DeAGOSTINI MODEL SPACE™

Red Bull Racing
FORMULA ONE TEAM

RB7

RADIO CONTROLLED • BUILD IT YOURSELF • NITRO ENGINE

Pack 22

Stages 85-88

DeAGOSTINI MODEL SPACE™

Red Bull Racing FORMULA ONE TEAM

RB7

Contents

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DeAGOSTINI MODEL SPACE™

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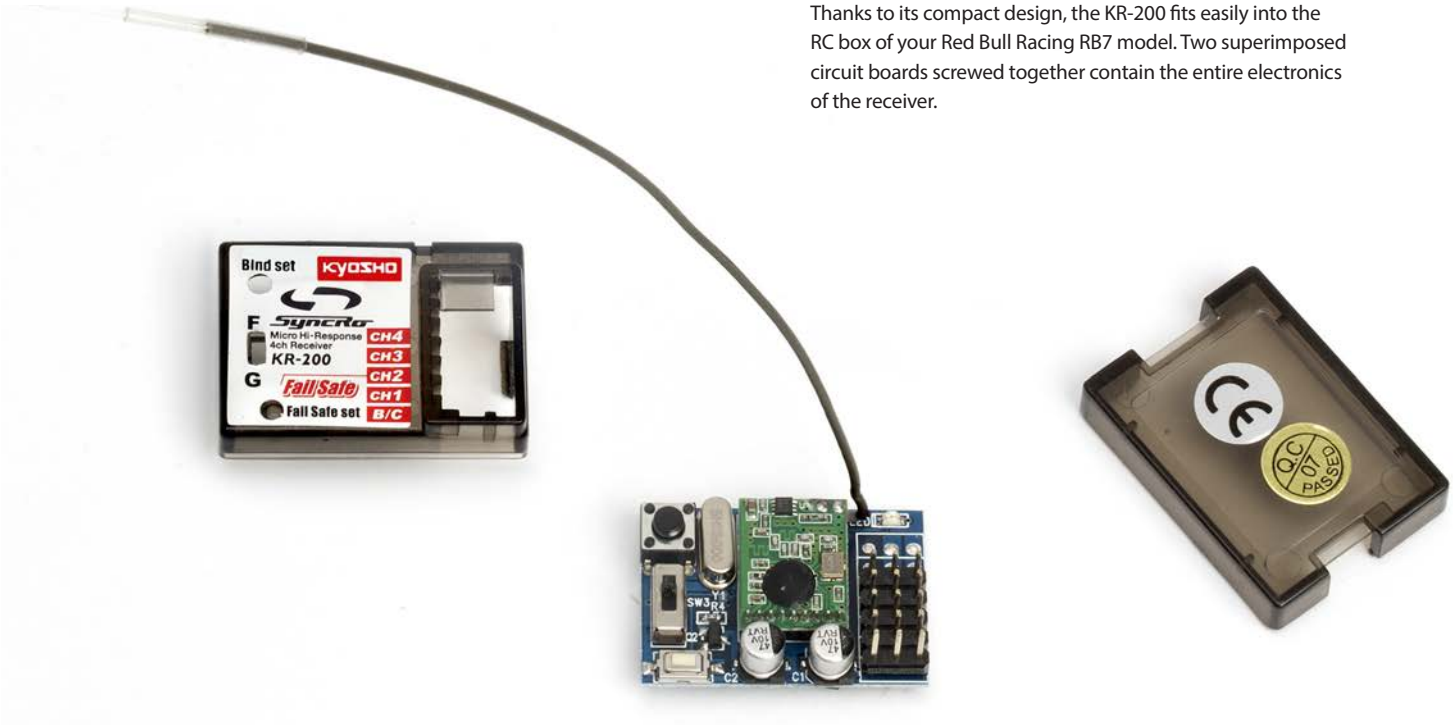
RED BULL RACING RB7 complies with CE regulations.
NOT SUITABLE FOR CHILDREN UNDER THE AGE OF 14. THIS PRODUCT IS NOT A TOY AND IS NOT DESIGNED OR INTENDED FOR USE IN PLAY. ITEMS MAY VARY FROM THOSE SHOWN.

THE KYOSHO KR-200 RECEIVER

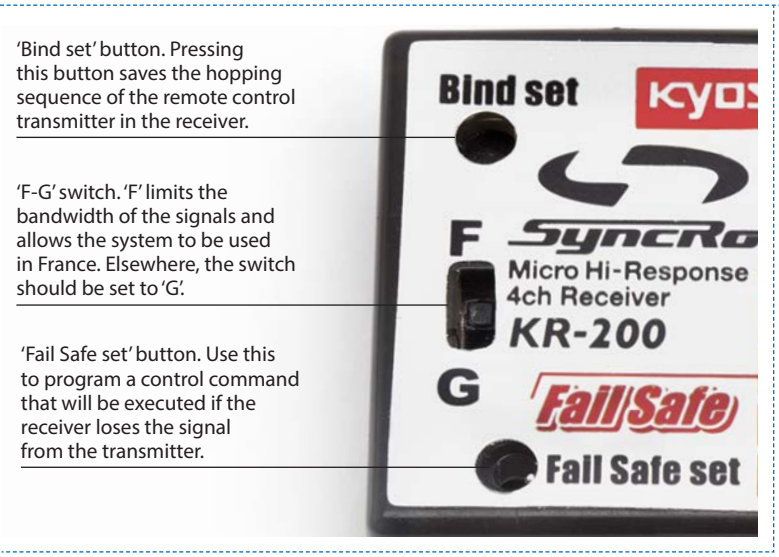
YOUR RB7'S RECEIVER CONVERTS THE CONTROL SIGNALS FROM THE TRANSMITTER INTO INSTRUCTIONS FOR THE SERVOS. HERE'S AN OVERVIEW OF THE KR-200 RECEIVER SUPPLIED TO SUBSCRIBERS WITH THE KYOSHO SYNCRO REMOTE CONTROL TRANSMITTER.

The Kyosho KR-200 is a digital receiver. Like the Kyosho Syncro RC transmitter, with which it is supplied, it operates on the 2.4GHz band. It is very compact, its dimensions being 36 x 26 x 14mm (length x width x height), so it can be fitted into the RC box of your RB7 model without difficulty.

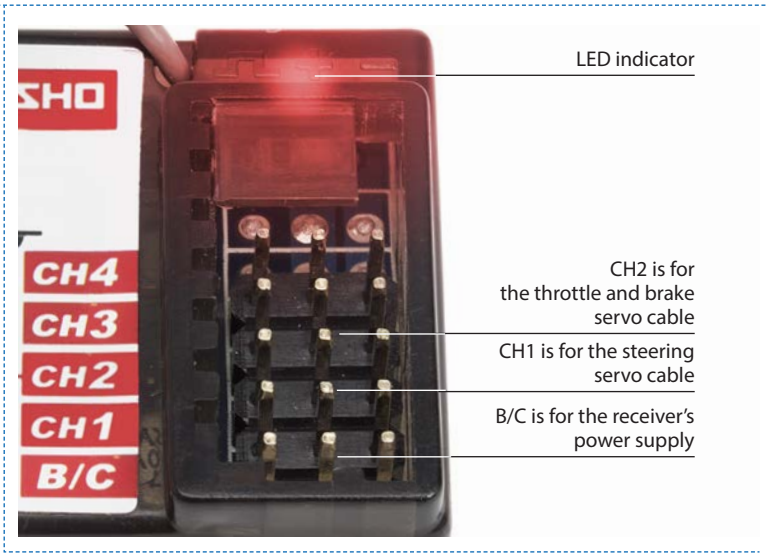
The KR-200 housing is made of semi-transparent plastic and – like the other components of your RB7 – it is resistant to high temperatures. This is important, because it is mounted close to the engine. Viewed from above, the receiver is divided into two areas. The right-hand part, one-third of the length, is slightly raised and contains a large socket that is used to connect the power supply and servo cables. A maximum of four servos can be connected. There are four small notches on the left side of the socket, and corresponding projections on each of the plugs on the main switch and servo cables. These are the reverse polarity protection, ensuring that the plugs can only be inserted the right way round. An antenna 150mm long protrudes from



Thanks to its compact design, the KR-200 fits easily into the RC box of your Red Bull Racing RB7 model. Two superimposed circuit boards screwed together contain the entire electronics of the receiver.



On the left-hand side of the KR-200 are two buttons and a switch, with which the receiver can be programmed.



The right-hand side of the KR-200 receiver carries the connections for the power supply and four servos.

the upper end of the socket panel. The left-hand side of the receiver carries a silver sticker. This is labelled with the brand name, the type of device and the names of the two buttons and one switch that are located there. It also shows the connections for the servo channels and the power.

BIND SET AND F-G SWITCH

The top button on the receiver is labelled 'Bind set'. This saves the data with which the transmitter and receiver 'bind' or synchronise with each other (see the introductory article on radio control frequencies in Pack 21 for more information on this). The frequency hopping sequence is sent from the transmitter to the receiver and stored there (further details of this will be given in Pack 23).

To bind the two devices, first turn on the transmitter and then the receiver. Now check that the LED on the top left of the receiver is lit or flashing. If it's lit, the receiver knows the hopping sequence already and you will be able to control the servos of the model. If the LED flashes, however, the receiver is unassigned and the servos will not respond. In that case, press the 'Bind set' button with a ballpoint pen or other pointed item until the LED remains lit. This completes the binding process. If you have connected everything correctly (see Stage 83), the servos can now be controlled with the transmitter.

The 'F-G' switch is used to limit the bandwidth of the transmitted signals. It is only important when the equipment is used in France, because there the permitted frequency band is narrower than elsewhere. Outside France, the switch should be set to 'G', as should the F-G switch on the transmitter itself.

THE FAIL SAFE FUNCTION

By using the 'Fail Safe set' button, you can preset what happens if the receiver loses contact with the transmitter. The receiver performs this function automatically, but it is not preset at the factory and must be programmed first. Turn on the transmitter, then the receiver. Press the 'Fail Safe set' button until the LED flashes quickly. Then use the remote control function that you want to come into play if the receiver crashes or fails, and at the same time press the button. Once the LED is continuous, the fail safe mode has been set. We recommend that you program the fail safe to apply maximum braking to stop your car if its receiver loses contact. To do this, push the trigger all the way forward while the LED is flashing and press 'Fail Safe set'.

SETTING UP THE SERVOS

THE THROTTLE, BRAKE AND STEERING OF YOUR RB7 RACER ARE OPERATED BY THE SERVOS VIA THREE CONNECTING RODS. PROPER ADJUSTMENT OF THE SERVOS AND THE RODS IS ESSENTIAL FOR PRECISE CONTROL OF YOUR MODEL.

As the last links in the chain, the remote control servos and rods transfer all the commands of the RC driver to the steering mechanism, the throttle and the brake. At rest, the steering wheel on the transmitter should be in its central position, and the steering servo and steering linkage should assume their neutral, or zero, positions, so that the model drives straight. At first, however, this is unlikely to be the case, and you can't see whether the round-toothed pinion of the servo is centred. There is a similar problem with the throttle and brake servo.

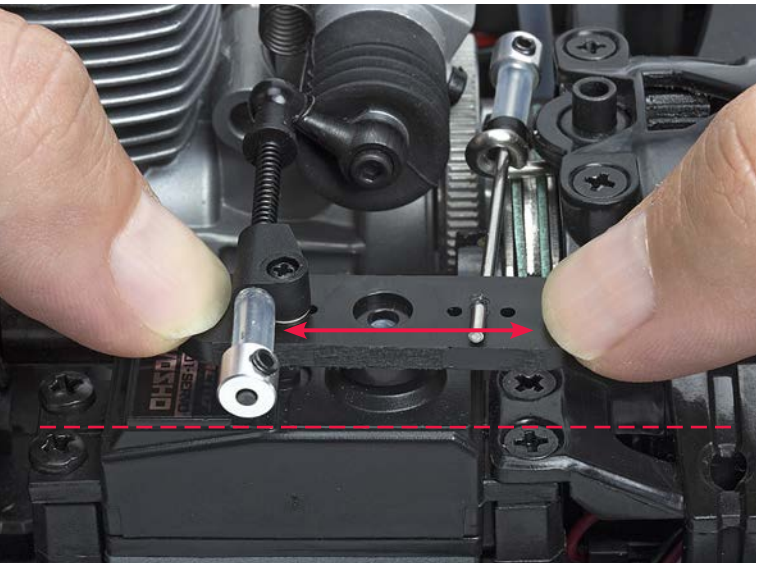
By Stages 20 and 86, you will have set up the horns of the steering and the throttle and brake servos so that they are straight, but to establish their actual zero positions, you have to adjust them when the RC system is in operation.

THE NEUTRAL POSITION

When you have checked that there are fresh cells in both battery compartments (four in the model and four in the base of the transmitter), and that the onboard electronics are correctly connected, switch on the transmitter. The two LEDs below the words BAT LEVEL should light up.

The throttle and steering trim controls are in their central (neutral) positions when the small indent on the top of each knob is in line with the small white arrowhead above the circular scale.

If one of the servo horns of your model moves from its neutral position when switched on – as this throttle/brake servo horn has – you will have to correct its position.



When correctly adjusted, the horn of the throttle/brake servo will be in the 'neutral' position, that is, parallel with the long axis of your car (indicated by the dotted red line in the photograph). The position of the servo pinion must not be changed.

The horn of the steering servo also forms the upper part of the servo saver unit. In its neutral position, the component must be aligned so that the arm of the servo horn (red arrow) is at a right angle to the long axis of the car (dotted red line).

Check that the knobs below them, the two trim controls, are in their middle positions. If not, adjust them accordingly (see upper photograph on page 433). Now push the power switch on your model to the 'ON' position. (This is the order of events you should always follow when you run your car in the future.)

What happens next is likely to be that the servos twitch and whirr, and move the servo horns a little way from the neutral positions in which they were aligned (see lower photo on page 433). If that doesn't happen, it may be the case that you were lucky, and the servos were already zeroed. To set a servo horn back to its neutral position if it has moved after switching on, first switch off the transmitter and the car's main switch, then remove the horn's retaining screw using a size 2 Phillips screwdriver. Carefully pull the horn, with the linkages attached to it, upwards and off the servo pinion, but take care not to change the position of the pinion, otherwise the servo motor will lose its zero position.

Now check that the horn is in the neutral position. In the case of the throttle/brake servo this means you must position the horn so that it is parallel to the long axis of your car (see photograph above left). In this position, push it carefully back onto the pinion.

If the horn of the steering servo has lost its neutral position while zeroing, proceed as follows. Undo the fixing screw and remove the servo saver (consisting of upper and lower parts and a C-ring) from the pinion. In order not to change the position of the pinion, hold it in place with a small flathead screwdriver below the base of the servo saver. Then adjust the servo saver so that the horn points at a right angle to the long axis of the model (see photograph above right).

STEERING LINKAGE

The front wheels should be facing exactly in a straight line after you set the servo horn as above. If they aren't, you need to correct this before you fix the servo saver back onto the pinion of the steering servo. You can adjust the length of the steering rod (and thus the positions of the wheels) by turning the ball end on the opposite end of the steering rod from the servo horn. You do not need to remove the rod from the servo horn. If necessary, refer to the Assembly Guides in Pack 5 (Stages 18 and 20).

When you pull the trigger of the transmitter all the way back towards the handle, the throttle linkage must open the air intake of the carburettor completely. The brake rod at the other end of the servo horn moves unimpeded through the eye of the brake lever.

When you push the trigger away from the handle, the brake rod actuates the brake lever. The carburettor slide, however, should only close as far as the preset idle opening when the black metal spring on the throttle linkage is fully compressed.

When both servo horns have been zeroed, you can again switch on as described above (first the transmitter, then the car's power switch). The horns should now be in their neutral positions. Minor discrepancies (up to 5°) from the zero positions described above are not serious, and you can adjust them by using the throttle and steering trim controls on the transmitter (see the upper photo on page 433) to offset them slightly.

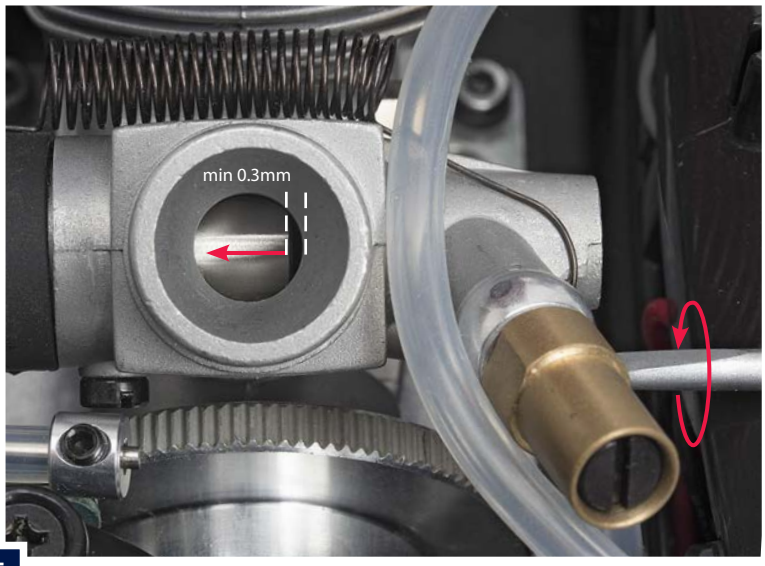
THROTTLE/BRAKE CHANGEOVER

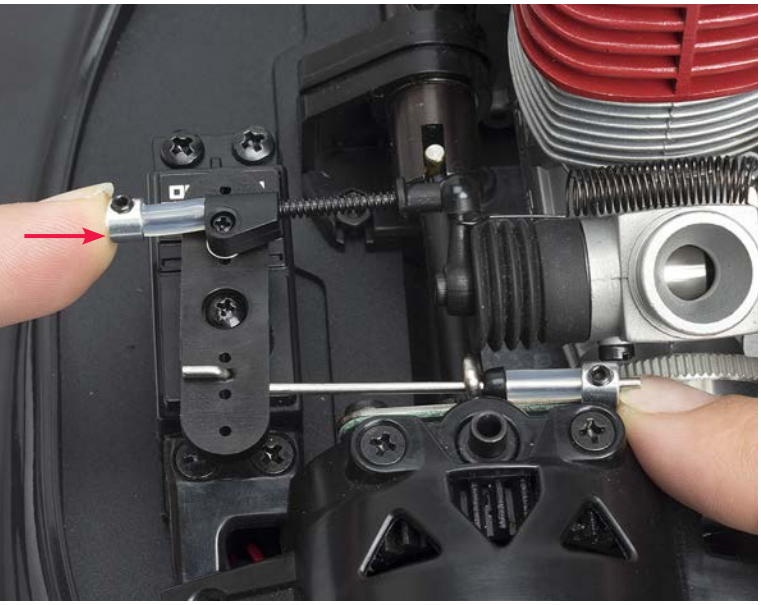
Now that the servo horns have been perfectly aligned, it's important to ensure that their alternating movements are transferred optimally via the linkages. Of particular interest here are the throttle and the brake linkages.

Let's look at the operation of these two opposing mechanisms more closely. To do this, first remove the air filter so that you have a clear view of the carburettor inlet. If you haven't already done so, switch on the RC system and pull the trigger of the transmitter all the way back to the handle (full throttle) and then push the trigger away from it (full braking).

Compare what you see with the two photos above, looking first at the carburettor. Even with full braking applied (see photograph above right), there must be a gap of at least 0.3mm in the carburettor's air inlet. If the gap in your model is narrower, you should adjust the idling stop screw to increase it (see photograph below). If the gap is correct, you can move on to the fine adjustment of the throttle linkage.

The adjustment for the idling stop is on the side of the carburettor body. When you turn it clockwise, the inlet gap increases (see red arrows). To start with, choose a large idle gap, rather than one that is too narrow (minimum 0.3mm, maximum 1mm).





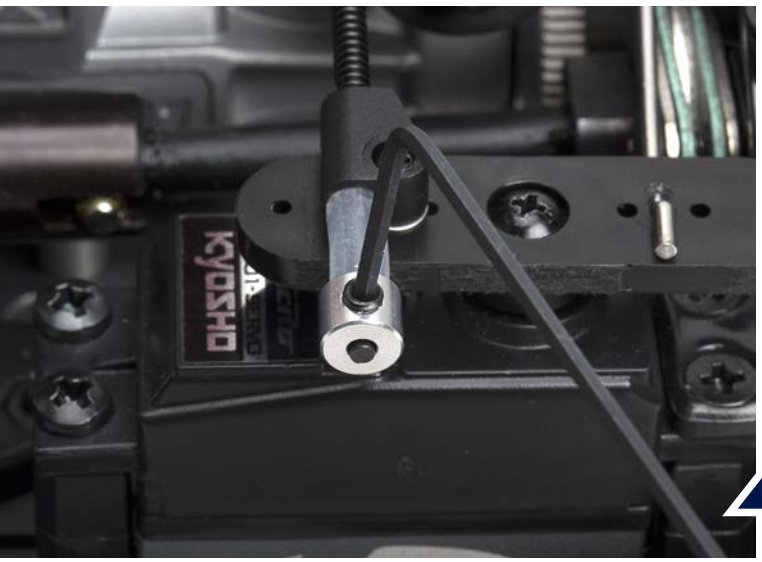
Push each of the adjusting collars along its respective rods so that they just touch the silicone tubes used as buffers. There should be no tension forces acting on either the throttle or brake.

Now release the transmitter trigger and look at the carburettor. The slide must not move from this position during emergency braking. If the carburettor inlet is constricted when braking (pushing the trigger forward from the neutral position), the throttle linkage of your carburettor doesn't have enough play. You can correct this by adjusting the collar on the end of the throttle linkage, using a 1.5mm Allen key. The return spring pulls the throttle lever towards the idle stop. Now push the collar gently up to the plastic tubing at the end of the throttle linkage and fix it there. Next, deal with the brake linkage in the same way. Again, the adjusting collar should only lightly touch the piece of tubing. Make sure that the brake lever is not under tension. Now the linkages have been adjusted to the idling position – that is, when you take your finger off the trigger on the transmitter, the engine will idle and the car can roll freely because the brake is not applied (or only minimally so). Now you can define the extreme deflections of each of the servos.

MAXIMUM SERVO DEFLECTION

The Kyosho Syncro and similar remote controls allow you to set the final positions of the throttle/brake servo separately for each direction of rotation. Pull the trigger all the way back towards the handle (full throttle), and set the EPA (End Point Adjustment) knob B to the maximum deflection of the throttle linkage, so that the carburettor slide opens the inlet completely. Then push the trigger away from the handle until it stops (full braking), and set the position of EPA knob A to the desired maximum braking power. The positions shown below are a good starting point.

Because the set screws are fixed to the adjustment collars with thread-locking compound, loosening them will require some force. Apply locking compound to the screw threads again before re-tightening them.



EPA knob A adjusts the maximum braking deflection of the throttle and brake servo, while EPA knob B sets its maximum throttle deflection. The STEERING DUAL RATE knob sets the deflection of the front wheels.

BODYWORK ADHESIVES

THE COMPONENTS OF THE DISPLAY BODY OF YOUR RB7 RACER MUST BE FIXED TOGETHER WITH SUITABLE ADHESIVES. HERE ARE A FEW TIPS ON THE GLUES TO USE AND HOW TO AVOID CAUSING ANY DAMAGE TO THE DETAILED FINISH OF YOUR CAR.

The display body of your RB7 is made of high impact polystyrene (HIPS). The characteristics of this plastic include good moulding and machining qualities and high impact resistance, so even the smallest parts – from the radio antenna to the pitot tube – can be accurately reproduced.

Most of the parts of the HIPS body are glued together. The manufacturer's production values have resulted in highly detailed parts, so it would be a pity if the perfect appearance of your model was disfigured by imperfectly glued joints. The following will help you to avoid this.

PROPERTIES OF ADHESIVES

A key difference between different types of glue is the way in which the adhesive connection is established. Many adhesives form an intermediate layer, to which the pieces are bonded once it hardens – the pieces are connected to each other indirectly. Other types of adhesive, however, connect the surfaces of the pieces directly, by modifying them chemically so that they are virtually welded together. With these adhesives, no visible adhesive layer remains and the adhesive is transparent when it has dried.

Three types of product for gluing the display body of your model. From left to right: model adhesive in a squeezable bottle with a dispensing needle, plastic glue in a bottle with a brush and – as a last resort – a little bottle of superglue. When using adhesives, always be sure that your workplace has good ventilation, and avoid inhaling the vapour.

The brush makes it easy to apply a thin film of adhesive. It is important not to let the glue drip when applying it.

A dispensing needle makes it very easy to apply the adhesive as precisely as you want it – especially when you need just a dot of it.

Conscientious modellers prefer adhesives of the latter type. Virtually all the adhesives described as 'plastic adhesive' or 'model adhesive' work in this way, welding the pieces together. For your model, only adhesives that are made specifically for use on polystyrene are suitable.

Ordinary superglue will also work on HIPS, but it is less satisfactory because the crystalline layer that it forms when it dries will not be transparent, it will be opaque white. While this is hardly noticeable when it is used for connecting the body segments together, because the joins are hidden, if you use it when attaching small parts, such as the antenna, the edges of the bonding area will be visible. Also, there is a possibility that superglue may prevent paint or varnish from adhering properly.

Another disadvantage of superglue is that it attaches the parts together indirectly rather than welding them together, so the join is less stable and less impact-resistant than one made with plastic adhesive. This is only an advantage if you want to have the option of undoing the adhesive bond again. As a rule, using plastic adhesive is the better choice.

PRECISION APPLICATION

When using an adhesive, of whichever type, take care to apply it only to the areas that you want to bond together. If you spread it or spill it elsewhere, it will spoil the surface finish of the component. Make sure that your chosen adhesive is one that can be used sparingly and precisely. Applying glue with a brush results in a particularly thin adhesive film – wipe the brush carefully on the edge of the container to prevent drops forming. A flexible bottle makes it easier to squeeze the glue out, glue from a tube is best applied with a toothpick, and adhesive dispenser syringes or needles are ideal for precise gluing.

Plastic adhesive from a tube is usually quite thick. As a result, it dries relatively slowly, so it's easier to adjust the positions of the pieces being glued. Use a wooden toothpick or thin piece of dowel to apply it to small areas and individual points.

Stage 85

NOSE AND FRONT WING

IN THIS SESSION, YOU COMPLETE THE NOSE AND FRONT WING ASSEMBLY BY ADDING THE FRONT WING STAYS TO THE LOWER NOSE AND MOUNTING IT ONTO THE WING. THEN YOU ADD THE CAMERA, THE NOSE TIP AND THE UPPER NOSE.

Tools & Materials

Phillips screwdriver (size 0)

1. Nose tip
2. Nose camera
3. Front wing stay holders (left and right)
4. Front wing stays (left and right)
5. 2 flat-head screws 1.4 x 8mm
6. 4 flat-head screws 2 x 8mm

01 For this session, you will need your model assembly and the parts supplied with this stage. You will also need the upper nose (supplied with Stage 84), the lower nose (Stage 17) and the front wing (assembled in Stage 03).

02 Place the lower nose on its side on your work surface, and line up the right front wing stay as shown above. The two holes on the stay's straight edge should line up with those on the lower nose, as shown by the two red arrows.

03 Insert and tighten the first of the four 2 x 8mm flat-head screws into the rear hole.

04 Next, position the right front wing stay holder into the curved recess on the stay.

05 With the stay holder in place, insert and tighten the second 2 x 8mm flat-head screw to secure the parts.

06 Turn the lower nose and wing stay assembly over and line up the left front wing stay with the side of the lower nose, as you did for the right stay in Step 02.

07 Tighten the third 2 x 8mm flat-head screw into the rear hole.

08 Lower the front left stay holder into the recess in the stay so that the holes line up, as indicated by the red arrow.

09 Secure the parts by tightening the last of the 2 x 8mm flat-head screws into the hole (arrowed).

10 Your lower nose assembly should now look like this. Make sure that the screws holding the front wing stays are fully tightened and that the stays cannot wobble from side to side.

11 Place the front wing assembled in Stage 03 flat on your work surface, and position the lower nose assembly directly above its centre so that the two wing stays line up with the raised sections indicated by the red arrows.

12 Fit the lower nose onto the front wing assembly. The bottom end of each wing stay has a small pin towards the rear edge, which fits into a corresponding hole in the front wing, as indicated by the red arrow.

13 Your assembly should now look like this. Make sure that there are no gaps at the join between the front wing stays and the wing.

14 Holding the assembly together, carefully turn it over so the underside of the front wing is facing upwards. Then insert the first of the 1.4 x 8mm flat-head screws into the arrowed hole.

15 Tighten the screw with a screwdriver.

16 Check that the pin on the other stay is still in position, then insert the other 1.4 x 8mm flat-head screw into the arrowed hole.

17 Tighten with a screwdriver, then check both screws to make sure that they are holding securely.

18 Lay your front wing and lower nose assembly on your work surface, as shown, and double-check that all the parts are attached correctly and securely, with no gaps.

19 Take the nose camera supplied with this stage and slot it into place on the front end of the lower nose, as shown in the photo.

20 Slide the nose camera backwards (red arrows) until it sits in the position shown in the photo.

21 Carefully lower the nose tip onto the nose camera.

22 The nose tip should sit neatly at the front of the lower nose, with the curved sides of the nose camera fitting snugly on each side.

23 Next, position the upper nose supplied with Stage 84 onto the lower nose, so that it sits neatly behind the nose tip, as shown by the red arrow.

24 This stage is done, and the nose and front wing assembly of your RB7 is complete, and ready to be fastened onto the front of the chassis at a later stage. Store the assembly away safely until next time.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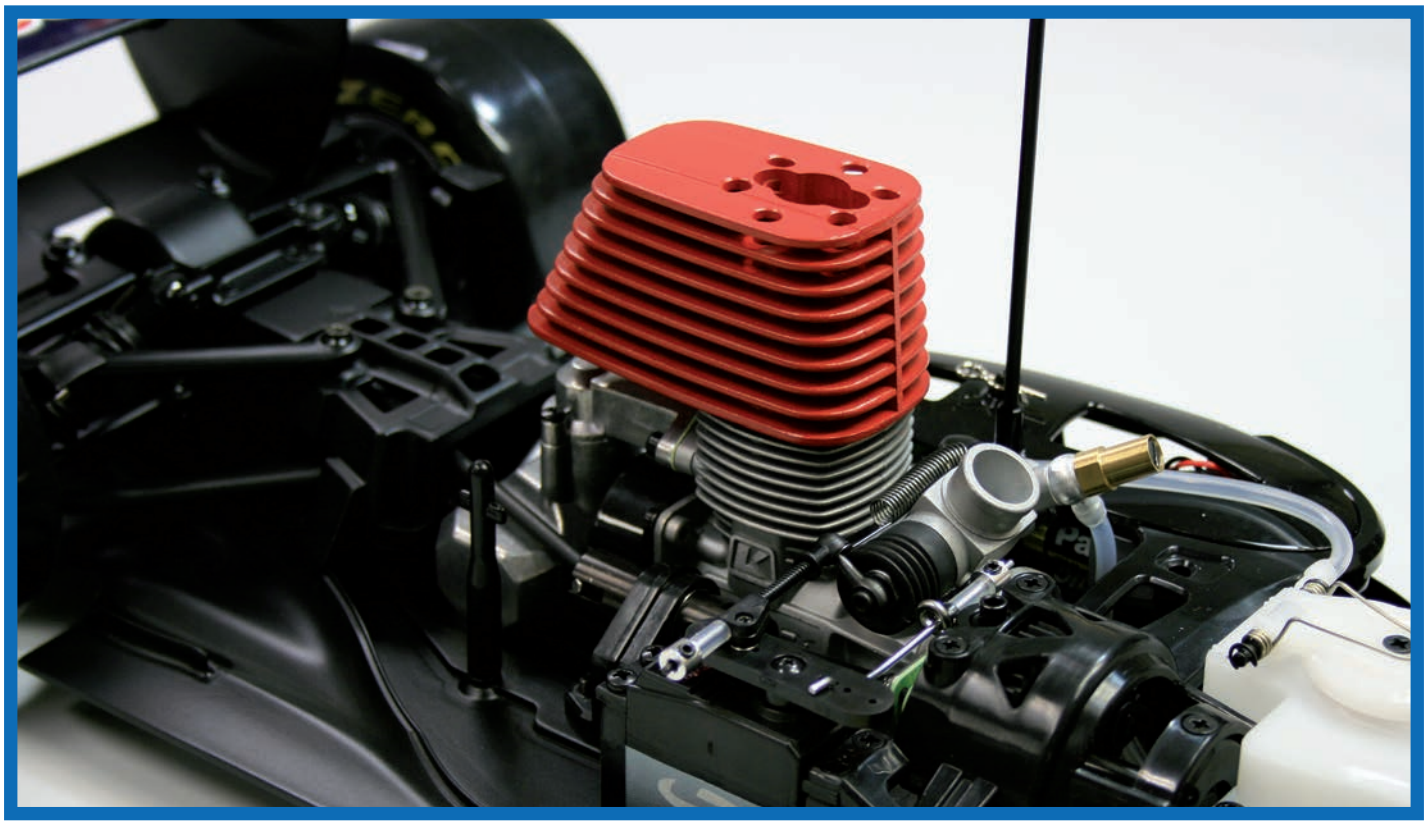


Stage 86

THE THROTTLE AND BRAKE RODS

IN THIS ASSEMBLY SESSION, YOU WILL FIT THE RODS THAT LINK THE THROTTLE AND BRAKE TO THEIR SERVO HORN.

Tools & Materials

- Clippers
- Needle-nose pliers
- Phillips screwdrivers (sizes 1 and 2)
- Allen key 1.5mm
- Craft knife
- Ruler
- Thread-locking compound

1. Brake rod
2. Throttle linkage rod
3. Throttle spring
4. 2 ball ends 5.8mm (for Stage 87)
5. 2 stoppers 2mm
6. Throttle linkage base
7. Ball end
8. 2 set screws 3 x 3mm
9. Washer 2mm
10. Flat-head screw 2 x 8 mm
11. Plastic brake collar
12. Silicone tubing 20mm

01 Before beginning, remove the helmet air filter by pulling it gently away from the engine's intake port (red arrow).

02 Next, remove the servo horn by undoing the screw at its centre.

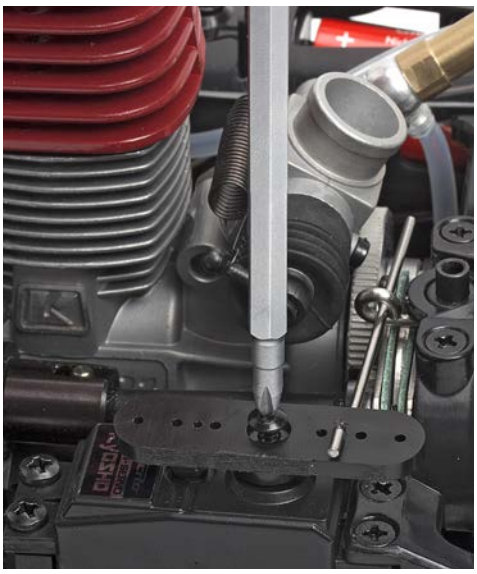
03 To ensure the servo horn doesn't get caught up during operation, use cutters to remove its shortest arm. Make sure that you cut a neat, straight line to follow the existing edge of the servo horn.

04 Slot the straight end of the brake rod into the indicated hole in the servo horn.

05 Pull the rod through until the angled section is resting against the servo horn. Then use needle-nose pliers to pull the bend through, so that the section of the rod that is at a right angle to the main part is inside the horn.

06 Your assembly should look like this, with the brake rod hooked neatly into the servo horn.

07 Holding the servo horn and brake rod assembly as shown, feed the rod's free end through the eye of the brake lever attached to your model's rear differential housing.



08 When your assembly looks like the one in the photo, line up the servo horn and re-insert and tighten the screw removed in Step 02.

09 Next, tighten the ball end onto the threaded tip of the throttle linkage rod.

10 If you find tightening the ball end difficult, wrap the base of the rod in cloth to prevent any damage, then grip it with needle-nose pliers for a firmer hold.

11 Your assembly should look like this, with the threaded tip of the rod fully concealed within the ball end.

12 The throttle linkage rod will be attached to the free side of the servo horn. Place the 2mm washer over the circled hole.

13 Now lay the throttle linkage on your work surface and insert the first 2 x 8mm flat-head screw supplied with this stage into the arrowed hole.

14 Holding the part with needle-nose pliers, lower the projecting screw tip into the hole of the servo horn, making sure it runs through the 2mm washer first.

15 Turn the screw to secure the parts, but don't screw it in too tightly. Leave it just loose enough for the throttle linkage base to be able to swivel easily from side to side.

16 Slide the throttle spring over the free end of the throttle linkage rod and along so that it rests against the ball end.

17 With the spring in position, insert the free end into the arrowed hole in the linkage base. Keep feeding the rod through until the spring rests against the side of the linkage base.

18 Rotate the linkage base and rod so that the rod's ball end lines up with the throttle lever on the carburettor (red arrow). Then push the ball end onto the throttle lever until it snaps into place.

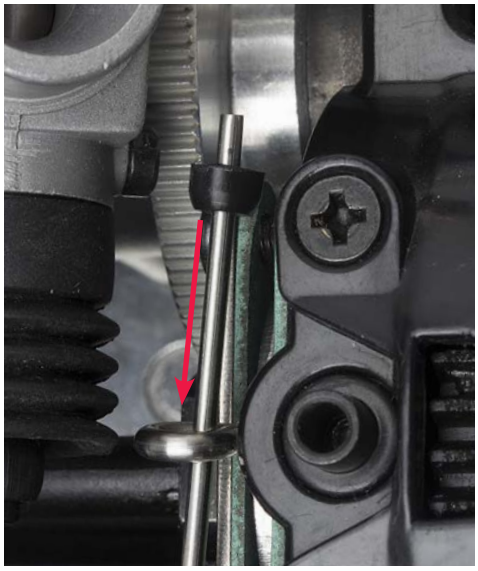
19 Use a knife and ruler to carefully cut the silicone tubing into two 10mm lengths.

20 Slide one of the lengths of tubing over the exposed end of the throttle linkage base.

21 Place one of the 3 x 3mm set screws supplied with this stage onto the tip of a 1.5mm Allen key, then dab it with thread-locking compound. Move on to the next steps quickly, before the compound has time to dry.

22 Place the set screw into the threaded hole in the side of one of the 2mm stoppers and tighten it by only a few turns.

23 Push the stopper, as shown, over the tip of the throttle linkage rod. Once it's in position, tighten the set screw fully with the Allen key to secure the part.



24 Make sure the brake rod is centred and not coming into contact with the brake pads, then slide the plastic brake collar over the free end and along the rod, as indicated by the red arrow.

25 When the plastic brake collar is in position, slide the second 10mm length of silicone tubing onto the brake rod (see red arrow).

26 Prepare the other set screw as you did the first one, by placing it on an Allen key and dabbing it with thread-locking compound.

27 Insert the screw into the second 2mm stopper, and tighten it by only a few turns.

28 Slide the stopper over the free end of the brake rod so that it rests against the silicone tube, but with no pressure on any of the brake components, then tighten the set screw fully to secure the parts.

29 This stage is now complete. Your assembly should look like this, with the throttle and brake rods secured and sitting roughly parallel to each other when the servo horn is straight. Store your assembly away safely until next time.

Stage 87

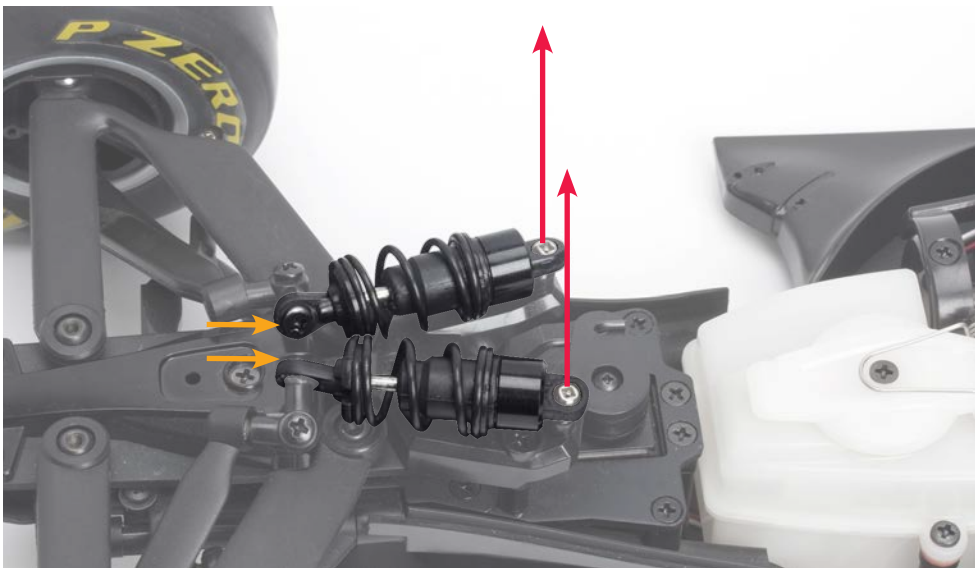
UPGRADING THE FRONT SHOCKS

ON ROUGH SURFACES, YOUR RB7 WILL PERFORM BETTER WITH AN INCREASED GROUND CLEARANCE. USING THE TWO BALL ENDS SUPPLIED WITH STAGE 86, YOU CAN EXTEND THE LENGTH OF THE FRONT SHOCKS TO BRING YOUR MODEL UP TO RACING SPECIFICATION.

Tools & Materials

To upgrade your front shocks to racing spec, you will need the two 5.8mm ball ends supplied with Stage 86.

Needle-nose pliers
Phillips screwdriver (size 2)
Cloth



01 The left and right air intake parts supplied with this stage will not be used until the next assembly session, so store them safely until then. To begin this session, first remove the two black screws indicated by the orange arrows, and place them safely to one side. Then pull the front shock absorbers upwards, in the direction of the red arrows, to free them from the silver-coloured ball-headed screws.

02 Wrap needle-nose pliers in a cloth, then firmly grip the piston rod of one of the shocks. Now you can unscrew the ball end with your fingers, and then pull off the shock spring and the two spring holders. Set these components to one side.

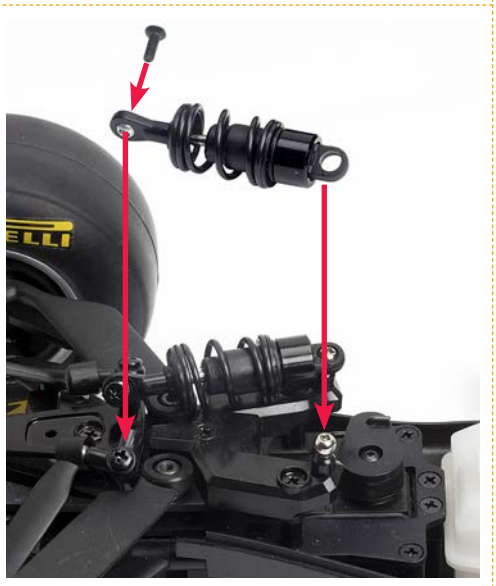
03 Push the pillow ball out of its socket (red arrow). Using the tip of a screwdriver or needle-nose pliers will help you do this, but be careful not to damage the part.

04 Take the first extended ball end supplied with Stage 86 and press the pillow ball into the socket.

05 Grip the shock piston rod with needle-nose pliers (again, wrap these in cloth) as you did in Step 02, and screw the new ball end onto the rod's tip until there is a gap of 7mm between the ball end and the shock case.

06 To reassemble the extended shock, first slide the upper spring holder over the piston and shock case, followed by the shock spring, as shown.

07 To complete the first upgraded shock, pull the shock spring down and press the lower spring holder into place around the base of the new ball end (see Stage 26 for further details). Repeat Steps 02-07 to complete the second shock.



08 To reattach the extended shocks, place the screws removed in Step 01 back through the shocks' pillow balls, and tighten them into their respective holes in the front pushrod cranks. Then press the sockets in the shock tops over the ball-headed screws on the front shock mount. This assembly session is now complete.

Stage 88

THE DISPLAY BODY

WITH THIS STAGE YOU HAVE RECEIVED MORE PARTS OF YOUR RB7'S DISPLAY BODY. WHEN YOU HAVE FITTED THEM TOGETHER, THEY WILL BE READY TO BE MOUNTED ONTO YOUR MODEL.

Tools & Materials

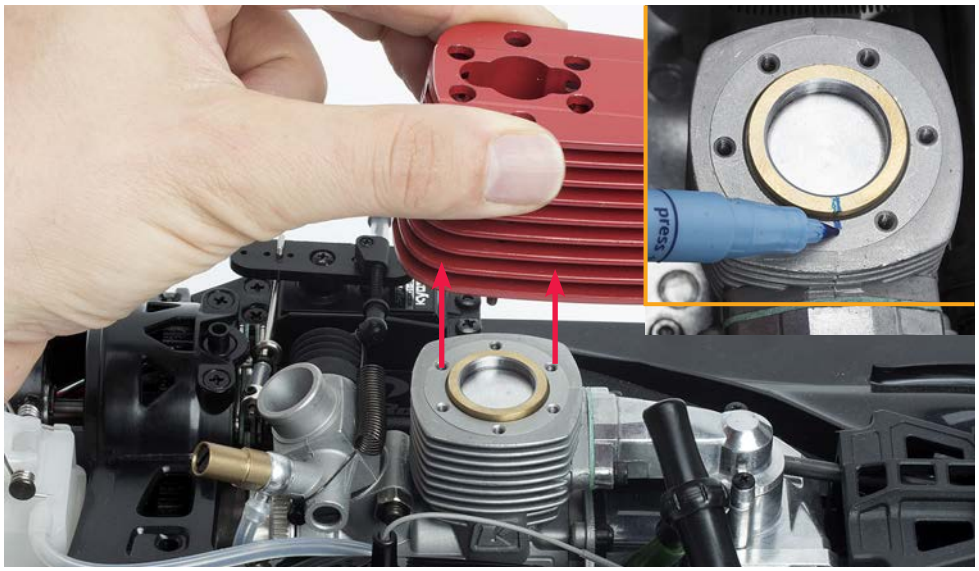
- Allen key 2mm
- Cloth or plastic sheet
- Elastic band
- Modelling adhesive
- Phillips screwdriver (size 2)

1. Middle body
2. Side protector
3. Dome-headed screw 3 x 8mm

01 For this session, you will need your model RB7 racer and the components that make up the front body and nose (Stage 84), the nose and front wing assembly (Stage 85) and the left and right air intakes (Stage 87). You will also need the display helmet that you decorated with official decals in Stage 10.

Painting the body: The display body is made of high-impact polystyrene (HIPS) that has been produced in the colours of the real RB7. As such, it can be assembled as shown in the following steps. For an expert finish, however, you may choose to paint your display body. If you choose to do this, ensure that you use a paint that is suitable for HIPS models. Painting should be done one colour at a time and prior to assembly, so only assemble parts of the same colour during the following steps. Ask your model shop for suitable dark metallic blue and yellow paints to match the Red Bull RB7 livery.

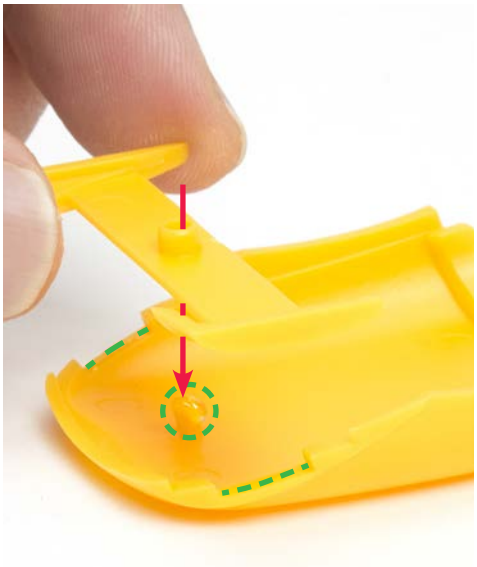
02 The chassis of your RB7 is currently set up for race-ready use. To fit the display body, a few adjustments are necessary to ensure everything fits within the bodywork. First, remove the antenna's tubing and store it in a safe place. The antenna itself should remain attached.



03 The next step is to remove the cylinder head carefully from the engine. To do this, unscrew the six cap screws and lift the cylinder head away from the crankcase. Make sure to keep the two gaskets in a safe place, together with the cylinder head. Note: to ensure all the parts line up again correctly on reassembly, mark a line in ink across the top of the piston liner and onto the crankcase (inset).

04 To protect the engine, cover the open crankcase top with a piece of plastic or oil-soaked cloth and secure it with an elastic band.

05 To begin the assembly work, remove the two yellow nose parts from the front wing, as shown. Remember, if you are planning to paint your RB7's display body, the parts should be painted before assembly (see Step 01).



06 Place the parts on your work surface facing up, then dab the sections indicated by the dotted green lines with modelling adhesive. Then press the parts together, as was done for the test-fit, and set aside to allow the glue to dry.

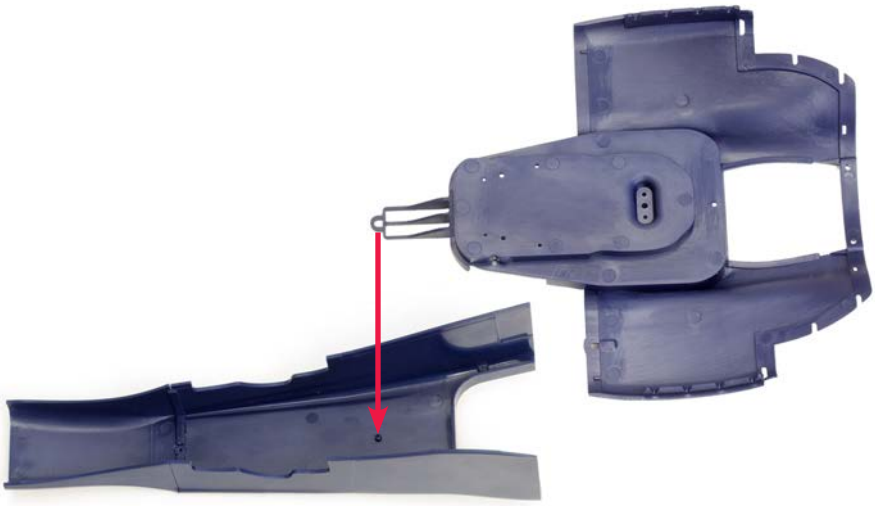
07 Very carefully apply some glue along the front of the front wing, as shown by the dotted green line.

08 Set the yellow nose assembly built in Step 06 onto the front wing, where the glue was applied in Step 07. Press down to secure the parts and leave to dry fully before proceeding.

09 Apply some glue to the front edge of the front body, marked here with a dotted green line, then press the lower nose up against it as indicated by the red arrow. Let the glue dry fully.

10 Place the middle body flat on your work surface, and carefully apply glue to the edge marked with the dotted green line. Be very careful not to let the glue spill over onto the sides of the part.

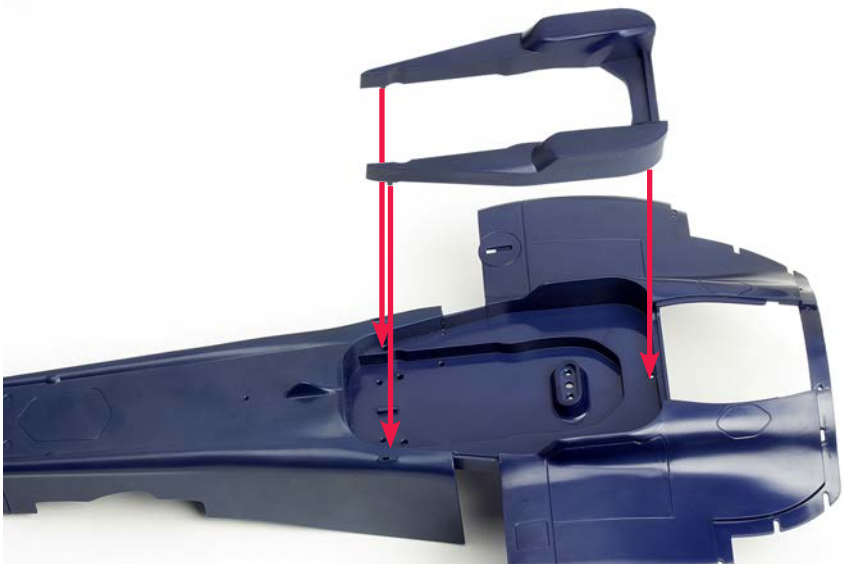
11 Immediately, before the glue applied in Step 10 has dried, apply more adhesive to the areas at the tip of the middle body marked here with the dotted green lines.



12 Lay the front body and nose assembly, glued together in Step 09, on your work surface with the underside facing up. Then, with the middle body also with its underside facing up, lower the part into place. The round hole at the very tip of the middle body should sit around the small pin at the centre of the front body's underside (see red arrow).

13 The front and middle body should meet neatly along their shared edges, with the pin sitting neatly within the hole at the tip of the middle body, as shown.

14 Next, lay the side protector on your work surface, with its underside facing up, and apply glue neatly to the edges marked with the dotted green lines.



15 With the front and middle body assembly positioned on your work surface as shown, lower the side protector into place in the cockpit area, as shown. The three pins on the underside of the side protector should sit inside the three holes in the middle body's cockpit (indicated here by the red arrows).

16 Next, lower the helmet (Stage 10) into place on the raised section of the cockpit, as shown by the red arrow.

17 Holding the parts in place, turn the assembly around and insert and tighten the 3 x 8mm dome-headed screw into the hole in the underside of the cockpit.

18 The next step is to attach the left and right air intakes (Stage 87). To do this, first test-fit the left air intake by slotting it into place between the middle and front body parts, as shown.

19 When you are happy with the fit, remove the part and apply glue to the edges marked with the dotted green lines.

20 Now place the part back in position on your assembly, making sure there are no gaps between them. When neatly in place, press the parts together with your fingers and hold for a few minutes until they remain in place on their own.

21 Repeat Steps 18 to 20 to attach the right air inlet.

22 When the parts are secure, you can place the bodywork onto your model, as shown. This stage is now complete.

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