that can be very helpful. If a tire is running very hot, try softening the shock for that corner. On the flip side...too cold a tire...try stiffening the shock. Many times the left front tire will be too cold, so try setting that corner at 100%.

If the car has push, or understeer, soften the front shocks and stiffen the rears. If the car is loose, or oversteers, stiffen the front and soften the rears.

## Gears

The various **Gear** boxes are for setting the gear ratio of the transmission. By selecting on the "down-arrow" next to each box, it will drop down a list of valid gear ratios. Simply scroll up or down until you have the value you want. Valid gear ratios range from 2.50:1 to 11.90:1, and change by 0.10 increments.

The gear ratio is the amount of revolutions the engine makes for each revolution of the rear axle. 11.90:1 means the crankshaft of the engine will revolve 11.9 times for every single rotation of the rear axle.

In general, you want to set up 6th gear so that you are reaching maximum safe RPM's at the end of each straight. Remember though, if you set up your 6th gear for running alone, when you are drafting on the super-speedways or long straights, you will probably be over-revving the engine. If you can't seem to get the top end speed like the competition, try changing the front wing or rear wing setting to reduce the amount of drag on the car.

Once you have 6th gear set where you want, then try to space the gears so you can get up to speed after pit stops. However, when running tight road courses, you may want to keep 1st through 5th gears very close and a jump to 6th gear. Conversely, on short ovals, you might want to have 5th quite close to 6th for good acceleration out of the corners when trying to pass a car.

## Stagger

The **Stagger** box allows you to change the amount of "stagger" or difference in the circumference of the right side over the left side tires. Positive stagger means the right side tires are larger than the left. When cornering on ovals (to the left), the right side tires must travel farther. To help the car corner, positive stagger is used to make the car tend to turn left.

This is most commonly used on oval tracks where all the turns are the same direction. A larger amount of stagger is typically used at short tracks, mainly because more time is spent in the turns than the large ovals. At the super speedways, you will want to reduce the amount of stagger, partly because too much stagger will increase tire scrub, which in turns creates more drag and tire wear. In most cases, stagger is not used on road courses, however some tracks have enough turns the same direction that it may provide a benefit. This is something you can experiment with.

The values in IndyCar Racing II for stagger range from -1.000" to + 1.000", and can be changed in .0100" increments.

If you have excessive understeer or "push", you may want to increase the stagger a small amount. However, you must remember that by changing stagger, it may force you to make a change in some other area. You may find you need a camber adjustment after changing stagger. Run some laps to get a good look at tire temperatures before making any other changes.

## Front Wing

The **Front Wing** boxes allow you to change the angle of the front wing. By selecting on the "down-arrow" next to each box, it will drop down a list of valid air dam heights. Simply scroll up or down until you have the value you want. Valid front air dam values range 3.00 degrees to 18.00 degrees in 1 degree increments.

The higher angle you have the front wing, the more traction you get on the front, which helps cornering. However, it comes at a penalty of more drag. So on a super-speedway, you want to keep it as low as possible. If your car "pushes" you may want to try raising the front wing.

When making changes to the front wing, keep in mind that you may need to change the rear wing to balance the car.

## Rear Wing

The **Rear Wing** boxes allow you to change the angle of the rear wing. By selecting on the "down-arrow" next to each box, it will drop down a list of valid rear spoiler angles. Simply scroll up or down until you have the value you want. Valid front wing values range from 3.00 degrees to 18.00 degrees in 1 degree increments.

The higher angle you have the rear wing, the more traction you have on the rear of the car. Too much causes more drag, as well as reducing some of the pressure on the front. If your car is "loose" you may want to raise it slightly.

When making changes to the rear wing, keep in mind that you may need to change the front wing to balance the car.

## Steering Lock

The **Steering Lock** box allows you to change the amount that the front wheels will turn side-to-side. By selecting on the "down-arrow" next to each box, it will drop down a list of valid steering lock settings. Simply scroll up or down until you have the value you want. Valid values range from 5 to 30 degrees, by 1 degree increments.

For the super-speedways, a steering lock setting of 9 or 10 degrees should be fine. For tight road courses, raise it to 15 degrees or so.



## Fuel

The **Fuel** boxes allow you to change the amount of fuel in the tank. By selecting on the "down-arrow" next to the box, it will drop down a list of valid fuel levels. Simply scroll up or down until you have the value you want. Valid fuel load ranges from 1 to 40 gallons and can be changed in 1 gallon increments.

## Front Anti-Roll Bar

The **Front Anti-Roll Bar** boxes allow you to change the tension of the front anti-roll bar. By selecting on the "down-arrow" next to each box, it will drop down a list of valid front anti-roll bar values. Simply scroll up or down until you have the value you want. Valid front anti-roll bar settings range from 1 to 8, 1 being full soft and 8 being full hard.

When using this program to change setups, it is recommended you leave it at 4 or 5. This will allow you to have some adjustment either way while you are testing.

## Rear Anti-Roll Bar

The **Rear Anti-Roll Bar** boxes allow you to change the tension of the rear anti-roll bar. By selecting on the "down-arrow" next to each box, it will drop down a list of valid rear anti-roll bar values. Simply scroll up or down until you have the value you want. Valid rear anti-roll bar settings range from 1 to 8, 1 being full soft and 8 being full hard.

When using this program to change setups, it is recommended you leave it at 4 or 5. This will allow you to have some adjustment either way while you are testing.

## Boost

The **Boost** box allows you to change the amount of boost generated by the turbocharger. By selecting on the "down-arrow" next to each box, it will drop down a list of valid boost settings. Simply scroll up or down until you have the value you want. Valid boost settings range from 1 to 9, with 1 being the least amount of boost, and 9 being the most.

Using more boost will give you more power. However this comes at a fuel mileage penalty. If it means another fuel stop, the time lost entering and exiting the pits may negate any gains you made on the track with the extra power.

## Brake Bias

The **Brake Bias** box allows you to change the amount of braking efficiency biased toward the front of the car. By selecting on the "down-arrow" next to each box, it will drop down a list of valid brake bias settings. Simply scroll up or down until you have the value you want. Valid brake bias settings range from 1 to 8, with 1 being full bias toward the front, and 8 full bias toward the rear.

In general, you want it slightly biased toward the front. On road courses it is best to have more bias toward the front. On superspeedways, you may have it slightly toward the rear.

