



RB7

RADIO CONTROLLED • BUILD IT YOURSELF • NITRO ENGINE

Pack 20



Stages 77-80



RB7



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THE GX21 SILENCER SYSTEM

UNLIKE THE SILENCER SYSTEM OF A FOUR-STROKE ENGINE, THAT OF A TWO-STROKE NOT ONLY EXPELS THE EXHAUST GASES AND REDUCES THE NOISE, BUT ALSO HELPS COMPRESS THE FUEL-AIR MIXTURE IN THE COMBUSTION CHAMBER.

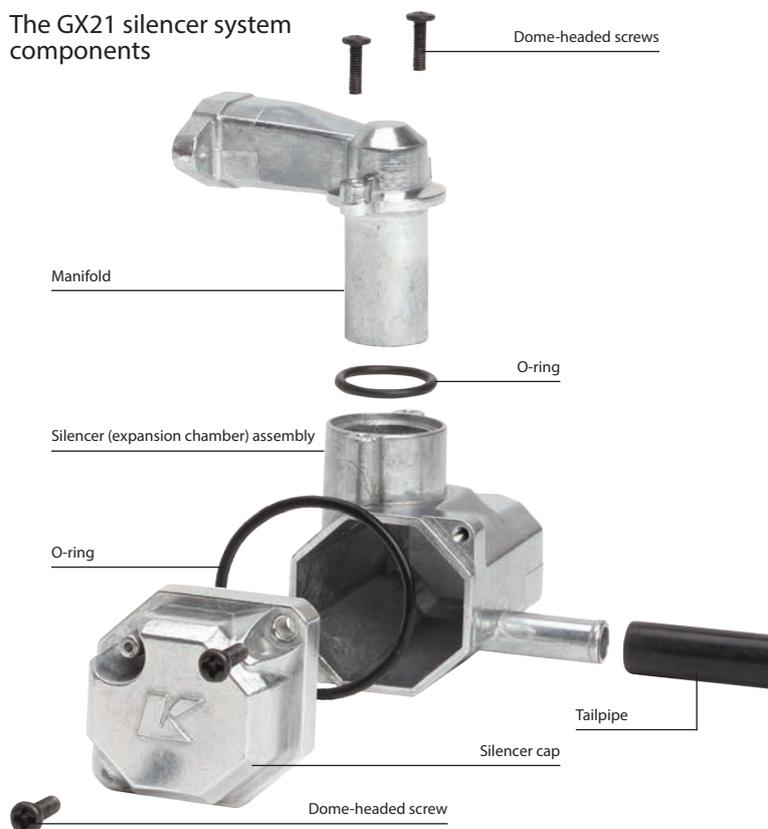
On a four-stroke engine, expelling the exhaust gases and reducing noise are the main tasks of the silencer system, but the silencer of a two-stroke – such as your GX21 – is used primarily to optimise its performance.

With a four-stroke, the inlet and exhaust ports of the combustion chamber are opened and closed by valves. When the piston moves downwards on the first (induction) stroke, the inlet valve opens and the fuel-air mixture flows into the combustion chamber. After the compression and combustion strokes comes the exhaust stroke, when the exhaust valve opens and the piston drives the exhaust gases out of the chamber.

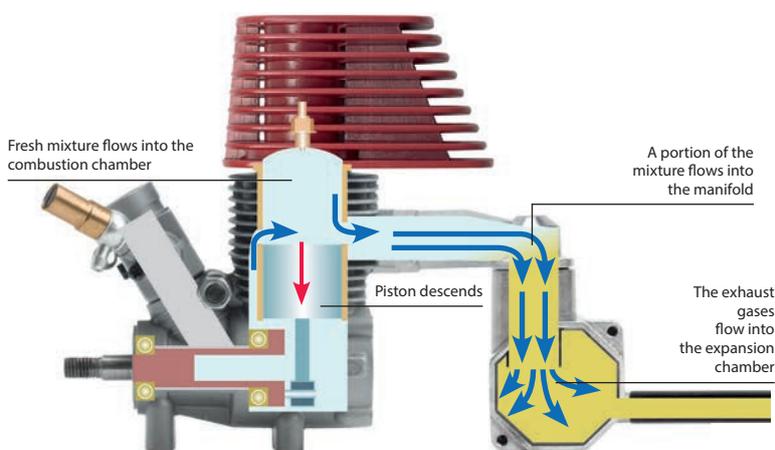
The situation is different with the two-stroke engine, where it is the movement of the piston that opens or closes the inlet and exhaust ports (see the intro section in Pack 16). When the piston is at the top of the combustion chamber, it is closing off both the inlet and the exhaust ports. As it moves downwards on the combustion stroke, it opens the exhaust port and the exhaust gases are ejected by the pressure generated by the explosion. As the piston moves further downwards, it also opens the inlet port, while suction is created in the combustion chamber by the escaping exhaust gases. Since both ports are open and the piston is at the bottom of the cylinder, the fuel mixture is

drawn not only into the combustion chamber but also into the silencer system. This is a really undesirable effect, since it means that a portion of the fuel-air mixture can escape unused and is wasted.

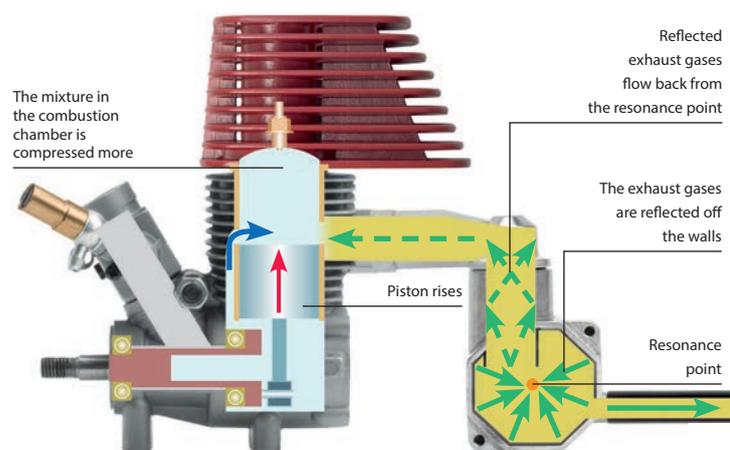
The GX21 silencer system components



Piston descends



Piston rises



These two diagrams illustrate operation of the expansion chamber. Fresh mixture flows into the manifold, but is forced back into the combustion chamber by the reflected exhaust gases.

In the 1950s, East German motorcycle engineer Walter Kaaden converted this disadvantage into an advantage. He designed a system that prevented the unburnt fuel-air mixture from flowing out with the exhaust and at the same time led to a considerable increase in engine performance: the tuned pipe.

THE RESONANCE EFFECT

Basically, this system consists of nothing more than an expansion chamber in the silencer pipe. It is shaped so that the exhaust gases do not escape freely but are slowed down, and some of the exhaust gas is trapped. The length of the pipe and the volume of the expansion chamber are selected so that the exhaust gases resonate in time with the piston as it goes up and down – they expand as the piston descends and are reflected back towards the combustion chamber as it rises again. In this way, the silencer system causes a stronger compression of the mixture in the combustion chamber.

To achieve the resonance effect, the cross-section of the silencer pipe downstream of the exhaust port must increase. In the case of your RB7 racer this occurs at the transition from the manifold to the main chamber of the silencer. This creates suction, which helps to flush the burnt gases from above the piston and at the same time speeds

up the flow of fresh mixture into the combustion chamber (see diagram above left). When the exhaust gases have expanded, they collide with the walls of the expansion chamber, and because the cross-section of the silencer system narrows again towards the tailpipe, only a small proportion of the gases can escape. Most of the gases are reflected back from the walls of the expansion chamber and are concentrated at the so-called resonance point (see diagram above right).

The resulting excess pressure pushes some of the exhaust gases towards the manifold, forcing the fresh mixture that has flowed into it back into the combustion chamber. Only when the piston rises again and closes the exhaust port will the reflected exhaust gases move through the tailpipe to the outside atmosphere. This releases the pressure build-up and the exhaust gases of the next combustion cycle can flow into the expansion chamber.

The challenge in producing the resonance effect is to match the oscillation frequency of the exhaust gases in the silencer to the speed of the engine. This is difficult, because the resonant frequency of the silencer system is fixed at a certain value defined by its shape and size, while the speed of the engine varies from 3,000rpm when idling to over 30,000rpm at full throttle. The silencer system of your GX21 is designed so that the resonance effect starts when the extra power can be most effective – when accelerating out of a corner. This corresponds to an engine speed of 24,000rpm.

THE GX21 AIR FILTER

ANY DIRT ENTERING THE GX21 ENGINE THROUGH THE AIR INTAKE COULD DAMAGE ITS CARBURETTOR, PISTON AND CYLINDER. A FINE AIR FILTER ENSURES THAT DIRT PARTICLES CANNOT PENETRATE INTO THE INSIDE OF THE POWER UNIT.

The core of the GX21 air filter unit is a fine-pored foam element 23mm in diameter and 20mm long. The centre of the cylindrical element has a 15mm bore, which is pushed onto a star-shaped projection on the filter base. The cleaned air is sucked into the carburettor through a hole in the base, also about 15mm in diameter.

The components of the air filter, when assembled, will fit onto the carburettor, which can be seen here just in front of the red cylinder head of the GX21 engine.

FILTERING THE FINEST PARTICLES

The element is held in place by a plain plastic disc with a diameter of 21mm (slightly smaller than that of the element), fixed onto the upper end of the star-shaped projection by a single screw. Because the element is slightly compressed from end to end, the thickness of the cylindrical wall through which the air is sucked is about 4mm. Dust grains and other fine particles get trapped in the fine pores of the foam.

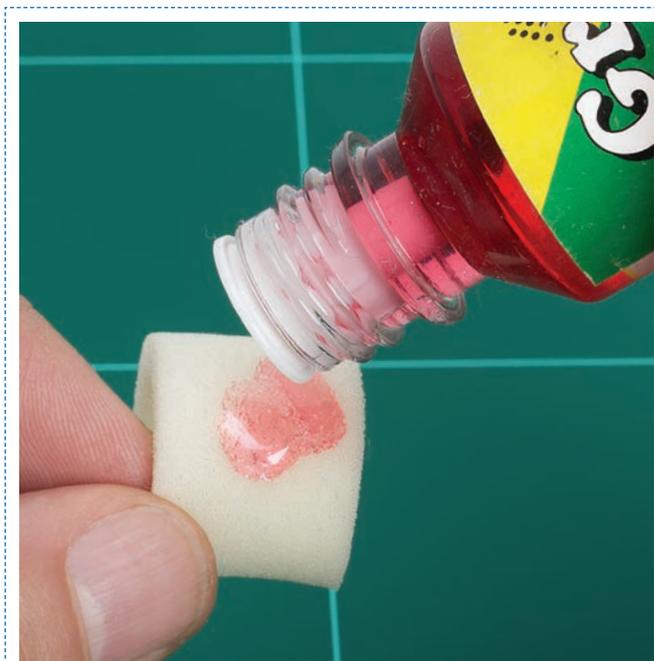




The air filter unit is concealed within the driver's helmet, and a rubber pipe connects it to the GX21 engine.

The air filter unit is fitted inside the right and left parts of the driver's helmet in the running bodywork. This concealment is necessary because there is no room beneath the bodywork of the model to house the engine assembly. Because of this space restriction, the air filter has to protrude from the body somewhere in the area of the cockpit, and the obvious solution to the problem of siting it was to integrate it with the driver's helmet. In this way, this indispensable but somewhat inelegant technical component is hidden inside one of the car's most important external details, decorated with authentic logos.

A slot below the helmet visor, plus six semi-circular openings at the base of the air filter in the 'neck' of the helmet, allow a good supply of clean air to be safely sucked into the engine. From the filter, the cleaned air passes through a curved rubber pipe, 50mm long, which feeds it into the carburettor.



It's advisable to saturate the filter element with air filter oil before fitting it onto the base. Knead the element to work the oil into it and distribute it evenly across the element's exterior.

OPTIMISING FILTER PERFORMANCE

For the air filter to do its job of filtering fine particles effectively, the foam rubber insert must be impregnated with a specially formulated air filter oil (see photograph above), which is available from model shops and online. This fairly viscous lubricant narrows the pores of the foam, making the filter even finer, and it also helps the foam to create an airtight seal at the joins between the element and the base and the element and the filter cap. This airtight seal ensures that no stray dirt particles can sneak under or over the ends of the element and into the engine.

After five tanks of fuel have been used, the air filter should be removed and cleaned. To do this, you have to split open the driver's helmet to remove the filter assembly, then take the filter apart so that you can clean and re-lubricate the foam element.

CLEANING THE AIR FILTER

TO PROTECT THE ENGINE FROM CONTAMINATION AND TO INCREASE ITS LIFESPAN, YOU SHOULD GIVE THE AIR FILTER A THOROUGH CLEAN AT REGULAR INTERVALS. HERE'S HOW YOU DO IT.

The air filter of your RB7 model contains a cylindrical foam insert. This traps grains of dust and dirt that would otherwise be carried along with the air sucked into the carburettor and then into the cylinder, where they could cause damage to the cylinder liner. When your RC car is running, the air filter intake is only a few centimetres above the ground. So as well as having to filter out the dust that exists in the air, it has to deal with dirt from the track and the residue of worn tyres. Consequently, the filter can become clogged after quite a short time. The engine no longer receives enough air to burn the fuel in the cylinder completely, and the result is a reduction in engine power.

CLEANING THE FILTER

Depending on the condition of the track, it is advisable to clean the air filter at intervals of five to ten tanks of fuel. Cleaning it doesn't take long, and the process requires little effort. The tools and materials needed are illustrated in the photograph on the right, and they include items that you may already have in your RC workshop case. The cleaning agent is the same nitro fuel that you use to run your car. Please note that this fluid can cause skin irritation, so make sure to protect yourself by wearing gloves when you use it to clean the filter. Just follow the steps on the next page, and your GX21 engine will reward you by delivering consistent performance.

Before any prolonged period in which the engine will not be used, you can supplement this regular basic cleaning of the filter element by washing it in a bowl of warm water containing a little dishwashing liquid, which will remove all traces of oil residue. Then place it in clean water to rinse away all the detergent.

To clean the air filter, you will need these tools and materials.





The air filter of the GX21 engine is concealed inside the driver's helmet. To open the two half-shells of the helmet so that the air filter can be reached, you have to cut through the two decorative stickers on the front section of the helmet because they cross the join. It is best to do this with a sharp craft knife or cutter. The pieces concerned are the sticker on the helmet visor and the one that extends across the chinguard of the helmet. The Red Bull logo on the visor is already made of two halves so it does not need to be divided. Position the tip of the blade at the top edge of the visor and slide it carefully downwards.



After cutting the two stickers on the front of the helmet, the half-shells of the helmet can be pulled apart enough to allow the air filter to be removed from its holder. To do this, loosen the top cover of the filter by undoing the screw in the centre with a size 1 Phillips screwdriver. Now you can pull the dirty foam filter element from the base of the filter. Wear gloves when doing this – the dirt particles could lead to skin irritation.



To clean the filter element, put it in a small container, such as the lid of a spray can. Drip nitro fuel onto the element until it is saturated. (Again, wear gloves when doing this.) The fuel will dissolve the old air filter oil and loosen any dirt residues that have built up in the pores of the element. Vigorously squeeze the fuel-soaked element several times with your fingers (wearing gloves!) to distribute the fuel throughout the foam. This process will remove the coarse dirt particles trapped in the element, and they will settle on the bottom of the container.



After a further rinse with nitro fuel, place the filter element on an absorbent, lint-free piece of cloth or on kitchen paper. Fold the absorbent material over the element, and squeeze the foam-rubber cylinder thoroughly between the two layers of cloth or paper. Now rub the material gently over the filter surface, so that it picks up any dust particles remaining in the foam after the rinsing process. Hold the element up to the light to check the progress of the cleaning. If necessary, repeat the rinsing and drying procedure until all the oil and dirt has been removed.



To ensure the optimum performance of the fine-pored foam filter, you should soak it with air filter oil after cleaning. This air filter oil is available in model shops and online, and its thick consistency ensures that even the finest dust particles are retained. Put a few drops on the filter insert and knead it well to work the oil into the pores. Now you can reassemble the air filter and fit it back in place between the half-shells of the driver's helmet. For more information about the air filter and detailed instructions for fitting it, see Stage 78.

THE RC POWER SWITCH

YOUR RB7 MODEL'S RC RECEIVER AND SERVOS ARE SUPPLIED WITH ELECTRICAL POWER FROM ITS BATTERIES. THERE IS NO NEED TO MAINTAIN THIS POWER SUPPLY WHEN THE CAR IS NOT IN USE, SO THE RC SYSTEM IS FITTED WITH A SWITCH TO BREAK THE CIRCUIT.

With this pack, you will receive the RC power switch, the first electrical component of your model. The switch marks the beginning of a new phase of the build, in which you will fit the components of the onboard control system – the RC receiver and the throttle and brake servos – to the chassis and the RC box.

The RC power switch and its cables, seen here in the centre of the picture, connect the RC receiver, at the top of the picture, to the battery box, on the right.

BETWEEN BATTERY AND RECEIVER

The switch connects the battery box and the RC receiver of your RB7 model. This arrangement means that it is fitted at the most effective point in the circuit, because the two servos of your model obtain their electrical power via the receiver. When you use the switch to disconnect the receiver from the power source, you are also disconnecting the servos, so there's no need for them to have individual switches.





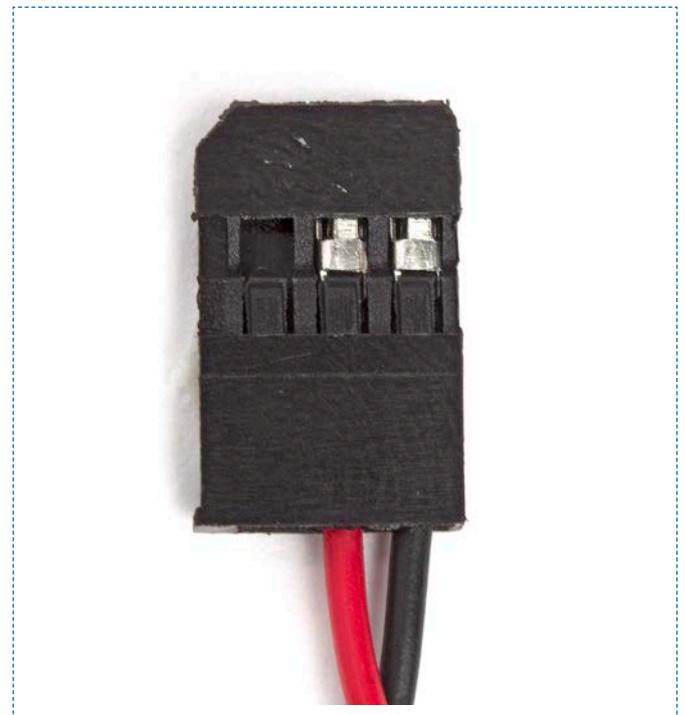
The switch is connected upstream of the receiver, from which the servos receive their power.



When mounting the switch on the right chassis plate, you first need to remove its cover plate by removing the two retaining screws. This plate also carries a visual indication of whether the switch is in the ON or OFF position, so make sure that it is the right way round when you replace it.

The switch itself is a slide switch. Connected to it are a pair of two-core cables (one core with red insulation, the other black). These cables are soldered to the switch, which is housed in a rectangular plastic casing. The on and off switching process is carried out by a slider on the top of the switch, which remains in whichever position is selected. The ON and OFF markings are on a cover plate surrounding the slider. You have to remove this plate when you mount the switch on the right chassis plate of your model, so always make sure that the plate is the right way round when you replace it.

The plugs of the two cables attached to the switch are different colours, and the cable with the red plug will be connected to the battery box and the one with the black plug to the receiver. When the slider is nearer to the cable with the red plug, the switch is sitting in its OFF position and the RC receiver and the two servos are disconnected from the batteries.



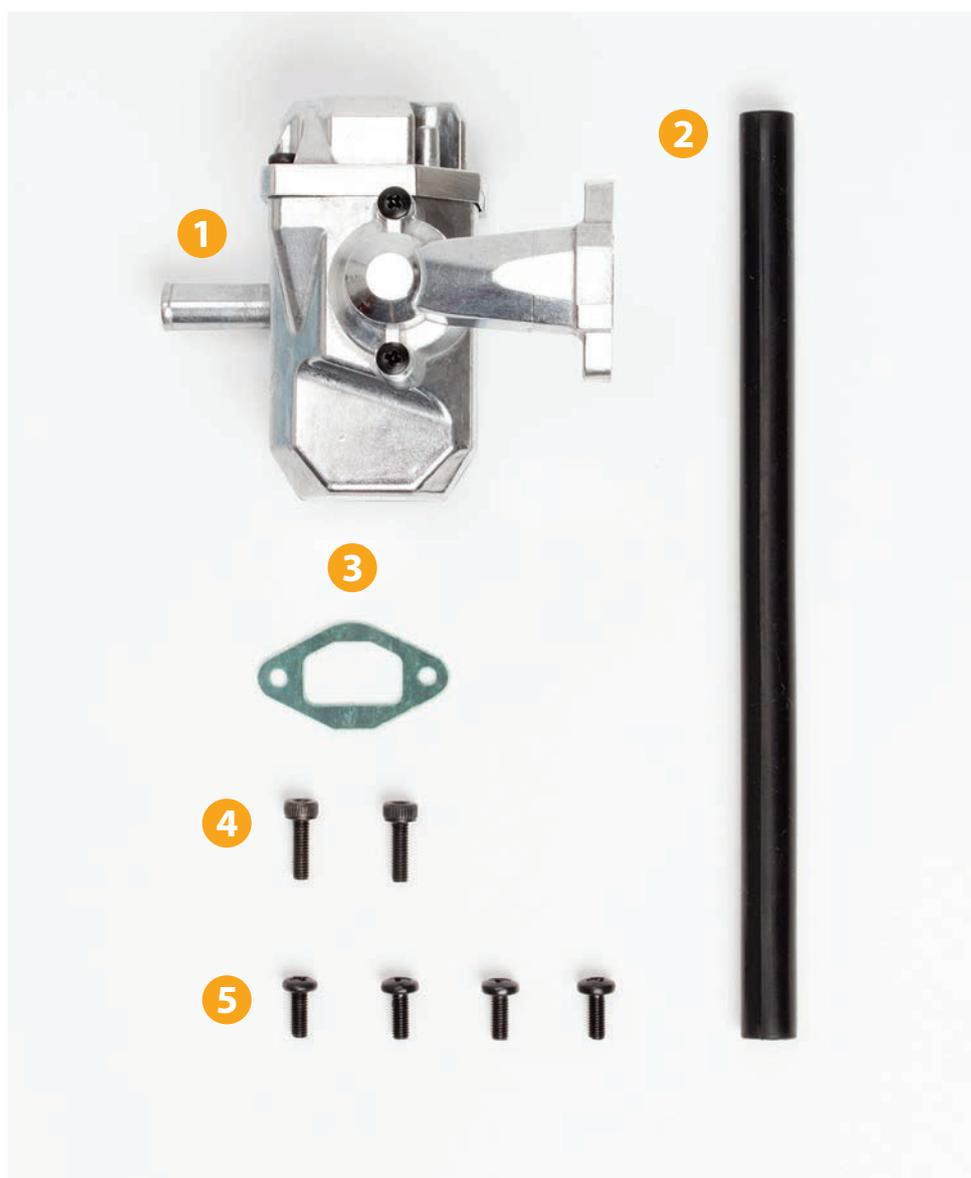
The cable with the black plug connects the switch to the receiver. The red and black wires are securely clamped to the metal contacts in the plastic body of the plug.



Stage 77

FITTING THE SILENCER

COMPLETE THE MAIN BUILD OF YOUR RB7'S GX21 ENGINE BY FITTING IT WITH ITS PRE-ASSEMBLED SILENCER SYSTEM, AND THEN MOUNT IT ONTO THE CAR'S CHASSIS.



Tools & Materials

Phillips screwdriver (size 02)
2.5mm Allen key
Angled needle-nose pliers
Grease (from Stage 38 or Stage 63)
Toothpick

- 1** Silencer (pre-assembled)
- 2** Tailpipe
- 3** Gasket
- 4** 2 cap screws 3 x 10mm
- 5** 4 dome-headed screws
3 x 8mm



01 For this assembly session, you will need your RB7 chassis assembly, your GX21 engine and the parts supplied with this stage.



02 The exhaust manifold is attached to the top of the body of the silencer, and its opening has a flange that will match up to the one at the rear of the engine.



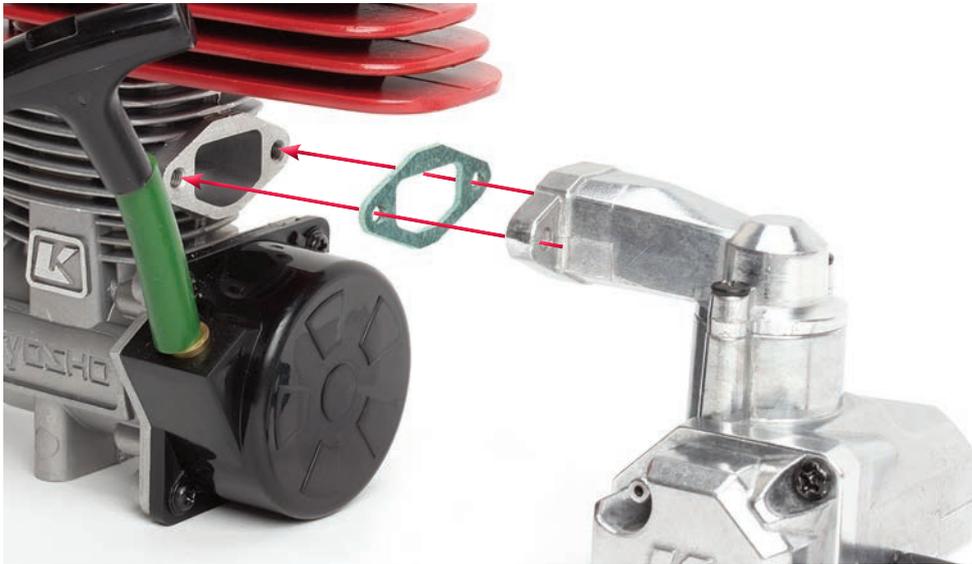
03 Position the silencer on your work surface with the manifold facing away from you, then push the tip of the tailpipe over the outlet pipe, as indicated by the red arrow.



04 Push the tailpipe over the outlet until it rests snugly against the body of the silencer, as shown.



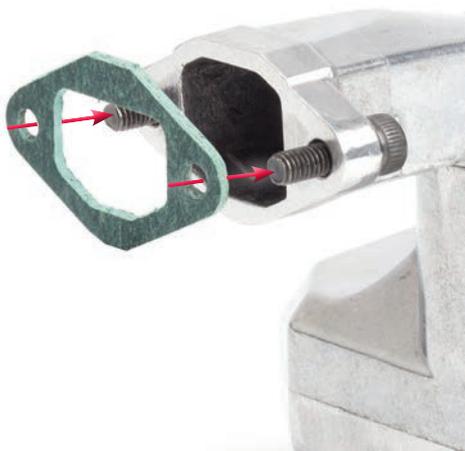
05 The gasket is shaped to match the manifold's flange, and will help form an airtight seal between the engine and the manifold. It is made of a heat-resistant material.



06 The photo above shows how the silencer and engine will be joined. The two must be perfectly aligned, with the gasket sitting between the manifold and the engine's exhaust port. The parts will be held together tightly by two screws, which will compress the gasket to form an airtight seal.



07 Place a 3 x 10mm cap screw through each of the holes on the manifold, inserted from the rear.



08 Align the gasket with the manifold and push it over the ends of the cap screws, as indicated by the arrows.



09 Making sure that the gasket stays in position, fit the manifold to the exhaust port of the engine, as shown in the photo for Step 06, then use the Allen key to tighten both cap screws fully and join the parts securely.



10 This completes the assembly of your RB7's GX21 engine, which should now look like this.



11 The next step is to prepare the chassis to hold the engine. To do this, lay your RB7 chassis on your work surface with the underside facing upwards. The two screws circled in the picture will be removed in the next step.



12 Undo the screws using a Phillips screwdriver and keep them safely to one side, because you will be using them at a later stage.



13 Turn the assembly over so that you can access the top of the chassis, then use the screwdriver to undo and remove the five circled screws from the gearbox cover (the centre upper plate). Again, keep these to one side as you will need them later.



14 When you've removed all the screws, carefully lift the gearbox cover away from the chassis and put it to one side.



15 Next, carefully remove the brake rod and cam.



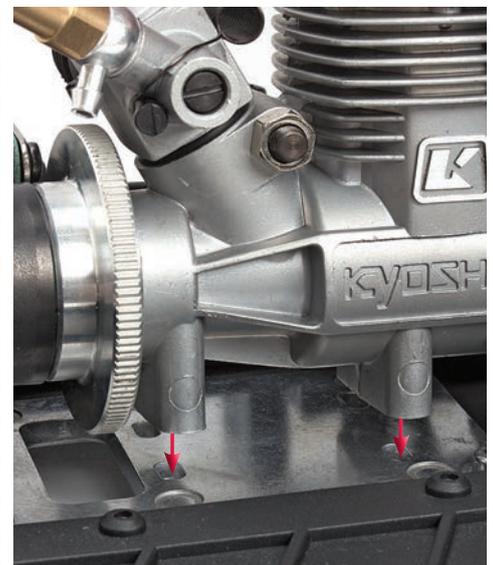
16 You are now ready to mount the GX21 engine and silencer assembly onto the chassis of your RB7.



17 Hold the engine above the chassis with the silencer's tailpipe facing the rear. Lower it towards the surface of the chassis, with the tailpipe feeding into the rear bulkhead, beneath the rear driveshaft (see red arrow).



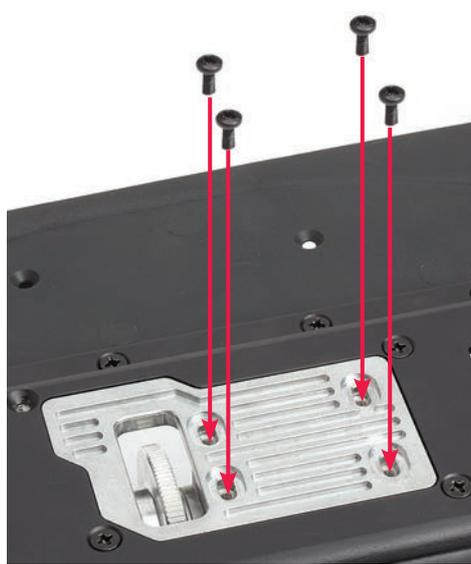
18 When about 2cm of the tailpipe is still visible, lower the engine onto the chassis, tucking the cutaway left side of the silencer underneath the rear driveshaft, as indicated by the red arrow.



19 Next, set down the engine so that the two sockets on the underside of the crankcase line up with the holes on the engine mount.



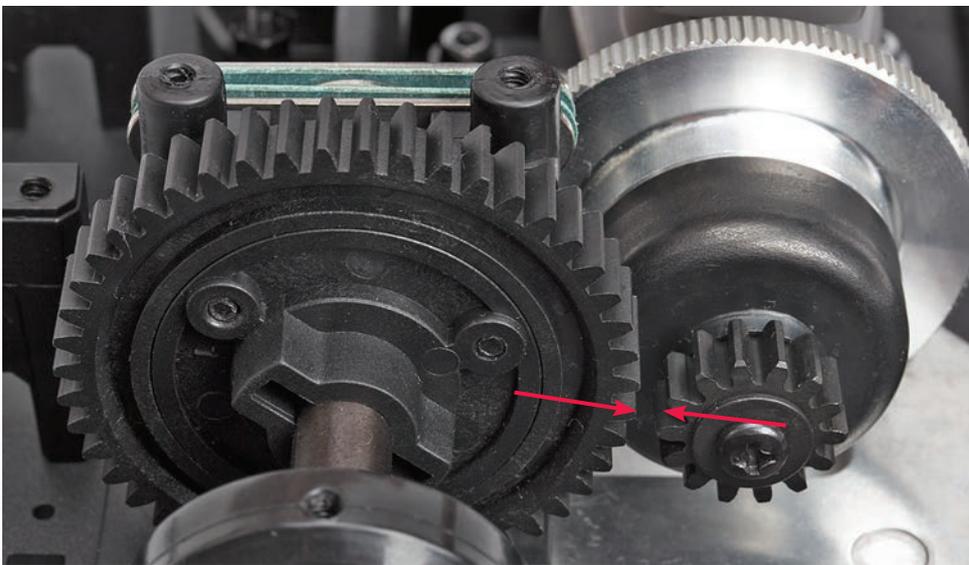
20 Hold the chassis assembly together and carefully turn it over. Gently slide the engine back and forth until its four screw holes line up with those of the engine mount (see dotted red lines).



21 Place the four 3 x 8mm dome-headed screws supplied with this stage into the four holes marked in the photo for Step 20 and tighten each one with your fingertips.



22 Now tighten each screw a little further with the screwdriver, but don't tighten them fully. The engine should still be able to slide a little from side to side.



23 Turn the chassis over again and check the positions of the spur and pinion gears. Adjust the engine's position so that the two gears are sitting parallel to each other, with their teeth aligned and ready to be engaged neatly, as shown by the red arrows.



24 Move the gears together as indicated by the red arrows in the photo for Step 23, making sure that the engine's pinion gear remains perfectly parallel to the spur gear. Engage the teeth of the gears and feed a strip of cardboard in between them (the cardboard from your RB7's packaging is suitable for this).



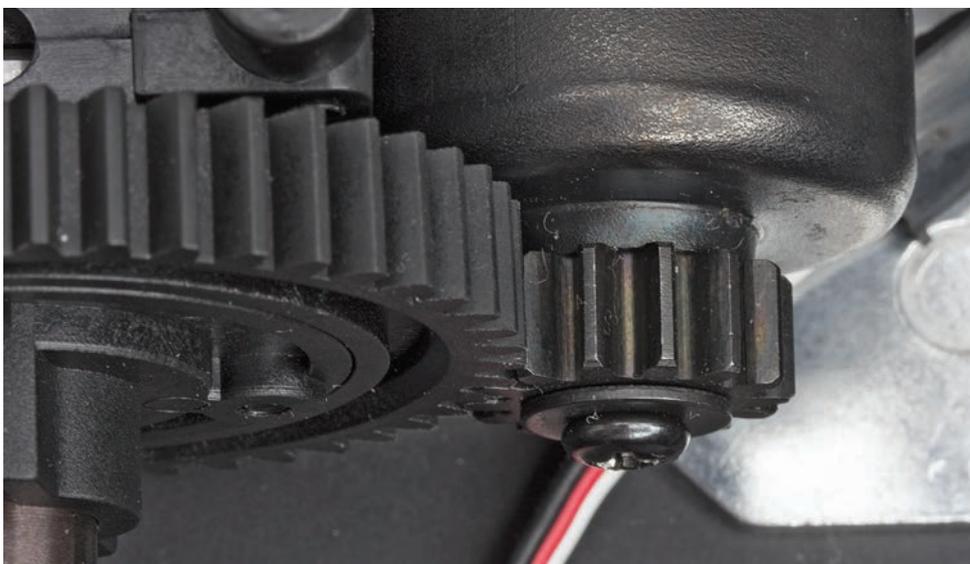
25 Carefully position the gears so that your assembly looks like this, with the two gears pinching the cardboard strip between them. Check again that the gears are perfectly parallel to each other.



26 Holding the engine carefully in place, turn the chassis over again and, using the screwdriver, tighten the four dome-headed screws until they just begin to bite. Do not tighten them fully at this stage.



27 Turn the chassis over again and check that the gears are still correctly aligned. If not, repeat Steps 24 to 27 until they are. When the gears are aligned, pull the cardboard strip out from between them (red arrow).



28 Your assembly should now look like this, with the spur gear and the pinion gear neatly interlocked. Check that the two gears can move without too much resistance and that the teeth engage smoothly. If the gears are not aligned, or the teeth don't engage properly, repeat Steps 24 to 28.



29 When you are sure that the gears are meshing correctly, carefully turn the chassis over once more and fully tighten the dome-headed screws so that the engine will not move on its mount.



30 To ensure that the gears will operate smoothly, use a toothpick to apply a moderate amount of grease (supplied with Stages 38 and 63) to the teeth. Then rotate the gears a few times to spread the grease evenly.



31 Take the brake rod and cam that you removed in Step 15 and carefully reposition them into the hole on the rear centre differential housing (see red arrow). You may like to use angled needle-nose pliers to do this.



32 Now replace the gearbox cover removed in Steps 13 and 14, and put the five screws that you removed then back into their respective holes.



33 Begin tightening the screws with the screwdriver, using the red arrows in the photo for Step 32 for reference. Fully tighten the three screws marked with solid red arrows, but don't fully fasten the two marked with dotted arrows.



34 Turn the chassis over again, and re-insert the two screws removed in Steps 11 and 12. The longer screw will fit into the hole marked '1', and the shorter one in the hole marked '2'. Tighten both fully with the screwdriver.

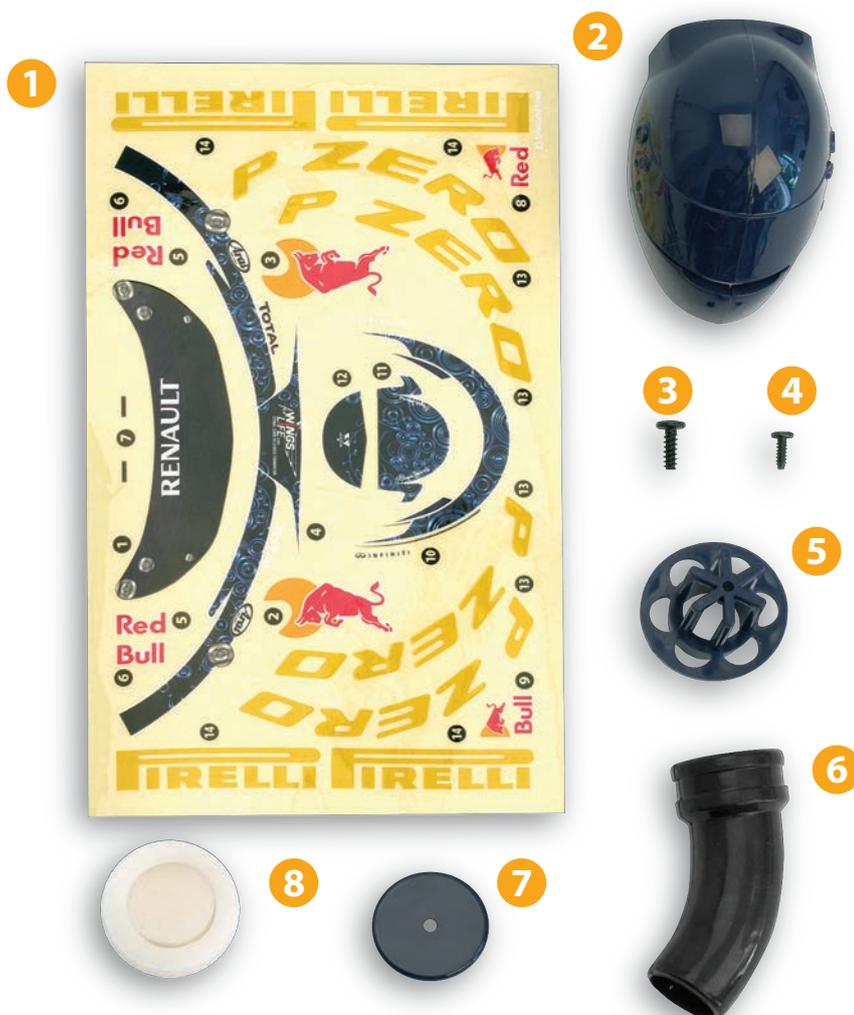


35 This assembly stage is complete, and your RB7's GX21 engine is now fully assembled and mounted on the chassis.

Stage 78

FITTING THE AIR FILTER

THE FIRST TASK IN THIS SESSION IS TO ASSEMBLE THE AIR FILTER AND MOUNT IT WITHIN THE DRIVER'S HELMET. THEN YOU APPLY THE DETAILING STICKERS TO THE HELMET AND ATTACH THE COMPLETED ASSEMBLY TO THE ENGINE.



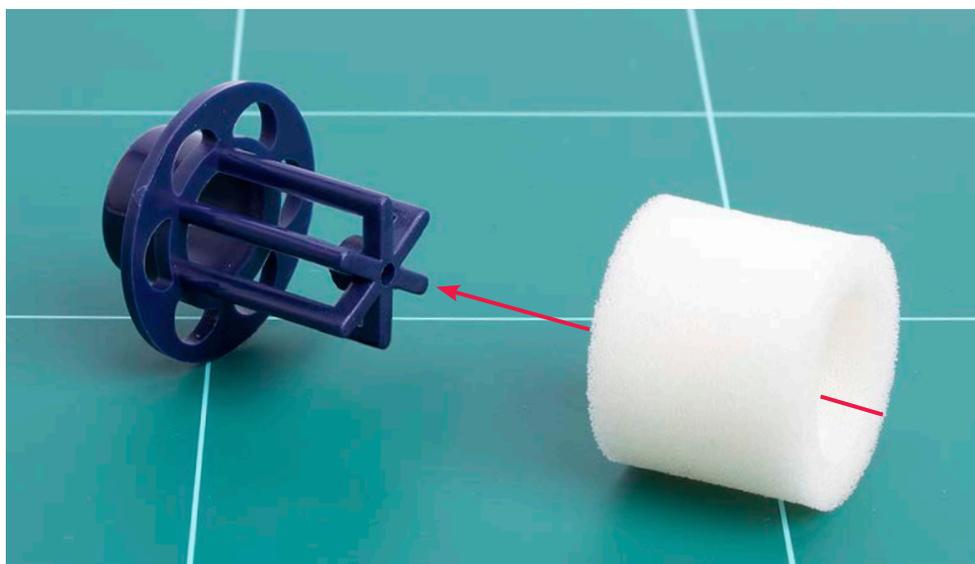
Tools & Materials

Phillips screwdriver (size 1)
Scissors
Craft knife

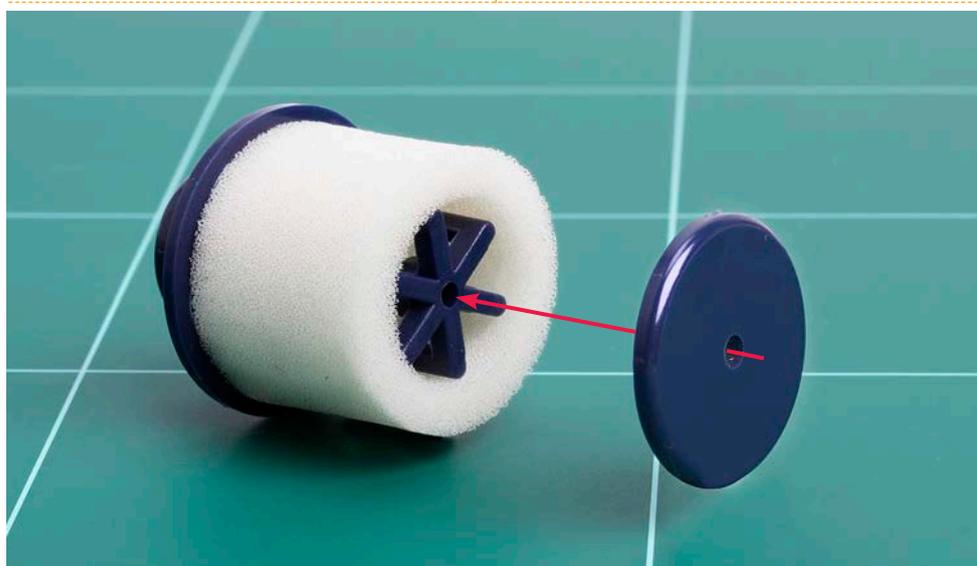
- 1 Sticker sheet
- 2 Helmet air filter covers (left and right)
- 3 Dome-headed screw 2.6 x 8mm
- 4 Dome-headed screw 2 x 6mm
- 5 Air filter base
- 6 Air filter pipe
- 7 Air filter cap
- 8 Air filter element



01 Remove and discard the central section of the air filter element.



02 Though not essential, it's a good idea to work some air filter oil into the element at this stage, as it will make the filter more effective (see page 375). Then push the element over the star-shaped projection on the air filter base, as shown by the red arrow, until it butts up against the circular rim.



03 Next, fit the air filter cap onto the end of the star-shaped projection, aligning the holes as indicated by the red arrow. Then stand the filter on its base, as shown in Step 04.



04 With the filter assembly facing upwards, set the 2.6 x 8mm dome-headed screw into the central hole in the cap.



05 Tighten the screw fully with a screwdriver.



06 Lay the left side of the helmet air filter cover on your work surface, as shown. Then lower the air filter assembly onto it so that the ridge around the edge of the filter base sits neatly into the groove at the rear of the helmet cover (see red arrow).



07 Next, join the right side of the air filter cover to the left. Fit the groove at its rear over the ridge on the air filter base, and its locating pins into the corresponding holes (see arrows).



08 Your filter and helmet assembly should now look like this.



09 Turn the assembly on its side, and place the 2 x 6mm dome-headed screw into the arrowed hole on the underside of the helmet cover.



10 Tighten the screw using a screwdriver, making sure not to overtighten it as this could damage the plastic part.



11 Next, fit the narrower end of the air filter pipe over the base of the air filter.



12 Your assembly should now look like this.



13 Very carefully cut out sticker 1 from the sheet, using scissors. Make sure that you don't cut into any of the other stickers as you do this.



14 Next, place the sticker on a cutting mat and use a craft knife to carefully trim down the excess, so that you are left with the RENAULT sticker alone.



15 Carefully remove the sticker from its backing sheet.



16 Place the sticker onto the visor section of the helmet cover and press it into place. Do this gradually from one side to the other, so that no creases or air bubbles form. You may find it easier to remove the air filter pipe fitted in Step 11 while you apply the stickers.



17 Your assembly should look like this from the front.



18 Repeat the process described in Steps 13 to 17 to apply the stickers numbered 3-6, as shown above, to the right side of the helmet cover. Again, apply the stickers very carefully to ensure no air bubbles or creases occur.



19 Do the same for stickers 2 and 4-6 to the left side of the helmet.



20 The photo above shows the locations of stickers 7-9. Apply these as you did for the other stickers, again making sure no air bubbles or creases occur.



21 Finally, apply stickers 10-12 to the top surface of the helmet cover. Use the yellow dotted lines shown in the photo above for guidance.



22 If you removed the air filter pipe in Step 16, re-insert it before proceeding. Press the wider end of the pipe over the open intake port of the carburettor (see red arrow).



23 Push the air filter pipe as far as it will go, so that its mouth rests against the metal of the carburettor (red dotted line).



24 This stage is complete. Store your parts away securely until next time. The remaining stickers on the sheet will be applied to the inside rim of the tyre, so keep these safely until they are needed.

Stage 79

FITTING THE RC POWER SWITCH

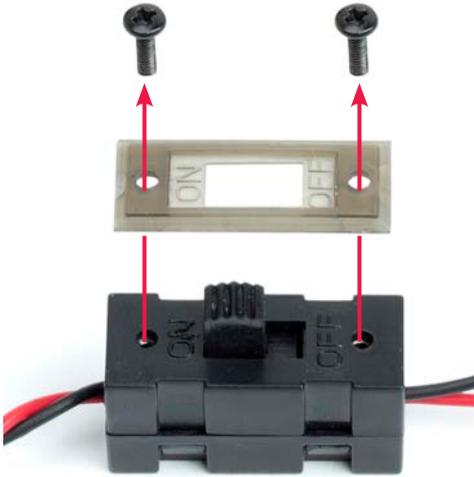
IN THIS SESSION, YOU WILL ATTACH THE RC POWER SWITCH TO YOUR RB7'S RIGHT CHASSIS PLATE.



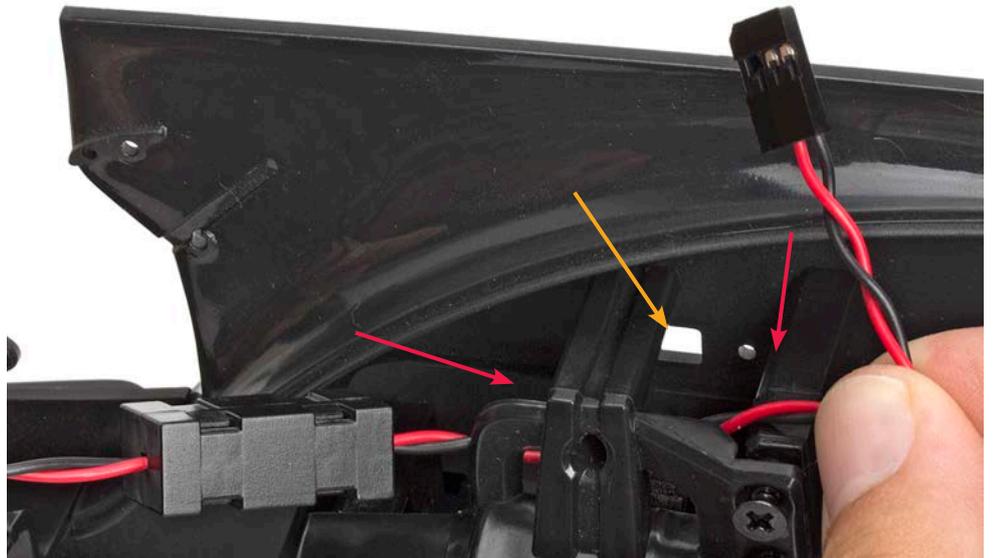
Tools & Materials

Phillips screwdriver (size 1)

- 1 RC power switch



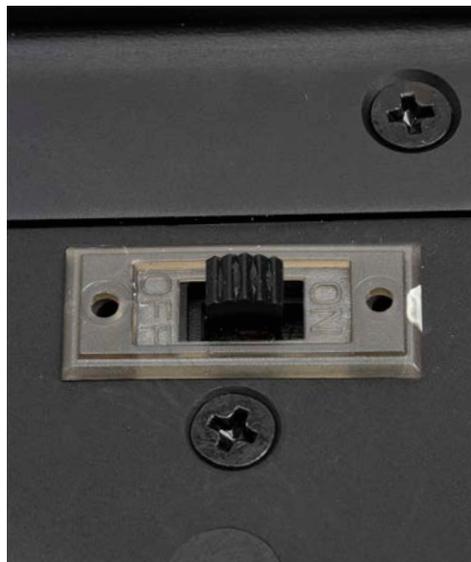
01 Remove the two screws at the top of the switch, then take off the ON/OFF cover plate.



02 Put the switch onto the right chassis plate, with the cable with the black plug leading towards the rear of the chassis and the ON/OFF slider facing down. Run the cable as shown, between the right-hand side of the gearbox cover and the front throttle servo mount, as indicated by the red arrows. The switch's slider fits into the rectangular cut-out in the chassis plate (orange arrow).



03 Viewed from the side, the switch (outlined in dotted red lines) should be positioned as shown.



04 Place the cover plate over the switch's slider on the bottom of the chassis plate, as shown. Note: the OFF side must be sitting in its position towards the front of the model.

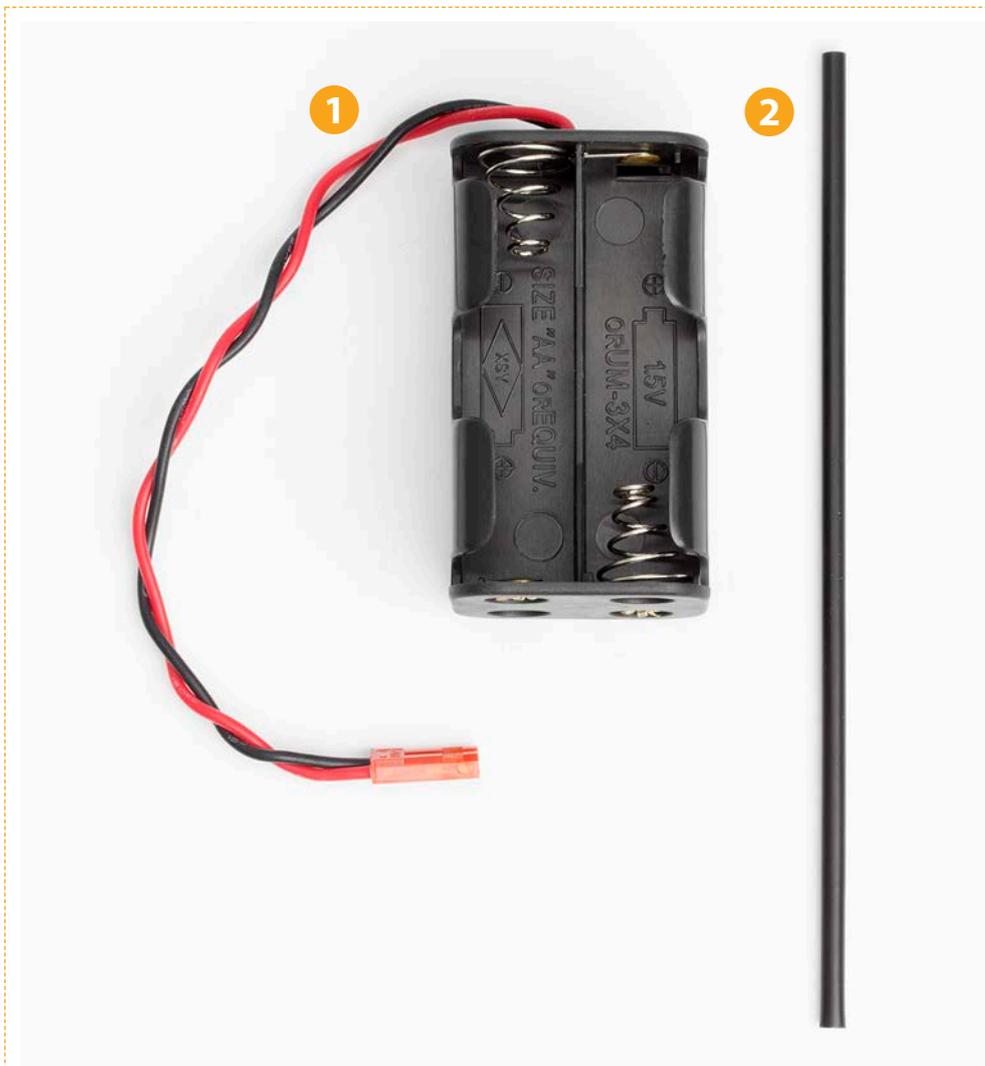


05 To complete this assembly stage, place the two screws that you removed in Step 01 into the holes in the cover plate, and tighten them into the switch to fix it in place.

Stage 80

THE BATTERY BOX AND ANTENNA TUBE

IN THIS SESSION, YOU WILL ATTACH THE BATTERY BOX TO THE SWITCH FITTED IN THE PREVIOUS STAGE, THEN CONTINUE APPLYING STICKERS TO THE TYRES (IF THE MODEL IS BEING USED PRIMARILY AS A DISPLAY PIECE).



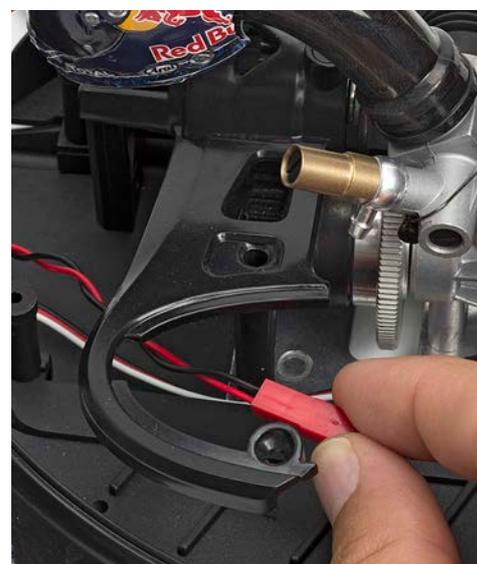
Tools & Materials

Cross wrench
Craft knife
Scissors

- 1 Battery box
- 2 Antenna tube



01 Lay the parts supplied with this stage out on your work surface. If you are building this model to be primarily a display piece, keep the sticker sheet supplied with Stage 78 to hand, as you will be using these to decorate the inside edges of the tyres. However, you may prefer to skip this phase if you are intending to run your model as an RC racer, as active use is likely to cause these stickers to peel away. The antenna tube will be fitted at a later stage, so keep this safely until then.



02 First, feed the cable coming from the front of the switch by the red connector through to the left side of the chassis, underneath the arc of the centre upper plate, as shown.



03 Join the red connector from Step 02 into the corresponding one at the end of the battery box's cable. It will only fit in one way.



04 When the cables are connected, place the battery box on the left side of the chassis.



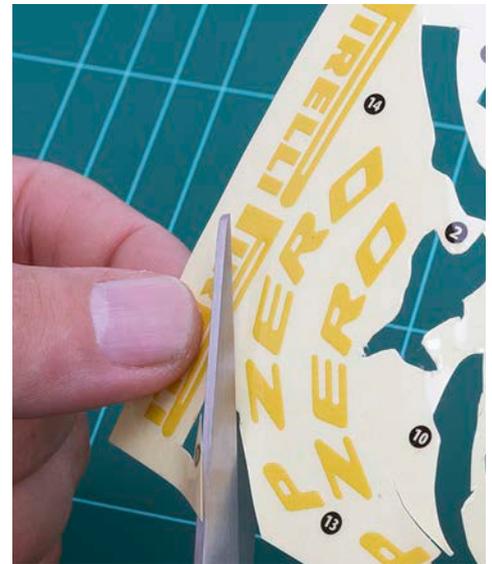
05 That completes this phase of the assembly. Store the antenna tube away safely until it is needed, and if you are building your RB7 to be primarily a display model, continue with the following steps to apply stickers to your RB7's tyres.



06 If you are choosing to apply the stickers to the tyres, begin by removing the front left wheel and tyre by loosening the wheel nut with the cross wrench.



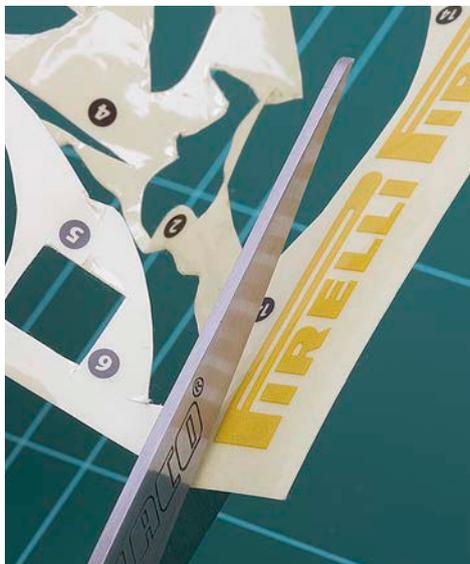
07 Rest the wheel on your work surface with the inner edge facing up.



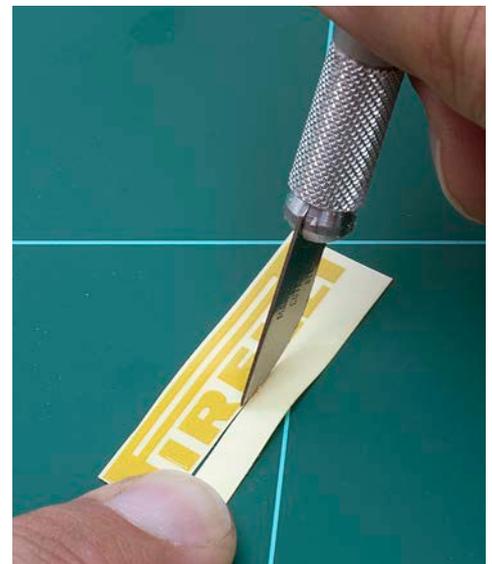
08 Carefully cut out the first curved P ZERO sticker from the sticker sheet supplied with Stage 78.



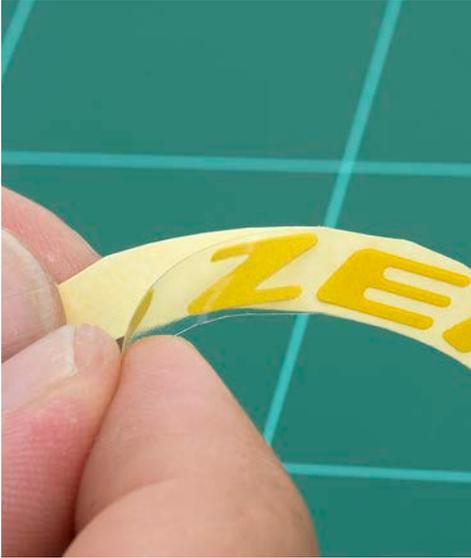
09 Lay the sticker out on a cutting mat and very carefully trim any excess away from the lettering using a craft knife. Go as close to the lettering as you can.



10 Next, cut out the first straight PIRELLI sticker from the sheet using scissors.



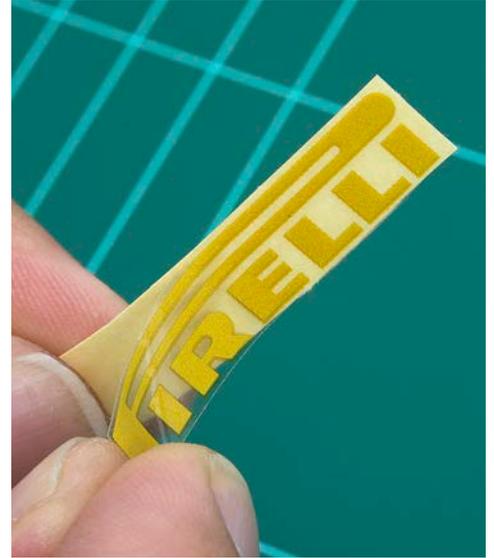
11 As you did for Step 9, trim the excess from the sticker using the craft knife.



12 Carefully remove the first P ZERO sticker from its backing, trying to touch it as little as possible with your fingers.



13 Apply the P ZERO sticker to the inside edge of the tyre, as shown.



14 As you did for Step 12, carefully remove the PIRELLI sticker from its yellow backing.



15 Apply this sticker to the tyre, directly opposite the P ZERO one.



16 To complete this session, repeat Steps 06-15 to decorate all four tyres with the P ZERO and PIRELLI stickers, then use the cross wrench to re-attach each wheel to your model.



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