



Safety Alert

Excavator safety

16 February 2021

The following pages of this safety alert were issued by Highways England's supply chain partner:

Balfour Beatty Vinci & Hitachi Construction Machinery

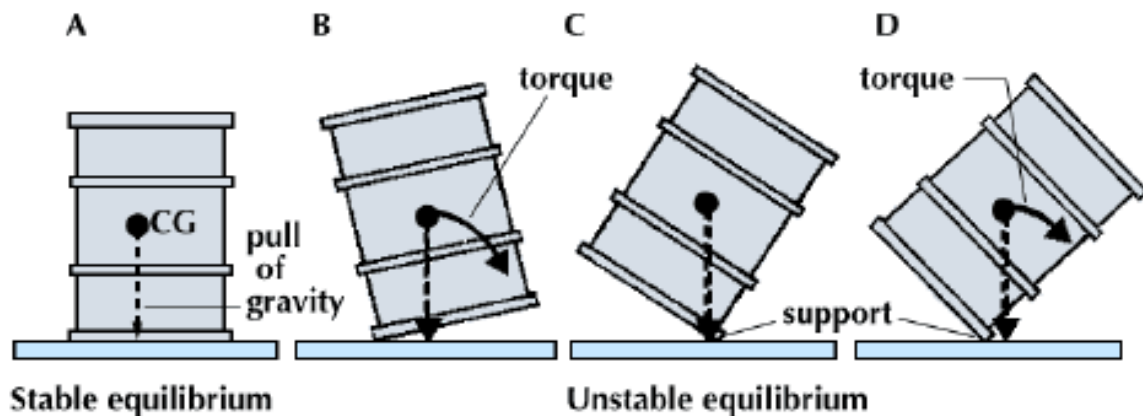
Product Alert

Re: Safety related check- Hitachi ZX26 Excavators fitted with Ditch Maintenance Buckets Issue 1 29th January 2021.

Under the Product Liability Regulations in force, we are statutorily obliged to notify our customers of any safety related concerns related to your model of machine.

It has come to our attention that there is a risk of the machine losing stability as result of a movement in the centre of gravity creating an unstable equilibrium. The movement can be initiated by an extended bucket radius and high dump height during swing motions with a loaded bucket. In this incident the machine was loading a high sided site dumper.





Demonstration of Unstable equilibrium imagining the drum edge as the machine tracks.

When a drum is stood on end, its centre of gravity (CG) is firmly supported, and the drum is in stable equilibrium (A). If the drum is tilted slightly to either side (B), the pull of gravity on this centre creates a torque, or turning force, around the new point of support and pulls the drum back to the stable position. A drum balanced on its rim (C) is in unstable equilibrium. Even a tiny displacement (D) will create a torque that will turn the drum farther from the unstable position.

The unstable equilibrium will be extended further toward the support (track) by the extended width of a ditch maintenance bucket, as opposed to a conventional digging bucket, which maintains the load closer to the centre of gravity.

Immediate Action

Prohibit the use of Ditch Maintenance Buckets for all operations higher than the swing Centre post. Any operations higher than swing post require the use of a conventional digging bucket.

Should you require further clarification on our recommended immediate actions, please call our Service Department on 0191-430-8400