

CLASSIFICATION:	Detached Concrete Truck Mixer Bowl
BACKGROUND:	<p>On the afternoon of 16th July 2013 at 15:19pm a mixer bowl became detached from an 8 wheeler ACCO concrete truck on a public Road in Avondale.</p> <p>The driver was making a right turn in the left hand outer lane turning out of Rosebank Road into Ash Street. During the turn the driver has felt juddering which got progressively worse. The result was the bowl left the truck and landed on the road.</p> <p>The six bolts connecting the gear box mount to the chassis had been completely sheared in this incident.</p> <p>Emergency services arrive within minutes (Fire, Police, Traffic and Environmental). The bowl was craned and carted back to Henderson plant with the truck.</p> <p>The driver was drug & alcohol tested and returns a negative result.</p>
OUTCOME OF INVESTIGATION:	<ul style="list-style-type: none"> • Six bolts in total hold the gear box mount to the truck chassis (3 either side of the truck), it appears from independent bolt analysis that 2 of these bolts may have failed prior to this incident (cracked or fractured) leading to only one bolt holding the gear box mount and bowl on the right hand side. • Out of the six bolts recovered 5 bolts had a tensile strength rating of 8.8 and only one bolt was 10.9 and included spring washers. Gear box mount suppliers (Sauer, Transmital and ZF) all recommend the use of 10.9 bolts with hard flattened washers. • Manufacturers also recommend that bolts be torqued to 580Nm which could not be verified by the installer. • Mixer bowl roller bands would not have prevented the detachment of the mixer bowl in this instance.
MIXER BOWL DETACHMENT	

**CORRECTIVE
ACTIONS**

- A Firth standard has been set for all gear box mount and bowl installations. All installers shall adhere to the installation specifications set by the manufacturer and these are to be the use of 10.9 bolts, hardened flat washers and torque to 580Nm. The torque, bolt and washer use must be clearly recorded.
- Independent inspection of entire truck fleet to ensure that all gear box mount attachments are as above.
- Installation of nut indicators or similar on all gear box mount bolts to determine movement and as part of the daily truck inspections.
- Communication will be distributed shortly regarding the truck fleet inspections and process.

Contact James Willoughby or Francis Leslie if you have any questions.