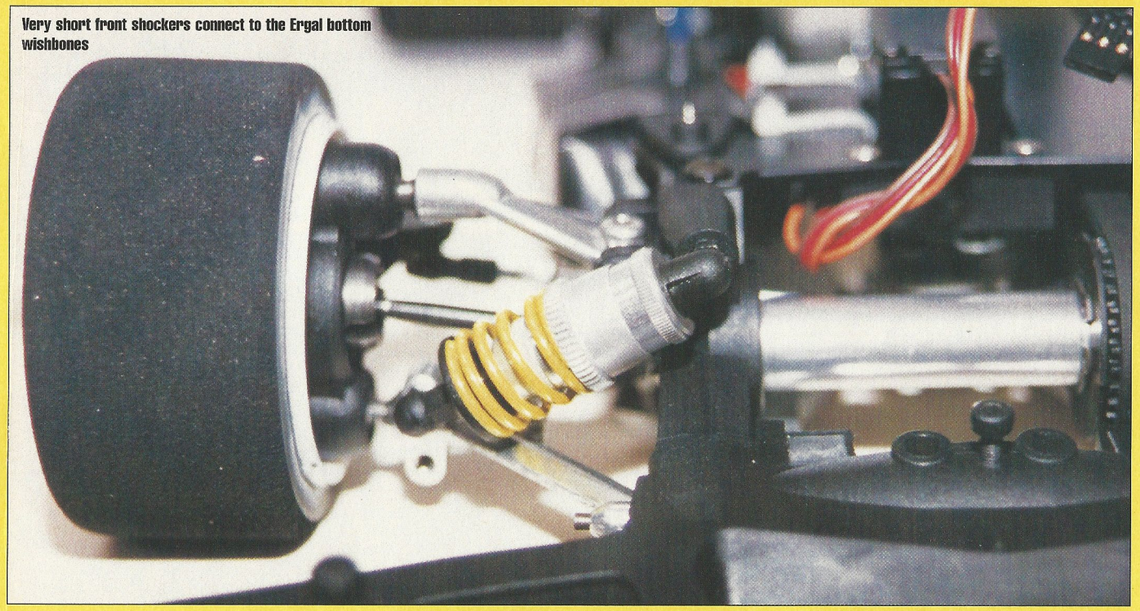
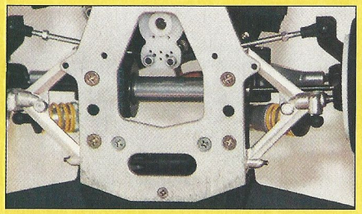
Phil Jones



Very short front shockers connect to the Ergal bottom wishbones



Here you can clearly see the servo saver and the front bumper attachments

The Picco RS 600 Compact

Benchmark

Getting started

The RS 600 Compact kit can be specified to have the latest P6 car turbo CL unit. This has a single point top end adjustment carburettor for easier tuning, and includes the manifold and a tuned pipe. Now it has been a couple of years since I last put a car together so on opening this box was I surprised to find all the parts in numbered packages. This was going to be easier than expected. The assembly instructions booklet really makes things easy, even for the first time builder, there are only a few places in the entire book where a few words could have helped, nothing that time would not sort thought.

Assembling the rear end

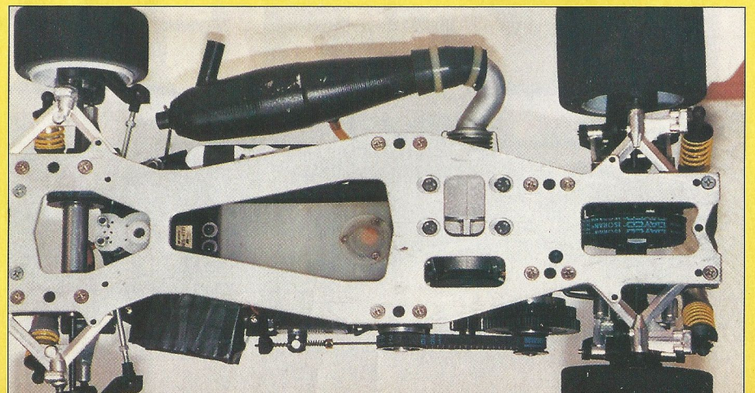
Bag 1 gives you the rear drive gear, and does not need any special skills here as long as you can find that 17 mm spanner!

Bag 3 comes before bag 2 in the book, (don't ask me why, find an Italian and ask him). A bit more for the brain cells in this bag. The Two speed gearbox came with a 50 toothed first gear and 46 second gear. Additional gear ratio's are 51,52 first & 45,47 second. Well worth putting a spot of paint on the single adjusting screw making it easy to find and adjust, also, if you trim the inner flanges of the gears they will seat better on the carriers. The 16 tooth gear transferring power to the front wheels is held in place with a small circlip, (careful with this one, someone at the factory must have had a bet who could make the smallest circlip) even your 'bestest ever' pair of circlip pliers are going to have fun with this one! Definitely worth having a few spares of these in the pit box.

Next up for build is bag 2, rear bulkheads, upper & lower Ergal wishbones.

These exploded diagrams could not possibly make things any easier. The only note worth making in this bag is perhaps running a trimming knife around the plastic wishbone bushes to make fitting into the Ergal wishbone a bit easier, I actually found it simpler to run the knife around the Ergal wishbone itself. Also, running a 3 mm tap down the ball stud holes in the bearing blocks for the rear shocks, will make aligning these very small threads much easier, this plastic is next to bullet proof. Spending some time on this stage, with the rear upper pivot balls, just polishing these balls with a bit of wet and dry to remove any high spots and to achieve a smooth action when in the bearing block will make all the difference. The aim is for the Ergal wishbones to drop down under there own weight, a small drop of silicon oil in the housing will help. To stop the top pivot balls unscrewing during racing, a 2 mm hole has been drilled through the threaded section of the pin into which you have to push a 2 mm piece of nylon down through the hole and cut each end flush with the threads. On screwing the pins into the Ergal wishbones this will tighten up as the nylon is forced into the Ergal wishbone. Don't leave too much on each end as it makes it very tight to adjust. It is a good idea to tape the bit that's left into your pit box, otherwise it will be mistaken for scrap and lost. With the top Ergal wishbone sorted, the bottom rear Ergal wishbone pin can be inserted through the bottom of the block. At this point its worth grinding a small angle on the ends of the pins to help guide through the Ergal wishbone bushes and in to the blocks, before pushing the pins through the blocks it is well worth getting that 3 mm tap out again and running it down the back half of the bearing blocks as later on when the pin is in place, a grub screw-retains it. Making sure that everything is now free it is time to move into bag 4.

The completed chassis already shows some 'battle damage' from early testing



The Anti-roll bar and the brakes

You will already have placed the brake pins into the bearing block by now, and now it is worth just deburring the brake pads before placing them on the pins. The anti-roll bar now needs to be put together, the balls need to soldered onto the roll bar ends, and the drop links should be made up and checked that both are the same length, which as the book shows is 50 mm, I found that they could in fact be set to 55 mm for extra clearance over the top Ergal wishbone.

After placing the bearing blocks on the chassis, but before screwing them down, place the rear anti-roll bar in the slots across the top of the bearing blocks, check to see whether you will need to drill out the slot, as when the brake cam mounting plate is later attached, everything tightens up, this is easily cured by removing the anti-roll bar and replacing the brake cam mounting and then running a 3.1/3.2 mm drill bit through the slot, taking a small gusset from the out side back edges of the blocks with a trimming knife at the same time. While you have the brake cam mounting bracket to hand it is worth removing a small amount of plastic from just above the left hand brake disc, to stop it fouling later on when the brake discs are installed.

You should now be nearly ready to put the back end together and screw it all down onto the chassis in a finished state. Just before you do make sure that you have put the bottom brake cam bushing into the chassis and checked that the brake cam will actually turn when it is in the chassis, a 6.1 mm drill bit will come in handy about now. Now is the time to screw in the down stop grub screws for the rear Ergal wishbones, the holes in the chassis seem to be coned shaped to stop the grub screws from unwinding themselves under racing conditions, but putting the Allen key through the chassis from the bottom and then placing the grub screw on the Allen key and winding both anticlockwise the grub screw will screw itself into the chassis. later these are threadlocked to retain there position, after setting up the chassis is now complete. To save you having to take the whole assembly apart later it is worth cleaning up the brake discs now. Take the 21 toothed pulley/brake disc holder and locate the discs onto the holder, seriously tight no doubt, so make them slide fit and clean up all the edges, this will make for a smooth set of brakes rather than a uncontrollable car for the first 20 minutes on the track. Picco are in the process of making a metal vented unit which will be standard in the kits.

"This was going to be easier than expected"

Assemble the assembly (!)

Now the whole assembly can be put together and placed onto the chassis, but don't forget that little plastic gear box spacer that came in bag no 2 or 3 or was it 4! Put it behind the gearbox before you mount the box into the bearing blocks. I am in two minds whether or not to superglue the washer to the gear drive dog now and forget about it, perhaps not at this stage but maybe later. Bag No 5 gives you the built up sequence for the rear hub carriers and quick release wheel bits and pieces, nothing to slow you down here, and move straight on into the bag marked 6. Here you get to finally put all the other bits on to the rear of the car like, drive shafts, and that 50 mm spring, which goes a long way if you drop on the garage floor, body mount support brackets, but not shocks, you have to wait a bit longer for them!

Bag 7 beckons

Bag 7 gets you started on the back end of the front drive chain, or something like that! Rear blocks, Rear radio tray support, middle bearing blocks, anti-roll bar mounting blocks, call them what you will, they are two small blocks that carry the rollover bar, radio tray, bearings for the middle shaft along with an outer pulley with 26 teeth which picks up the transfer pulley on the end of the gearbox. Via a short 6 mm belt this then carries a 23 teeth pulley transferring power to the solid front axle via a long belt which does not seem to need a tensioner. Onto bag 8. Front bulkheads, bearing, solid axle, drive shaft carriers. It will take longer for the water to boil in the kettle for coffee than put this bit together. It is worth noting that the up stop and down stop grub screws are reverse fitted into there respective places on the chassis at this time in the front end of the chassis in the same way as described for the rears. Note that the rear grub screws are M4 x 8 and the fronts are M4 x 6.

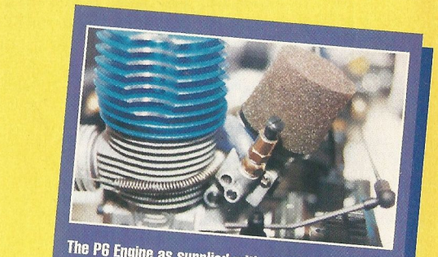
Front suspension

Bag 9 gets you into the front Ergal wishbones, all of which have gone together without any pinching or relieving being needed. Don not tighten up all the grub screws at this point as this bag does not contain the front anti-roll bar assembly which also has to be fitted to the front lower Ergal wishbones.

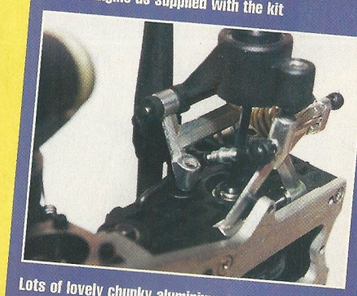
Bag 10 gets the front hub carriers and quick release axles build with no problem. If you spend the time now, it will pay dividends later, get the pivot balls smooth and free within the front hubs with a little silicone oil to finish off. Again they need to drop under there own weight. These can now be fitted to the front blocks but remember to place the 'O' rings in the solid axle carrier and the end of the axles. When placing the drive shafts in the hub carrier make sure that the end of the drive shaft with the tapered end facing out, this allows clearance for the steering at full lock. Bag 11 gives you that heavy duty anti-roll bar, worth polishing one end of the bars so to slot through the lower Ergal wishbone mounting before being held with a small grub screw. Also in this bag is the front bumper with body posts and clips. Three screws to fit but for improved access to the front anti-roll bar later on makes it worth leaving off for now.

Tricky bit

Bag 12. The Fuel Tank, and probably the hardest bit in the whole kit to put together! I personally found it very hard to actually push the filter up into the tank without thinking that something was going to snap. I ended up winding the filter into place with the aid of two sockets and the vice! This filter will not be replaced, the whole tank would be replaced as I cannot see the filter coming back out without something breaking. The Cap spring did prove to be easier than I was expecting, careful thought at the assembly stage had told someone not to cut off the ends of the springs, thus giving more leverage at build stage, 10 out of 10 for the thought. Both of these tasks would be a little difficult for first time builders as the extent of pressure needed to

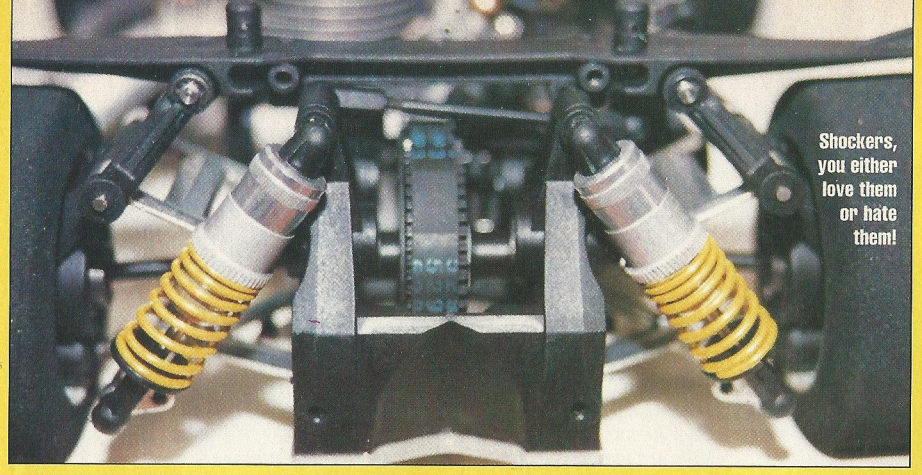


The P6 Engine as supplied with the kit



Lots of lovely chunky aluminium, a nicely engineered car

Rear end recessed chassis shown clearly here



Shockers, you either love them or hate them!

fit would stop them from proceeding. The fuel fitting was the other bit which will catch out some builders I'm sure. The threads need to be tapped out but you cannot tap all the way on the lid. This plastic is again very strong and with such small threads on these fitting is not the easiest. Once you have installed both these fittings add some fuel tube and make sure that the air ways are clear. There is the possibility that when screwing home the fuel fitting that swarf (metal waste) will travel up in front of the fitting and block the inlet.

Radio Plate

Next comes the top plate or radio tray, there are no trick bits; the fuel tank, servo's, battery pack and receiver can all be added at this stage, make sure the track rod ends from the servo to the steering arms are nice and free (Not Loose). This can be achieved by attaching the track rod ends to the balls and pinching the ends with a pair of pliers. Check from time to time that they have not tightened up. With the tray all built up it can now be placed on the chassis and screwed down with the four dome headed screws, again check for clearance for the the steering arms by the belt and the receiver to make sure there is nothing touching.

Shocks

Now the bit that you either love or hate, THE SHOCKS. The shocks are best built as per the instructions. Now if there was ever a trophy for the best machining of small parts, in this industry then PICCO have it all sown up there. 18 pieces per unit and superbly machined, easy to build and even easier to bleed. A tip here concerns filling the shocks with oil, when filling push the piston to the top of the stoke and as you start to fill with oil slowly pull the piston down, carry on doing this until the piston is at the bottom of the stoke, and until the shock body is full of oil to within 3 mm of the top of the body. Now slowly pump the piston to expel any air bubbles, do all four shocks and leave them to stand for 15 minutes. Once this is done, slowly pump again to check for any air bubbles, hopefully there won't be any. Fully assemble the shock absorbers as per instructions. Once all four shocks are completed, push the pistons to the top of the stoke, all should travel the full extent of the shaft, if this is not so, then there is possibly a hydraulic lock, there is possibly too much oil in the shock body, if so remove the cap and with the tip of a screwdriver remove a few drops of oil. Replace cap and recheck shock, and repeat the operation. Now completely assemble all four shocks, the kit comes with a bottle of blue 40 weight oil which will last a good few oil changes.

They say a picture is worth a thousands words, well it is quicker to build this shock than write a thousand words for the editor!

The SYNCRO adjustable clutch

The clutch comes next, and this is where things have progressed since my last build. Use a small amount of grease on the four balls that sit in the flywheel. Assemble the rest of the clutch as per the instructions, ensuring that the measurements given in the instructions are strictly adhered to. Lastly ensure that a small amount of oil or grease is used on the thrust bearing, that is fitted behind the retaining nut, remember to fit the thrust plate with the larger diameter hole first, followed by the oiled or greased thrust bearing, and then the thrust plate with the smaller hole. A small amount of end-float is required on the clutch bell, it is worth using threadlock on the nyloc nut as well. Once assembly is complete, if you need to have a later clutch operation, a 1.5 mm pin is put through the hole in the centre of the clutch bell to lock in the adjusting nut and a turn the flywheel anticlockwise for more slip, clockwise for less slip. The kit comes with a 21 toothed second gear, and 17 toothed first gear, there are optional gears for different tracks, but according to the importer these will look after the car at most of the tracks in this country.

Assemble the assemblies

Bolting all the sub assemblies together could not be simpler. There is one area that could be slightly improved and that's the machining of the slots for the engine bolts, these could have been made large enough to get a unmodified socket in the recess, I had to grind down a socket to actually get a grip on the bolts when trying to tighten them up, this has probably already been revised on the production line. One thing I must mention here concerns the length of the tuned pipe, the instructions tell you to set the length to 105 mm, testing as shown that the optimum length, should be set to 108 mm, this is measured from the back of the manifold, to the first maximum diameter of the pipe. Don't make the mistake I made when drilling the pipe for the exhaust pressure nipple, I fitted it in the wrong place, i.e. it should have been angled at 45 degrees inboard. If you do drill the pipe with the nipple upright, you will find that it will foul the body shell, which in turn will split the pressure tube, causing a lean engine run. I was surprised that there was not an air filter in the kit, but a call to the importer and an exchange of money on a bit of plastic soon had that sorted.

All is revealed

Update from the Ed'

David tells us that a new Picco will be with him in January '98. RRCI will bring you more information on the new model as soon as we receive it.

Setup

The kit comes with a very comprehensive setup sheet, which you can add your own setting to for later reference. I will run though the basic setting, which I have used, as supplied with the kit.

Start by disconnecting the front and rear shock absorbers, and anti-roll bars. Check once again that the Ergal wishbones all drop down under there own weight, place a new set of hubs without tyres on. Place the car on a flat level surface, starting at the front, lift the front of the chassis from a centre point, watching to check that both hubs leave the surface at the same time, adjust the end stops until both are even, now connect the roll bar, when sliding the roll bar across onto the sleeve, check to make sure that both front Ergal wishbones still rise at the same time.

Now the bumper can be placed and the last three screws attached. Finally the shocks can be placed, again checking that the hubs still rise at the same time. The rear end is basically setup the same. With tyre sizes not exceeding 78 mm on the rear and 69 mm on the front, the ride height with be approx. 7 mm at the rear and 5 mm front. Rear camber should be set to 2 degree's negative and 1 mm negative on the front.

To easily obtain a toe-in setting on the rear wheels place a straight edge on the outer rims of the rear tyres, the straight edge should be 3 - 4 mm inside the outer edge of the front wheels. Front toe out should be 1 - 2 degree's, but eyeing up the front should be close enough to start with. Finishing off with tyres, I am happy to say that unlike 4-5 years ago, you don't need to lug around a tyre box with 20 plus different grades of rubber. There seems to be two or three types that now cover most of the dry situations, 40 shore fronts and 35 shore rears are a good place to start.

Conclusion

This is a very well engineered, strong and easy to build machine without the need for lots of files, saws, drills and the like. I am surprised that a body shell is not included in the kits, but it seems that maybe that was a thing of the past, or is it just another way of getting a few more £££'s out of the racers? The best way to appreciate this car is to buy it, build it and go out there and race it!!.

Availability

Dave Dixon Models is the UK importer of this precision built car. Dave can be contacted on 0181 641 3149, or on his mobile 0410 439747.

Dave of DD Models is an importer who still goes racing and is therefore able to give first hand help and loves nothing better than to see anyone driving a Picco having a good days racing.

He carries a full range of spares which is a hell of a lot of bits to drag around the country to all the meetings as well as half a van load of wheels & tyres. D.D.Models also offer a fast mail order service and do not overcharge for post & packaging as so often happens.

The kits are available now complete with engine, manifold and pipe. A kit without engine is also available, phone Dave for availability. RRCI