



AB Slotsport

Dedicated to supplying the best Slot Racing Products to Racers Worldwide

[Welcome To AB](#)

[Technical Info](#)

[Product Finder](#)

[What's New?](#)

[Clubs / Races](#)

[Good Links](#)

Download this page as a PDF File

“C” CAN MOTOR PREPARATION & TWEAKING HANDLING

This is not a definitive guide but is intended to cover the basics. Get these right and you will ensure good can motor performance. Remember, cleanliness is the key, it will enhance performance and also enable you to see faults more easily. Obtain a can of Switch Cleaner from your local “electronics shop”, this is great for removing all types of crud from motor components. A toothbrush is also useful.

General inspection and checks:- Remove brush springs and brushes, remove endbell screws and disassemble motor. Clean all components. If motor has been run check the condition of the commutator. If it is rough/grooved etc get it com trued and then ensure that the slots in the com are clean and free from debris, (use a small piece of 7thou lexan body offcut for this as it will not damage the com), stroke the lexan through the length of the slot to clear out any dirt. Once the com slots have been cleaned, spray again with switch cleaner to remove any fines or crud. Clean the endbell and hardware inside and out with spay and a brush, remove all dirt and debris. Use a “brush hood tool” (I prefer the Magahone type with diamond faces) to ensure the brush hoods are in line. To align the hoods, loosen the hardware screws, insert the brush hood tool through the hoods, substitute the armature for an armature slug or 2mm drill blank and assemble the endbell to the motor, this will align the brush hood tool to the motor shaft. Check that the brush hood tool is parallel when the assembly is placed on a flat surface and retighten brush hood screws.

Check motor bearings for play. If worn replace. When replacing the can bearing it is essential to ensure it is centred. The easiest way to do this is with an armature slug or magnet hone of the correct size to suit your magnet gap or failing that, use the armature and wrap the stack with adhesive tape until it is a snug fit into the magnets. Remove the old bearing in the can (if it is the first time you have changed this it will be a push fit so you will have to tap it out carefully, (ensuring you don't bend the can). Carefully open the hole in the can with a rat tail file or reamer so the new bearing is a loose fit, put bearing on armature shaft/slug and assemble motor. This will align the bearing perfectly in the can providing the slug/taped armature is a snug fit. Solder bearing into can. Disassemble motor again and wash out the can to remove any acid flux. (Carefully remove adhesive tape from armature if you have used this method). You may wish to ReZap the magnets, this is usually done with the magnets in the can and should only be done when you have finished soldering in bearings, aligning magnets etc. Ensure the endbell bearing is seated correctly in the endbell and glue bearing in to endbell bearing housing using a thin Superglue. Reassemble motor and space the armature with the stack of the armature “Centred” in the magnetic field of the magnets (ensure magnets are located correctly and tightly in the can, if rules permit you can use a liittle superglue behind the magnets to ensure positive location). The armature should have between 0.003 & 0.005” endfloat in the motor once it is assembled. Ensure the armature spins and floats smoothly. Ensure that both brush springs have the same “angle” and that brushes slide smoothly in the brush hoods. Assemble brushes and springs (also shunts if rules permit). Lubricate the motor bearings and run in motor at less than 6 volts. Ensure the motor is running in the correct direction. NEVER free run a motor at high voltage! Run in motor until it sounds smooth and a minimum of sparking is seen on the com. It is an idea to run the motor in reverse for a VERY short period of time once it is run in (no more than 10 seconds, (this will remove any “lip” on the motor brushes). Some racers run their motors in “under water”, this can be useful as it prevents heat build up on the com during the running in period and also washes out any crud lurking in the motor. Should you wish to do this, only do so when motors have good quality brushes and for a maximum of 15 seconds (otherwise you will wear out the brushes before you start). Don't forget to dry the motor completely and re-lubricate the bearings afterwards. When fitting the motor use a MINIMUM of heat to do the job. Make solder joints fast and accurately, excessive heat will reduce the magnetic flux. Happy Racing!

TWEAK YOUR HANDLING

Your slotcar will handle differently depending on what tyre compound you use. Generally in most racing today black sponge tyres are used. To all intents, for Scale type racing, these come in 3 differenet types

In order of grip:- SBR rubber, Supernatural type compounds, Fish Rubber. Fish Rubber being the grippiest (and also the smelliest which is why it's called “Fish rubber”).

Knowing what will work best on your track is really down to local knowledge but as a rule of thumb the following can apply:-

Production racing (below 16d motor) SBR, Wonder or Supernatural

Production racing (below G12) Supernatural.

Production racing (G12) Supernatural & Fish rubber

OG12 & Eurosport Fish rubber.

There are some Eurosport cars which have run on Supernatural, but these are few and far between and when the grip conditions are high.

Handling:-

Not Enough Grip – go to a stickier compound of tyre. Ensure tyres are CLEAN. Remove any lead ballast from the rear of the car. Widen rear track to legal limit. Use a glue board.

Too much grip:- Car fronts out, rear stays planted. Much depends on the level of the problem

If critical – go to a less sticky compound.

If grip is then a problem (not enough) go back to stickier compound and try the following, one at a time:-

(1) Increase the outside profile radius of the tyre.

(2) increase the inner profile radius of the tyre.

(3) Decrease the width of the rear track.

(4) Add a little weight to the rear of the chassis pans.

(5) Cut down the width of the tyre from the rear face of the hub.

UNPREDICTABLE HANDLING

This is more likely to be caused by a chassis problem, but first check tyres to make sure they are clean and have no rips or chunks and that they are “Round”. Then:- If car is “noisy or bouncy on the straight - check for a bent axle.

If the car only goes round corners to the left or right, but is ok in the opposite direction – check for a bent chassis or odd sized tyres .

If the car fronts out in some turns on the odd lap – check that the guide is stable in the guide plate (no rocking movement.) Also check braids for flatness and the ride height at the front of the chassis (same both sides).

Always check to ensure the body is mounted correctly. The rear wing should be parallel to the track when viewed from the back. Ensure all body pins are in and that the shell is not scraping on the track.