

Slot Car Balance Device

Instructions

How to Check Left-to-Right Balance

Put Balance Device on a hard flat surface. Tap down the device on one side. The device should rock from side to side and then come to rest with the bubble in-between the double lines. If it doesn't, check the bubble level is correctly located in the device. You can take the level out and use it to check that the surface is flat, if it is not move the device to a different place.

Once you have found a suitably flat surface for the Balance Device, put your car on the device with the guide in the end slot and the rear tires evenly placed side to side at the rear. This is easily done using you thumb and middle finger to "feel" that it is even side to side.

If the car is evenly balanced the bubble will be in between the double lines. If it is not, the car is heavier one side than the other. It will be obvious which side is heavy/light. Add/remove weight as required until balance is achieved.

How to find or check your cars Point of Balance (center of gravity) front to rear

Step 1

First you need to know the wheelbase of the car. To do this, measure the distance from the center of the rear axle to the center of the front axle. Note that some builders prefer taking this measurement from the rear axle to the Guide Pivot Pin. Measure using your preferred method and proceed to the next step.

Step 2

Place the car across the device on the anti-slip bands; take care that the car is square on to the device. Carefully move the car left or right to a point that when you take your hand off the car it is perfectly balanced on the device with the bubble between the double black lines.

Step 3

Make a mark on the side of the car body in line with the white line on the Balance Device. To save marking the body paintwork I put a piece of masking tape on the body about half way between the front and rears wheels and make your mark on that. You have now found the Point of Balance (center of gravity) of your car. It is generally

accepted in the slot car world that a car should have approximately a 40/60 Balance Ratio. That means half the cars weight should be in the rear 40% of the car from the point of balance mark and half the cars weight should be in the front 60% of the car from the point of balance mark. Or put another way 60% of the weight is on the rear wheels and therefore 40% of the weight is on the front wheels.

How to work out what your cars ratio is?

Step 1

Measure the distance from the mark you made, to the rear axle; then divide that figure by the Wheelbase. As an example, say the distance mark is 31mm divided by the wheel base of say 81mm, the answer would be 0.382. This means your balance point is 38.2% from the rear axle and therefore 61.8% to the front axle, giving a 38.2/61.8 Ratio. Remember we are looking for a 40/60 Ratio. You may be perfectly happy with the way your car handles already, but if you want to change it, you now have a starting point to go back to if needed. If you choose to use the rear axle to Guide Pivot Pin method the figures of course would be different to those above, but you would still be aiming at a 40 / 60 ratio.

Step 2

If you want to change your Ratio you can now adjust the position of any weights, or add or take off weights. When you have done any of these, re-mark the line, redo the calculation, and keep doing this until you get close to the Ratio you want. I can't tell you how much or where to add weight as every car is different. When you are close to the Ratio you want, Test drive the car, keep doing this until you are happy with the way it handles. When you are happy, make a new FINAL Point of Balance mark on the side of your car showing what worked for you. Check the left to right balance again just in case you have upset it.

Remember the 40/60 Ratio is not set in concrete, it is a starting point and what works for you is the important thing.