

Specing Antilock Braking Systems

Antilock Braking System (ABS) brakes will be mandatory standard equipment on all trucks and trailers as of March 1998. Testing shows that these brakes are safer and work much better than traditional brakes.

When you order new equipment, it's a good idea to include ABS brakes for the greater safety they offer. But don't just accept whatever braking system is standard with the truck you're buying. Look into the two main types and select one that fits your needs then plan to train your service technicians.

"Advance training on repair and trouble-shooting of these brake systems is very important," says Carl Garrod, of Fox Valley Technical College's Transportation Division. Like other truck components, it takes training for the mechanic to learn how to identify problems and fix them.

The basic components of the ABS system are a sensor, an electronic control unit (ECU), and the ABS valves. The sensor continuously sends wheel speed information to the ECU. The ECU has four microcomputers, two to operate the ABS valves and two to monitor the system. If one diagonal of the ABS has a failure, control automatically reverts to the standard braking system.

The ECU sends signals to the ABS valves. These valves adjust air pressure to the brake chambers when ABS brakes

are operating. Air pressure controls braking and prevents wheel lock. A panel in the cab has warning lights which blink in sequence to report system operation and problems.

The general difference between the two types of modern ABS brakes is where the computer is placed. Some manufacturers locate it in the cab while others locate it on the valving. Four companies currently make ABS systems, and more are expected to enter the market as the March 1998 deadline approaches. "They're not all the same," says Garrod. "Some are easier to troubleshoot than others."

Manufacturers have long since solved the problems that made the ABS brakes of a decade ago worse than useless, but drivers and fleet managers remain skeptical.

"If they are hesitant, we take them through skid pad testing and have them try making a panic stop with and without the ABS engaged," says Garrod. "Everyone walks away with a great appreciation of how well it works."


"Brake safety and adjustments," an article in the Spring 1996 Crossroads, has more information on brakes. For a copy of that story send us the reader response form on page 7, or contact Mercy Ranum by e-mail. ABS brakes were just one topic at the T.I.C.'s Equipment Maintenance workshop last November. If you missed it, mark your calendar now so you can get to the next one, coming again in August 1997.

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