



DANIEL RICCIARDO KART

SET UP & GET STARTED GUIDE

DRS62CC CADET, DRS100CC JUNIOR
& DRS125CC SENIOR

AXLE ASSEMBLY

The DRS Ricciardo karts are fitted with a 40mm axle for DRS125 and DRS100 and for the DR62 it is a 25mm axle. Only the original inscribed Ricciardo DRS axle may be used as supplied with absolutely no modifications allowed. It is important to ensure that you periodically check the tightness of the axle grub screws as if they come loose your axle can move off- centre.

This normally results in the brake disc binding on your brake and your karts speed will be drastically reduced by up to 1 to 2 seconds per lap. You also risk the axle sprocket going out of line and this could result in your chain coming off.





SEAT TYPE AND SEAT POSITIONS:

The seat position and type are critical to ensure a good chassis set-up. The position for DRS125 is taken in the traditional way i.e. from axle to middle of top centre of the seat is 18- 21cms for the rake angle and then on the front of the seat to the front of the floor tray is brake side 60cms, engine side 61cms.

The type of seat is also important as a comfortable driver should give better performance!

All new DRS Ricciardo karts are supplied with a Tillett Seat, T5 or T8 for DRS62 and for DRS100/125 T11.

The only Tillett seat allowed is standard rigidity, soft or stiff or T seats are not allowed.

Other Tillett seat models available and allowed to be use are T7, T8 , T9 , T9.5, T10 , T12 as well as any CD versions.

No carbon or Kevlar or VG or stiffer seats may be used.

For DRS62 seat position of 47cms to 48cms with a rake measurement of 23/24cms in the middle of the seat.

The grip of the kart will change depending on the seat position. The seat positions quoted are the standard positions.

It's important to run the setup of your DRS Ricciardo kart in the standard set up. Sometimes depending on the track design or level of grip your kart may not handle so well. The biggest influence on a kart is the seat position. If you move the seat further forward from the standard position quoted by 1.5cms more grip in the front of the chassis will be achieved. If your kart is not turning in and under steering a lot the most effective thing to stop this is by moving the seat forwards.

If your move the seat back 1.5cms from the standard position quoted then more grip in the rear of the chassis will be achieved. If your kart is sliding around a lot through a corner the most effective thing to stop this is by moving the seat backwards, it will also improve the stability of the braking – move it back too much though and you could risk under-steering – it's a fine balancing act!



WHEEL CONFIGURATION "DRY" SET UP

The standard configuration for dry set up is measured overall (outside of one wheel to the outside of the other wheel) and related to use with DRS aluminium rims FL 130mm/210mm for DRS100 and DRS125. For DRS62 the aluminium rims are FL 115mm/150mm.

These are the only wheel types to be used in the dry in the Daniel Ricciardo Series DRS.

STANDARD SET UP:

DRS100 and DRS125: Minimum Front track width spacers 40 | Rear track width 139cms.

DRS62: Minimum Front track width spacers: 20 | Rear track width: 110cms

For all DRS Ricciardo karts:

If the front dimension is increased this will increase grip and turn in.

If the rear dimension is increased this will give less grip in the back. The wider the width in the rear track the more stable the kart will become under braking. Too wide though and the rear of the kart will slide – this is called “oversteer”

Tyre pressure:

DRS100 and DRS 125: Minimum 8 psi | Maximum 14 psi **DRS62:** Min 12ps | Max 22psi

Higher tyre pressure will make the tyres grip quicker but may overheat causing sliding. Too low and the tyres will take too long to grip. Every track and day is different so pay close attention to your pressures. We recommend that all four tyres are set to the same pressure.

We advise you work within the above pressure parameters quoted to achieve your optimal setting. A good indication that your tyres are working correctly is that at the end of a session the tyre pressure should be taken whilst the tyre is still warm. A natural gain of pressure of 2 psi per tyre indicates the pressure and the balance of the kart is correct. A pressure gain of only 1psi indicates that the tyre pressure needs to be higher,

A pressure gain of 3psi or 4 psi means a tyre is being over worked and could be too high tyre pressure or an incorrect set up of your kart.



FRONT CHROME TORSION BAR:

(not applicable for cadet)

Normally we would suggest that the front torsion bar is left in, however if the grip on the track is low or a better balance from front to rear is required in the kart then by removing it will allow more movement in the chassis and better balance, this can be best seen in winter conditions.

Warning: if you run without the torsion bar in an accident your chassis frame could encounter more damage.

SEAT STAYS:

(not applicable for cadet)

Chrome seat stays are usually used the entire time one on each side maximum as per DRS rules.

In general conditions two seat stays bolted tight will make the chassis slide to begin with but will generate tyre temp and therefore increase lateral grip. In high grip conditions especially in sticky rubber two stays loosened will make the kart have more traction on the exit of corners.

In the wet no stays at all give better grip in the rear and good traction



STEERING & GEOMETRY

The tracking of the wheels should be set at zero. On the DRS100 and DRS125 the black track rods 255mm are used. The DRS62 uses 215mm black track rods.

The camber of the kart if measured from top to bottom should be open at the bottom + or - 3mm. If this is not the case, a bent king pin or stub axle are to blame. Older chassis can show signs of negative camber of up to 8mm to 10mm, at this point a new DRS Ricciardo frame should be considered as the chassis may be deteriorating.

You can also increase the grip of the kart in the front and create better turn in if you set the tracking with some "toe out" You can measure the tracking either with tracking discs or some kart lasers. Toe out means that the dimension of the front of the tyres is wider than the edge of the rear of the tyres. This creates more contact on the surface and more grip,

Toe out can be used in the dry but more commonly in the wet when more turn is required. The down side to toe out is increased tyre wear. "Toe in" will reduce turn in and grip and can be used to reduce turn in.

WHEEL CONFIGURATION "WET" SET UP

The standard configuration for WET set up is measured overall and related to use with DRS aluminium rims 120/180mm for DRS100 and DRS125.

For DRS62 the aluminium rims are 115/150mm.
These are the only wheel types to be used in the WET in the Daniel Ricciardo Series.

STANDARD SET UP:

DRS100 & DRS125: Min Front track width spacers: 40 | Rear track width: 136cms for DRS125 and for DRS100 135cms.

This means when it rains you must move the rear hubs out by at least 10mm per side. Your side pods must not stick out wider than your rear wheels when wet tyres are fitted.

DRS62: Min Front track spacer width: 40 | Rear track width: 110cms

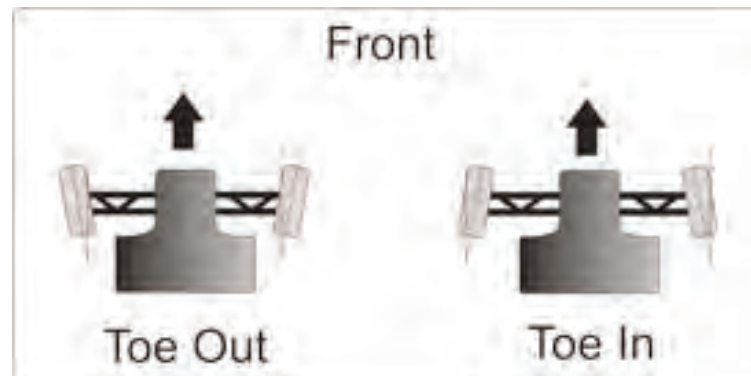


WHEEL CONFIGURATION "WET" SET UP

For ALL DRS KARTS

If the front dimension is increased more grip is achieved. If the rear dimension is reduced more traction grip is achieved.
Wider gives less traction but better braking.

The set up above will give a good balance to the kart. However if more grip is required in the rear the following tips can help:
No Chrome seat stays gives more traction.



If more grip is needed in the front then you could consider adjusting toe out to a maximum of 10mm. Make sure that the balance of the kart is not upset too much if you do this though. Normally the water on the track must be very wet before toe out is used.

WET TYRE PRESSURE:

Very Wet: **22psi** • Wet: **18psi** • Greasy: **13psi** • Damp: **9psi**

Tyre pressures in the wet are critical. Too low and the tyre doesn't get warm and the water will not pass efficiently through the tread. Too high and the tyre can overheat and work the tyre tread too much losing grip.

A natural tyre pressure gain of 1 psi in your wets is a good indication that it is working well. If the track looks like it is going to be dry fit your slicks or you could burn your wets out

WEIGHT

All DRS Ricciardo karts must race to the or above the minimum DRS class kart weight they are racing in. This means at the end of qualifying or a race the driver in all safety gear plus their DRS Ricciardo kart must be no less than -

DRS62 - 105KGS

DRS100- 144KGS

DRS125- 162KGS

You can check your weight on a Saturday DRS test day or on Sunday morning after warm up. If you are too light “underweight” then you will need to add lead ballast weight to ensure you comply with the minimum DRS class weight you are racing in. We would also suggest that you are over by at least 1kg to 2kg in case of race stoppages or restarts where you may use more fuel meaning that your DRS kart will weigh less!

The DRS Series truck shop or DRS HQ stocks and sells lead weight ballast with fixings in the following sizes 1KG, 2KG and 4KG

The best place to mount the lead ballast weights is on the seat but please note it has to be fixed with two seat bolts and a maximum of 5KGS in any one place of fixing. You can also put weight on the floor tray of your DRS kart but we only recommend a maximum of a 2KG lead ballast to be mounted in front of the floor tray.

Always use the correct length fixing bolts as if they are too long or are protruding you will not pass scrutineering.





FUEL MIX AND FUEL LINES AND FUEL FILTER

DRS Ricciardo karts are 2 stroke and therefore requires oil to be premixed in the fuel before you add the fuel to your kart.

The only oil allowed is the EK Exced.

You must only use SUPER UNLEADED 97 Ron unleaded petrol make sure it is version E5. We would not recommend Shell V power and we find that BP Super Unleaded is very good.

Do NOT use standard 95 unleaded E10 version as this is not longer suitable for DRS engines and may cause damage. You must NOT use octane booster or any friction reducing additives.

EK Exced oil has a unique fingerprint agent and we can test fuel for any impurities.

Fuel Ratio Mix: 20:1

To mix your fuel before filling up your petrol tank on your DRS kart, using a measuring jug you must measure 250ml oil EK Exced and then pour it into 5ltrs of Super Unleaded petrol. This will give you the correct fuel /oil mix of = 20:1

Alternatively you can have a 20ltr jerry can and simply add one full bottle of EK Exced oil (1ltr) which would also achieve a fuel/oil mix of 20:1 After your fuel is mixed your petrol should change to a blue colour.

During a race weekend DRS100 and DRS125 will use up to 20 litres of fuel whilst DRS62 will use approx. 10 litres of fuel.

It is also important that before a DRS race weekend that you replace the fuel pipe and the inline fuel filter. The only fuel filter permitted is the one supplied by the Daniel Riccardo Series.



SPARK PLUGS

If your DRS Ricciardo kart ever stops or won't start from the pits it may be that the engine is flooded. Replace the plug with a new one and you will find it starts straightaway.

Once a spark plug has fouled or oiled up it won't work again even if you try to clean it.

Permitted Spark plug for Daniel Ricciardo Series:

The only spark plug that is permitted to be used is the **Freeline Spark Plug** and is only available to purchase from the Daniel Ricciardo Series.

No other make or type of Spark Plugs are allowed in the Daniel Ricciardo Series





DRS CARBURETTOR AND SET UP

The carburettor is very important as it has a great effect on your karts performance and can also determine possible damage to your engine if not set or maintained correctly.

We would advise that the gasket set inside the carburettor is changed at least every two DRS events.

DRS offer a carburettor service for a labour fee of £20.00 + VAT plus parts.

DRS125

The recommended carburettor setting for the UK is the fixed main jet Number 87 and the adjustable low speed jet set between no less than 45 mins out (lean setting), to a maximum of 65mins out (rich setting). The 88 jet that comes as a spare will make the engine run much richer, this jet is recommended in hotter countries and circuits on sea level.

Please note if the low speed adjustable jet is set at less than 45 mins you do run the risk of piston seizure and engine damage.

Always start a day on a rich setting of at least 60mins and make adjustments through a day to find the optimum setting.

DRS100

The recommended carburettor setting for the UK is the main fixed jet Number 83 and the adjustable low speed jet set between no less than 45 mins out (lean setting), to a maximum 65 mins out (rich setting). The 85 fixed jet will make the engine run much richer, this jet is recommended in hotter countries and circuits on sea level.

Please note if the low speed jet is run at less than 45 mins you do run the risk of piston seizure and engine damage.

Always start a day on a rich setting of at least 65mins and make adjustments through a day to find the optimum setting.



DRS CARBURETTOR AND SET UP

DRS62

The recommended carburettor setting for the UK is the fixed main jet number 74.

The adjustable low speed jet should be set between a minimum of 45mins out (lean setting) to a maximum of 70 mins out (rich setting).

If engine performance is good to begin with then fades during a session its probable that the engine needs to be set on a richer setting.

If the performance is good but at the end of the straights the engine exhaust pipe is smoking and the engine holds back with a rough noise - this means it is too rich with too much fuel.

If this happens you can change the fixed main jet to a leaner size 73 or even 72.

In the DRS62 carburetion is more difficult as the engine is not so powerful but you cannot damage your engine in, they are very reliable and almost impossible to seize.

Always start a day on a rich setting of at least 65mins and make adjustments through a day to find the optimum setting.



SERVICE SCHEDULES AND RUN IN PROCEDURE FOR YOUR DRS ENGINE

At different time intervals your DRS engine will require a service and rebuild. Top end services are recommended at 20 hours for DRS62 engines and at 8 to 10 hours for DRS100 and DRS125 engines. Full rebuild services are recommended at 50 hours for DRS62 engines and at 18 to 20 hours for DRS100 and DRS125 engines.

When your DRS kart is brand new or when you get your engine back after an engine rebuild /service you must make sure you run the engine in properly before you drive it a full racing speed!

It's also important how you run your engine in, If you drive around slowly with a consistent pace this will not run the engine in at all!





SERVICE SCHEDULES AND RUN IN PROCEDURE FOR YOUR DRS ENGINE

For **DRS100 and DRS125** when running in your engine you must drive your DRS kart through small and medium corners at full racing speed. This will generate grip and load and will allow your engine to get fully up to temperature. About 10 metres after the exit of small or medium corners you must lift off the throttle and ease on and off down the straights making sure you don't exceed 14,000rpm.

During this running in procedure you must not take your engine flat out all the way down any straight for the first 15 minutes of driving. By working the engine through the corners and taking it easy down the straights you will have run your engine in properly, after 15 mins you should come into the pits to let your engine cool down. When you go back out on track after 15 minutes of running in make sure you do 2 or 3 laps more of running in before you go flat out to full racing speed as your engine will now be ready to race!

For **DRS62** engines the running in procedure is different, DRS62 engines need only 5 minutes of running in before going flat out to full racing speed. This is because the DRS62 engine operates at much lower RPM levels and the new piston and ring needs the engine to be up to temperature more quickly.

When running in your engine you must drive your DRS62 kart through small and medium corners at full racing speed. This will generate grip and load and will allow your engine to get fully up to temperature, about 10 metres after the exit of small or medium corners you must lift off the throttle and ease on and off down the straights making sure you don't exceed 11,000rpm

LOCATION OF YOUR CHASSIS NUMBER

This unique six-figure chassis number is stamped on the rear of the brake side-bearing hanger.

The model number is also stamped here as RY30 for DRS100 and DRS125 or L28 for DRS62.

This model number should not be used on your scrutineering card- always quote your unique 6 figure chassis number.

Your chassis number is important as it is combined with your engine number and held on the DRS Ricciardo database. If you ever sell your DRS Ricciardo kart you must de register yourself as the owner via jaynemoore@danielricciardoseries.com and the new owner must also register themselves.

The Chassis and engine numbers kept on the DRS Ricciardo kart database ensures that your DRS Ricciardo kart is eligible for the Daniel Ricciardo Series.





YOUR DRS RICCIARDO KART NEEDS THE RIGHT...TOOLS!

It's important that you have the correct tool kit to be able to adjust things on your DRS Ricciardo kart. Wheel hubs, sprocket carrier and front and rear wheel nuts all require specific tools.

We suggest the following tools-

Beta 96T Tbar set 2.5, 3, 4, 5, 6, 8mm

Open ended ratchet spanners 10mm x 2, 12mm x1, 13mm x2, 17mm x 1 Tape measure 3m

Steel engineers 12" ruler

Long nose pliers

Cable/side cutters

Plastic face/ rubber mallet Screwdriver small flat x1, stub flat screwdriver x1, medium flat screwdriver

Medium Pozi drive screwdriver

T20 Torx screwdriver x 1

3/8 Ratchet c/w short extension bar with a 22mm socket

Plug spanner 13/16 or 20mm

PKT cable ties long

Vega tyre pressure gauge



LOCATION OF YOUR ENGINE NUMBER

The engine number can be found on the rear of the crankcases just to the left side of the gold starter motor.

Remember a DRS engine can never be separated from its paired chassis, if the engine number and chassis number do not match your DRS Ricciardo kart is illegal and not eligible to race in the Daniel Ricciardo Series.

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Thank you for choosing the Daniel Ricciardo Series and remember to always check www.danielricciardoseries.com website, Face Book page or Instagram account for further updates or developments.

To order DRS Ricciardo kart spare parts or for more technical assistance call the DRS offices on 01527 889595