DeAGOSTINI MODEL SPACE™

Red Bull racing
FORMULA ONE TEAM

RB7

RADIO CONTROLLED • BUILD IT YOURSELF • NITRO ENGINE

Pack 12

Stages 45-48

Contents

Stage 45

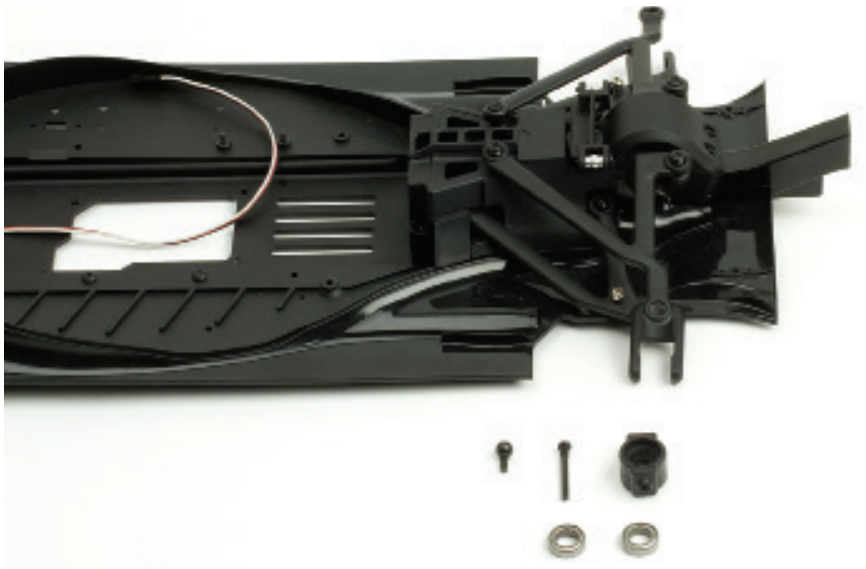
FITTING THE LEFT REAR HUB CARRIER

IN THIS SESSION, YOU CONTINUE WORKING ON THE LEFT REAR SUSPENSION, CONNECTING THE UPPER AND LOWER WISHBONES TO THE HUB CARRIER.

Tools & Materials

Phillips screwdriver (size 2)

1. Left rear hub carrier
2. 2 ball bearings 8 x 14 x 4mm
3. Screw pin
4. Ball-headed screw 6.8mm



01 Position your RB7 on your work surface as shown, facing to the left with the new parts in front of the left rear suspension. The hub carrier will connect the upper and lower wishbones, so that the rear wheel shaft and eventually the rear wheel can be fitted.

02 Familiarise yourself with the rear hub carrier. The circular recesses will house the ball bearings, and the hole in the top and projection at the bottom will connect the part to the two wishbones.

03 Fit the ball-headed screw into the hole in the top of the hub carrier, as shown by the arrow. Screw it in by hand to begin with.

04 Tighten the ball-headed screw with a screwdriver, making sure not to overtighten it as that may damage it.

05 Your assembly should now look like this.

06 Place one of the ball bearings into one of the recesses in the hub carrier, as shown here.

07 Press the bearing into place – it should fit snugly, sitting flush with the surface of the carrier.

08 Turn the hub carrier over and repeat Steps 06 and 07 with the second ball bearing.

09 Place the hub carrier assembly flat on your work surface, positioned as shown in the photo for Step 08. Then slide it in between the arms of the lower wishbone (red arrow), making sure that the hole through the carrier's lower section (see blue arrow) is perfectly aligned with those on the ends of the wishbone's arms.

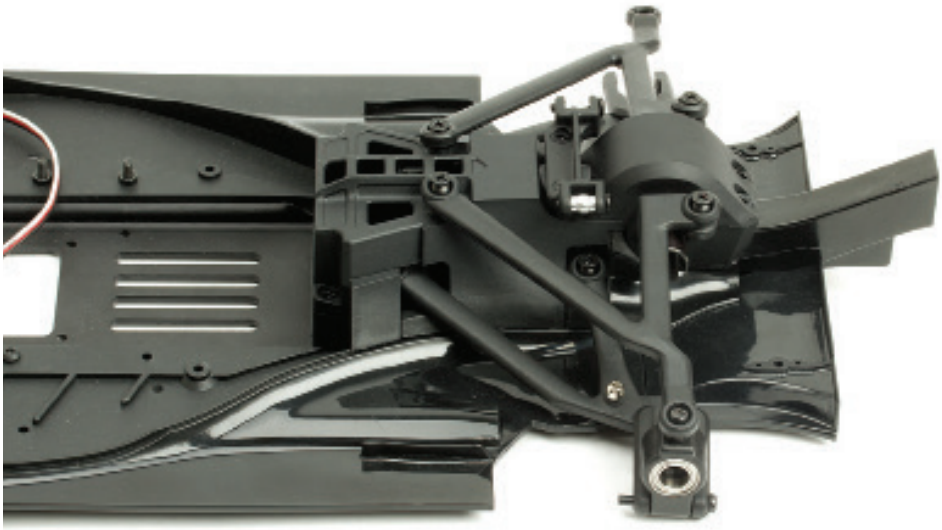
10 Make sure the holes in the carrier and the lower wishbone are correctly aligned, as shown by the circle.

11 Place the screw pin into the right-hand side of the lower wishbone, and push it through until its tip is visible at the left-hand side.

12 Tighten the screw pin with a screwdriver.

13 Check that the hub carrier is able to move up and down freely. If it sticks, loosen the screw pin by a quarter turn. Position the carrier vertically, as shown in the photo.

14 Position the upper wishbone so that the socket at the end of the longer control arm is sitting on top of the ball-headed screw. Press down on the control arm until the part clicks into place, with the ball inside the socket.



15 This stage of assembly is complete, and your model should look like this, with the hub carrier connecting the two rear wishbones, ready to accommodate the left rear wheel shaft and wheel.

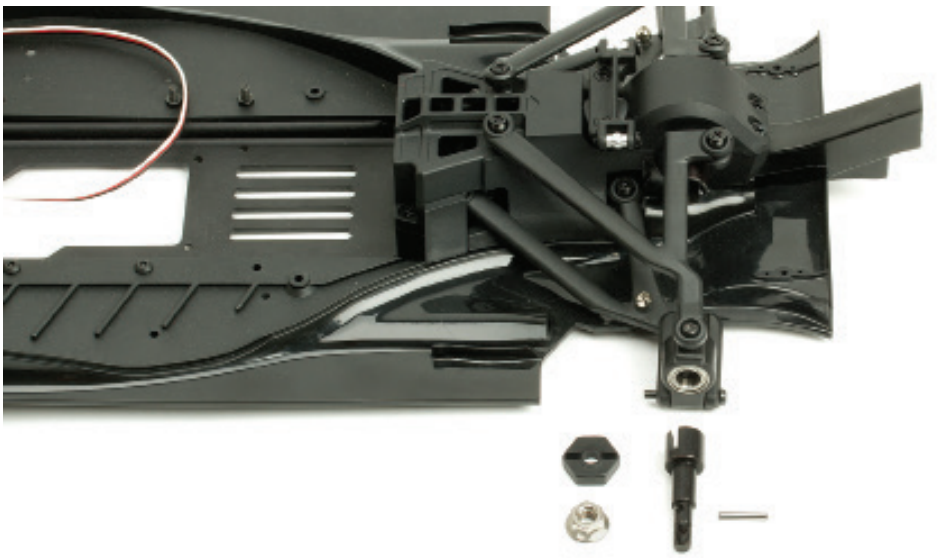
Stage 46

LEFT REAR WHEEL SHAFT

IN THIS ISSUE, YOU WILL CONTINUE WORKING IN THE AREA OF YOUR RB7 RACER'S LEFT REAR SUSPENSION BY FITTING THE SHAFT THAT WILL CARRY THE LEFT REAR WHEEL.

Materials

1. Drive washer
2. Left rear wheel shaft
3. Flange nut 6mm
4. Pin 2.5 x 16mm



01 Position your RB7 on your work surface as shown, facing to the left, with the new parts in front of the left rear hub carrier and suspension. This will give you an idea of where the parts will fit.

02 At one end of the wheel shaft there is a slot, and near the threaded end there is a hole through which the pin will be inserted.

03 Hold the wheel shaft with the threaded end pointing away from the chassis, and push it through the left rear hub carrier from the inside.

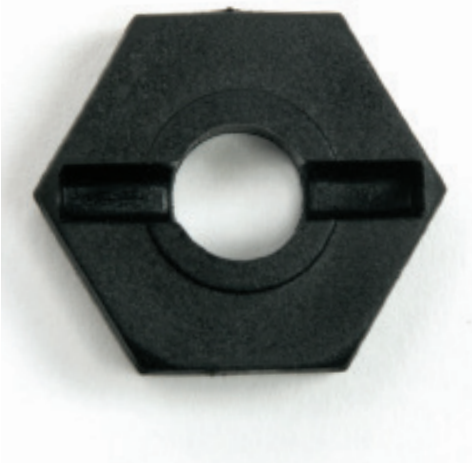
04 Slide the shaft through the hub carrier until the threaded end protrudes.

05 Push the shaft through the hub carrier until the hole near the threaded end is fully visible (arrowed).

06 Rotate the shaft so that the hole is horizontal.

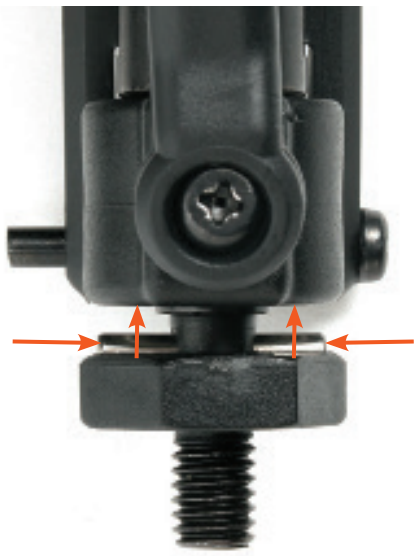
07 Insert the pin into the hole.

08 Adjust the pin so that equal lengths of it protrude from each side of the shaft.



09 Locate the groove across one face of the drive washer.

10 Slide the drive washer over the end of the wheel shaft, with the groove facing towards the pin that you fitted in Step 07.

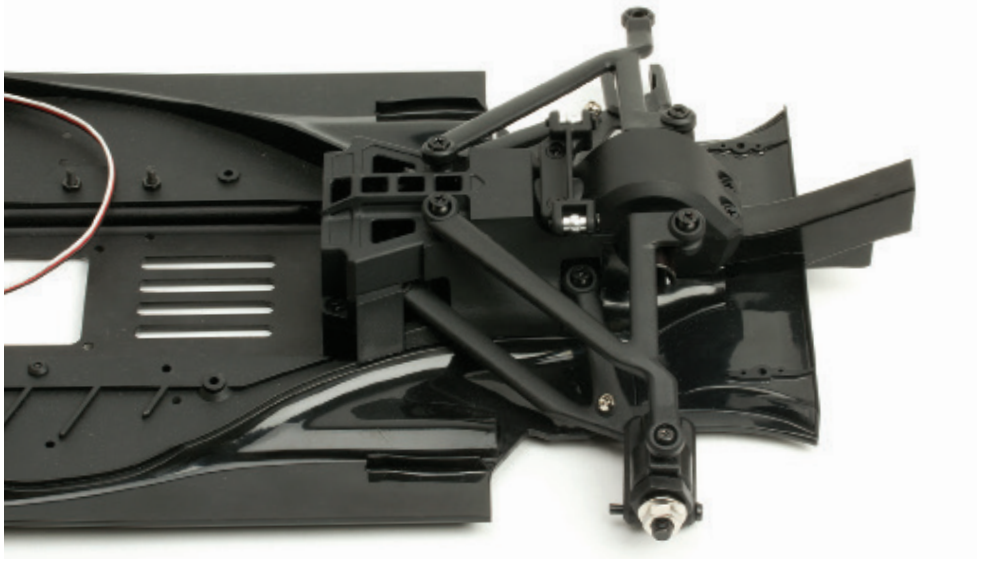


11 Push the drive washer towards the hub carrier and seat the pin within the groove.

12 Push the drive washer up against the hub carrier, as shown in the photo.

13 Fit the 6mm flange nut over the tip of the wheel shaft.

14 Turn the flange nut clockwise by hand to tighten it until it begins to turn the wheel shaft.

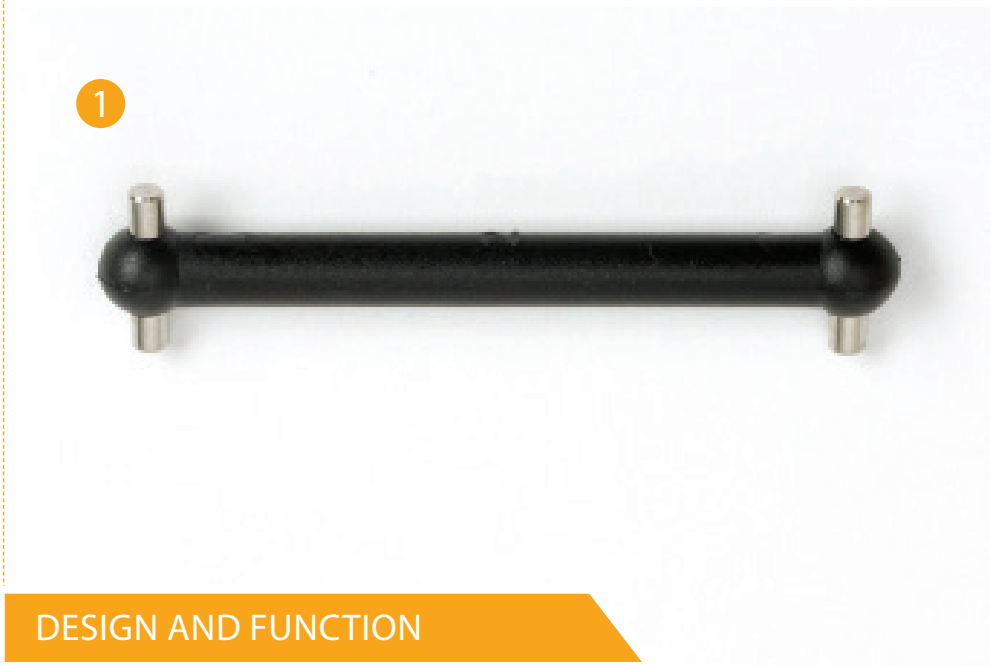


15 This stage of assembly is now complete, and your model should look like this.

Stage 47

THE LEFT DRIVESHAFT

THE LEFT DRIVESHAFT TRANSMITS ENGINE POWER FROM THE DIFFERENTIAL TO THE LEFT REAR WHEEL SHAFT AND THUS TO THE LEFT REAR WHEEL.



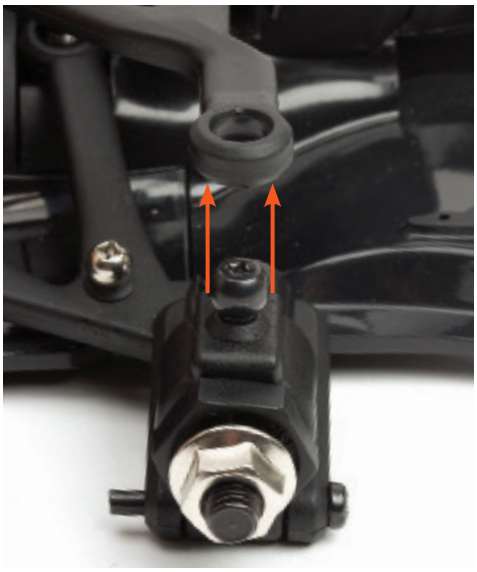
Materials

1. The left driveshaft

DESIGN AND FUNCTION

The job of the driveshafts is to transmit the engine power from the differential to the rear wheels. The parts come under enormous stress while driving, often reaching speeds of 1,000 to 5,000rpm. In addition to this, any shock or impact on the suspension is passed directly onto the driveshafts.

To cope with all of this, driveshafts are designed to be very stable. For your RB7 racer, each driveshaft's durable, 6mm-thick plastic middle section provides the required rigidity, and a widened spherical section at each end carries a 14mm-long driving pin of solid steel. The metal pin at the inner end of the driveshaft fits into the slots in the differential shaft, so that the differential shaft can rotate the driveshaft. At the outer end, the pin fits into corresponding slots on the wheel shaft and causes it to turn with the driveshaft, completing the transfer of power to the wheel itself. Because of the shape of the driveshafts, they are referred to in RC slang as 'bones'.



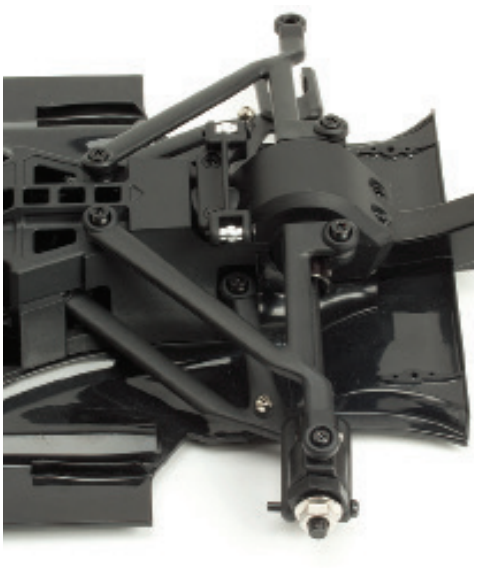
01 Place your RB7 racer on your work surface, facing to the left. Carefully pull the left rear wishbone and hub carrier apart, so that the ball-headed screw on the top of the carrier comes out of the hole in the wishbone.

02 Place one end of the driveshaft into the differential shaft, as shown. The metal pin should fit into the slots in the differential shaft.

03 Holding the driveshaft in place within the differential shaft, position the hub carrier so that the metal pin at the outside end of the driveshaft lines up with the corresponding slots in the inside of the wheel shaft. Then tilt the hub carrier up so that the driveshaft fits into the wheel shaft.

04 Your assembly should now look like this. Make sure that both ends of the driveshaft are sitting within the slots in both the differential and wheel shafts.

05 Re-attach the left rear wishbone and hub carrier by lining up the ball-headed screw with its socket and pushing the two together firmly until the ball clicks into place.



06 Check that the ball is properly fitted within the hole in the wishbone and that your assembly looks like this. The rear left suspension system is now nearly complete.

Stage 48

FIRST REAR SHOCK ABSORBER

IN THIS SESSION, YOU WILL ASSEMBLE THE FIRST OF YOUR MODEL'S REAR SHOCK ABSORBERS. THIS COMPONENT IS ALMOST IDENTICAL TO THE SHOCKS YOU FITTED AT THE FRONT OF YOUR CAR, APART FROM THE ADDITION OF A SPRING SPACER NEXT TO THE SHOCK CAP.

Tools & Materials

Needle-nose pliers
Shock absorber oil (supplied with Stage 4)

1. Shock absorber body
2. Shock absorber spring
3. Shock absorber shaft
4. E-rings (E2.5) x 2
5. Spring holder (lower)
6. Spring spacer
7. Spring holder (upper)
8. Shock absorber top
9. Diaphragm
10. Shock piston
11. Ball end

01 Using needle-nose pliers, clip one of the E-rings into the first groove on the unthreaded end of the shock absorber shaft.

02 Push the piston onto the shaft (see red arrow) until it rests up against the E-ring.

03 Clip the second E-ring into the other groove. The shock piston is now sandwiched between the two rings.

04 Remove the pre-fitted end cap from the shock absorber body so that the threaded section is visible. Then, holding the body as shown, push the shaft into the case until it protrudes through the hole at the other end (see Step 05).

05 Cover the threaded section of the shaft with a cloth to protect it from scratches, then use needle-nose pliers to pull the shaft as far out of the case as it will go. Hold the shaft in place, then screw the ball end on a little way.

06 Now screw the ball end further onto the shaft, until the exposed portion of the shaft measures exactly 8mm, as shown above.

07 Holding the cap as shown, push the shock absorber top into the hole in it (indicated by the red arrow) as far as it will go.

08 Holding the shock absorber body upright and with the shock shaft fully extended, carefully begin to pour in the shock absorber oil you received with Stage 4 – there should be enough left over from the work you did on the front shocks.

09 When the oil level nears the top of the body, move the shaft slowly up and down so that the oil spreads throughout the assembly and displaces any air below the piston. Repeat this process until no more bubbles appear.

10 When any air bubbles are gone, carefully fill the case to the brim with shock absorber oil. Make sure that no more bubbles are formed when you add the oil, and that no oil overflows onto the outside of the body.

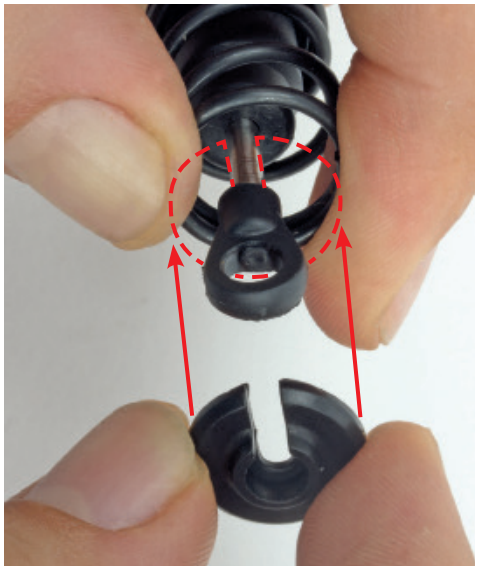
11 Hold the diaphragm with needle-nose pliers so that the domed side is facing downwards. Slowly place it on top of the body, taking care to avoid creating air pockets in the oil.

12 Wipe away any excess oil using a cloth, then take the shock absorber cap and top assembly and screw it onto the threaded section of the body. Turn it in the direction of the arrow until tight.

13 Holding the shock absorber body as shown, slide the spring spacer over the shaft until it rests against the ridge at the base.

14 Next, use needle-nose pliers to fit the upper spring holder over the body and slide it down so that it rests on top of the spring spacer.

15 Place the spring over the shaft at the end of the body so that it rests on the upper spring holder.



16 Hold the body assembly in one hand and pull back the spring, as shown. Place the lower spring holder in the gap on the shaft between the spring and ball end. Gently release the spring so that it comes to rest as shown in Step 17.

17 The spring should fit comfortably within the ridge on the underside of the lower spring holder, as shown.

18 This session is now complete, and your assembly should look like this. The plastic spring spacer is designed so that it can be removed without having to take the shock body apart.