



## Magnetic Sensor for Determining Wear

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**Inventor:**

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**Patent Status:**

Utility Patent Issued

### Description of Technology

The Improved Wear Detection System, building upon existing wear detection systems, utilizes a permanent magnet as the sacrificial element to determine when replaceable parts are at the end of their operational life spans. A permanently mounted instrument package contains a Hall effect sensor that measures the magnetic flux density in the air gap between the magnet and two plates of high permeability material. As the sensing element is worn away, the magnet area decreases, decreasing the flux density in the air gap. This will be communicated to the user wirelessly, allowing the user ample time to replace the worn part.

### Applications

The Improved Wear Detection System can be used on various equipment and devices such as snow plows, agricultural tillage implements, earth moving equipment, clutches and brakes. Any replaceable parts and surfaces that are subject to wear could use this technology.

### Features & Benefits

This technology would be a cost-effective method to detect wear on replaceable parts. This would allow the user to replace the part before it becomes hazardous, while also allowing the user to safely extend the life of the replaceable part and avoid early replacement of the worn parts.

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