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**Customer reference case**

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Off-road vehicles

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SKF electronic actuator

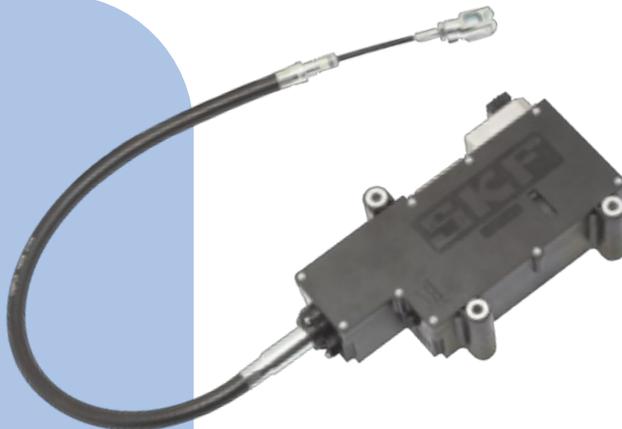


## SKF Electronic Parking Brake The smart parking solution

The agricultural business today relies on sophisticated, high-tech equipment to deliver maximum performance. With food prices on the rise worldwide, equipment manufacturers are being asked to look for additional ways to improve productivity. Tractors used for ploughing and harvesting are now equipped with GPS-based auto-guidance systems to ensure straight rows, thus saving fuel and seeds. Drivetrains are also designed for maximum efficiency, including new continuously variable transmissions (CVT) to deliver peak torque and fuel savings.

As one of the world leaders in agricultural equipment, New Holland has pioneered the development of CVTs for a decade. While enabling the operator to run the engine at speeds that provided maximum power and fuel efficiency, the CVT unit lacked an easy and safe solution for engaging a parking brake when the operator shut off the engine. In modern advanced transmissions (including powershift and CVT), where the hydraulic clutch is “normally open,” the parking brake is needed to keep the vehicle from rolling.

New Holland needed a simple solution that could be easily installed in a wide range of tractor platforms. They turned to SKF for a mechatronic solution that would enable parking brake activation without the need for driver intervention.



## About the solution

With its experience in drive-by-wire, SKF suggested an innovative electronic actuator that would automatically engage the parking brake when the engine was turned off or the transmission was in neutral, holding the vehicle when stopped on hilly terrain and releasing it when the operator started driving. As a compact, add-on solution, the SKF unit, which integrates all smart functions, is connected to the transmission by a flexible cable.

The easy to install SKF solution can be applied to multiple vehicle platforms with powershift or CVT, thus reducing the assembly time. Moreover, it can increase the operator's comfort, safety and productivity.



### Features

- Full mechatronic solution
- Integrated electronic controller
- CAN bus communication protocol
- Smart functions available and customizable (auto-apply, hill-holder, drive-away)
- Homologated according to EC and ECE directives
- Can be installed easily on different tractor platforms using the included flexible cable
- Controlled minimum distance from brake rotors to avoid friction losses and unnecessary brake wear

### Benefits

- Compact unit with a reduced number of components and their costs
- Reduces assembly time due to its flexibility and ease of installation
- Enhances operator comfort and safety
- Safer parking, especially on hilly terrain
- Increases transmission efficiency and improves fuel economy
- Mechatronic eco-friendly solution

### Mechanical specifications

Max force	Max stroke (available)	Max speed (without load)	Endurance (max force) apply/release cycles	Weight (without bowden cable)
4 000 N	65 mm	18 mm/s	170 000	3 kg

### Electronics specifications

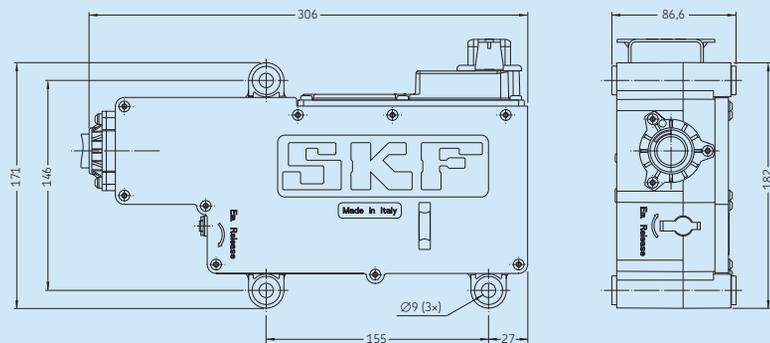
Supply voltage (nominal)	Max stroke (range)	CAN bus version <sup>1)</sup>
12 V	10 to 16 V	2.0 B

### Environmental specifications

Operating temperature (range)	Protection level	Designation
-40 to 85 °C	IP67	ADW-0001 <sup>2)</sup>

<sup>1)</sup> J1939 protocol available

<sup>2)</sup> Ask your local SKF representative for detailed specifications  
For applications or operating conditions not described, contact SKF.



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Publication 6948 EN · May 2009

Printed in Sweden on environmentally friendly paper.

