

A World First At MakoTrac

FNQ Chosen for Launch of First Ever Diesel-Powered Go Kart



MakoTrac International Racetrack Mareeba is proud to announce the arrival of the first diesel-powered go-kart in the world.

In 1999 MakoTrac's Horst Kipper received incredible news from a member of the Swiss Hutless Racing Team that diesel engines had been used in karts in Europe. In fact, a 347cc 7.5hp MB30 type engine had taken part in a 770 mile endurance event in Germany, competing against 22, 9.0hp conventional Honda engines. All karts used were professional race chassis. After only 50 minutes, the diesel powered kart had taken the lead and went on to win the race comfortably.

It was, in fact an absolute sensation.

Based on this information by Swiss Hutless, Kipper embarked on serious research into this phenomenal diesel engine. In the meantime receiving further information relating to this diesel's revolutionary efficiency, with a smaller 232cc 4.8hp engine having covered a staggering 1806km on one litre of fuel. The 1B20 type engine had been fitted to a specially designed long distance vehicle.

It took extended negotiations and development work by both Swiss Hutless and Hatz in Germany to eventually come up with a mature and almost perfect solution for the application of such a diesel engine to karts. Hatz specifically developed a revised version of the 1B20, with 206cc producing 6.2hp. The engine revs up 4200rpm with a fitted governor preventing over revving. The engine weighs 28kg and is fitted with a pull start device.

Swiss Hutless fitted this latest Hatz version to a slightly extended hire kart (about 20cm longer than the standard version) which also featured disc brakes and dual cable linkage. The engine was installed behind the seat. A specially strengthened clutch was added, usually reserved for 13hp Honda power units, and an extremely robust chain drives the rear axle, the type commonly found in gearbox karts.

This chassis/engine combination was subjected to rigorous testing on the Swiss Hutless track in Switzerland, with the aim of finding the right gear ratios and eliminating any



problems. The kart eventually arrived at Kipper's MakoTrac in Australia in mid-March 2002.

Several modifications were done in-house at the track, e.g. a protective heat shield was fitted over the muffler, the exhaust pipe was relocated slightly, a wider chain housing was fitted as well as a wider panel covering the engine. All materials used were high grade stainless steel.

Running the kart at MakoTrac was found that the fitting of a longer and larger exhaust resulted in a slight increase in power output.

TEST REPORT:

Starting up a diesel engine initially seems to be problematic. This, however, is not the case at all once you know how to handle the pull starter. There is no requirement for a pre-choke. The low revving diesel will produce the diesel-specific typical knocking sound, which, admittedly, takes some getting used to. The engine will cause the chassis to slightly vibrate, but once the kart is accelerated out of the pit lane the engine runs smoothly. For the first couple of corners, it will produce a typical black puff before setting in. Noise emissions are much lower than for comparable 9.0hp engines. The tremendous torque of the diesel (far superior than the 9.0hp engines) allows superb handling through difficult corners. The diesel kart peaked at a top speed of 65km/h on the 411m hire kart circuit. In comparison to other karts, especially 9.0hp Honda powered chassis, the diesel kart displays far better handling through corners, partly due to the neutral stability onto the rear axle courtesy of the engine's central point of gravity.

MakoTrac has since made the diesel available for hire for established 2 Star licence holders.

CONCLUSION:

The Hatz/Swiss Hutless diesel kart represents the first generation of an exciting new development for hire and recreational karts. It is characterised by its efficiency and reliability, its low maintenance as well as its easy pull start mechanism.

In Europe, especially Germany, increasing use is made of so called Bio-Diesel (oil extract from plants), the revolution which is being lead in Australia by APS. This fuel is available in Europe from service stations as well as supermarkets in 20 litre containers. It is commonly referred to as RME (Rape seed Methyl Ester). Bio-Diesel will surely be the future as an energy resource over the coming decade. In Europe, it is already 50% cheaper than conventional diesel fuel, and is characterised by its clean emission as well as its advantages in the production process itself (CO2 recycling through large scale rape seed production).