



KIT REVIEW

Reviewed by Darren Warburton

The car is available in three forms: Rush 4WD Competition, Rush 4WD Clubman and the Rush 2WD. The car has been designed to accommodate any 3.5cc glow plug engine with installation facilities for any basic 2-channel radio system on a smart nylon radio plate complete with sealed receiver compartment.

Construction is simple. The car is partially pre-built as part of

Laro's quality control programme, though this report is based on a stripdown and rebuild of the model. An instruction manual is included, comprising exploded assembly diagrams and geometry set-ups to help tuning the handling.

Assembly

The differentials supplied in the kit are of the planetary

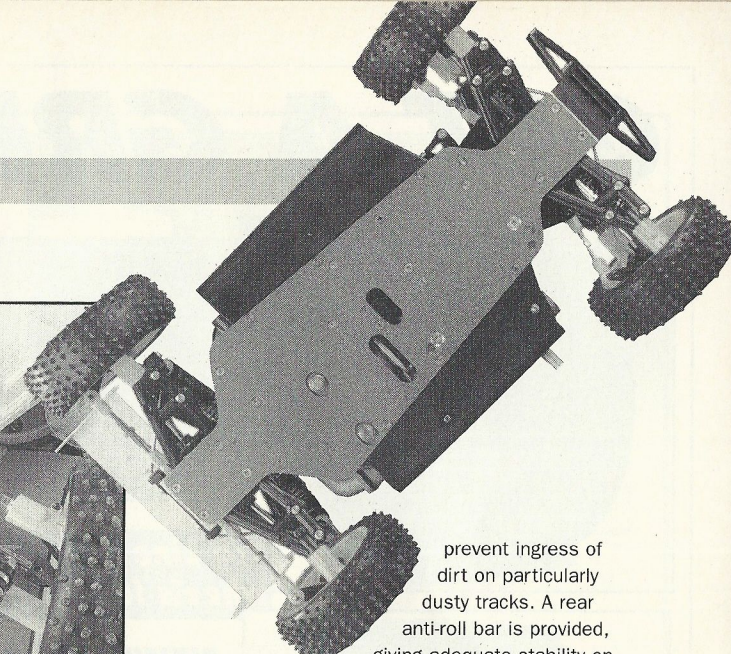
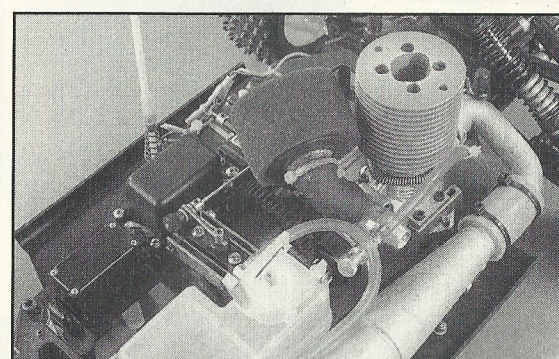
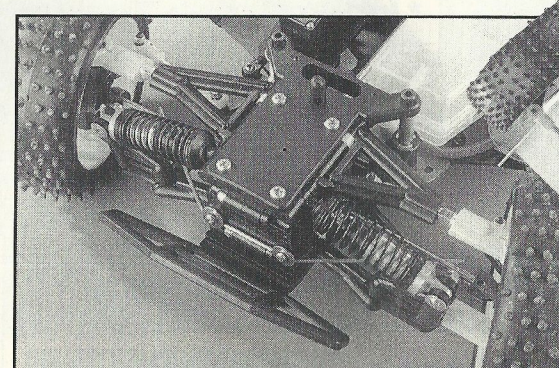
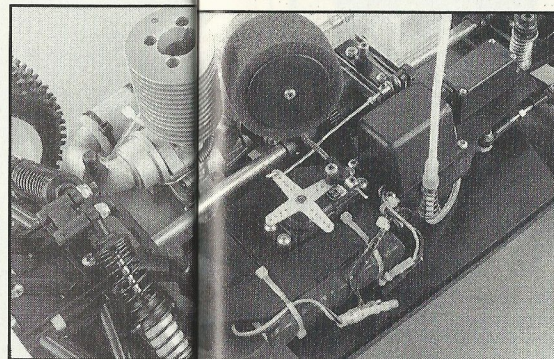
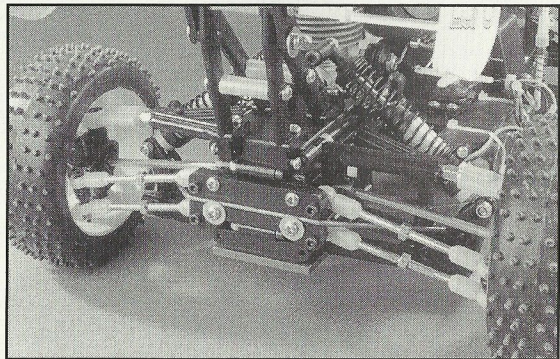
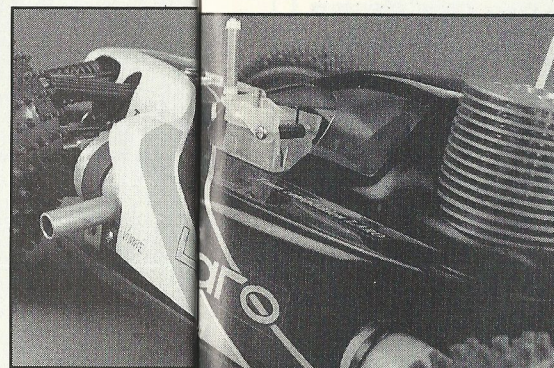
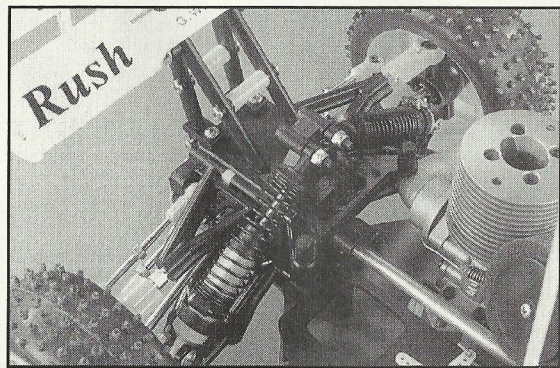
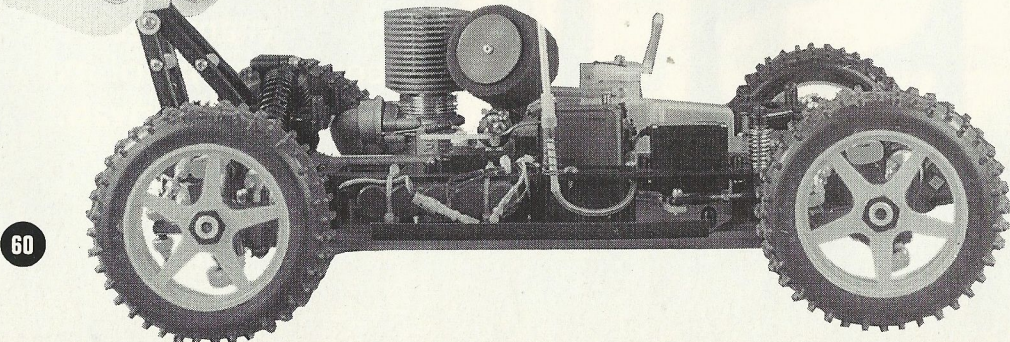
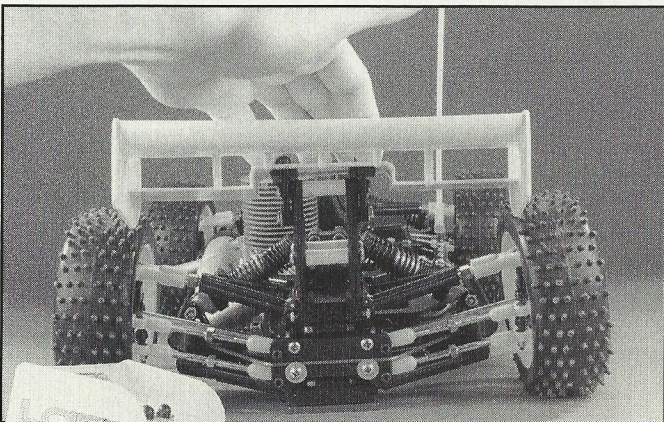
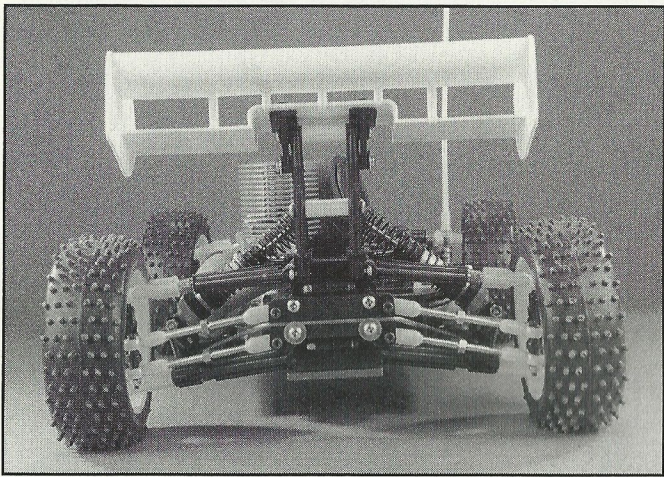
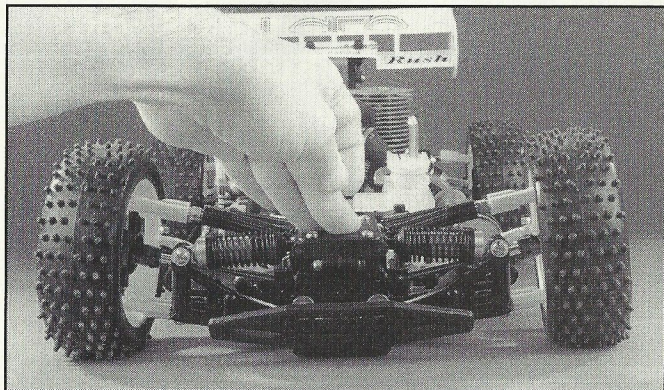
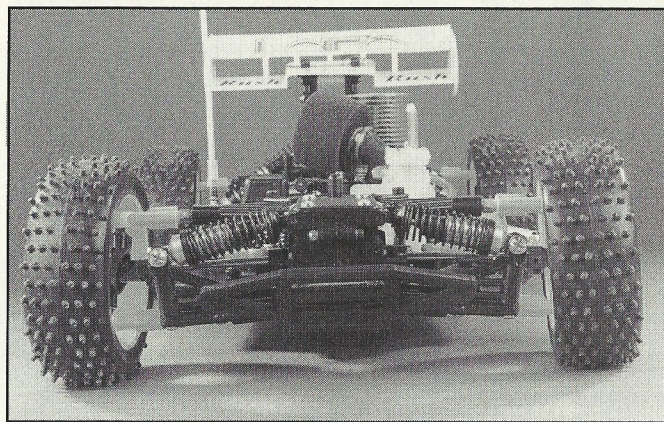
type, comprising four small bevel gears and two large, housed in a sealed plastic casings. This compact arrangement of six gears offers a smooth even loading on the differential unit, providing strength and reliability.

The diff output cups are an integral part of the diff half shafts, eliminating a common weak link in many cars transmission systems - grub screws! These innovative

After winning the 1994 1/8th French National Championships and setting TQ at the European Championships held in the UK, the Laro Rush has made an exciting, rapid attack on the British Rallycross Championship...

...Take a brief look at the Laro Rush, and you will immediately appreciate its well designed, simplistic, uncluttered layout, with the quality of manufacture equalling that of its Japanese rivals.

Speeded Rush



Laro Rush has a clean uncluttered design that uses the latest in off road technology and reliable design ideas. Left; Suspension travel can be easily adjusted to suit varying conditions.

integral shafts simply push into the sides of the diff unit; no grub screws or Locktite are required.

Rubber O rings are fitted to the shafts to keep the unit dust tight. The units can be filled with a grease suitable to the driver's style and changing terrain. At the moment I am using Castrol LM in all three diffs, which seems suitable both on dust and grass tracks.

The front and rear diffs are mounted in substantial, injection-moulded, plastic housings. These housings are also the mounting devices for the suspension system and bodyshell. This design allows the entire gearbox and wishbone assembly to be removed from the 4mm thick anodised alloy chassis as one piece by the removal of four fixing screws for routine preventative maintenance; it's simple and makes cleaning so much easier.

The central differential accommodates the main plastic drive gear, available as either 48, 49, 50 or 51-tooth and the awesome double disk braking system. A variety of gears is available to suit both track characteristics and for increasing the transmission's running ratio when raced with saloon shells on tarmac surfaces.

Cam-operated steel brake pads are used with plastic disks providing an effective and consistent braking system. I have found these disks to have a longevity comparable to the ferrod disks which are also available. One disk is fixed to the front diff output, providing the majority of the front wheel braking, the other is fixed to the diff case giving overall braking. The brake pads are fixed high to prevent ingress of dirt and dust. Brake and throttle linkages are provided, and must be bent to shape as instructed and to suit your engine/radio installation.

The suspension arms and wing mount are remarkably thick, resisting the roughest of collisions with ease. It is adjustable and fits securely to the rear gearbox. Infinite wing settings are available

Radio installation in to the Laro follows conventional lines and is neatly laid out. Above right; Underside of the car is smooth with anti-dirt plastic covers.

for drivers to experiment with. Laro recommends approximately 150 for rapid air flow, which suits my driving style. Less throttle-happy drivers are recommended to have 300.

Laro has aimed to keep the construction and manufacture of the car simple. This reduces the basic manufacturing costs and reduces the driver's running costs. The basic components, i.e. wishbones, hub carriers, gearbox casings and pivot pins, are universal to the front, rear, left and right of the car. This reduces the number of spare parts a driver needs to carry at a race meeting.

Geometry adjustment

Another feature of this car is the provision of extensive geometry adjustment front and rear (Geometry is the angles and positioning of the suspension that can be changed to adjust the handling). The fully independent suspension system utilises both shaft and ball pivot techniques. Hardened steel shafts are used inboard, and pivot balls at the extremes. The

pivot balls thread into the injection moulded hub carriers.

Two fixing positions are provided on the hub carriers, top and bottom, giving rise to four different castor angle positions ranging from 5 to 25°, front and rear — fantastic! It doesn't end there; the lower arms on the car can be moved, by displacing a 5mm spacer. This should only be moved for extreme adjustment. The more castor used, the more docile the car is; less castor and the car becomes more responsive. At the moment I am running the car with maximum castor, with the suspension arm spacers in the kit position.

Front and rear wheel alignment is achieved vertically via adjustment of the upper and lower wishbone lengths, and horizontally via threaded track rods. Two rods are provided at the rear of the car for extra strength. Both track rods and wishbone rods are available with turnbuckles for quick trackside adjustment. Recommended rod lengths are noted in the construction literature.

Universal jointed drive shafts (UJ's) are provided at the front of the car, which appear to be strong and durable. The shaft section of the UJ

is fixed via a grub screw (which requires Locktite), and like the rear drive shafts is manufactured in chromium steel, preventing unsightly corrosion.

Effective steering

On to the strong steel stub axles: fix light weight anodised alloy wheel hex drives, secured with two large 4mm grub screws, yes two! The steering mechanism on this car has a fully integrated servo saver, sprung protection device, which proves to be highly effective in use.

The fuel tank supplied is a competition type, complete with a quick fill flip-top lid. The tank fixes to nylon posts which fit directly to the countersunk chassis.

The shock absorbers supplied are of a constant volume variety (a system of keeping the oil and air separate inside the shock), sporting hefty linear springs front and rear. The bodies are two piece, with ride height adjustment via clamps fitted to the exterior of the lower body, firmly supporting the neck of the suspension spring. Laro Silicone Shock Oil is used to provide sufficient damping, 250 grade rear, 300 grade front. Rubber shaft covers may be fitted to the lower section of the shock body to

prevent ingress of dirt on particularly dusty tracks. A rear anti-roll bar is provided, giving adequate stability on grass tracks. A front anti-roll bar kit is available for particularly grippy circuits.

The fully adjustable engine mounting system caters for any engine, SG or Standard Crank. An alloy flywheel and two-shoe PTFE clutch is provided to get the car going. Laro also offers a competition three-shoe clutch for racing.

Completion

The rear wing included in the kit has been moulded in a polypropylene composite that is extremely strong. The bodywork, like any other car is manufactured in polycarbonate to resist the tough environment of rallycross which, sprayed internally, gives a high gloss finish. As mentioned earlier, a range of 1/8th saloon shells may be fitted if the enthusiast wishes to run the model on a tarmac surface; a mounting kit is available.

The bodyshell fits low for a 1/8th Rallycross car, comfortably fitting around the engine and exhaust system, sealing against the nylon chassis side guards, giving the car that competition look. The tank lid is fully accessible, and the engine's cylinder head is provided with plenty of fresh air.

Conclusion

To sum up the car is probably one of the simplest I have worked on, constructed from well manufactured components, demonstrating design innovations that support the competition use of the car at both national and club level.

The car is distributed to the trade and retailed in the UK by GW Racing. For more information telephone (01442) 254065. Trade enquires are welcome.