

# Anti-Lock Braking Systems

## *Mandatory on All New Medium and Large-Sized Trucks*

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Anti-lock Braking Systems (ABS) help drivers keep control of their vehicles during emergency stops and hard braking. They are mandatory on all trucks with a GVW rating over 10,000 pounds manufactured after March 1, 1999. This regulation is intended to improve driver and roadway safety. However, it may require some drivers to unlearn old braking habits. ABS brakes, unlike conventional brakes, should not be pumped. In addition, new vehicle and maintenance costs will be higher.

### **Costs**

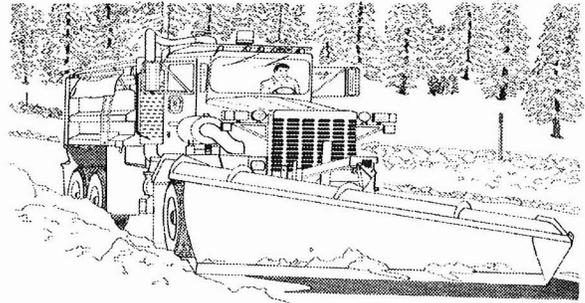
The cost of ABS is included in the vehicle purchase price. Dealers and manufacturers acknowledge that ABS increases the price of the vehicle. Some of the cost is due to modifications that allow the system to physically fit in the available space.

Another cost to local agencies will be training technicians to work on the new ABS. They will have to become familiar with the system circuitry, diagnostic literature, and trouble-shooting steps. Training is available from brake manufacturers. As most people know, training is money well spent: well-trained technicians often save agencies time and money.

### **Driving and Control**

Drivers should be aware that the ABS tests its own circuitry when the engine is started. The 'ABS' light comes on, and goes off after the initial test. If the light remains on, or comes on during normal operation, there is a problem with the system. Drivers should then brake as they normally would without ABS, i.e. pumping the brakes.

Experienced truck drivers maintain a moderate degree of steering control by pumping conventional brakes. Stopping distance is nearly the same for pumped brakes as it is when the brakes are locked. However, with locked brakes the driver has little, if any, control over vehicle direc-



tion. ABS pumps the brakes automatically during emergency stop. It prevents wheel lock and allows the driver to maintain a higher degree of control.

Because ABS, or pumping conventional brakes, slows the truck while still allowing the wheels to rotate, vehicles maintain better tire-to-road contact. Drivers, therefore, have more steering control. ABS pumps the brakes much faster than a human can pump conventional brakes, and is thus more effective in maintaining control. Also, it works on individual wheels so they all slow at the same rate. In spite of the fact that ABS does not change vehicle-stopping distance, the driver might still be able to avoid an accident by steering clear of it.

Opponents of ABS feel that the driver is no longer in charge of how the brakes work. However, in most studies ABS is only engaged in 2-3% of all braking occurrences. In almost all of the circumstances when ABS was engaged, the driver could not react fast enough to pump the brakes.

Most people who have tested ABS in panic situations feel positively towards them. ABS, as stated before, does not shorten stopping distance. If the driver doesn't leave enough room to stop, an accident could occur. Drivers must apply good judgement whether or not their vehicle has ABS.

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