



Bobcat®

Bobcat Equipment South Africa (Pty) Ltd

124070 ALRODE 1451
REPUBLIC OF SOUTH AFRICA
LIEBENBERG STREET
ALRODE ALBERTON
0860BOBCAT (0860-262228)
+27 (0) 11 908-2377/8/9
+27 (0) 11 908-2649
www.bobcatsa.co.za

For immediate publication
12th April 2016

Bobcat Failsafe Brake puts a stop to ‘run-aways’

Bobcat Equipment South Africa, in partnership with Ferrobrake in Witbank, has pioneered a failsafe braking system on the Bobcat T40180 Telescopic Handler that optimises worker safety during materials handling operations in surface and underground mining by stopping the machine in the event of engine failure.

“The brake system is a critical component on any piece of moving machinery and in South Africa it is a mine safety requirement,” says Bobcat Engineer, Ian Caulfield. “Reducing the risk of run-away machines, especially in underground mining where machines are taken down steep incline shafts of up to 25 degrees, cannot be over-emphasised. We took the decision to design the brake system on Bobcat’s largest Telescopic Handler as the T40180 18m high-reach machine already delivers the best possible efficiency and productivity through class leading performance while always focusing on safe operation thanks to the machine’s state-of-the-art safety systems.”

“The failsafe brake system is in line with mine safety regulations and is primarily designed around engine failure,” explains Caulfield. “Brakes are applied hydraulically and if the engine cuts out, the lack of hydraulic oil flow allows the brakes to be automatically spring applied. In the event of engine failure while the machine is still moving, the failsafe brake system will automatically apply the brakes, bringing the machine to a stop. The brakes are automatically applied by 20 heavy-duty springs fitted on either side of the brakes. Once the system has stopped the machine, brakes can be released mechanically or porta-power can be used.” The tamper proof system also incorporates an emergency brake which can be activated by simply pushing an emergency stop button. Caulfield adds that the system is also available as an after-market fitment.

2/...Bobcat failsafe brakes



Bobcat Equipment South Africa (Pty) Ltd
A proud member of the Goscor Group of Companies
Co. Reg. No.: 2005/037152/07
Directors: M De Canha, AG Siddle, AN Wilson

2/...Bobcat failsafe brakes

“We have signed an exclusivity agreement with Ferrobrake with whom we worked very closely throughout the design and engineering stages,” continues Caulfield. “We broke new ground with this innovation so it was not without its challenges. When for example, we discovered that the axle housings did not provide sufficient clearance for the brakes we went back to the drawing board. We considered modification on the housings but a fit-for-purpose housing was preferred; once we tracked down a suitable axle housing it was all systems go.”

Caulfield attributes the success of this local design to the tremendous team work between Bobcat and Ferrobrake and he emphasises the massive contribution made by Ferrobrake who was responsible for all R&D and engineering. Bobcat supplied the technical information on the Bobcat T40180 which played a key role during design. Ferrobrake appointed an engineering company to manufacture brake pistons as well as brake plates for the axles and was also responsible for the development of the hydraulic piston.

The failsafe brake system was put through a rigorous independent testing procedure; the machine was parked on 32 degree incline for a period of 12 hours without moving and also had to achieve stringent brake efficiencies in forward and reverse. The failsafe brake system passed the SANS 1589 national standard for brakes in heavy equipment with flying colours. “Under a 4t load and in forward travel at 26.8kmph, we achieved a braking efficiency of 61.9% and 61.3% in reverse at 26.4kmph. Braking distance allowed in forward motion is 8.8m and we achieved 7.4m. In reverse the allowed distance is 8.6m and we achieved 6.1m.”

Applying the emergency brake at a forward speed of 25.7kmph and a reverse speed of 26.9kmph brake efficiencies of 56.4% and 51% were achieved respectively. “The braking distance allowed for forward motion is 21.55m and we achieved 11.2m. In reverse, 23.16m is allowed and here again we almost halved the distance by achieving 12.2m!”

Development of the failsafe brake commenced in February 2015 and was ready for display at Bauma in September 2015. “The failsafe brake system is unique to South Africa and this innovation has put Bobcat in a market where we could not compete before,” affirms Andre Steenkamp, Bobcat Equipment National Sales Manager. Steenkamp sees large potential for the failsafe brake on the African continent. “Although the system has been developed primarily for the mining industry, it has relevance to any sector operating our telehandlers.” Steenkamp adds that with operator and worker safety is always top priority, Bobcat compact machines are designed around the operator for maximum comfort and safety.

In conclusion, Caulfield reveals that there are plans in the pipeline to develop a failsafe brake system for the Bobcat TL470 Telescopic Loader.

/Ends 3/...Bobcat failsafe brakes

ISSUED ON BEHALF OF BOBCAT EQUIPMENT SA (Pty) Ltd
Email: bobcat@goscor.co.za
Web: www.bobcatsa.co.za

MEDIA CONTACTS: Andre Steenkamp – National Sales Manager
Email: asteenkamp@bobcatsa.co.za

Ian Caulfield - Engineer
Email: icaulfield@bobcatsa.co.za

Tel: 0105936916 (logimeter)

BY: Sonia Laverick: Laverick Media Communications CC
Tel: +27 (0) 0400 818
Email: Epos: lavmedia@iafrica.com / www.laverickmedia.co.za