Evaluation of the Mechanical Condition of Agricultural Vehicles

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This research study was carried out by BAGMA on behalf of the HSE & DfT, to establish a baseline assessment of the mechanical condition of agricultural vehicles currently in use on farms in the UK. Thorough inspections of 242 tractors and 71 trailed appliances were carried out by trained examiners, according to a standardised procedure and reporting format to satisfy the requirements of Regulation 6 of The Provision and Use of Work Equipment Regulations 1998 (PUWER 98). Only 35 tractors were found without any significant mechanical faults.

Roadworthiness of tractors, according to current highway legislation, was one of the factors that the analysis of results highlighted and it was found that 166 (68.6%) tractors and 40 (56.3%) of the trailed appliances inspected did not meet current road requirements.

The inspections were carried out between April 2006 and November 2006, targeting vehicles from a range of farms selected by dealers. Information was collected to enable analysis by region, age of tractor, horsepower and farm type.

Visibility items such as windscreens, wipers and rear view external mirrors (wing mirrors) were among the commonest faults and there were significant numbers of faults on specific safety items such as trailer hitches and PTO guards. A large number of faults were also identified, such as tyre pressures, that could be cheaply remedied and improve tyre wear, fuel efficiency and safety both on and off road.

The number of tractors and trailed appliances examined by dealers was disappointing, with some regions not being covered at all. With the funding available, dealers would not have been financially compromised between regular work and the research work. The extra forms may have altered the detailed results, but not the general overview of the report, as the numbers were sufficient to give a viable analysis.

Feedback from customers who had their vehicles examined was mixed. Some thought it was a good idea and long over due; others thought it was more regulation and pressure on farmers; others had an issue if subsequent vehicle inspection schemes were kept within the dealer trade. The most rewarding feedback was from farmers who wanted mechanical faults highlighting before a problem arose. With the cost of a vehicle breakdown increasing, as highlighted by Blackburn (2000), farmers are wanting to do more preventative maintenance rather than reactive repairs.

Agricultural vehicles need to be maintained more effectively. If a tractor is unsuitable to go on the road then it is also unsafe off-road and may also be mechanically unsafe. Implementing simple maintenance & condition checking procedures on the farm would reduce the number of faults and failures, although a statutory inspection scheme might be more effective.

The Farm Vehicle Health Check scheme should be adopted and used by Insurance companies when insuring farm tractors to promote the uptake of available guidance and improve vehicle maintenance. Farm assurance organisations should adopt the Farm Vehicle Health Check scheme to ensure tractors are up to the same standards as other farm processes.

This report identified some of the problems for inspection of trailed equipment, particularly due to the diverse range in use, and noted that further work is required to develop a procedure to test brake performance of trailers and trailed appliances.

The above text was abstracted from HSE Research Report No. RR554. The full report (including detailed results of the investigation) is available from the following web address:-

http://www.hse.gov.uk/research/rrhtm/RR554.htm