



The Bendix® TABS-6 Advanced and TABS-6 Advanced MC™ Systems
Questions and Answers about Bendix Stability Systems for Trailers
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1. What is trailer roll stability?

A trailer roll stability system is designed to help drivers maintain control of their vehicle in two ways. First, it senses conditions that may lead to a rollover. And second, it intervenes by applying the trailer brakes automatically, to help keep the vehicle stable - typically before the driver realizes intervention is needed.

2. What are my options with Bendix trailer roll stability systems?

Bendix has two approaches to trailer roll stability (TRSP):

- ***Bendix® TABS-6 Advanced*** is a single channel (2S/1M) stability system based on the most popular ABS design used on over 80% of North American trailers. It utilizes two wheel speed sensors positioned on the right and left of the axle. The compact electro-pneumatic controller has only a single modulator, along with an internal lateral acceleration sensor to detect and react to potential rollover conditions. Bendix has taken this approach specifically for North America to create a unique, simple and affordable approach to trailer roll stability systems.
- ***The Bendix® TABS-6 Advanced MC™*** system provides fleets with the same trailer roll stability (TRSP) technology as Bendix® TABS-6 Advanced, along with an adaptable solution for different axle configurations that utilizes two – or three – separately controlled modulators. The Bendix® TABS-6 Advanced MC platform allows for distinct control of either side of the trailer, or it can be configured to control independent axles on a given vehicle. This system is available on configurations ranging from 2S/2M (2 wheel speed sensors/2 modulators) up to 6S/3M (6 wheel speed sensors/3 modulators.)

3. How does Bendix® TABS-6 Advanced compare to competitive systems?

- ***It's the first single channel trailer roll stability system*** - Utilizing only 2 wheel speed sensors and 1 modulator (2S/1M), Bendix® TABS-6 Advanced adds no additionally mounted components to the most popular trailer ABS configuration, 2S/1M.
- ***Simple package*** – All key components are housed in the Bendix® TABS-6 Advanced unit – modulator and Electronic Control Unit (ECU). Only wheel speed sensors are separated – keeping connections (wires and air hoses) to a minimum. The locking connector covers provide a second line of defense against water splash and road grime.
- ***Easy to Install*** – The Bendix® TABS-6 Advanced system is the only trailer stability system that will mount directly to the air tank. Or, the unit can also be easily installed on a cross member or frame rail.
- ***Easy to Maintain*** – Maintenance for the trailer stability system is no more than what is needed for a standard trailer ABS system. Components are replacement only, requiring no repair. Diagnostics are simple – over the power lines, using PLC communication – along with the latest version of the

This document is designed to assist you in the stability system decision process, not to serve as a performance guarantee.

No system will prevent 100% of the incidents a driver may experience. This information is subject to change without notice.
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traditional Bendix® ACom® ABS diagnostic software (Version 6.3.1 or higher) available online for download or on CD. Blink codes can also be read out via trailer mounted warning lamp, no additional diagnostic tools required. Other diagnostic tool options include the Bendix® Trailer Remote Diagnostic Unit (TRDU™) or the trailer mounted Bendix® Trailer Information Module (TIM).

- **Easy to Retrofit** – Almost any fleet can transition from trailer ABS to trailer roll stability quickly and easily with Bendix® TABS-6 Advanced. Just select the correct TABS-6 Advanced configuration for your specific trailer application. Remove the old unit, and install the new TABS-6 Advanced unit, along with the appropriate Bendix® WS-24™ wheel speed sensors and a simple air line to the suspension to enable trailer load sensing. (Trailers without ABS can also be retrofit to Bendix TABS-6 Advanced or TABS-6 Advanced MC™ with minimum additional effort.).

4. What can drivers expect when operating trailers equipped with Bendix trailer stability systems?

The Bendix® TABS-6 Advanced and TABS-6 Advanced MC systems are designed to intervene automatically when the system detects conditions that may lead to a trailer roll over.

Drivers may feel the vehicle slow down as the brakes are applied on the trailer. At this time, the industry has not implemented the use of warning lights on the dash or on the trailer designed to indicate when a stability event has occurred. Information regarding stability events is stored on the Bendix TABS-6 Advanced or TABS-6 Advanced MC system Electronic Control Units (ECUs).

5. What information (data) is available off the system?

Using the Bendix TIM, fleets can view information directly on the unit manually, or direct download via ACom diagnostic software to a computer. If the fleet employs a telematics provider, the information may be available real-time if the Bendix TIM is connected to a wireless or satellite modem. Using Bendix® ACom® diagnostic software, information can be downloaded directly from the ECU.

Currently, the following data is available in real-time from the Bendix TIM:

- Current warning lamp status
- Current fault information
- Odometer reading
- Axle load

In addition, the following details are also available for download from the Bendix® TABS-6 Advanced and TABS-6 Advanced MC system ECUs:

- Fault history
- Odometer and trip odometer
- Trailer roll stability system intervention histogram
- Brake application histogram

6. Will the Bendix® TABS-6 Advanced trailer stability systems prevent all rollovers?

No stability system will prevent all rollovers as a variety of factors are involved. Bendix® TABS-6 Advanced and TABS-6 Advanced MC system may not successfully mitigate rollovers when the following circumstances occur:

- Speed greatly exceeds the ability of the system to provide a meaningful intervention (traveling too fast for conditions) or when the physical limitations (combination of speed and lateral acceleration or “sharpness of turn”) are exceeded for a particular situation;

- Loss of control, such as a slide, skid, hitting another vehicle or road obstruction;
- Vehicle conditions such as trailer brakes that are out of adjustment, suspension problems or tire problems; and
- Surface conditions such as shifting earth or soft shoulders on roadway.

Note: This list is not exhaustive. It is provided to illustrate some situations where a trailer roll stability system may not be effective.

7. Can I use these trailer stability systems with a tractor stability system?

The Bendix[®] TABS-6 Advanced and TABS-6 Advanced MC[™] system can help increase the stability margin (rollover speed difference in MPH of a vehicle with a stability system versus the same vehicle without a stability system) of a tractor-trailer combination. When used with the Bendix[®] ESP[®] system, Bendix testing has shown an increase in stability margin versus use of the tractor system alone. *(Actual results may vary depending on vehicle and load configuration, stability system on tractor and driving situation.)*

To get the maximum stability performance available, use either Bendix[®] TABS-6 Advanced or TABS-6 Advanced MC on the trailer and Bendix[®] ESP[®] system on the tractor.

8. What are the differences between the Bendix[®] TABS-6 Advanced and Bendix[®] TABS-6 Advanced MC systems?

Both systems provide roll stability mitigation for tractor-trailer combinations, are easy to install, and are easy to maintain.

Both units are inclusive – the ECU, Lateral Acceleration Sensor and Modulator(s) are part of the main modular unit. The wheel speed sensors are mounted in the traditional position at the wheel ends and connect directly to the Bendix[®] TABS-6 Advanced and TABS-6 Advanced MC units. *(Note: In the three modulator configuration of Bendix[®] TABS-6 Advanced MC, an external modulator is used along with the two internal modulators.)*

The basic differences between the two systems:

- **Installation:** Bendix[®] TABS-6 Advanced can mount directly to the air tank (the same way a 2S/1M trailer ABS system is installed today), Bendix[®] TABS-6 Advanced MC must mount directly to a cross-member or frame rail.
- **Size:** Bendix[®] TABS-6 Advanced is a smaller unit than the Bendix[®] TABS-6 Advanced MC unit.
- **Configurations:** Bendix[®] TABS-6 Advanced is only available as a 2S/1M system, where Bendix[®] TABS-6 Advanced MC is available in various configurations from 2S/2M to 4S/2M and 6S/3M in the future.
- **Price:** Bendix[®] TABS-6 Advanced will provide a lower cost of ownership compared to other larger, more complicated trailer roll stability systems currently available.

9. Will the brake lights come on when the stability system applies the brakes?

The Bendix[®] TABS-6 Advanced systems can be configured to illuminate the brake lamps during trailer stability events, if the vehicle OEM decides to utilize this option on the given vehicle configuration.

10. Can Bendix[®] TABS-6 Advanced or TABS-6 Advanced MC be retrofit to a trailer with or without a trailer ABS system?

Yes. Installing the system according to Bendix specifications will provide the same level of roll stability protection as a new vehicle built with Bendix[®] TABS-6 Advanced or TABS-6 Advanced MC. It is important to work with Bendix to ensure a system is installed with the proper programming for your application and trailer configuration.

11. Why should I choose a multi-channel trailer roll stability system over a single channel system?

Since ABS for trailers was mandated in 1998, some trailer owners have elected to pay for upgraded trailer ABS systems with additional sensors and modulators due to perceived concerns regarding tire wear performance and/or a desire to have the most sophisticated equipment available. These same factors may also drive decisions in selecting a trailer roll stability system. To meet the widest range of customer trailer stability needs, Bendix offers two approaches: the Bendix® TABS-6 Advanced single channel trailer roll stability system, and the TABS-6 Advanced MC™ multi-channel trailer roll stability system.

12. Does using a single-channel trailer roll stability system, such as Bendix® TABS-6 Advanced, mean that my trailers will show increased tire wear?

No. The Bendix TABS-6 Advanced system will only intervene with significant brake intervention when it detects that a dangerous rollover situation is imminent. A typical trailer may only enter this condition a limited number of times during normal driving over the life of the trailer. When the system does intervene, brake applications are only a few seconds in duration – therefore, no measurable tire wear should occur from activation of the TABS-6 Advanced trailer roll stability system.