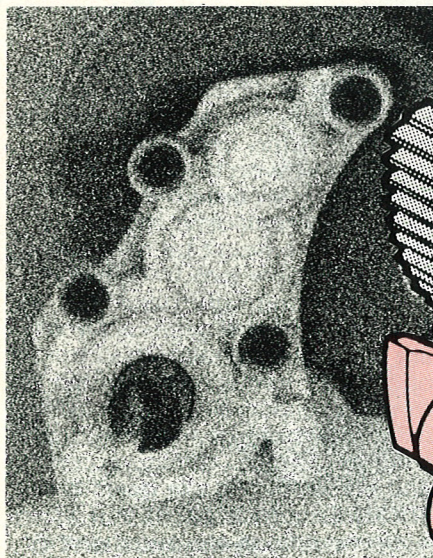


Slipper clutches for 1/10 electric off road buggies seem to have been the 'in thing' for a year or so now, ever since the 1989 off road world championships in Australia.



They had such a huge impact at the meeting because of the nature of the track. To say it was smooth and slippery would be a bit of an understatement! Those cars that were fitted with the new slipper clutches had an enormous advantage, as the results convincingly proved. The top Team Associated drivers (Masami

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STEALTH

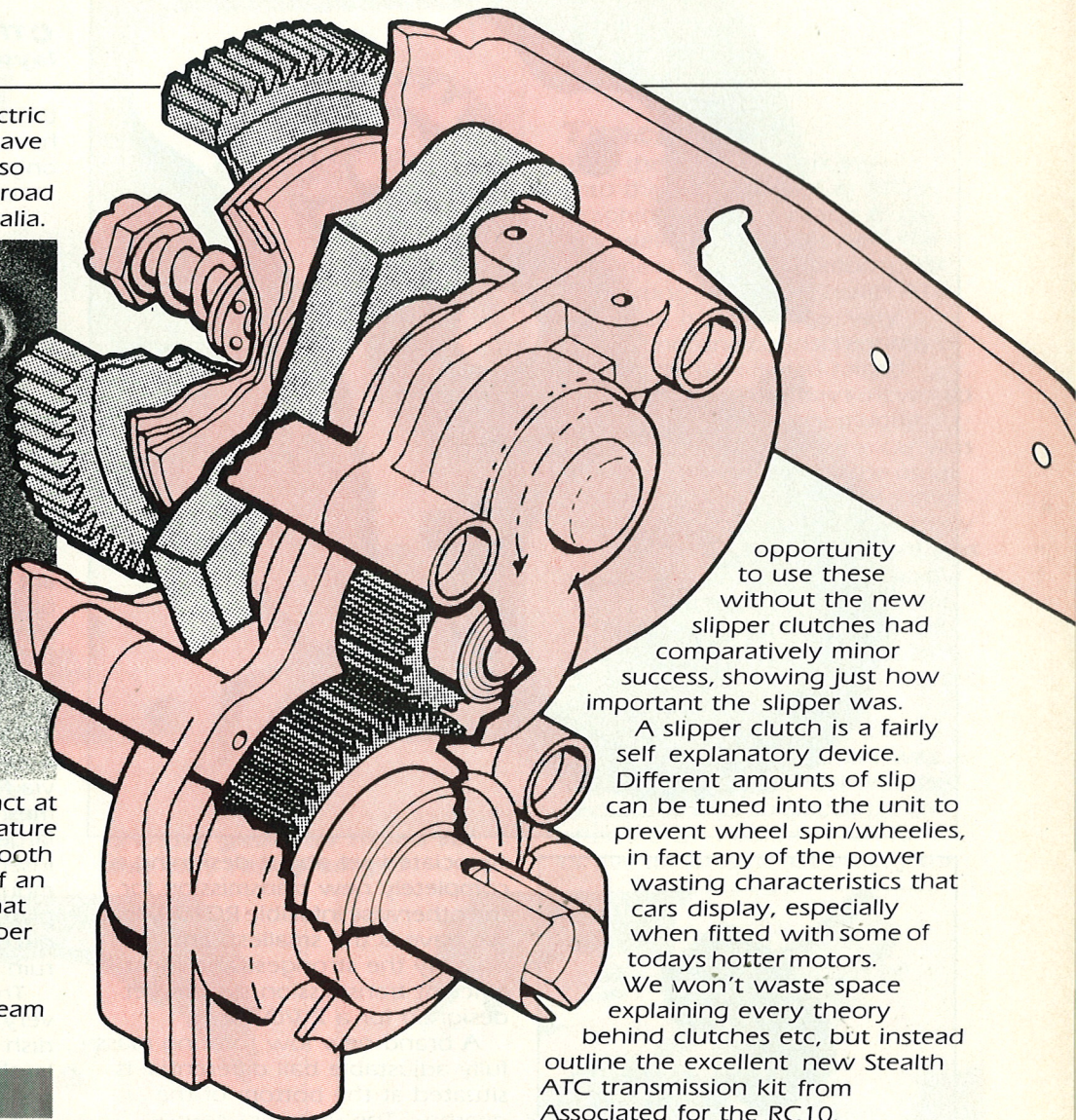
ATC TRANSMISSION

How important are Slipper Clutches? RRC looks at Associated's answer to the slipper.

Hirosaka, Cliff Lett and Jay Halsey) using the new RC10, large diameter wheels and tyres and slipper clutch took the top three places in the 2WD championship. Much of the RC10's success was attributed to the controversial larger wheels and tyres, but those drivers that had the

Side gearbox moulding containing those high quality ballraces.

STEALTH TRANSMISSION

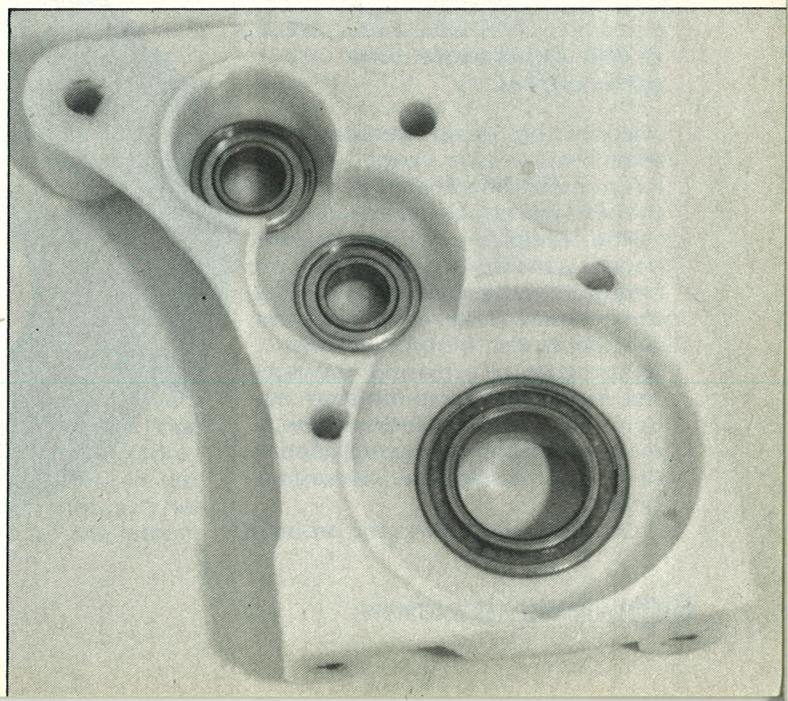


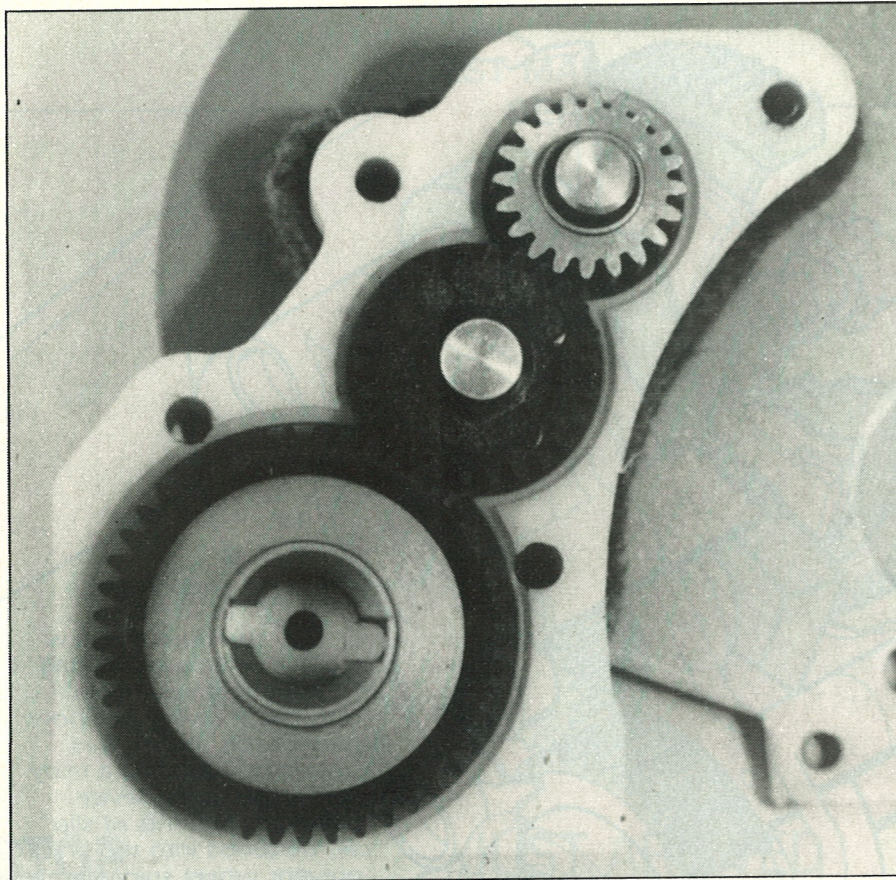
opportunity to use these without the new slipper clutches had comparatively minor success, showing just how important the slipper was.

A slipper clutch is a fairly self explanatory device. Different amounts of slip can be tuned into the unit to prevent wheel spin/wheelies, in fact any of the power wasting characteristics that cars display, especially when fitted with some of today's hotter motors. We won't waste space explaining every theory behind clutches etc, but instead outline the excellent new Stealth ATC transmission kit from Associated for the RC10.

Stealth ATC Transmission

ATC (Associated Torque Control) is the 'latest' development that is available from the world famous Associated stable. As ever with Associated products they only





🕒 **The diff, idle gear and layshaft can be seen here.**

the smoothest buggy differential I have ever felt. In fact it is second only to some circuit cars, it really is that good.

Part of this could be due to the fact that it utilises the highest quality tungsten carbide balls. These are so tough that they will out last other diff balls by up to ten times. When the diff has been set, provided it has been done so correctly, it won't need to be touched again until the balls or rings need replacing, although I imagine this won't be necessary for a long time (see track test).

The left and right hand mouldings of the gearbox (which are very much smaller than the original kit items) both contain three top quality bearings, that the differential, idle gear and layshaft run through for ultimate accuracy and efficiency. All the gears are 48DP (diametrical pitch), and when both mouldings are put together via four allen key head screws the mesh is precise and very smooth. A large felt dust cover is included for insertion between the gearbox mouldings and the aircraft alloy side plate. This prevents any unwanted dirt getting into the unit, which may ruin the drive.

The actual slipper clutch has been very cleverly thought out. A large dish type clutch hub sits on the layshaft that protrudes through the gearbox and sideplate. Another clutch hub is then positioned next

Associated set about designing a completely new transmission for the otherwise infallible RC10. What we have is the smallest, and possibly the strongest and most efficient transmission system yet designed for a 2WD car.

A brand new low rotating mass fully adjustable ball differential is situated at the bottom of the gearbox. The unit is of course ballraced and once constructed is

🕒 **The 81 tooth 48DP spur gear is held on by two screws.**

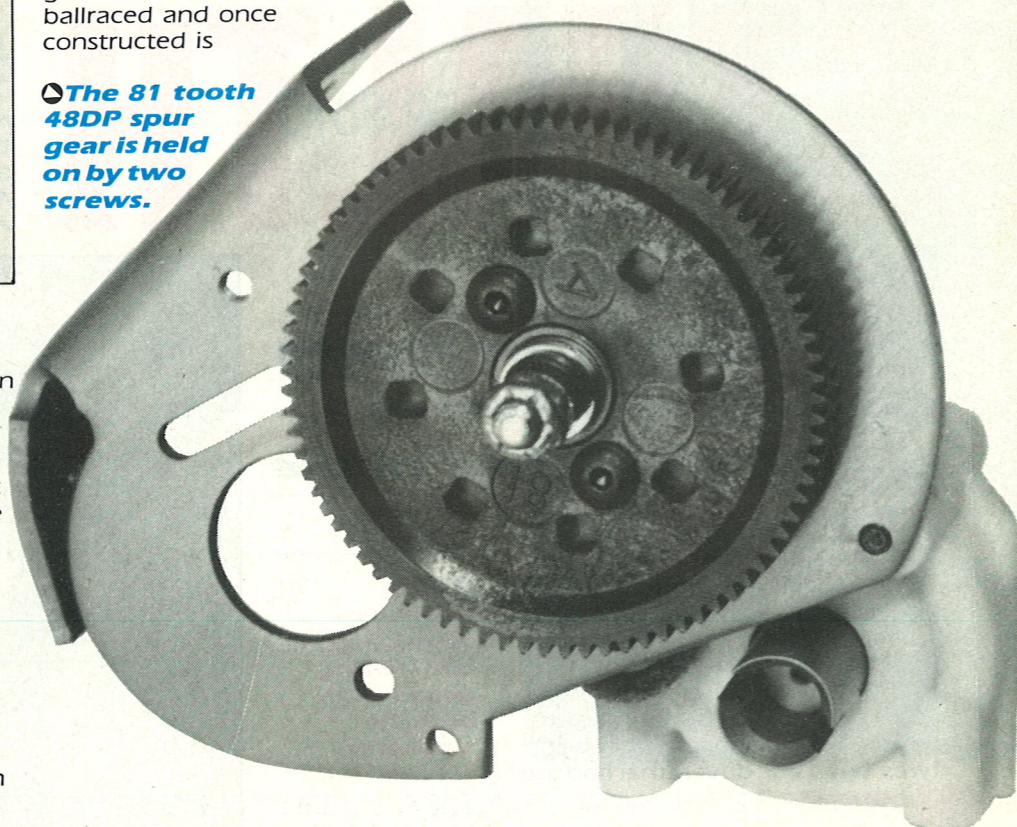


🕒 **The adjustable ball differential.**

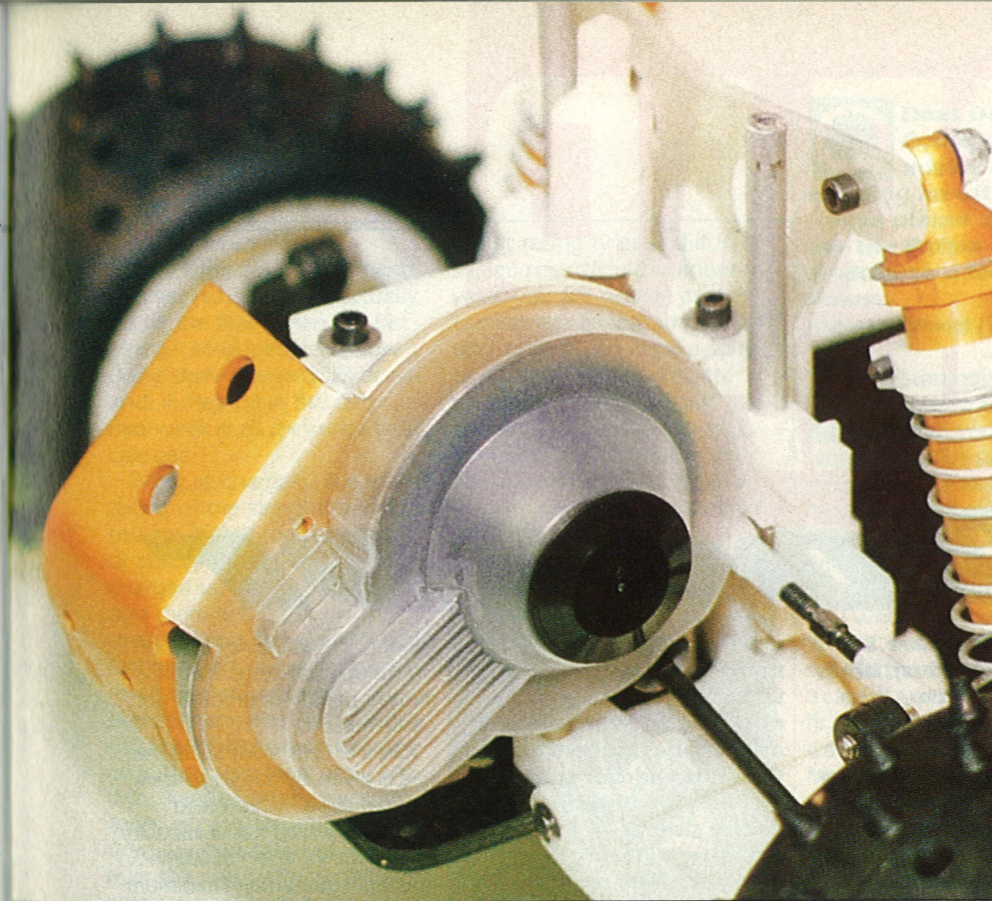
released the Stealth gearbox when they knew it was perfect, as the long development time (ie before the '89 worlds) demonstrates.

The Stealth replaces what most people consider to have been the only vulnerable part of the RC10, the gearbox. When the original car was designed the type of wild motors that we are using now had not even been contemplated. As demands on the gearbox grew, more and more were seen to break down, particularly the white idle gears.

So, after recognising the problem

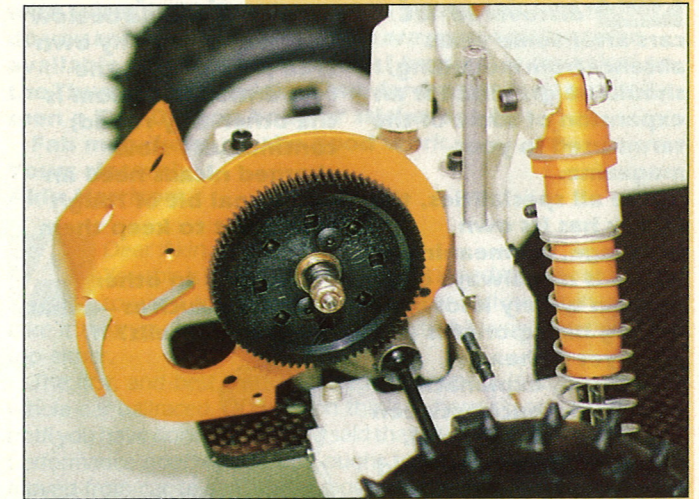
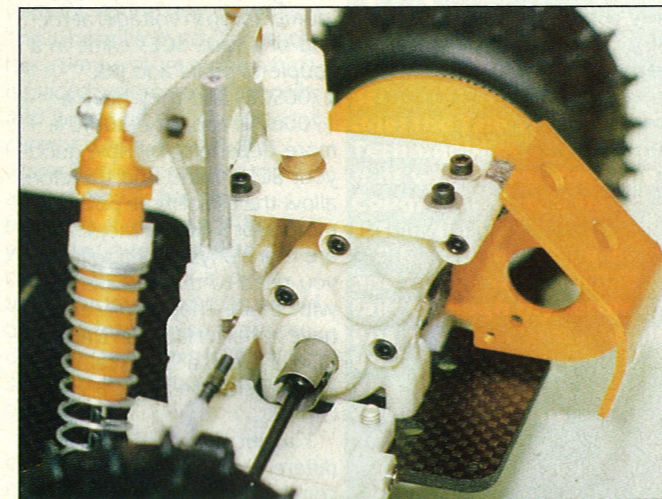


STEALTH TRANSMISSION



🕒 **The dust cover protects the pinion and spur gear. The black circular cover can be removed for easy slipper adjustment.**

🕒🕒 **The gearbox fitted to the car, ready to go!**



to this with a high friction PTFE type disk sandwiched between the two. The outer clutch hub is pushed onto the inner clutch hub and friction disk by a locknut/spring/thrust race assembly. So slip adjustment is easy, you simply have to alter the tension on the spring via the nut for different amounts of slip,

do now is put the outer plastic dust cover on and screw the gearbox to the chassis. A thick metal template is supplied in the kit to accurately drill holes in the chassis to accommodate the new screw holes for the smaller gearbox.

Total assembly time was around an hour. The unit fell together

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depending of course on the track conditions. An 81 tooth 48DP spur gear is fixed to the outer clutch hub by two small screws, so changing gears is a quick, easy task.

So there it is, all that you have to

perfectly and it felt right at every stage of construction. I couldn't get over how smooth it felt, therefore I was convinced that it would slip when first tried, even though it had been built and set 'to the letter'.

Track Test

With the ATC gearbox installed onto the Radio Race Car RC10 Graphite we were ready to go. Sandwell buggy club's new track was the chosen destination for the first outing with the Stealth ATC. The track is fairly large, very undulating, and consists entirely of grass, although it had rained heavily the previous day so it would probably become very muddy.

Before the first race the car was placed on the ground for the usual trim checks, and once it was going straight full power was applied very rapidly. It felt as though there was a very small amount of slip from the clutch, which prevented massive wheel spin (the car was fitted with a 15 x 2 Reedy motor). The car took off dead straight and very fast, the settings suggested in the instruction manual were ideal. I couldn't believe that there was no slip from the differential unit itself because it was so smooth, even after the car had been run for four or five minutes. It felt exactly the

same during the races, the car coped with the large bumps and humps better than before, the slipper was really working well!

If you own an RC10 and you race, be it club or national level, the Stealth ATC transmission is an absolute must. It is one of the best engineered and designed up rate kits ever tested. It is precise, easy to adjust, smaller and much lighter than the original kit item. It is the single most important modification that can be made to a ballraced RC10. Well done Associated, ten out of ten!

Available from your nearest Associated stockist. 🕒