

RETROFIT SOLUTIONS

FOR VEHICLE UPGRADES



WABCO

Mobilizing Vehicle Intelligence

ADVANCED DRIVER ASSISTANCE SYSTEMS

Protect your investment by making your vehicle safer with WABCO Retrofit Solution upgrade kits. Our Advanced Driver Assistance systems, trailer safety systems and MICO® brake locks can be installed with relative ease and have helped millions of customers enhance the safety of their vehicles.

ONSIDE®

WABCO OnSide Blind Spot Detection (BSD) is a radar-based system that monitors the vehicle's passenger side blind spot, supporting drivers in passing and lane change maneuvers to help avoid side collisions*. When a moving vehicle is detected in the monitored blind spot, the system provides a visual warning through a display mounted on the passenger side A-pillar. The system provides a 160 degree range and 46 feet of coverage, including an industry leading 33 feet of rearwards detection.

Features and Benefits

- Can help prevent up to 50% of truck driver vision-related crashes annually**
- Works in all visibility conditions
- Unique algorithm filters out stationary objects, eliminating false detections
- Standalone system works with most braking systems
- Installation is straightforward and typically takes less than two hours to complete
- Kit includes radar, cover, indicator, brackets, harness and required hardware***



*OnSide does not replace the need for the driver looking to make sure there are no vehicles in the blind spot.

**Large trucks to benefit from technology designed to help prevent crashes, IIHSHLDI 2010

***A special bracket or additional spacer may be required to ensure accurate mounting.

ONGUARDACTIVE®

WABCO OnGuardACTIVE is a radar-based active safety system that offers Collision Mitigation, Adaptive Cruise Control (ACC) and Forward Collision Warning*. The system uses a 77GHz long range, high precision forward-looking radar to detect moving, stopped or stationary objects ahead, and warns the driver of a possible collision by providing audible, visual and haptic warnings. When needed, the system will also actively apply the brakes to help avoid or mitigate a collision.

Features and Benefits

- Reduces severity of rear-end collisions by up to 87%**
- Works in all visibility conditions
- “Always on” at speeds above 15 mph, even when cruise control is not set
- Kit includes radar, display, bracket, harness and required hardware



*The vehicle must be equipped with WABCO Anti-Lock Braking System (ABS) and Electronic Stability Control (ESC) for the retrofit to properly function. A required software update is available for download from the “Literature” section on the WABCO North America website (www.wabco-na.com).

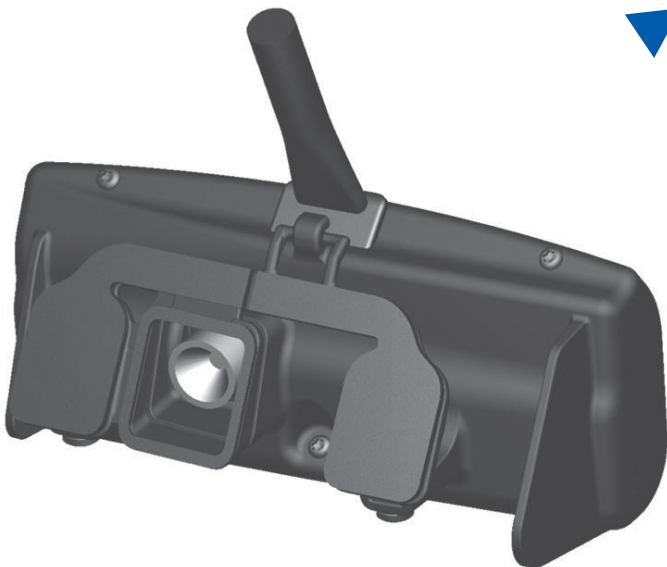
**Field Study of Heavy-Vehicle Crash Avoidance Systems, NHTSA, June 2016

ONLANE®

WABCO OnLane Lane Departure Warning (LDW) is a camera-based system that helps vehicles avoid unintentional lane drifting. The camera, which is mounted near the top center of the vehicle's windshield, constantly monitors and calculates the vehicle's position within the lane. When the system detects the vehicle crossing lane markings without the turn signal being activated, it sounds an audible warning***.

Features and Benefits

- Can help reduce accident-related downtime by up to 15%****
- Audible warning alerts driver to take a corrective action to prevent potential collisions or run-off-road accidents
- System identifies intentional lane changes by detecting the use of turn signal, brake switch and vehicle speed
- Standalone system works with most braking systems
- Kit includes camera, bracket, switch, speaker and required hardware



***Lane Departure Warning alerts become active after the vehicle reaches 42 mph.

****FMCSA Onboard Safety Systems Effectiveness Evaluation, 2013

ROLL STABILITY SUPPORT (RSS) 2M

WABCO RSS 2M trailer safety system is an advanced four-sensor, two-modular roll mitigation system that provides independent side-by-side control for optimum rollover protection. The system is ideal for tankers, hazardous materials, tri-axle trailers and carriers that want maximum stability control and tire protection.



Features and Benefits

- Combines the benefits of antilock brake performance and trailer stability control in a single unit
- Applies brakes as needed to maintain stability control
- Provides support for both spring and air suspension
- Can be retrofitted on trailers that are already equipped with WABCO ABS, a competitive ABS brand or even non-ABS trailers
- Kit includes ECU/Valve assembly, 3 ft. power cable, 6 ft. sensor extension cables and in-line filter

DUMP BOX POSITION SENSOR

WABCO Dump Box Position Sensor, part of the SafeStart family of products, helps prevent accidents and violations by sounding an alarm when the vehicle exceeds a preset programmed speed with the dump body extended*. By alerting the driver in these situations, the product helps prevent vehicle damage and reduce downtime.



Features and Benefits

- Robust design features non-contact magnetic sensors, ensuring reliability and durability (alternative kits often have mechanical plunger switches, which are prone to failure under typical operating conditions)
- Fast and easy “plug and play” installation with WABCO Enhanced Easy-Stop™ Trailer ABS or Roll Stability Support (RSS); installation typically takes less than 30 minutes to complete
- Alarm is mounted to the trailer, eliminating the need to drill into the truck cab or dash
- Ability to set operating parameters using WABCO’s TOOLBOX PLUS™ software so alarm only sounds above a certain speed**
- Kit includes magnetic sensors with cable, alarm buzzer with cable, and octopus cable (for Enhanced Easy-Stop™ application only)

*It is recommended to mount the alarm buzzer as close to the cab as possible for greatest hearing capabilities.

**The default alert speed is preset to 22 mph/35 kmh. Alert parameters can be customized using WABCO TOOLBOX PLUS™ diagnostic software.

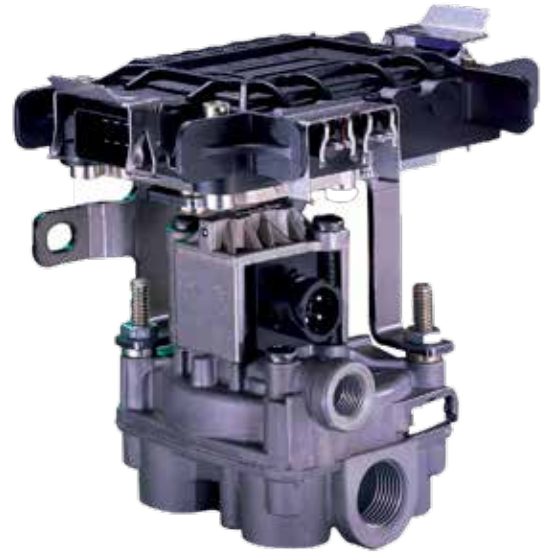
ENHANCED EASY-STOP™ TRAILER ABS

WABCO Enhanced Easy-Stop trailer ABS is best in class in the industry and widely chosen by most OEMs. Our robust technology and design ensure the proper braking force is delivered for trailer stability across various trailer load and road conditions.

There are several retrofit kits available to update our previous Easy-Stop™ to the Enhanced Easy-Stop™ platform, which incorporates current technology to address regulatory PLC requirements.

Features and Benefits

- Greater vehicle stability and lower tire wear, decreasing downtime and maintenance costs
- Features same sensors, sensor extension cables, clips and diagnostics as the Easy-Stop platform
- Includes adapters required to plug into the existing Easy-Stop power cable and the new Enhanced Easy-Stop ECU and valve
- Ability to easily service and program using WABCO TOOLBOX PLUS™ diagnostic software
- Delivers real-time data communication between tractor and trailer systems equipped with Power Line Carrier (PLC) communications and InfoLink*



MICO® BRAKE LOCKS

MICO brake locks are supplemental safety devices that provide additional brake holding when used in conjunction with a vehicle's properly functioning mechanical parking brake**. There are several retrofits available for single, dual, split or anti-lock brake systems. The brake locks are ideal for construction, mining, agriculture, material handling, multi-stop delivery and recreational vehicles. They can fit most medium and light duty trucks equipped with a hydraulic braking system.



Features and Benefits

- 691 Brake Lock System: Remote controlled, automatic monitoring for four-wheel lockup
- Dual Cable Lock: Cable-operated, providing up to a four-wheel lockup
- Lever Lock: Manual, hand-operated control to lock pressure in a single brake line
- Twist Lock: For tough environment applications; controlled by a rotary action handle to lock pressure in a single brake line
- Cable Lock: For limited space applications; remotely mounted and operated by a cable and knob to lock pressure in a single brake line
- Kit includes part, fittings and cable (if required for operation)

*The InfoLink ECU has an additional layer of internal technology that is required for the advanced features of WABCO Intelligent Trailer systems.

**MICO brake locks use the vehicle's service brakes as an operational supplement to the vehicle's properly functioning mechanical parking brakes and are not intended for prolonged use.

PART NUMBERS

Retrofit Kit	Part Number	Application
OnSide® Blind Spot Detection	400 874 013 2 400 874 014 2	DTNA P3/P4 Sleeper Cabs, Long Fairing, 500kBaud DTNA P3/P4 Sleeper Cabs, Long Fairing, 250kBaud
OnGuardACTIVE® Collision Mitigation System	400 871 340 2 400 871 341 2 400 871 516 2 400 871 517 2 400 871 526 2 400 871 527 2 400 871 222 2	DTNA P3 Cascadia, with Detroit engine, manual transmission and 250kBaud communication (model years 2013-2015, 2013 emissions) DTNA P3 Cascadia, with Cummins engine, manual transmission and 250kBaud communication (model years 2013-2015, 2013 emissions) DTNA P3 Cascadia, with Detroit engine, manual transmission and 500kBaud communication (model years 2016-2020) DTNA P3 Cascadia, with Cummins engine, manual transmission and 500kBaud communication (model years 2016-2020) DTNA P3 Cascadia, with Detroit engine, Detroit automated manual transmission and 500kBaud communication (model years 2016-2020) DTNA P3 Cascadia, with Cummins engine, automated manual transmission and 500kBaud communication (model years 2016-2020) DTNA P3 Cascadia, with Detroit engine, Eaton automated manual transmission and 500kBaud communication (model years 2016-2020)
OnLane® Lane Departure Warning (250kBaud) *Model years 2010-2016 ** Model years prior to 2016	400 873 109 2 400 873 103 2 400 873 118 2 400 873 117 2 400 873 114 2 400 873 105 2 400 873 120 2 400 873 119 2 400 873 116 2 400 873 115 2 400 873 110 2 400 873 104 2 400 873 111 2 400 873 106 2 400 873 113 2 400 873 108 2 400 873 112 2	DTNA P3 Cascadia, Camera with video* DTNA P3 Cascadia, Camera without video* DTNA M2, Camera with video** DTNA M2, Camera without video** DTNA M2, Low profile, Camera with video** DTNA M2, Low profile, Camera without video** DTNA M2, High profile, Camera with video** DTNA M2, High profile, Camera without video** DTNA Western Star Phantom, Camera with video** DTNA Western Star Phantom, Camera without video** Navistar Prostar, Camera with video** Navistar Prostar, Camera without video** Kenworth T660/T800, Camera with video** Kenworth T660/T800, Camera without video** Kenworth T680, Peterbilt 579 NG, Camera with video** Kenworth T680, Peterbilt 579 NG, Camera without video** Kenworth T700, Peterbilt 587, Camera with video**
Roll Stability Support (RSS) 2M		
Spring Ride 4S/2M Retrofits	400 612 033 0 400 612 034 0 400 612 024 0 400 612 034 0	2S/1M unit, WABCO ABS-Equipped Trailer 2S/1M unit, Non-ABS or Other Non-WABCO ABS-Equipped Trailer 4S/2M unit, WABCO ABS-Equipped Trailer 4S/2M unit, Non-ABS or Other Non-WABCO ABS-Equipped Trailer
Air Ride 4S/2M Retrofits	400 612 029 0 400 612 023 0 400 612 005 0 400 612 023 0	2S/1M unit, WABCO ABS-Equipped Trailer 2S/1M unit, Non-ABS or Other Non-WABCO ABS-Equipped Trailer 4S/2M unit, WABCO ABS-Equipped Trailer 4S/2M unit, Non-ABS or Other Non-WABCO ABS-Equipped Trailer
Air Ride 2S/2M Retrofits	400 612 032 0	2S/1M unit, Non-ABS or Other Non-WABCO ABS-Equipped Trailer
Spring Ride 2S/2M Retrofits	400 612 044 0 400 612 046 0	2S/1M unit, WABCO ABS-Equipped Trailer 2S/1M unit, Non-ABS or Other Non-WABCO ABS-Equipped Trailer

Retrofit Kit	Part Number	Application
Enhanced Easy-Stop™ Trailer ABS	400 612 000 0 (Power Adapter Retrofit Kit) 400 612 001 0 (Power/Diagnostic Adapter Retrofit Kit) 400 612 012 0 (Power Adapter Retrofit Kit) 400 612 013 0 (Power/Diagnostic Adapter Retrofit Kit) 400 612 010 0 (Power Adapter Retrofit Kit) 400 612 011 0 (Power/Diagnostic Adapter Retrofit Kit) 400 612 003 0 (Power Adapter Retrofit Kit) 400 612 002 0 (Power/Diagnostic Adapter Retrofit Kit)	2S/1M for Trailers, Easy-Stop ECU/Valve 472 500 021 0 2S/1M for Dollies, Easy-Stop ECU/Valve 472 500 011 0 2S/1M, 2M/2M, 4S/2M; Easy-Stop ECU/Valve 472 500 012 0* 4S/3M, Easy-Stop ECU/Valve 472 500 013 0
Dump Box Position Sensor	400 850 971 2 400 850 970 2	For use with Enhanced Easy-Stop Trailer ABS For use with Roll Stability Support (RSS)
MICO® Brake Locks		
691 Brake Lock System	02-691-101 02-691-109 02-691-201 02-691-209 02-691-303 02-691-305 02-691-403	Single Brake Lock System, Vehicles >19K GVM Single Brake Lock System, Vehicles <19K GVM Dual Brake Lock System, Vehicles >19K GVM Dual Brake Lock System, Vehicles <19K GVM 3-Channel ABS System, Vehicles >19K GVM 3-Channel ABS System, Vehicles <19K GVM 4-Channel ABS System, Vehicles >19K GVM (optional on others)
Dual Cable Lock	02-640-169 02-640-202	For use with brake fluid applications For use with hydraulic oil applications
Lever Lock	02-640-125 02-640-126	For use with brake fluid applications For use with hydraulic oil applications
Twist Lock	03-640-075 03-640-076	For use with brake fluid applications For use with hydraulic oil applications
Cable Lock	02-640-023 02-640-122	For use with brake fluid applications For use with hydraulic oil applications

*If a 472 500 012 0 ECU/Valve was used in 2S/1M applications, order a 400 612 000 0 or 400 612 001 0 kit.



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Protect your investment by making your vehicle safer with WABCO's Retrofit Solution upgrade kits. Our Advanced Driver Assistance systems, trailer safety systems and MICO® brake locks can be installed with ease and have helped millions of customers enhance the safety of their vehicles.

**For further product details, contact your distributor or the
WABCO Customer Care Center at 855-228-3203**

About ZF Friedrichshafen AG

ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. ZF allows vehicles to see, think and act. In the four technology domains Vehicle Motion Control, Integrated Safety, Automated Driving, and Electric Mobility, ZF offers comprehensive solutions for established vehicle manufacturers and newly emerging transport and mobility service providers. ZF electrifies different kinds of vehicles. With its products, the company contributes to reducing emissions and protecting the climate.

ZF, which acquired WABCO Holdings Inc. on May 29, 2020, now has 162,000 employees worldwide with approximately 260 locations in 41 countries. In 2019, the two then-independent companies achieved sales of €36.5 billion (ZF) and \$3.4 billion (WABCO). For more information, visit:

www.wabco-na.com