

MCT extends the lifespan of London's black cabs

Menard Competition Technologies (MCT), one of the world's leading motorsport and advanced automotive organisations, has turned its knowledge of precision engineering to provide assistance to black cab drivers. MCT was approached by a specialist taxi repair company to develop a solution to an ongoing mechanical issue faced by cabbies.

The black cab has long suffered with problems relating to the failing of the timing chain mechanism, which can be a costly occurrence. The long hours of constant running, along with many stop-start journeys that taxi engines experience has led to an increased number of timing chain failures, caused by the mechanism running dry. The limited space in which the timing chain operates means that the chain has minimal lubrication from the engine's oil flow. The small amount of overflow from the head caused by the camshaft and the bottom of the chain picking up any oil as it rotates in normal use is usually adequate for normal road running applications. But it is very different case for the relentless life of a taxi working long hours each day of its life.

Faced with the same mechanical failure on a regular basis, one of the UK's leading specialist taxi repair approached MCT to provide a solution to this often expensive predicament. The central element to MCT's brief was to provide a cost-effective retro-fit solution to the problem which could be simply fitted by the taxi company in its workshops. The time required to undertake the modification was also a major factor as any time vehicles spend off the road means the drivers are unable to earn valuable income.

Following a period of evaluation, a number of options were investigated. It was quickly established that creating an additional oil feed to keep the chain lubricated would solve the problem. Due to limited space within the casing, MCT had to develop a solution that would not require major machining of the engine

internals. This route would create less work for the taxi firm's team and reduce the cost of the process with less man hours required to convert the engines, also helping to reduce the time the vehicle is off the road.

The result was the production of a new timing chain kit, replacing the original mechanism, therefore generating the space required for the additional oil feed to the timing chain without the need for machining. The new solution includes a modified and thinned tensioner to enable a direct oil feed to be taken, with a secondary feed also built-in off another tensioning fitting. In addition to this, an upgraded timing chain and sprocket and shim to re-align the complete new system, plus an oil jet that squirts on to the chain and tensioned body to ensure lubrication is maintained, is also included.

David Bedborough, MCT's technical director, a driving force behind the project, commented: "We were approached to help a leading taxi repair company with this interesting assignment. It is not the usual type of project we get involved with but it is actually something that our knowledge and experience equips us very well to handle.

"Following the inspection of one of the taxi engines, it was clear what the problem was. The answer however needed a little more discussion. The brief to us was very clear and concise; produce a cost effective solution that would be easy to retro fit. The feedback we have received regarding the improved lifespan and the reduction in engine noise has been very encouraging."

The solution that has been developed by MCT has not only solved the problem in a cost effective manner, but has also meant that customer vehicles are off the road for the minimum time. On average the kit has helped to considerably increase the life span of the taxi engine and the firm continues to fit on average approximately 20 kits per month.

ENDS

For more information or photography, please contact Richard Postins or David Price at Prova on 00 44 1926 776900.

Notes to editors:

Menard Competition Technologies Limited (MCT) is based at Leafield Technical Centre, near Witney, Oxfordshire and offers bespoke solutions to the motorsport, advanced automotive and aerospace sectors. Its United States facility is based in Indianapolis.

Expertise includes total engine design, development and manufacturing capabilities, transmission dynamometer, as well as total project management and track support.

MCT's customers include leading teams and manufacturers from NASCAR, international sports car series and a number of European and North American single seater championships.

MCT has in excess of thirty year's experience at the pinnacle of the world motorsport industry. Its management team boasts championship success across F1, sportscars, touring cars, IRL, CART and NASCAR.