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Dear Radical Owner

Thank you for purchasing a SR3 RS and "welcome" to the worldwide Radical family. Since its launch in 2001 we have continually developed, refined and improved the SR3 into a truly unique sportscar.

If properly maintained your SR3 RS will give you amazing driving experience, every time you head down the pit lane. Although your car has been carefully inspected and run-up on our rolling road dynamometer, please do not press the 'Start' button until you have read through this manual, carried out all the checks and learnt how to get the best from your car.

You will find all the help and support you need via our global web site network at www.radicalsportscars.com. Parts, consumables and merchandise can be purchased online, while technical advice, sales assistance and race series information is just an email away.

Phil Abbott
Radical co-founder
Getting to know your Radical

Cockpit layout

1. Reverse gear lever
2. Paddle-shift dash plug - (if fitted)
3. Indicator switch - (if fitted)
4. Dip/main beam switch - (if fitted)
5. Headlight on switch - (if fitted)
6. Fog light on switch
7. Starter button
8. Ignition switch
9. Circuit breaker
10. Circuit breaker
11. Hazard warning light switch - (if fitted)
12. Extinguisher pull cable - (if fitted)
13. Battery isolator
14. Brake bias adjuster
15. Fire extinguisher - (if fitted)
16. Data plug (not shown, situated on left side of dash panel)

Engine bay layout

1. Coolant expansion tank
2. Coolant swirl pot
3. Oil catch tank
4. Dry sump oil tank

WARNING!
Do not rev the engine to more than 4,000rpm until the oil is above 50°C. When cold, the oil can run at excessive pressure, which may damage the engine.
Getting to know your Radical

**Front suspension layout**

1. Front rocker arm
2. Top wishbone
3. Front camber adjuster
4. Front track rod
5. Adjustable front pushrod
6. Brake duct
7. Front damper assembly
8. Lower wishbone

**Rear suspension layout**

1. Rear rocker arm
2. Rear damper assembly
3. Rear camber adjuster
4. Adjustable rear pushrod
5. Top wishbone
6. Lower wishbone
7. Rear tracking adjuster

**IMPORTANT**

Before your SR3 RS leaves the factory it is thoroughly inspected, the suspension is set on a flat patch to factory recommended settings and the car is run-up and fully checked on our rolling road dynamometer.

Despite this, it is essential that before taking to the track, you carry out a thorough spanner check, paying particular attention to all hoses, connections and suspension fixings, brake bias adjuster etc.
Getting to know your Radical

ECU locations

1 24V charging system ECU (if fitted)
2 Gear position indicator ECU (if fitted)
3 Engine, Paddle shift ECU and relays in right-hand inspection panel

Engine electrical sensor locations

1 Air temperature sensor
2 Paddle shift blipper actuator (if fitted)
3 Fuel injector
4 Fuel pressure sensor
5 Throttle position sensor
6 Ignition coil

24V starting battery is in left-hand sidepod. The pod inspection panel can be removed to gain access.

Coolant temperature sensor location

1 ECU coolant temperature sensor
Checks before driving your Radical

Preparation for shake-down
Before your SR3 RS leaves the factory it is thoroughly inspected, the suspension is set on a flat patch to factory recommended settings and the car is run-up and fully checked on our rolling road dynamometer. Despite this, it is essential that before taking to the track, you carry out a thorough spanner check, paying particular attention to all hoses, connections and suspension fixings, brake bias adjuster etc.

Check engine oil level
The oil level in the dry sump tank must be checked using the dip stick supplied. The level must be maintained between the top two marks when warm (a minimum of 40°C oil temperature), and between the bottom two marks when cold. The level should be checked AFTER running the engine, and holding the revs at 4,000rpm for ten seconds, to allow the oil to be scavenged. The engine should be turned off to check the level. (The sight-glass in the side of the engine should be ignored.)

Only use Radical-recommended oil which is formulated to run in the integral gearbox and clutch, as well as the engine. Recommended synthetic-based racing oil is available online.

NOTE: The oil level on pre-2009 cars fitted with the Powertec-Suzuki wet sump engine, should be no lower than three quarters up the sight-glass, with the car on level ground and the motor warm and running. The sump is baffled and the oil takes some time to settle. Later wet sump engines are fitted with a dip stick in the top of the engine to aid checking oil levels.

Check other fluid levels
In the brake and clutch master cylinders, use only Radical approved high temperature racing brake fluid which is available online.

The engine cooling system uses a 50:50 anti-freeze/water mixture. The level should be to the top of the swirl pot.

The Powertec gear drive system should be filled with Radical-approved gear oil, available online, to the level of the side inspection plug.

WARNING!
Do not rev the engine to more than 4,000rpm until the oil is above 50°C. When cold the oil can run at excessive pressure, which may damage the engine.

Radiator cooling fans are not fitted as standard. Do not let the water temperature exceed 90°C when warming the engine to check oil level.
Checks before driving your Radical

Driving position
The combined driver and passenger seat may be adjusted forward and backward to suit individual drivers.

PLEASE NOTE: The seat belt crutch strap will also need adjusting.

Dashboard layout

The position of the pedals can also be adjusted by

1. Adjusting the pedal face,
2. Adjusting the pedal angle and
3. Moving the pedal pivot shaft.

PLEASE NOTE that 3) will require changing the master cylinder push-rods which are available online.

Manual sequential gear change
The SR3 RS is supplied with the gear lever set to “pull back on the gear lever to shift up the box” and “push forward to shift down the box”. By moving the gear linkage rose joint from the lower fulcrum to the upper fulcrum in the engine bay, the gearshift direction will be reversed.

If your SR3 RS is fitted with a Powertec pneumatic power shifter, please refer to driving technique section 10.

The high water temperature warning light will illuminate when the temperature exceeds 95°C.

The low water temperature warning light will stay illuminated until the engine has reached its minimum operating temperature of 60°C.

A comprehensive manual is included on the CD that is supplied with the dashboard system, or is available from the Radical technical department.

1. Low water temperature warning light
2. High water temperature warning light
3. Low fuel pressure warning light
4. Oil pressure warning light
5. Low oil temperature warning light
6. High oil temperature warning light
7. Memory button (pressing this after a run will show best lap time and maximum revs etc.)
Driving your Radical

Starting the engine

**Cold Start:** with the engine in neutral, switch on the ignition. Start the engine with the throttle closed.

**Warm Start:** depress the throttle a small amount and start the engine.

**WARNING!** Do not drive the car until the engine is at a minimum 60°C water temperature and minimum 50°C oil temperature.

Do not run the engine in-gear with the wheels off the ground. This will damage the gear box.

Running-in

Powertec Suzuki 1340cc motors are filled with mineral oil and bedded in on Radical's rolling-road dynamometer. The car should be run for an hour with the revs kept below 8,000rpm, before being driven at maximum revs. The oil should be changed to Radical-approved fully synthetic racing oil, available online, after six hours of running.

Powertec Suzuki 1500cc motors are fully run-in and filled with fully synthetic racing oil, and can be driven at race speeds after completion of 'shake down' where temperature and oil pressure have been observed.

Shake down

Carry out several installation laps while watching the temperature and pressure read-outs. Return to the pits regularly, and thoroughly check all fluid levels and around the engine and cooling system for leaks.

**WARNING!** Do not run the engine under load if:-

a) Oil temperature is below 60°C
b) Oil temperature is above 130°C
c) Water temperature is below 60°C
d) Water temperature is above 100°C
e) Oil pressure when up to temperature at 4,000rpm is under 50psi.

Should you accidently run the engine under load in any of these situations, contact Radical's technical department to arrange for the data to be emailed for analysis.

The oil pressure when the engine is started from cold should run at approximately 90psi at 4,000rpm. When up to temperature the oil pressure should read 60psi at 4,000rpm.

**Maximum engine revs: 10,500rpm**

If over-revved from 10,500rpm-12,000rpm for more than two seconds, in any one hour of operation the engine will require stripping for inspection and repair, at the customer's cost, prior to any further running. (Any over-rev will be recorded on their ECU histogram.) If revved to over 12,000rpm for any length of time, the engine will require stripping for inspection and repair, at the customer's cost, prior to any further running.

The rev limiter is set to 10,500rpm. Persistent use of the rev limiter will damage the engine.

It is important to log the number of hours the engine is run. Under race conditions, the engine should run for no more than 40 hours before being returned to the factory for a rebuild. Engines which are not raced, regularly cover over 90 hours without requiring attention.
Driving your Radical

**Bedding-in brakes**
The car comes fitted with carbon metallic brake pads. To bed in the brakes and achieve maximum stopping power, a film of carbon must be transferred to the discs; gently apply brakes six to eight times at medium speed. Increase speed to simulate race conditions, and apply brakes hard a further six to eight times.

Allow brakes to cool for 15 minutes. Do not apply brakes whilst stationary during the cooling down period. Use only Radical-recommended brake pads, available online.

**Brake bias settings**
Set central to two turns towards the front (clockwise on the dash adjuster). Further adjustment can be made to suit individual circuits and tyre configurations. Adjust bias to the rear in wet conditions.

**WARNING** If you spin, depress the clutch quickly or you may damage the starter motor.

**Manual gear change**
If you are unfamiliar with a sequential shift car, it is recommended that you change gear using the clutch when going both up and down the gearbox. Once you have become familiar with the technique, changing gear up the box can be achieved by lifting the throttle quickly and simultaneously ‘snicking’ the gear in, without depressing the clutch. On down changes it is imperative the driver depresses the clutch and raises the engine speed before engaging the gear. Smooth gear changes can be best achieved by using the 'heel-and-toe' technique. Only change down one gear at a time, releasing the clutch pedal between gears. As with any dog-engagement gearbox, aggressive gearchanges will damage the gear dogs, which will result in gear engagement problems. Only use a maximum of 7,000-8,000rpm while getting used to driving your SR3.

If you accidentally down-change instead of an up-change, you are less likely to over-rev the engine. If you do over-rev the engine, make your way slowly back to the pits. If you have revved the engine over 12,000rpm, switch off and return the engine to Radical for inspection immediately. The Radical dash will display the maximum rpm.

**Paddle-shift gear change**
If your SR3 RS is fitted with the Powertec, steering wheel-mounted paddle-shift system, it is possible to flatshift when you are changing up the gearbox, and to have clutchless downchanges. You will need to use the clutch to engage first gear, to pull away from stationary, and when stopping the car.

To select first gear, depress the clutch and pull the left-hand paddle. To change to second gear you then use the right hand paddle. It is recommended to use the clutch when changing up the gearbox, from first to second, at all times. Once you are on the track, and up to track speed, then it is just a matter of accelerating, and pulling the right hand paddle. A very slight delay will be felt as the engine ignition is cut, and the system selects the next gear.

**NOTE** It is also recommended that gearchanges are not made while experiencing wheelspin, such as exiting slow speed, hard acceleration corners, as this can damage the gearbox.

When changing down the gearbox, simply brake where you need to and operate the left-hand paddle. The system will blip the throttle for
Driving your Radical

you and select the gear. When changing down from second to first, it is recommended to use the clutch.

The gearchanges should feel smooth. If any mis-shifts or harsh gearchanges are experienced, then it is recommended to return to the pits and investigate the problem. Most gearchange problems won’t go away with more driving.

Neutral on the gearbox is between first and second gear. To select neutral with the paddleshift system, it is best to change all the way down to first gear and flick the right hand paddle (with the clutch depressed). This may have to be repeated this several times to engage neutral. (Alternatively switch the engine off, leave in gear and attempt the above with the engine off).

Driving technique

Ensure that the tyres and brakes are fully up to temperature before pushing hard.

The Radical SR3 RS has phenomenal braking performance and will carry considerable speed into a corner. Practice braking hard, but come off the brakes smoothly and concentrate on carrying speed into a corner. On exiting the corner, the throttle should be fed in progressively. Driving smoothly is the secret to quick lap times.

Fuel

Powertec Suzuki 1340 engines may run on 98 octane regular unleaded fuel. The Powertec Suzuki 1500 engine should only be run on Super Unleaded 98 octane, or 100 octane race fuel.

Powertec engines in the USA should only be run on racing fuel such as cam2, or a minimum of 108 octane, available at most American tracks.

Fuel filter

The fuel filter will require changing after the initial run. It is located at the left-front corner of the engine bay.

1 Regulator
2 Filter housing
Preparing your Radical

Centre-lock hub nuts
Torque setting - 200ft/lbs
Anodised RED for left-hand side,
Anodised BLUE for right-hand side.

Air jacks
Cars fitted with air jacks are supplied with an air lance, which is inserted into a valve at the rear of the car. The lance requires connection to a bottled air supply, and the pressure should be regulated to 250-300psi.

Suspension set-up
The Radical SR3 RS' suspension is set up at the factory, but the final settings should be determined by testing for driver preference and the particular circuit. Try to check the tyre temperatures for balance across the contact patch within one minute of a fast lap. The inside edge can be 10° - 15°C higher than the outer edge on Radical-approved Dunlop tyres, on the front and 5° - 10°C higher on the rear. Temperature should be close to 100°C, while temperatures over 110°C will cause damage.

WARNING! Running tyres below the recommended pressure may lead to tyre damage or failure.

WARNING! Do not drive at speeds over 120mph until your tyres are up to temperature and pressure.

SR3 RS, dry suspension settings:

<table>
<thead>
<tr>
<th>Front:</th>
<th>Rear:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ride height:</td>
<td>80mm</td>
</tr>
<tr>
<td>Pre-load (no. of turns):</td>
<td>3</td>
</tr>
<tr>
<td>Shock settings:</td>
<td>Avo: 6</td>
</tr>
<tr>
<td></td>
<td>Intrax: centre of range</td>
</tr>
<tr>
<td>Tyre pressure:</td>
<td>Hot: 28-30psi</td>
</tr>
<tr>
<td></td>
<td>Cold: 20-22psi</td>
</tr>
<tr>
<td>Spring rate: 100/80</td>
<td>7°, 450lb</td>
</tr>
<tr>
<td>Camber: -3.5°</td>
<td></td>
</tr>
<tr>
<td>Toe out: 2 - 3mm overall</td>
<td></td>
</tr>
<tr>
<td>Nik-link: Medium bar</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Ride height:</td>
<td>70mm</td>
</tr>
<tr>
<td>Pre-load (no. of turns):</td>
<td>0</td>
</tr>
<tr>
<td>Shock settings:</td>
<td>Avo: 8</td>
</tr>
<tr>
<td></td>
<td>Intrax: centre of range</td>
</tr>
<tr>
<td>Tyre pressure:</td>
<td>Hot: 28-30psi</td>
</tr>
<tr>
<td></td>
<td>Cold: 22-24psi</td>
</tr>
<tr>
<td>Spring rate: 100/95</td>
<td>7°, 550lb</td>
</tr>
<tr>
<td>Camber: -2°</td>
<td></td>
</tr>
<tr>
<td>Toe in: 2m - 3mm overall</td>
<td></td>
</tr>
<tr>
<td>Nik-link: Medium bar</td>
<td></td>
</tr>
</tbody>
</table>

Note: Measure the ride height at front of the chassis and at the seat back bulkhead, (below rollover bar) with the driver seated and 15 litres of fuel in the tank.

Suspension pre-load
Setting the front pre-load is acheived by raising the car front until the front wheels are off the ground. Unwind the spring platform until the spring is loose then retighten until finger tight. Only tighten three full turns beyond the point at which the spring ‘grips’ in its seat. Front pre-load stops the front of the car from touching the ground, at higher speeds circuits, more will be required, and at low-speed circuits, less pre-load. Three turns is suitable for most tracks. A more comprehensive handling guide can be obtained by emailing technical@radicalsportscars.com

WARNING! Do not drive at speeds over 120mph until your tyres are up to temperature and pressure.
Prepárate tu Radical

Peso de esquina
Para obtener el rendimiento máximo, tu Radical debe tener los pesos de esquina ajustados con el conductor en su sitio. El procedimiento es el siguiente:

1. Coloca el coche sobre una superficie plana y horizontal.
2. Equilibra todas las presiones de los neumáticos a 30 psi.
3. Haz todas las medidas con el conductor en el coche, o con un peso equivalente en el asiento.
4. Retira el tornillo de uno de los extremos de los Nik-Links delanteros y traseros, y ajusta los resortes a pleno suave.
5. Asegúrate de que las muelles de fábrica tienen tres vueltas de pre-carga (nuevos coches tendrán esto hecho en la fábrica, y el tablero superior marcado con un ‘3’). Consulta el lado izquierdo para ajustar el pre-carga.
6. Ajusta la altura de la cama delantera con los poleas delanteras.
7. Ajusta la altura de la cama trasera con los resortes.
8. Ajusta la inclinación frontal y trasera.
9. Pones el coche en las escalas de pesaje de esquina, y ajusta los pesos de esquina cambiando los resortes traseros. Suelen ser difíciles de ajustar de forma identica en cada esquina. Asegúrate de que la suma de los pesos diagonales sean lo más parecidos posible.
10. Revisa la altura de la cama de la difusor con el cuerpo de la carrocería en su sitio.
12. Vuelve a instalar los Nik-Links, los traseros de suspensión, los resortes y las presiones de los neumáticos.
13. Estás listo para "rock & roll".

Altura de cama con pasajero
La altura de cama puede aumentar si transportas a un pasajero. La altura de cama puede aumentar hasta 100 mm en la difusor, ajustando los resortes. Si planeas transportar a un pasajero por la mayoría del tiempo, debes seguir el procedimiento anterior con él/ella también en el coche.

Triple Ajustable Intrax Damper (opciónes)
El frenado a alta velocidad (chocante) y bajo frenado (chocante) y frenado de resorte pueden ser ajustados independentemente, lo que permitirá un ajuste más refinado.

1. Ajustador rojo en el cilindro: Frenado a alta velocidad, 50 giros giro por giro hacia el derecha para más frenado.
2. Chave de 4 mm: Frenado a bajo frenado, 18 giros giro por giro hacia el derecha para más frenado.
3. Ajustador negro en el ojo del eje: Frenado de resorte, giro por giro hacia el derecha para frenado de resorte más lento (más rígido).

Ride height with passenger
The ride height may need increasing when carrying a passenger. The ride height may be increased up to 100mm at the diffuser, by adjusting the spring platforms. If you intend carrying a passenger for the majority of the time, the above procedure should be carried out with him/her also in the car.
Prepping your Radical

Gearing

The Powertec gear drive system incorporates a reverse gear, a torque biasing limited-slip differential, oil pump/cooler and changeable gear ratios.

Gear Drive Unit - ratio change

Tools required: 5mm allen key, 34mm socket, 42mm socket, 13mm spanner, long extension bar or impact wrench, torque wrench, electric heat gun (optional), 28mm spanner, gasket sealant, gasket scraper and Loctite 243 threadlocking compound.

a) Drain oil from unit through lower drain plug.
b) Remove level plug from gear cover plate.
c) Remove the eight M6 cap screws and washers from the gear cover plate and separate from the unit. Care must be taken not to damage the ‘O’-ring seal located in the groove in the main case. The gear ratios can now be accessed.

d) Both the retaining nuts are treated with a medium strength thread-lock such as Loctite 243. It may be necessary to lightly heat the nuts with a heat gun.

WARNING! Do not use a blowtorch or other high temperature heat source as this may damage the shafts.

Radical Gear Drive Unit ratios

<table>
<thead>
<tr>
<th>Gear</th>
<th>No. Teeth (input)</th>
<th>No. Teeth (output)</th>
<th>Ratio</th>
<th>Rev drop at 10,500 RPM</th>
<th>Speed in MPH drop</th>
<th>Speed in MPH</th>
<th>Speed in MPH drop</th>
<th>Speed in MPH</th>
<th>Speed in MPH drop</th>
<th>Speed in MPH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>13</td>
<td>34</td>
<td>2.615:1</td>
<td>2721.50</td>
<td>49.61</td>
<td>52.30</td>
<td>55.10</td>
<td>58.05</td>
<td>61.13</td>
<td>64.36</td>
</tr>
<tr>
<td>2nd</td>
<td>16</td>
<td>31</td>
<td>1.938:1</td>
<td>2228.35</td>
<td>66.96</td>
<td>70.59</td>
<td>74.38</td>
<td>78.36</td>
<td>82.51</td>
<td>86.88</td>
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<tr>
<td>3rd</td>
<td>19</td>
<td>29</td>
<td>1.526:1</td>
<td>1855.17</td>
<td>85.00</td>
<td>89.61</td>
<td>94.42</td>
<td>99.46</td>
<td>104.74</td>
<td>110.29</td>
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<tr>
<td>4th</td>
<td>21</td>
<td>27</td>
<td>1.286:1</td>
<td>1219.70</td>
<td>100.91</td>
<td>106.38</td>
<td>112.09</td>
<td>118.08</td>
<td>124.34</td>
<td>130.92</td>
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<td>5th</td>
<td>22</td>
<td>25</td>
<td>1.136:1</td>
<td>858.26</td>
<td>114.17</td>
<td>120.36</td>
<td>126.62</td>
<td>133.60</td>
<td>140.69</td>
<td>148.13</td>
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<tr>
<td>6th</td>
<td>23</td>
<td>24</td>
<td>1.043:1</td>
<td>655.26</td>
<td>124.34</td>
<td>131.08</td>
<td>138.11</td>
<td>145.49</td>
<td>153.21</td>
<td>161.32</td>
</tr>
</tbody>
</table>

Max. Revs: 10,500 RPM

Rolling tyre circumference: 1.991m (6.565m dia.)

Primary reduction ratio: 1.599:1 (83/52)

e) The nuts can now be removed with the correct size socket and a long extension bar, or an impact wrench on a low setting. It may require some force to overcome the locking tabs on the nuts.

f) Once the nuts have been removed, the front and rear gears, the roller bearing and the spacer can be removed from the shafts.

(Note the orientation of all these parts for re-fitting.)
g) Select the new ratios and install on the shafts (the shoulder on each gear towards the centre-line of the unit) and re-fit the spacer and roller bearing.

h) The threads on each shaft should be clean and coated in Loctite 243 or equivalent before the nuts are fitted. Both the 34mm and the 42mm nuts should be torqued to 45ft/lb before the locking tabs are punched into the respective grooves.

i) Clean the surfaces between the cover plate and the main unit. Fit the rubber O-ring seal into the groove on the main case. Apply a thin film of gasket sealant to both surfaces, this also helps to hold the seal in place during the fitting process. Allow time for the sealant to cure.

j) Re-fit the cover plate and tighten the M6 cap screws and washers evenly.

k) Replace the lower drain plug, remove the upper plug and refill the unit with Radical-approved synthetic transmission oil until it runs from the level plug on the cover plate. A gear drive system including cooler will hold about 1.5 litres of oil.

l) Re-fit the level plug and the upper plug and check all bolts and fittings for tightness. Check the unit for leaks after the first short period of running. Remove the cooler return pipe (top fitting) and check the oil is being pumped round the system as the wheels turn.
### Preparing your Radical

#### Standard Radical set-up guide/record sheet

<table>
<thead>
<tr>
<th>Triple dampers</th>
<th>Springs/Preload</th>
<th>Triple dampers</th>
<th>Springs/Preload</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-speed Bump: 6</td>
<td>80Nm 100mm</td>
<td>Rear Nik-link</td>
<td>Nmm 100mm</td>
</tr>
<tr>
<td>Bump HS: 25</td>
<td>Soft</td>
<td>Low-speed Bump: 7</td>
<td>95Nm 100mm</td>
</tr>
<tr>
<td>Rebound: 25</td>
<td>Medium</td>
<td>Bump HS: 25</td>
<td>0</td>
</tr>
<tr>
<td>Intrax Single dampers</td>
<td>Hard</td>
<td>Rebound: 25</td>
<td>0</td>
</tr>
<tr>
<td>AVO dampers</td>
<td>3 Turns</td>
<td>Intrax Single dampers</td>
<td>0 Turns</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>AVO dampers</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Triple dampers</th>
<th>95Nm 100mm</th>
<th>Rear Nik-link</th>
<th>95Nm 100mm</th>
<th>Triple dampers</th>
<th>2mm OUT</th>
<th>2mm OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-speed Bump: 7</td>
<td>900mm</td>
<td>Soft</td>
<td>Low-speed Bump: 7</td>
<td>900mm</td>
<td>2mm IN</td>
<td>2mm IN</td>
</tr>
<tr>
<td>Intrax Single dampers</td>
<td>0 Turns</td>
<td>Intrax Single dampers</td>
<td>0 Turns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>AVO dampers</td>
<td>8</td>
<td>AVO dampers</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Dive Planes:

<table>
<thead>
<tr>
<th>Tyre Pressure (HOT)</th>
<th>Pads</th>
<th>Tyre Pressure (HOT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: 2:</td>
<td></td>
<td>28</td>
</tr>
</tbody>
</table>

### Holes/Slot#:

<table>
<thead>
<tr>
<th>Rear wing</th>
<th>Main</th>
<th>Flap</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td></td>
<td>28</td>
</tr>
</tbody>
</table>

### Camber

<table>
<thead>
<tr>
<th>-3.5</th>
<th>-3.5</th>
</tr>
</thead>
</table>

### Toes

<table>
<thead>
<tr>
<th>2mm IN</th>
<th>2mm IN</th>
</tr>
</thead>
</table>

### Corner Weights/Ride Height

<table>
<thead>
<tr>
<th>80mm</th>
<th>80mm</th>
</tr>
</thead>
</table>

### SR3 Gearing

<table>
<thead>
<tr>
<th>2.917</th>
<th>2.917</th>
</tr>
</thead>
</table>

After set-up reset pressure to recommended cold pressures
Preparing your Radical

Component ‘lifing’

This chart gives the recommended life expectancy of components under ‘normal, on-track racing conditions’. If some of your racing time is done ‘off-track’ or you hit kerbs, pot holes or other cars - hard, then you will need to consider reducing the timescales recommended. On the other hand, more ‘gentle’ trackday use will obviously extend the recommended time!

One new addition to the list is the wing support stays, the life of these is greatly shortened if the wing is used to push, and particularly pull the car around in the pit lane, garages and trucks. It works perfectly to support the wing and the downforce generated in the direction intended, and not at an angle to the centre-line of the vehicle.

<table>
<thead>
<tr>
<th>Model</th>
<th>Hours</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine/Gearbox 1340cc</td>
<td>40</td>
<td>Rebuild</td>
</tr>
<tr>
<td>Engine/Gearbox 1500cc</td>
<td>30</td>
<td>Rebuild</td>
</tr>
<tr>
<td>Gear Drive Unit</td>
<td>50</td>
<td>Inspect/rebuild</td>
</tr>
<tr>
<td>Suspension Bushes</td>
<td>30</td>
<td>Replace</td>
</tr>
<tr>
<td>Suspension Rose Joint</td>
<td>30</td>
<td>Replace</td>
</tr>
<tr>
<td>Front Upright (including Hub)</td>
<td>50</td>
<td>Replace</td>
</tr>
<tr>
<td>Front Wishbones</td>
<td>60</td>
<td>Inspect/replace</td>
</tr>
<tr>
<td>Rear Upright (including Hub)</td>
<td>50</td>
<td>Replace</td>
</tr>
<tr>
<td>Rear Wishbone</td>
<td>60</td>
<td>Inspect/replace</td>
</tr>
<tr>
<td>Drive Shafts</td>
<td>30</td>
<td>Replace</td>
</tr>
<tr>
<td>Calipers</td>
<td>60</td>
<td>Rebuild</td>
</tr>
<tr>
<td>Brake Discs</td>
<td>10</td>
<td>Inspect/replace</td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>60</td>
<td>Rebuild</td>
</tr>
<tr>
<td>Steering Rack</td>
<td>50</td>
<td>Inspect/rebuild</td>
</tr>
<tr>
<td>Brake Master Cylinder</td>
<td>60</td>
<td>Inspect/replace</td>
</tr>
<tr>
<td>Wing Support Stays</td>
<td>60</td>
<td>Inspect/replace</td>
</tr>
<tr>
<td>Fuel Tank</td>
<td></td>
<td>Remove &amp; inspect annually</td>
</tr>
</tbody>
</table>

Torque guide (FT/LBS)

**DRIVE SYSTEMS**

<table>
<thead>
<tr>
<th></th>
<th>(FT/LBS)</th>
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</thead>
<tbody>
<tr>
<td>Powertec drive unit ratio nuts</td>
<td>80</td>
</tr>
<tr>
<td>Loctite</td>
<td></td>
</tr>
</tbody>
</table>

**WHEEL BEARING/HUB NUTS**

<table>
<thead>
<tr>
<th></th>
<th>(FT/LBS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear</td>
<td>240</td>
</tr>
<tr>
<td>Loctite</td>
<td></td>
</tr>
</tbody>
</table>

**WHEEL NUTS**

<table>
<thead>
<tr>
<th></th>
<th>(FT/LBS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre lock nuts</td>
<td>200</td>
</tr>
<tr>
<td>Loctite</td>
<td></td>
</tr>
</tbody>
</table>

**ENGINE OUTPUT**

<table>
<thead>
<tr>
<th></th>
<th>(FT/LBS)</th>
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</thead>
<tbody>
<tr>
<td>Drive coupling</td>
<td>115</td>
</tr>
<tr>
<td>Loctite</td>
<td></td>
</tr>
</tbody>
</table>

**BRAKES**

<table>
<thead>
<tr>
<th></th>
<th>(FT/LBS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating discs to bells</td>
<td>8</td>
</tr>
<tr>
<td>Lock wire</td>
<td></td>
</tr>
</tbody>
</table>

**Recommended fluid change intervals** (HOURS)

<table>
<thead>
<tr>
<th></th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine oil</td>
<td>6</td>
</tr>
<tr>
<td>Drive unit oil</td>
<td>12</td>
</tr>
<tr>
<td>Brake fluid</td>
<td>6</td>
</tr>
<tr>
<td>Fuel filter</td>
<td>12</td>
</tr>
<tr>
<td>Clutch fluid</td>
<td>6</td>
</tr>
</tbody>
</table>
Engine management system

From 2009, the Radical SR3 RS has the LIFE engine management system (ECU) fitted as standard. This is a guide on how to use the software. The more familiar you become with it, the more useful it will be.

The LIFE ECU incorporates an engine data logging system. This enables you to download the engine data from a race or test and review it.

Main parameters logged:

- Fuel pressure
- Battery voltage
- Oil pressure
- Throttle position
- Oil temperature
- Engine rpm
- Coolant temperature
- Air inlet temperature

WHEN USING THE LIFE SYSTEM, THE KEYBOARD MUST BE USED RATHER THAN THE MOUSE.

1. Engine oil temperature - will change colour when over 50°C
2. Air charge temperature sensor - air inlet temperature
3. Engine ecu temperature
4. Engine coolant temperature - this will change colour when over 50°C
5. Engine rpm - set to 1500rpm
6. Throttle position sensor - needs to be set to 4 (%) at idle
7. Engine syncstate - should be at 720 when engine is running
8. Engine oil pressure - 70psi when cold at idle / 20psi when hot at idle
9. Baro sensor pressure - below 1030
10. Fuel pressure - should read above 3000
11. Battery voltage - above 12.5V
To download stored data

When downloading the data, it must be saved under track maps and data, model of car, the driver’s name, then the track. **Click** on the desktop icon LIFE DATA.

To create a new file, **press F** for file. If it is the first time you are using the software, you will need to create a working directory to store the downloaded data into. First **press W** for working directory. You will need to create a file so select create (using the arrow keys and enter), type in TRACKMAPS AND DATA, then **press enter**.

Next you will need to create another file for the models of cars. So select create again, type in the model of car i.e. SR3, then **press enter**. At this stage it is a good idea to set up the other files for the other models. So using the arrows, **select the “ ..”** and **press enter**.

This will take you back to the TRACKMAPS AND DATA file. (Whenever you need to go back to the previous file, you need to highlight “ ..” and **press enter**). Once you have done this, highlight the Radical model you are working on and **press enter**.

Next you need to create the driver’s file. So again highlight create, enter the drivers name and **press enter**.

Next you need to create a file of what track you are at. So highlight create, enter the track name and **press enter**.

Next highlight the track you are at and **click enter**. A small screen will pop up asking you if you want to create a LIFE config file, **select YES**. Next it will ask you if you want a shortcut placed onto your desktop. **Select NO**. You are now ready to download the data.
ECU Hardware/Software

This process is important and needs to be understood and set up correctly so you can quickly and easily retrieve downloaded data. If you have previously created the correct file, then all you need to do is highlight the correct details and press enter as you go.

Next press D for device and select R for read data.

A small Powertec screen will pop up. Just press enter.

To view the data you have just downloaded
Press F for file - the L for load in LIFE view
It will automatically open LIFE view.

Down the right-hand side will be a list of all the items that have been logged. You can view these by using the arrow keys and enter.

Sometimes the colors will be similar. You can change this by holding the mouse arrow over the items coloured box, right click the mouse, select C for colour then choose your colour and enter.

The left-hand side of the screen shows the values the data is measured in against time along the bottom. The scale will always be in the value of the data that has been highlighted in the right hand column.

To view previously stored data
Press F for file - press L for load - (use the arrow keys and enter to find the file you wish to view) click on the run you wish to view and click enter.

To view data
Click on the desktop icon LIFE VIEW.

Press L for load and using the " .." and enter, find the file you a looking for, select downloaded data, highlight the correct date you are looking for and press enter. Highlight the run you are looking and press enter and it will bring up the data.

If it needs to be e-mailed go through My Computer, Program Files, Life Racing, Track maps & Date, sr3/sr5/sr8, customer, track & date select file or files to be e-mailed etc.
Additional information

SR3 RS dimensions
Additional information

Notes
SR3 RS Parts manual
The parts manual CD lists all SR3 RS components and their part numbers. Quote the relevant part number when ordering or order using the on-line shop on www.radicalsportscars.com