

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
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КАФЕДРА ІНОЗЕМНИХ МОВ
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР

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SECTION 3

ANTI-LOCK BRAKING SYSTEM

D.Batyoha, S.Kirichenko-Sumy State University, group IN-31
A.N.Diadechko – E L Adviser

Anti-lock braking system (ABS) is an automobile safety system that allows the wheels on a motor vehicle to maintain tractive contact with the road surface according to driver inputs while braking, preventing the wheels from locking up and avoiding uncontrolled skidding. ABS generally offers improved vehicle control and decreases stopping distances on dry and slippery surfaces for many drivers. Typically ABS includes a central electronic control unit (ECU), four wheel speed sensors, and at least two hydraulic valves within the brake hydraulics. The ECU constantly monitors the rotational speed of each wheel; if it detects a wheel rotating significantly slower than the others, a condition indicative of impending wheel lock, it actuates the valves to reduce hydraulic pressure to the brake at the affected wheel, thus reducing the braking force on that wheel; the wheel then turns faster. Conversely, if the ECU detects a wheel turning significantly faster than the others, brake hydraulic pressure to the wheel is increased so the braking force is reapplied, slowing down the wheel. A 2004 Australian study by Monash University Accident Research Centre found that ABS reduced the risk of multiple vehicle crashes by 18 percent and decreased the risk of run-off-road crashes by 35 percent.