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Target Audience  
All FOD Inspectors dealing with Agriculture

### **EUROPEAN STANDARD BS EN 708/A1 - AGRICULTURAL MACHINERY - SOIL WORKING MACHINES WITH POWERED TOOLS - SAFETY**

This SIM informs inspectors of the publication of the above standard, outlines how this amendment changes BS EN 708 and summarises the main features of guarding on soil working machines such as power harrows.

#### **BACKGROUND**

- 1 Following HSE action against the original European standard for soil working machinery (EN 708) standard BS EN 708 A1 has been agreed by the EC and modifies EN708.
- 2 The amending standard was prepared by a CEN technical committee in response to HSE's safeguard action against the original version of EN 708. HSE was part of the committee. The Sector believes that further improvement is unlikely to be achieved and the UK voted in favour of this amending standard.
- 3 CEN has now adopted this standard. The relevance of this is that soil working equipment (eg power harrows and rotavators) built in accordance with the amended standard will have a presumption of conformity with the essential health and safety requirements (EHSRs) of the Supply of Machinery (Safety) Regulations 1992.
- 4 The Sector considers that this amendment brings EN 708 to a broadly acceptable level and does not propose pursuing any changes in the standard before the first scheduled review. The Sector will monitor the effectiveness of the standard and will issue further advice if necessary.

#### **DISCUSSION**

- 5 HSE took safeguard action against the original version of EN 708 as it dramatically reduced established safety levels in the UK in relation to powered soil working equipment such as power harrows and rotavators.
- 6 The amendment to the standard addresses all the points raised in the formal objection and now provides a broadly acceptable standard for these machines. The design features for guarding of the powered tools is not identical to previous UK standards.
- 7 Summary of the **minimum** features of guarding on power harrows is as follows:

- (1) Stand off guards to prevent inadvertent contact with the soil working tools must be a minimum of 200 mm from the path of the rotating tools at a maximum height of 400 mm from ground level.
- (2) Stand off guarding must be provided all around the machine except in the area between the lower link hitch points. Other parts of the machine can form the stand off guarding (eg rear crumbler rollers).
- (3) At the sides of the machine, as an alternative to stand off guards, a vertical full wall guard can be provided, with no minimum distance from the tools, as long as the guard covers all parts of the tools above ground during work.
- (4) Gaps between the stand off guard and the machine must be no greater than 60 mm - this is verified by whether a sphere of 61 mm diameter will pass through. Where adjustable parts of the machine form part of the guarding, gap measurement should be made with adjustment made to give maximum gap (ie with the machine part in the most unfavourable position).
- (5) The minimum strength for guards is that they must be capable of withstanding a load of 1200 Newtons vertically and 1000 N horizontally. For machines with a power requirement below 37 kW the horizontal force may be reduced to 600 N.
- (6) Any mechanism for adjusting working depth of the tools (eg powered tines, leveller boards, track eradicators etc) must be within 500 mm of the edge of the machine and must not be located in the area between the lower hitch points (this point is defined diagrammatically - refer to the standard for exact details).

8 During negotiations on this standard and the amendment HSE were unable to produce any concrete evidence that 300 mm was a more appropriate stand off distance than 200 mm. This point did not therefore form part of the safeguard action. HSE still believes that 300 mm provides a more acceptable level of safety and will raise this again at the first revision of the standard.

#### ACTION BY INSPECTORS

9 BS EN 708:1997, as amended by BS EN 708/A1, should be applied to all new power harrows.

10 Manufacturers, importers and suppliers (MIS) should be advised that HSE believes stand off guarding should be a minimum of 300 mm from the rotating tools. However if the minimum of 200 mm is applied no formal enforcement action should be taken in respect of this matter. Inspectors may also wish to advise MIS that, in the event of accidents, there is potential for civil liability if design of new machines has reduced levels of safety from previously established standards.

11 The Sector must be consulted to discuss possible action regarding any accidents, or incidents, involving CE-marked soil working equipment where the above issues are a factor.

12 Accident/incident reports should include details of whether or not the equipment complied with the requirements of the standard in relation to these issues.

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