

Commercial Truck Safety Advancements



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Safety Technologies

MERITOR WABCO

Safety Strong. Efficiency Smart.

Bendix

 **CONVOY TECHNOLOGIES**
See Everything

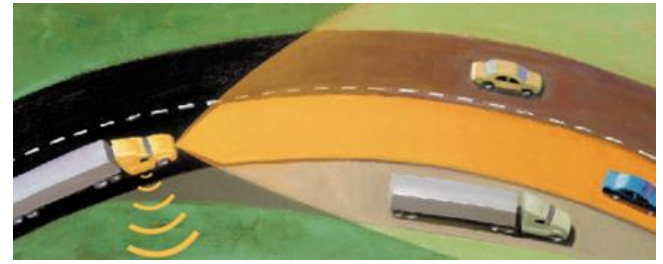
 **omnitracs**
innovation.driven.

SAFETY TECHNOLOGY – MITIGATING RISKS OVER THE ROAD

We invest more than \$15,000 of safety technology in each truck

Collision avoidance system

Radar-based collision avoidance system ensures adequate stopping distance



Roll stability control

Sensors and active controls help prevent vehicle rollovers



Lane departure warning

Lane readers alert driver of drifting



Side-angle camera

Video camera enhances driver visibility and helps prevent lane-changing accidents



OnGuardACTIVE™ Collision Mitigation System

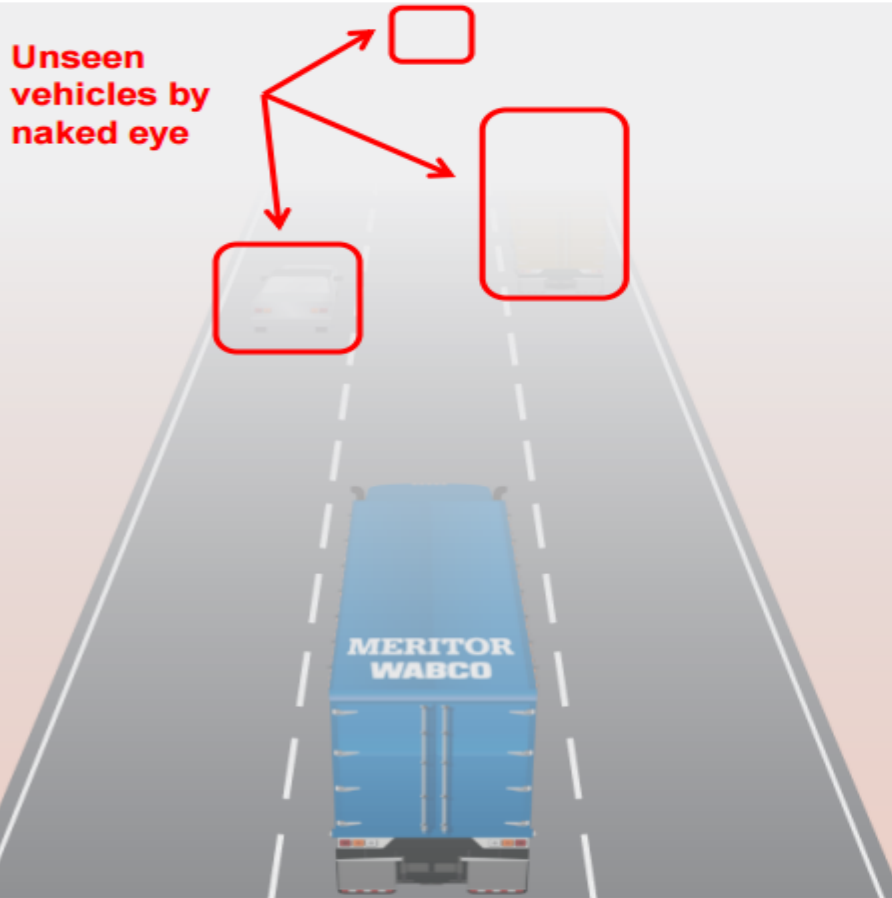
- Forward looking radar
- Assists in maintaining a 3.6 second following distance
- Vehicle collision audible & visual warnings that alert drivers to developing rear-end collisions
- Applies up to 50% of the vehicle's braking power to help avoid or mitigate an impending collision



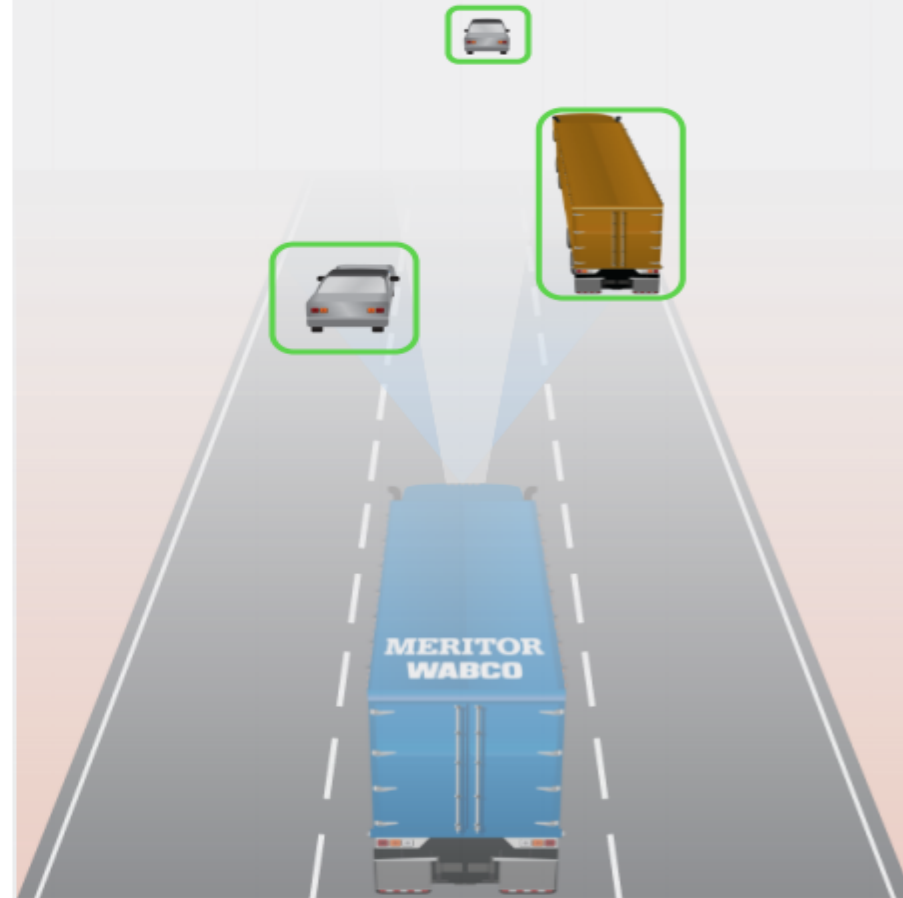
Comparison: Limited Visibility

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What a Driver Sees



OnGuard



Radar maintains superiority when visibility is compromised

SmarTrac Stability Control Systems



ABS, automatic traction control (ATC), Electronic Stability Control (ESC) Roll Stability Control (RSC) Roll Stability Support (RSS) for trailers

Tractors:

- Steering Sensor- determines the drivers intended direction of travel
- Lateral Accelerometer
- Speed

Trailers:

- Monitors wheel RPMs
- Lateral Accelerometer
- Load

SmarTrac Stability Control Systems



Intervenes by reducing engine torque, and engaging the engine retarder, while automatically applying drive axle and trailer brakes.

Roll Stability Advisor warns the driver with a message on the dash display

“Lower your speed 3-5 mph”

Frequently, activation takes place before the driver is aware of the danger

Bendix Lane Departure Warning System



Mounted Camera



- Active at speeds above 37 MPH
- Camera programmed specific to the tractor make and model
- Scans for lane markings
- Can be overridden by the driver for 15 minutes
- Audible or haptic alerts

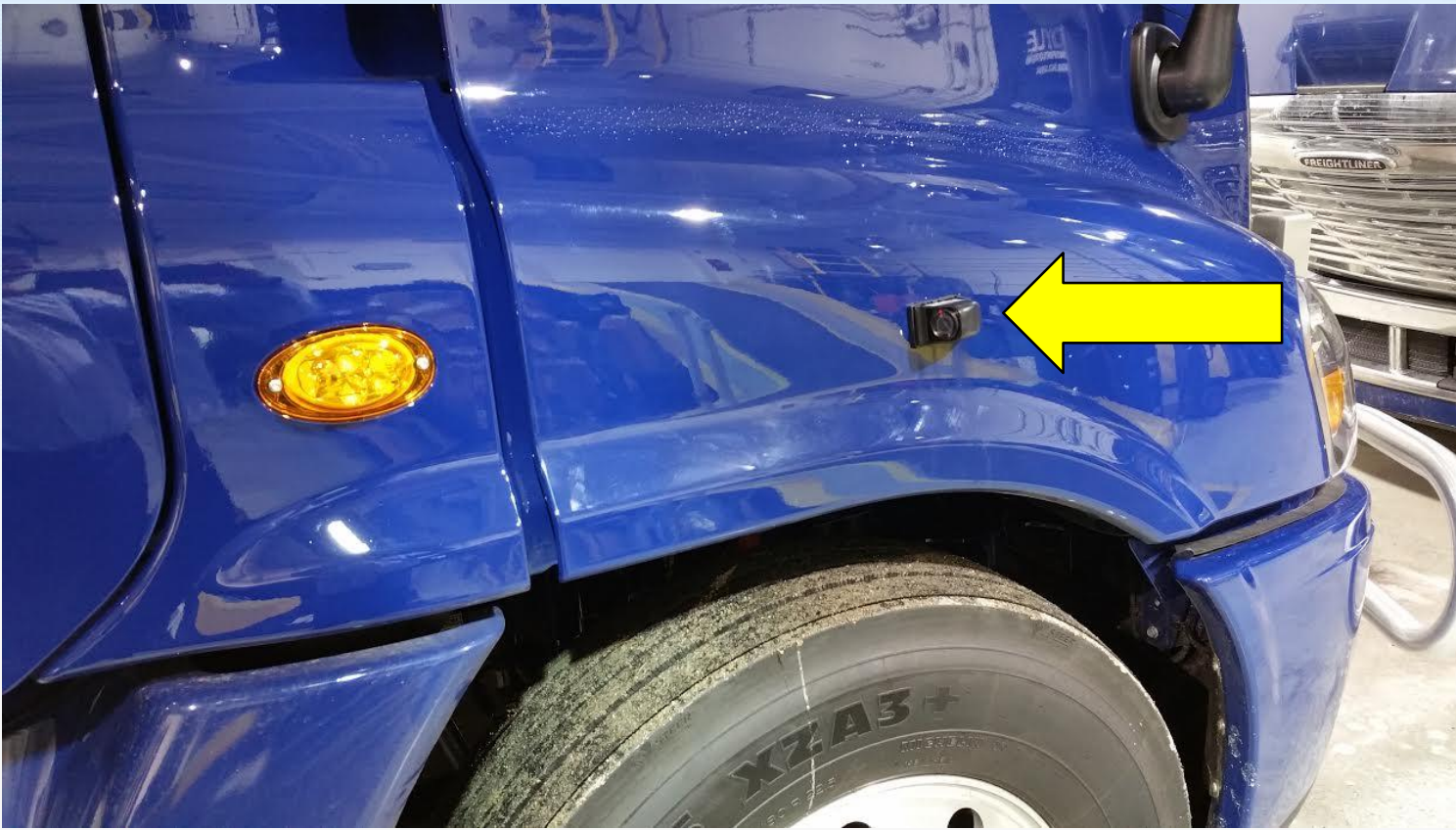
Side View Camera



Provides the professional driver with a direct line of sight down the length of unit.

- Reduces likelihood of lane change accidents
- Reduces Blind Spots
- Safety and Security benefits

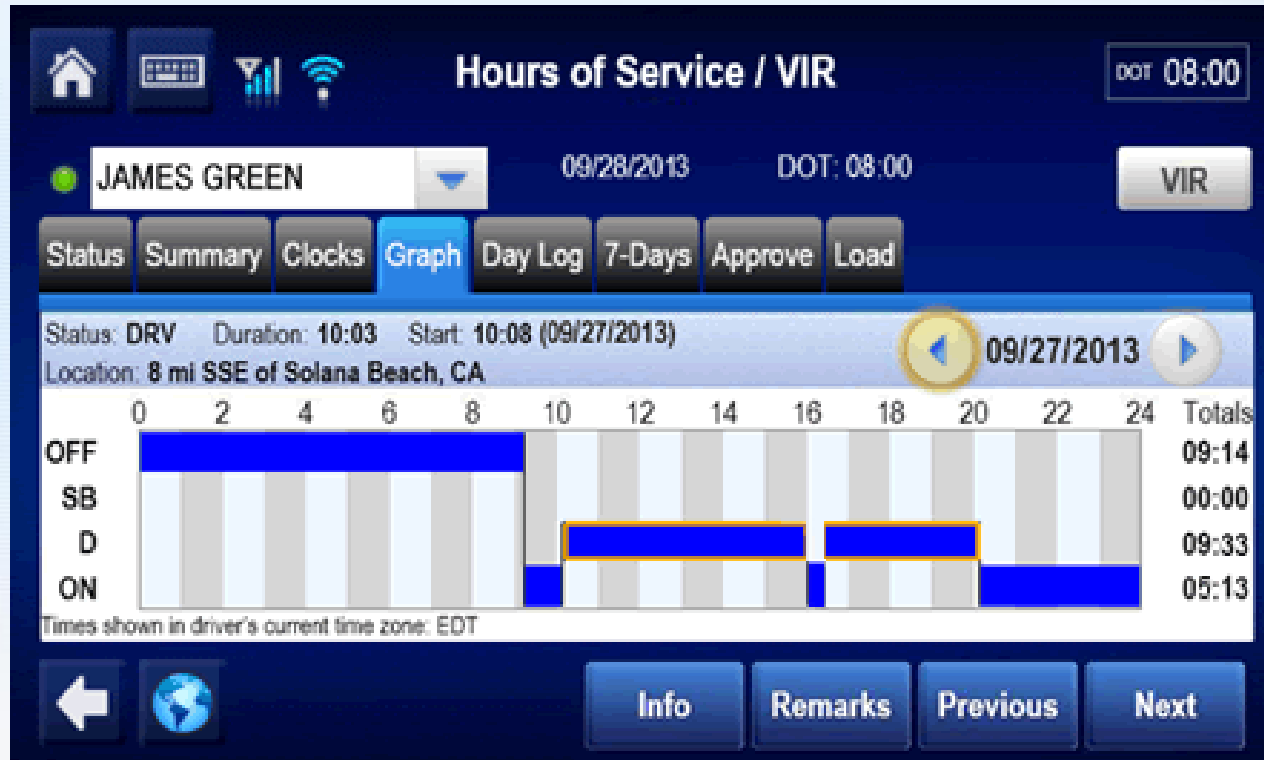
Designed for use in extreme conditions: crisp high-quality video even under the harshest of environments.



Electronic Logging Device (ELD)



Hours of Service (HOS)



- Allows drivers to focus on driving safely and productively
- Reduces HOS violations
- Many additional features available from various manufacturers

SpeedGauge

Vehicle	Time	Location	Speed Limit	Actual Speed
801	Thu Oct 17 00:21:53 2013	<u>I-695 E, UNINC BALTIMORE COUNTY, MD</u>	55	66
801	Thu Oct 17 07:42:46 2013	<u>I-95 N, WATERFORD, TOWN OF, CT</u>	55	66
972	Thu Oct 17 06:44:44 2013	<u>I-78 / US-22 E, GREENWICH TWP, PA</u>	55	66
972	Thu Oct 17 14:08:00 2013	<u>I-78 / PA-309 W, SALISBURY TWP, PA</u>	55	67
972	Thu Oct 17 14:26:56 2013	<u>I-78 / US-22 W, GREENWICH TWP, PA</u>	55	66
967	Thu Oct 17 04:33:30 2013	<u>I-90 W, SUMMIT TWP, PA</u>	55	66
967	Thu Oct 17 21:53:42 2013	<u>IN-162, UNINC DUBOIS COUNTY, IN</u>	55	65
967	Thu Oct 17 22:28:35 2013	<u>US-231 / IN-45, UNINC MARTIN COUNTY, IN</u>	55	65
967	Thu Oct 17 22:43:28 2013	<u>US-231 / IN-45, UNINC MARTIN COUNTY, IN</u>	55	65
971	Thu Oct 17 12:07:55 2013	<u>US-331 / AL-9, UNINC COVINGTON COUNTY, AL</u>	55	65

SpeedGauge

SpeedGauge™ Incident Map

Streetview Request Speed Limit Update Create geofence speed zone

801
I-695 E, UNINC BALTIMORE COUNTY,
Observed speed (heading): 66MPH(67)
Posted speed limit: 55
Thu Oct 17 00:21:53 2013 (US/Easter)

Critical Event Reports

Safety technologies communicate with each other via the J1939 network

- Omnitracs takes that data and generates detailed reports

<https://cer.omnitracs.com/cer/welcome.do>



THROTTLE 100%
ENG LOAD 22%
ENGINE N/A



FORWARD /
BACKWARD
-0.01
SIDE TO SIDE
-0.08

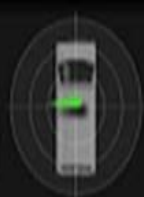




BRAKE ON
ABS OFF
ATC OFF
CRUISE CONTROL N/A
DRIVER SEAT BELT N/A



THROTTLE 0%
ENG LOAD 0%
PTO OFF
ENGINE N/A
ENG RETARDER N/A



FORWARD /
BACKWARD
0.00
SIDE TO SIDE
0.00

3:51:52.79 AM