

## **SDRCC News Letter Number 3 / 2008**



### **It's almost time to start thinking about racing at a real circuit**

Issue number 3 and we have our first article on body shells. Thanks to Michael Robertson for this article and hopefully other members will follow your lead otherwise you are going to be fed up reading my monthly ramble.

**Work Weekend 5<sup>th</sup> & 6<sup>th</sup> of April please come down a help out even if it just for a couple of hours.**



### **BRCA 2008 Rechargeable SubC Battery List**

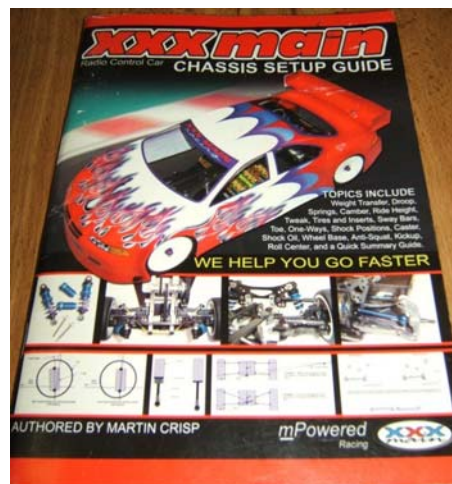
The BRCA EB has released the list of cell approved for use in all BRCA EP events for 2008. These are all new approvals for 2008.

Note, this is the ONLY list of cells approved for use in 2008, previous lists are no longer valid. You can click the image below to view the original EB published DPF document.

Go to the BRCA web page and click on touring cars for more info on this list.

## Touring Car Setup Guide third in the series:

Hopefully you are all getting some help from this series, if so please let me know and give me some feed back good or bad I can take it! As you may have seen it has taken me a couple of visits indoors before I had a car I could drive and with out the help of the XXX main setup book I would probably still be experimenting with setups trying to correct Scenario A (car is too loose while entering a corner off-power) Remember if you do not have this book please call Lesro and order your copy.



## Springs

Springs probably have the most dramatic effect on weight distribution and as such this is one of the first things to focus on when tuning your car. In general most RC cars will require you to have stiffer springs up front compared to the rear of the car to obtain a good balance. Each car is different so you will have to figure that out through experimentation or ask another club member running the same car. Let's look at a couple of common scenarios and how springs can be used to help improve the handling of the car.

### **Scenario A: Car is too loose while entering a corner (off-power)**

Transferring too much weight to the front tyres relative to the rear tyres

One way to reduce the amount of weight transferred to the front of the car is to increase the stiffness of the front springs, so the front of the car does not dip as much. Alternatively you can decrease the stiffness of the rear springs so that the front of the car does not dip too much relative to the rear of the car. Typically the first place to start is the front springs as these are the springs with the most loads and thus will have the biggest impact if changed.

**Caution:** One common mistake is to wind down the shock collar this only affects the ride height and not the spring load. The only way to increase the spring load is to change the spring for another one which will be either a softer or harder spring. In addition to this you should always try and keep the spring ratings as close as possible to each other I try to keep them a maximum of 2 grades apart that way the car is either lightly or heavily sprung.

### **Scenario B: Car is too loose while exiting a corner (on-power)**

Not enough weight is being transferred to the rear tyres relative to the front tyres.

The good news here is that the changes you make to correct scenario A will help towards correcting scenario B as well. In other words stiffening the front springs and or softening the rear springs will help reduce the on-power oversteer. In general however scenario A is best handled by making changes to the front springs and scenario B is best handled by making changes to the rear springs. This is because in scenario A the front springs are doing most the work and in scenario B the rear springs are doing most the work.

### **Scenario C: Car pushes while entering a corner (off-power)**

Not transferring enough weight to the front tyres relative to the rear tyres.

Since not enough weight is being transferred to the front tyres then this means the front of the car is too stiff compared to the back of the car. As such to correct this situation you can soften the front springs and / or stiffen the rear springs. Again it is best to start with the front springs in an off-power situation as these are the springs with the most load and thus changes to these springs will have the biggest impact on handling.

### **Scenario D: Car pushes while exiting a corner (on-power)**

Transferring too much weight to the rear tyres relative to the front tyres.

Since too much weight is being transferred to the rear tyres relative to the front tyres you can stiffen the rear springs and / or soften the front springs to help reduce the on-power push. It is best to start with the rear springs in an on-power situation as these are the springs with the most load and thus changes to these springs will have the biggest impact on handling.

### **Scenario E: Car is too loose in mid-corner while maintaining neutral power**

Too much weight has been transferred to the rear tyres relative to the front tyres.

Since too much weight is being transferred to the rear tyres relative to the front tyres you can stiffen the rear springs and / or soften the front springs to help reduce the push. Since this scenario you are using neutral power you can start with changes to either the front or rear springs. Having said that, you could consider the on-power and off-power handling characteristics of the car to help you decide which end of the car to start with.

### **Scenario F: Car is too loose in mid-corner while maintaining neutral power.**

Too much weight has been transferred to the front tyres relative to the rear tyres.

Since too much weight is being transferred to the front tyres relative to the rear tyres, you can stiffen the front springs and / or soften the rear springs to help reduce the oversteer. Like scenario E in this scenario you are using neutral power, thus you can start with changes to either the front or rear springs. Having said that, you could consider the on-power and off-power handling characteristics of the car to help you decide which end of the car to start with.

Another month I'll talk about shock mount positions which can change how a give spring works on the suspension.

## **Touring Car Body Shells Article:**

Choosing the correct body to run your RC car is a very important

Many people run the same body for different applications; but this is not necessary an ideal solution. The following should be taken into account

1. Track (indoor or out door)
2. Track Surface (carpet, asphalt and or other surfaces)
3. High Grip or low grip
4. Class to run (stock or modified)
5. Most importantly the drivers style

Different bodies give you a vast range of handling attributes, high down force, low down force, aggressive turning, low turning, and neutral handling

Many people tend to set up their cars with a neutral balance or a little under steer. This would normally give you an opportunity to control the car consistently.

Typical bodies that you would run for an out door would not necessarily be a good solution for an indoor track, and vice versa.

For an indoor track you need to take into account the lack of natural air flow whilst running, you require the body of the car to generate sufficient down force for the car to be able to run consistently and properly. We need to understand that down force will help you to drive the car but at the same time too much down force could have the opposite effect, loss in time. The fine balance between too much and too little, the two are very important to understand and manage.

In comparison we can say similar for out door racing, but this time with natural wind flow the effect of down force is greatly exaggerated, this could lead to traction role if the race track is technical in nature.

Changing the body of your car can have an impact just as much as changing another setting on the car. It needs to be accomplished with thought and testing in a racing environment.

You will see in a club environment, many different bodies in circulation, if you take time and talk to the top racers 3 or 4 racers within the club they will give you as much advise as possible but at the end of the day they will give you inputs to 3 or 4 bodies to use. Simply because they know the effect the body will have to the handling of their car. Ultimately in how you like the car to feel when driving plus the track conditions for that day.

Normally if we are going to a track for the first time we would take at least 3 bodies to try. Each run would consist of 6 laps with a neutral setting, this would make it easier for the driver to see and judge the impact of each specific body whilst running. From their I would choose one body and to start fine tuning the set up on your car in the normal manner. It's always very important to include the handing of the body in your notes or set up sheets. This will enable you to reduce your development time on the next race meeting.

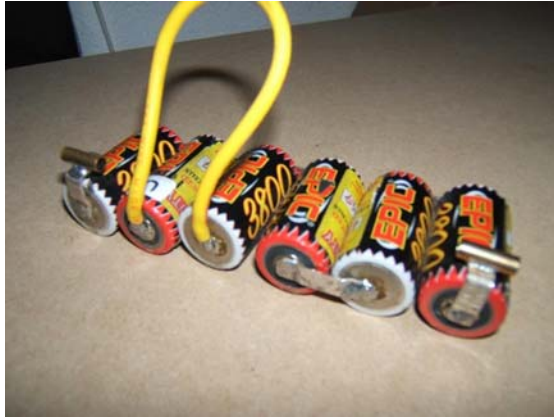
Special thanks to Michael Robertson for this contribution (Michael has just come back from the Philippines and is our newest member. His son Alex raced at the IGP and was the third junior that day just one final behind Gareth, not bad for a 6 year old!)

**Special Note:**

As you can see from the top of the news letter we are having a work weekend where the rostrum will be getting painted. I would like to take this opportunity to thank Ian Spiller for his help in sourcing the paint and making a contribution towards its cost. All we need now is helpful hands.

Hope to see you that weekend!

## Items for Sale



**IB3800 (5 packs for sale)** 2006 used by myself and still taking over 4,000 mah. Bruce Noble is still using these cells to good effect this year winning the indoor title at Inverurie!

**Bargain at £5.00 a pack** contact:  
George Haining 07771914997



**IB4300 SHV & WC (5 packs for sale)**  
These cells were new this year (2007) and have been used by me to win the SDRCC 19T championship and come 7<sup>th</sup> in the SRCA 19T championship also, you need to be able to balance these cells prior to each days racing. Once charged these cells give a voltage output which is almost like having another cell!

**Bargain at £10.00 a pack** contact:  
George Haining 07771914997

**2008 Membership** form is ready for download via the web so to help our membership secretary please fill it in and return it ASAP. Remember to include BRCA membership if required otherwise make sure you bring your licence with you for the first race meeting in March!

SDRCC Membership	£18 Adults £10 Juniors £28 Family
Race day fees	£5 Juniors / Adults Members £8 Non members (max 3 visits unless BRCA member)

**2008 Calendar** is also available for download via the web page so get your self's a copy or see me at the next indoor meeting and I'll give you a copy.



**Lesro Models For all your RC needs**



**When calling  
Lesro model  
01202 499354  
remember to  
say you're a  
member of  
SDRCC to  
receive your  
10% discount**