



Reducing Rally Car Damage in Forests

Motor sport has been a popular activity on the Forestry Commission (FC) estate for many years with special stage car rallies attracting top competitors from across the globe. Events range from regional club level rallies to Britain's round of the FIA World Rally Championship with the world's most successful rally drivers competing at the highest level. Thousands of spectators visit forests across Britain to enjoy world class competition and together with teams and sponsors contribute millions of pounds to local economies. Aside from the costs to organisers who pay to use the forests, the Forestry Commission also incurs heavy costs when repairing the road surfaces after an event. The damage caused by motor sport needs to be swiftly and effectively repaired to ensure that forestry management can continue and roads remain accessible to walkers, cyclists and horse riders. The Motor Sports Association (MSA) is the official body managing and regulating motor sport in Britain and they represent the interests of the rally community. The MSA have been working closely with the Forestry Commission to look at ways of making the sport more sustainable, and the initiatives investigated aim to achieve this by reducing the environmental damage to forest roads and reducing the cost of road repairs.



Partnership-working with the Motor Sport Association shows how the FC can help influence the environmental performance of other large organisations while benefiting the FC estate

The combination of high speed driving, fast cornering, heavy braking and rapid acceleration causes significant damage to the loose surfaced gravel roads within the forest estate. Stone is thrown off the road into the forest making it virtually impossible to retrieve and in very poor weather conditions rallying can cause severe damage and create ruts in the surface of the roads. An agreement between the FC and the MSA sets out the terms and conditions under which motor sport can operate on the estate including charges for events. These charges are designed to ensure that the FC can maintain its roads to the safety standards required for day to day management of the forest. Among a number of initiatives considered to minimise the damage is the introduction of “eco tyres”.

Mark Taylor, the manager of the British Rally Championship approached the FC with the idea that changing the pattern of tread on the tyres used by high performance rally cars would reduce the level of damage and hopefully stabilise repair costs as well as demonstrating greater environmental sustainability. The redesigned tyre would have a reduced tread width and a larger surface area of rubber in contact with the road. This would result in less bite into the top surface of the road and help to maintain the integrity of the road construction. The FC agreed to support the idea and with assistance from the MSA and tyre manufacturer Pirelli an initial trial took place in Kielder Forest in late 2007. Tests demonstrated that the closer pattern tyre



played a significant role in reducing the loss of stone and damage to the road surface compared with the more commonly used open pattern tyre. One of the main concerns was how the loss of grip might affect the car's performance. However, it was concluded that the driver's skill could compensate for any limitations imposed on the car's capability and speed. The tests also found that fitting a suitably thick mud flap material behind all four wheels provided an effective method of preventing the loss of road surface materials into the undergrowth. Retaining the gravel on the edge of the roads makes it easier to recover for repair and reduces the need for replacement stone.

✓ Achievements

- The introduction of new “eco tyres” should result in lowering the impact of rallying on forest roads, reducing the need for repairs and associated costs. Less replacement stone is required thereby contributing to sustainability by reducing the need for stone to be quarried and transported to the site
- Tyre wear will be reduced meaning fewer tyres are required for the sport - a further environmental benefit
- Discussions following the successful field trials culminated in a meeting with the MSA at which it was agreed that the regulatory body should prescribe the use of a closer tread pattern for all gravel special stage rallies in the UK
- It will also become mandatory that all stage rally cars are fitted with thicker mud flaps providing another measure of protection against stone loss
- As well as looking into the use of eco tyres, MSA have agreed that all competing cars must carry spill kits to help prevent oil or fuel from polluting any nearby watercourses in the event of accidents
- The technological developments pioneered in the motor sport industry will be of benefit to all vehicle users in the future by finding ways to make travelling by road more sustainable.

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