SCRS' Education Committee Presents

Advanced Vehicle Technologies

Education Committee's 100 Non-Included Items when replacing a frame.

- Clean used frame
- Dispose of VIN / Register new Frame VIN
- Cut up damaged frame for disposal
- Bleed brakes
- Drain Brake Fluid
- Brake Fluid
- Set or adjust Parking Brake
- Evacuate and recharge a/c system
- A/C oil and Freon
- A/C "O" rings
- Remove pressure from ABS and recharge ABS system
- Diagnosis (scan tool) for ABS
- R&I heat shields
- R&I Spare tire carrier
- R&I pick up shell if equipped
- R&I Bed Liner if equipped
- 4 Wheel complete alignment
- Remove fuel from gas tank and store
- R&I Wheel and tires
- R&I Bottom engine shieldsand Skid Plates
- R&I ABS sensors
- R&I ABS Wire loom
- R&I Trailer hitch and wires
- R&I components of exhaust system if they cannot be removed as an assembly or some of the parts are damaged
- R&I 4 wheel drive shaft
- R&I rear drive shaft unit on 4 wheel drive as components if they cannot be removed as an assembly
- R&I ride height sensors
- Recaliber ride height
- Overhaul suspension parts that are damaged
- Separate lines for parts that cannot be removed as entire assembly.
- Drain radiator
- Radiator Coolant
- Bleed radiator system
- R&I carpets for access if necessary
- Freight for new frame
- D&R battery
- Reset radio codes
- R&I fan and fan shroud
- R&I mounting clips and brackets
- R&I fuel neck assembly if necessary for removal
- R&I ride height wire loom
- R&I trans cooler
- Transmission Fluid
- R&I heater hoses if necessary
- R&I any fender shieldsor liners
- R&I any mechanical components attached to the frame (list each one)
- Disconnect brake lines to brake booster
- Drain P/S Fluid
- Replace power steering fluid if necessary
- Replace washer fluids if necessary
- Road test before delivery
- Reset all trouble codes (list)
- Disable and enable SRS system
- R/I Center Console/ Disconnect Shifer
- R/I Electrical Suspension Components
- Cut and Dispose of Crate
- Towing to dealer to reset codes
- Set Body on rolling bench or 2nd frame bench
- Reset clock
- Replace PAG Oil for Ride Height Compressor

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But one more tool that is a must, is a

Minimu nents
For To Center

SCAN TOOL

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Question: Why is it necessary to have a SCAN tool in a collision center?

Answer: To properly diagnosis and repair the Advanced Automotive Technologies that are standard on Today's Automobiles

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Typical Malfunction Lights on Today's Automobiles

Why Worry About No Lights on the Dash?

•Dash warning lights alert drivers to safety issues and maintenance intervals. The dash lights are not diagnostic. As a result their presence or absence cannot be relied upon to determine repair estimates.

•Examples of problems that do not always turn on a warning light: Passenger Seat Occupant Sensor and the effect of low battery voltage on body control functions.

•Disabled systems

•Warning light can be cleared for a certain number of key strokes. Stored history codes cannot.

•Warning lights may not trigger until the vehicle is driven a specified distance.

•**WHAT'S THE RISK OF KNOWING VS. NOT KNOWING.**

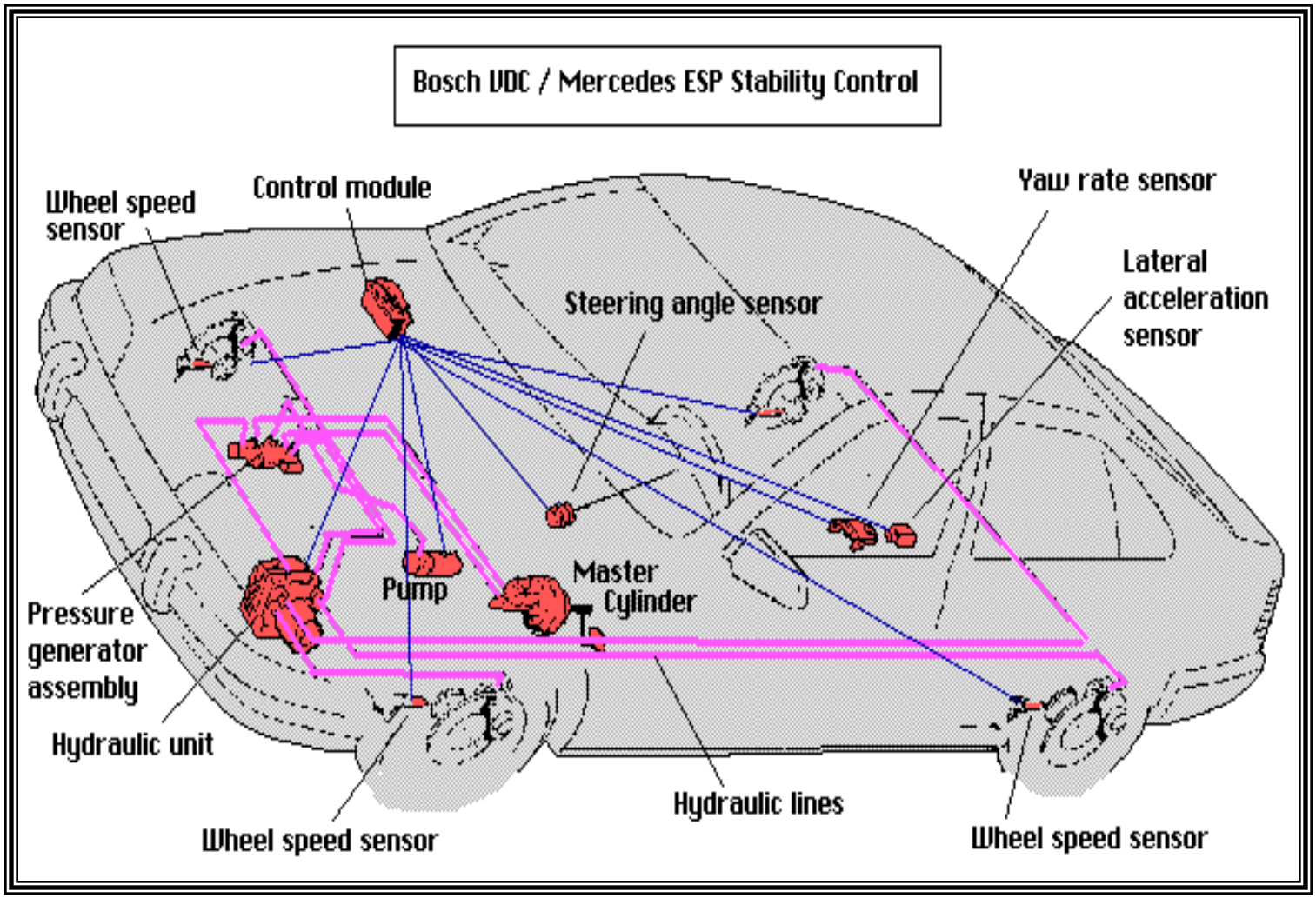

Photo Courtesy of AA1CAR.com

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What is Electronic Stability Control?

ESC constantly monitoring how the vehicle is responding to the driver and road conditions. If a problem starts to develop, it takes whatever measures that are necessary to bring the vehicle under control. The engine power is reduced letting off of the throttle, retarding the timing and simultaneously applying the brake. All these processes coupled together will counter the forces that are causing the vehicle to lose traction or control. This whole process is accomplished without the driver's imput.

Vehicle Without ESC

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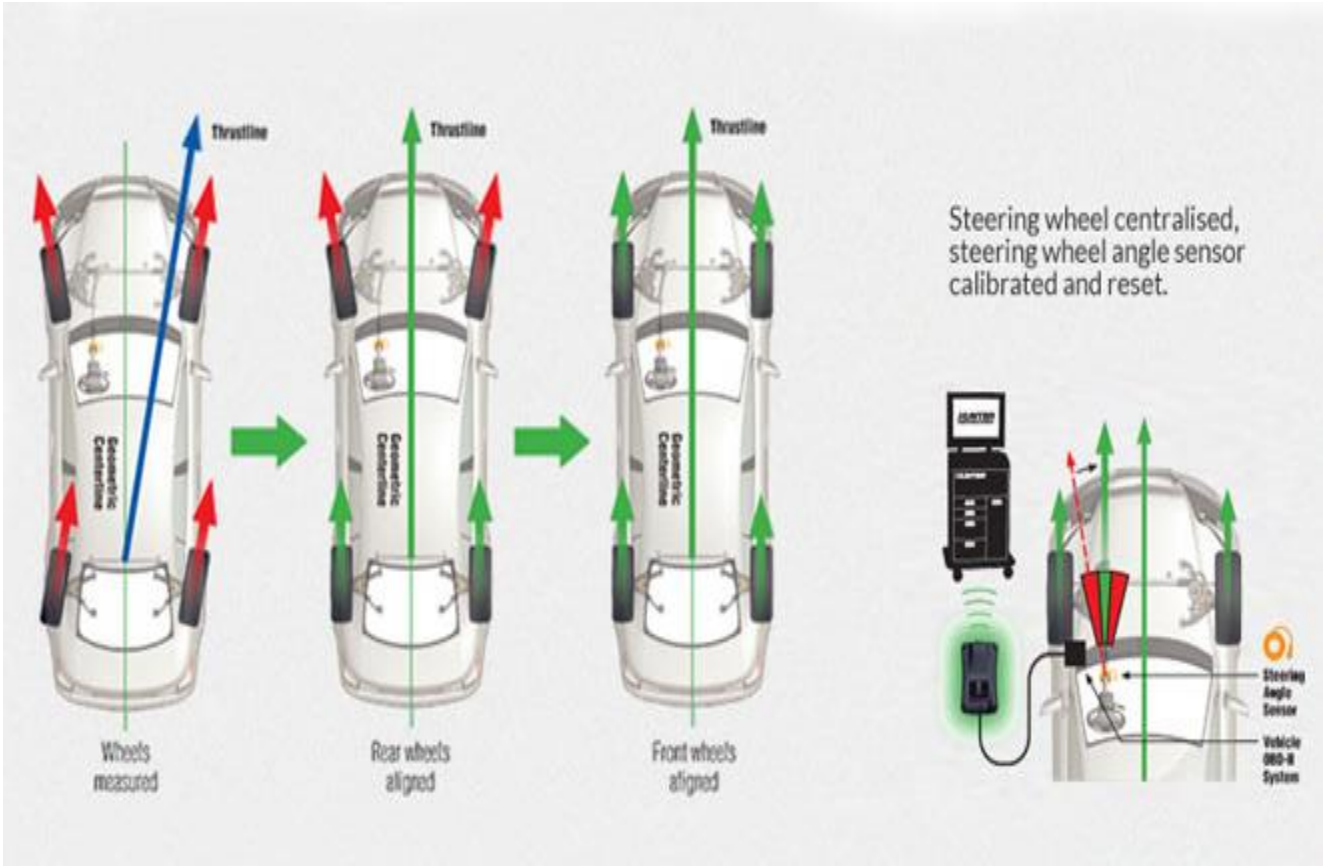
Vehicle With ESC

What is this part?

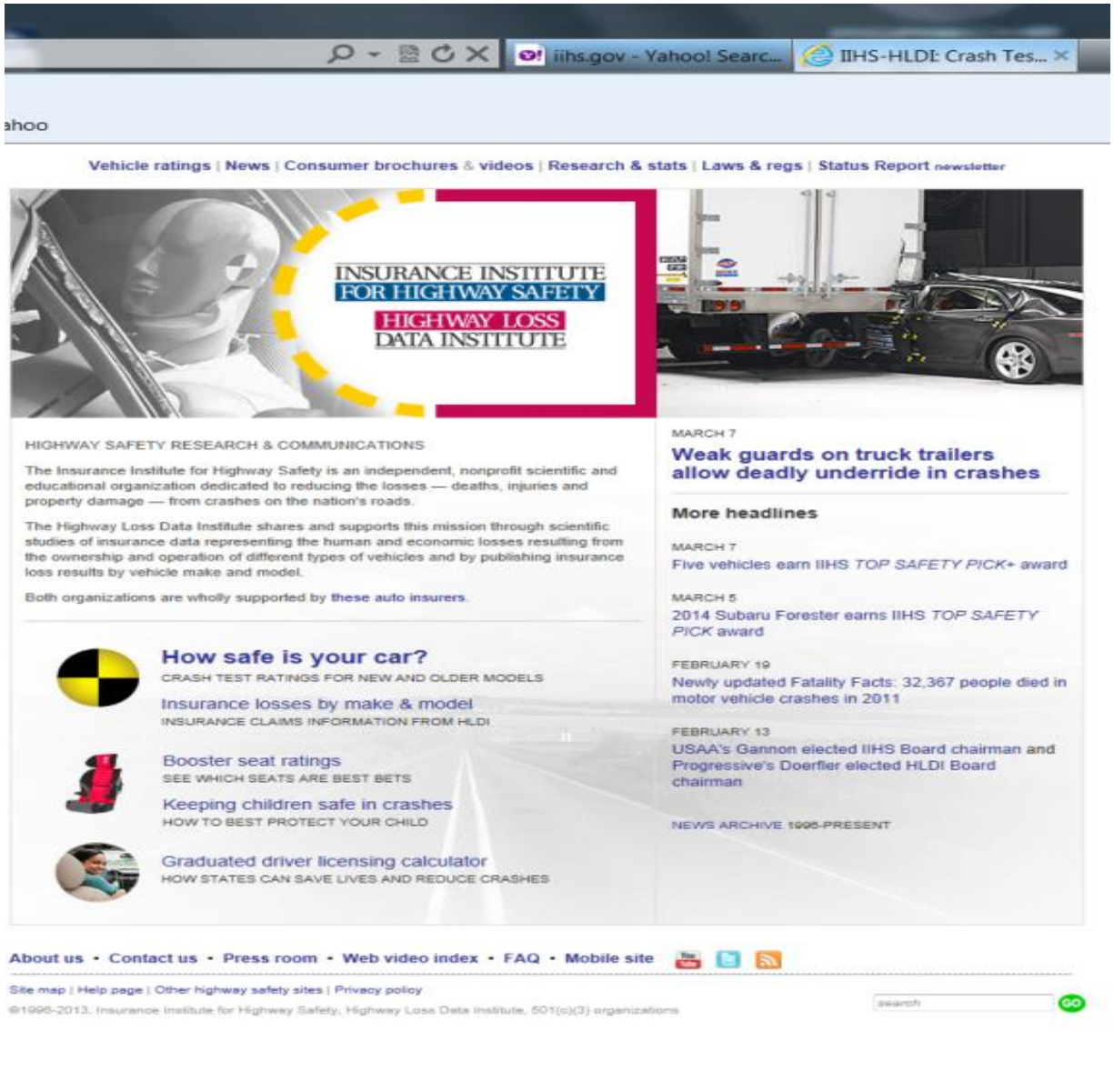
Answer—It is a steering angle sensor

As the steering wheel moves in either direction, the speed and number of Revolutions are transmitted to the vehicle’s computer.

Why it is necessary to perform a complete 4 wheel alignment when working on vehicles equipped with ESC.



Insurance Institute for Highway Safety



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Insurance Institute Highway Safety

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Electronic stability control

Vehicle test results

ESC availability by make and model

Q&As

Electronic stability control

Rollover and roof strength

Crash avoidance technologies

Informational video

Electronic stability control

Research paper

Effects of electronic stability control on fatal crash risk; Charles M. Farmer, Ma

Selected research bibliography

Highlights from the Institute's research since 1969

News releases

June 13, 2006 Electronic stability control could prevent nearly one-third of all t rollover risk by as much as 80%; effect is found on single- and multiple-vehicl

October 28, 2004 Electronic stability control found effective; main effect is to r risk, including the risk of fatal single-vehicle crashes

***Status Report* newsletter articles**

Vol. 47, No. 6, August 14, 2012: Truck tractors, buses could get standard ESC

Vol 46, No. 8, September 28, 2011: Electronic stability control prevents fatal c government study reconfirms

Vol. 46, No. 5, June 9, 2011: ESC is working as intended under a federal rule new passenger vehicles

Vol. 45, No. 6, June 22, 2010: Electronic stability control lowers risk of a fatal

Vol. 43, No. 2, March 15, 2008: ESC helps keep vehicles from rolling over, an people in the rollover crashes that still occur

Vol. 42, No. 10, October 13, 2007: Federal study of ESC adds to evidence tha

Vol. 41, No. 10, December 19, 2006: Proposal to require ESC draws wide sup

Vol. 41, No. 9, November 21, 2006: ESC is a new requirement to earn *TOP S...*

FOR HIGHWAY SAFETY | DATA INSTITUTE — HIGHWAY SAFETY

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Vehicles equipped with electronic stability

About half of the fatal passenger vehicle crashes that occur e the risk of involvement in these crashes by more than 50 perc

The government requires ESC on all passenger vehicles as c ESC, use the drop-down menus below.

Choose a vehicle: 2011 | Chevrolet

Consumer note: Electronic stability control is marketed by a variety of bra

How electronic stability control (ESC) works

How ESC helps drivers maintain control: explanation with gra

ESC research topics page (includes Institute study findings)

Percent ESC availability by vehicle type

		2011	2010	2009	2008	2007	200
Cars	Standard	90	88	74	65	56	48
	Optional	5	7	14	18	17	19
	Not available	5	5	12	17	27	34
SUVs	Standard	100	100	100	96	88	66

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Vehicles equipped with electronic stability control (ESC)

About half of the fatal passenger vehicle crashes that occur each year involve a single vehicle. Equipping vehicles with ESC can reduce the risk of involvement in these crashes by more than 50 percent.

The government requires ESC on all passenger vehicles as of the 2012 model year. To find out if an earlier model is equipped with ESC, use the drop-down menus below.

2011 Chevrolet

Model name	ESC availability	
Avalanche 1500 4dr	Standard	Vehicle history
Avalanche 1500 4dr 4WD	Standard	Vehicle history
Aveo 4dr	Not available	Vehicle history
Aveo station wagon	Not available	Vehicle history
Camaro 2dr	Standard	Vehicle history
Camaro convertible	Standard	Vehicle history
Colorado crew cab pickup	Standard	Vehicle history
Colorado crew cab pickup 4WD	Standard	Vehicle history
Colorado ext. cab pickup	Standard	Vehicle history
Colorado ext. cab pickup 4WD	Standard	Vehicle history
Colorado pickup	Standard	Vehicle history
Colorado pickup 4WD	Standard	Vehicle history
Corvette 2dr	Standard	Vehicle history
Corvette convertible	Standard	Vehicle history
Corvette Z06 2dr	Standard	Vehicle history
Corvette ZR1 2dr	Standard	Vehicle history
Cruze 4dr	Standard	Vehicle history
Equinox 4dr	Standard	Vehicle history
Equinox 4dr 4WD	Standard	Vehicle history

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IIHS-Advance Technologies Vehicles

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Crash avoidance technologies

Vehicles equipped with crash avoidance features

Crash avoidance features are rapidly making their way into the vehicle fleet. Six of the most common new technologies are forward collision warning, auto brake, lane departure warning, lane departure prevention, adaptive headlights and blind spot detection. Find out if your car has them.

Q&As

Crash avoidance technologies with animations showing the technologies in action (see Question #2)

Antilock brakes

Electronic stability control

HLDI bulletins

Acura collision avoidance features: initial results; HLDI, December 2011

Buick collision avoidance features: initial results; HLDI, December 2011

Mazda collision avoidance features: initial results; HLDI, December 2011

Mercedes-Benz collision avoidance features: initial results; HLDI, April 2012

Volvo collision avoidance features: initial results; HLDI, April 2012

Volvo City Safety loss experience: initial results bulletin and appendix; HLDI, June 2011

Research paper

Volvo drivers experiences with advanced crash avoidance and related technologies; Angela H. Eichelberger and Anne T. McCartt, December 2012

Selected research bibliography

Highlights from the Institute's research since 1969

News releases

July 3, 2012 Crash avoidance features reduce crashes, insurance claim study shows; autonomous braking and adaptive headlights yield biggest benefits

July 19, 2011 High-tech system on Volvos is preventing crashes

Status Report newsletter special issue

Vol. 47, No. 5, July 3, 2012: Special issue: crash avoidance features

Vol. 43, No. 3, April 17, 2008: Special issue: crash avoidance features

Status Report newsletter articles

Vehicles equipped with crash avoidance features

Crash avoidance features are rapidly making their way into the vehicle fleet. Six of the most common new technologies are forward collision warning, auto brake, lane departure warning, lane departure prevention, adaptive headlights and blind spot detection.

Use the dropdown menus below to find out which models come with which features.

Select year: 2013 Select make: Honda

● Standard ◐ Optional — Not available

Model name	Forward collision Warning	Forward collision Auto brake	Lane departure Warning	Lane departure Prevention	Adaptive headlights	Blind spot detection
2013 Honda Accord 2dr	◐	—	◐	—	—	—
2013 Honda Accord 4dr	◐	—	◐	—	—	—
2013 Honda Accord Crosstour 4dr	◐	—	◐	—	—	—
2013 Honda Accord Crosstour 4dr 4WD	●	—	●	—	—	—
2013 Honda Civic hybrid 4dr	●	—	●	—	—	—
2013 Honda Odyssey	—	—	—	—	—	◐

Additional information:

Q&A with animations showing the technologies in action (see Question #2)

More crash avoidance technologies research

search GO

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Trac

TCS is a device that maximi es accelerating and climbing abilities by preventing wheel slippage w en the car accelerates or moves forw ard from a stopped position.

BTCS (Brake Traction Con rol System)

If the wheels begin to spin w en accelerating, or moving from a st pped position, this brake control s stem decreases torque and minimise the slip by activating the brake - improv ng acceleration and climbing ability. he operating principles are the same as th se of ABS. In simple terms, the ABS operates when brake pressure is appl ed, and TCS operates when using the accelerator

Tire Monitoring System

A **tire pressure monitoring system** (**TPMS**) is an electronic system designed to monitor the air pressure inside the pneumatic tires on various types of vehicles. TPMS report real-time tire-pressure information to the driver of the vehicle, either via a gauge, a pictogram display, or a simple low-pressure warning light. TPMS can be divided into two different types — direct (dTPMS) and indirect (iTPMS). TPMS are provided both at an OEM (factory) level as well as an aftermarket solution

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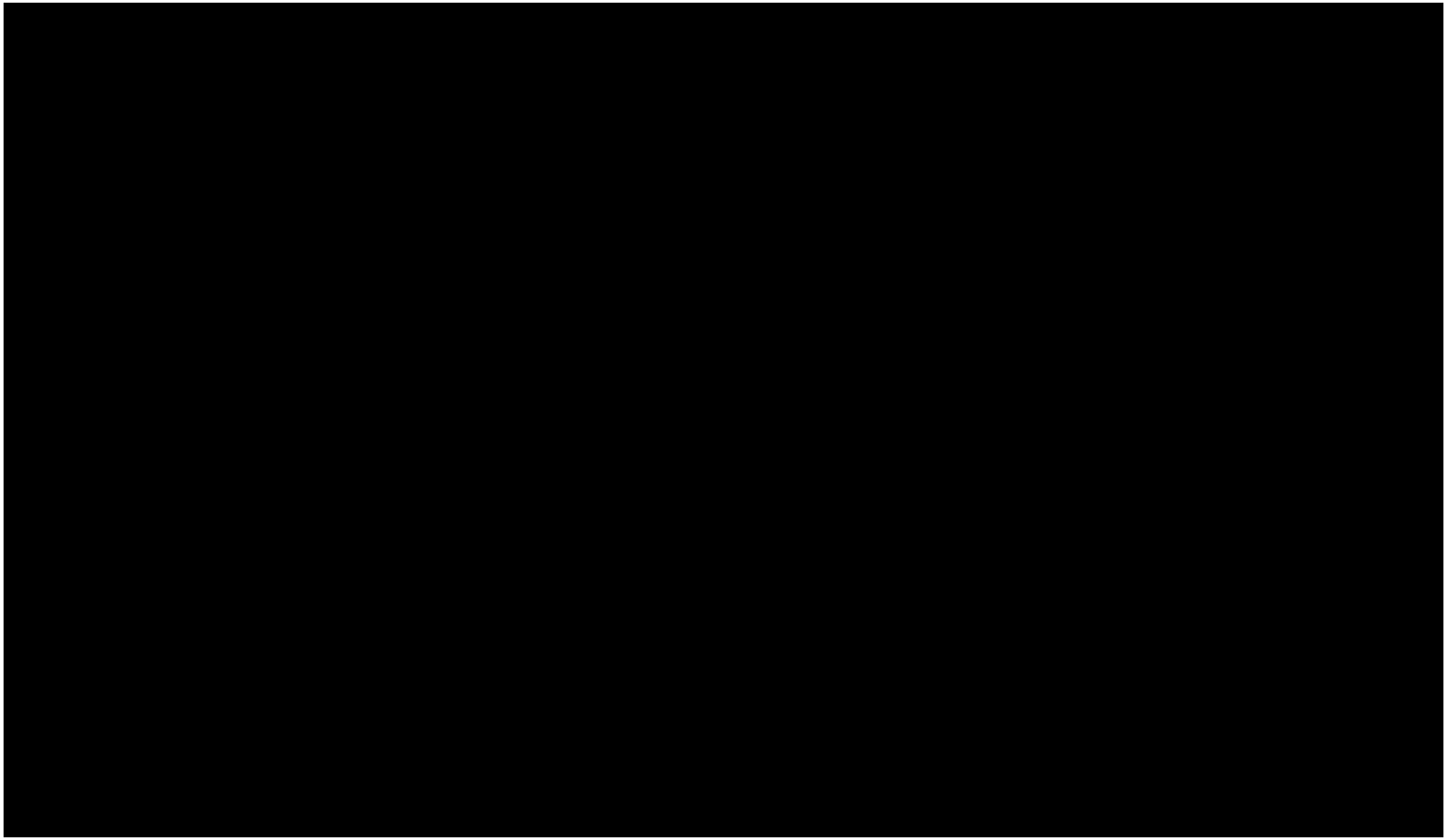
Tire Pressure Monitoring System



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Hill Assist Control

Hill Start Technology

The **hill-start assist** is a variant of hill-holder used by some semi-automatic, clutchless transmissions. The system prevents the car from rolling away when trying to pull away on an up or down gradient, simulating a "handbrake hill start" manual drivers will be familiar with. The system engages automatically when a gradient of 3% or more is detected; it then acts to hold the car stationary for two seconds after the brake is released giving the driver time to apply the throttle

Hill Decent Technology

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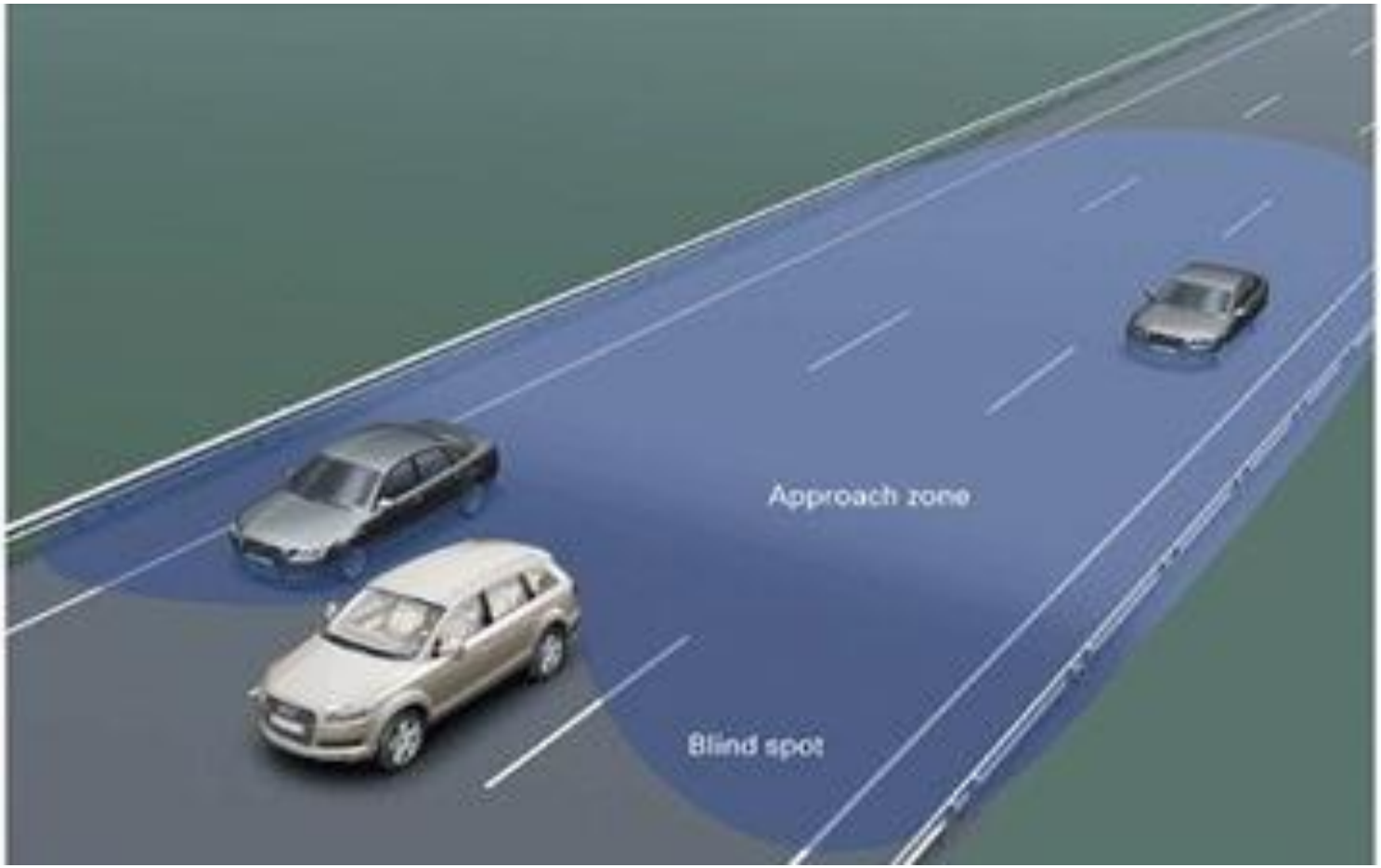
Hill Descent Control (HDC) allows a smooth and controlled hill descent in rough terrain without the driver needing to touch the brake pedal. When on, the vehicle will descend using the ABS brake system to control each wheel's speed. If the vehicle accelerates without driver input, the system will automatically apply the brakes to slow down to the desired vehicle speed. Cruise control buttons can adjust the speed to a comfortable level. Applying pressure to the accelerator or brake pedal will override the HDC system when the driver requires. The other name for this is Hill Mode Descent Control.

With Hill Descent Control drivers can be confident that even the ride down hills with slippery or rough terrain will be smooth and controlled, and that they will be able to maintain control as long as sufficient traction exists. Four-wheel-drive (4WD) and All Wheel Drive (AWD) vehicles, such as Ford Territory, may have a Hill Descent Control system installed, using the ABS braking to control the car's motion downhill, initially developed by Bosch for Land Rover. The system can be controlled, usually by the Cruise Control buttons near or on the steering wheel

Blind Spot Detection Technology



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- group the new blind-spot monitoring technologies into two different categories: active and passive.

Adapative Cruise Control Technology

Autonomous cruise control is an optional cruise control system for road vehicles that automatically adjusts the vehicle speed to maintain a safe distance from vehicles ahead. It makes no use of satellite or roadside infrastructures nor of any cooperative support from other vehicles. Hence control is imposed based on sensor information from on-board sensors only. The extension to cooperative cruise control requires either fixed infrastructure as with satellites, roadside beacons or mobile infrastructures as reflectors or transmitters on the back of other vehicles ahead.[*citation needed*] Such systems go under many different trade names according to the manufacturer. These systems use either a radar or laser sensor setup allowing the vehicle to slow when approaching another vehicle ahead and accelerate again to the preset speed when traffic allows - example video. ACC technology is widely regarded as a key component of any future generations of intelligent cars. The impact is equally on driver safety as on economising capacity[*disambiguation needed*] of roads by adjusting the distance between vehicles according to the conditions

Adaptive Cruse Control

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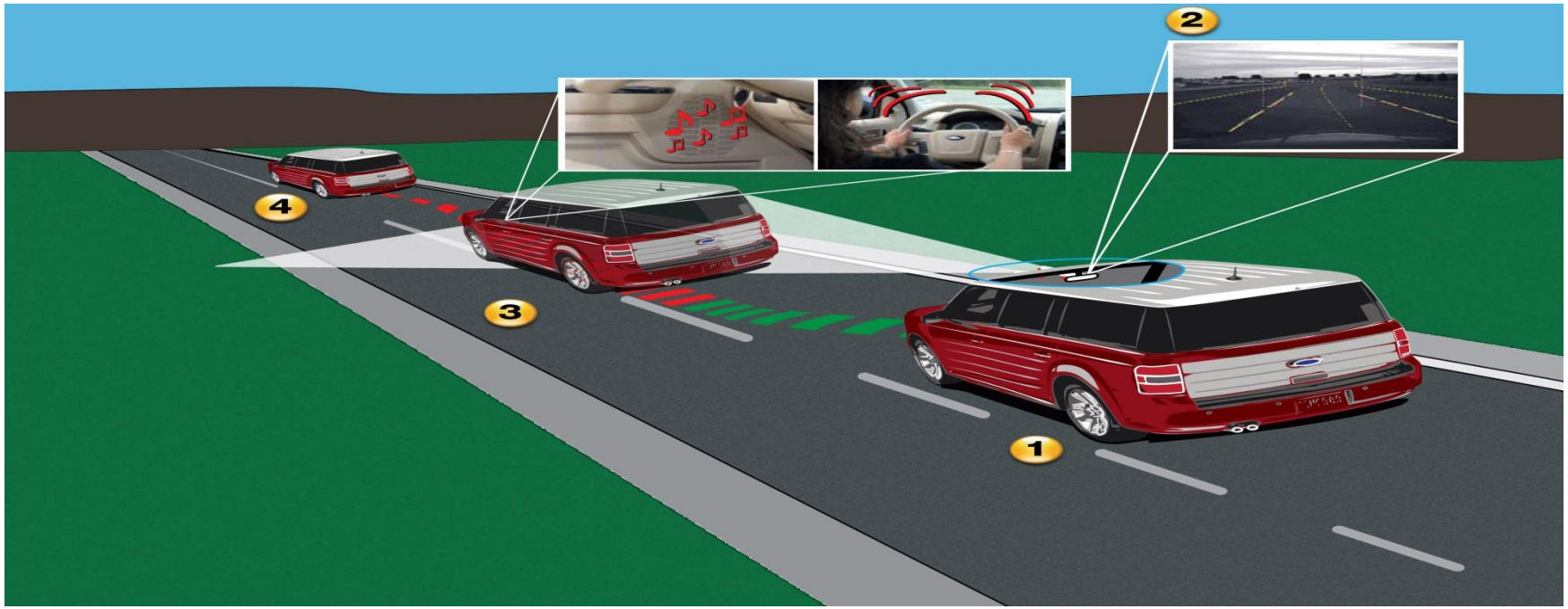
Lane Departure Technology



In road-transport terminology, a **lane departure warning system** is a mechanism designed to warn a driver when the vehicle begins to move out of its lane (unless a turn signal is on in that direction) on freeways and arterial roads. These systems are designed to minimize accidents by addressing the main causes of collisions: driver error, distractions and drowsiness. In 2009 the U.S. National Highway Traffic Safety Administration (NHTSA) began studying whether to mandate lane departure warning systems and frontal collision warning systems on automobiles

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Lane Departure

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Adaptive Head Lamps

Adaptive Headlamps

Adaptive Headlights automatically swivel in the direction of the road ahead, even up hills and around curves. Sensors measure the vehicle's velocity, direction and yaw. This information, combined with the movements of the steering wheel, is fed into an on-board computer. Based on this data, the system calculates the direction in which the vehicle is heading, and automatically points the headlights in that direction

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Adaptive Headlamps

General maintenance wheel alignments are check the air pressure then set the tow and let it go. Collision damaged vehicles require an ALL WHEEL alignment. The rear wheels (uni-body) or thrust angle (on BOF if applicable) are first set then the front wheels are aligned off the rear wheels. Additionally, on some of the rear camera equipped vehicles it is required to align some and/or all of the following during the wheel alignment:

1. The camera to the steering angle sensor
2. The headlamps to the steering angle or yaw rate sensor
3. The distronic/adaptive cruise control camera
4. The automatic load leveling air ride suspension
5. The lane departure system
6. The pre-collision/pre-safe system

Crash Avoidance Technology

A **collision avoidance system** is a system of sensors that is placed within a car to warn its driver of any dangers that may lie ahead on the road. Some of the dangers that these sensors can pick up on include how close the car is to other cars surrounding it, how much its speed needs to be reduced while going around a curve, and how close the car is to going off the road. The system uses sensors that send and receive signals from things like other cars, obstacles in the road, traffic lights, and even a central database are placed within the car and tell it of any weather or traffic precautions. Depending on the system they may warn the driver, precharge the brakes, inflate seats for extra support, move the passenger seat, position head rests to avoid whip lash, tension seat belts and automatically apply partial or full braking to minimize impact. A situation that provides a good example of how the system works is when a driver is about to change lanes, and there is a car in his blind spot. The sensors will detect that car and inform the driver before he starts turning, preventing him from potentially getting into a serious accident

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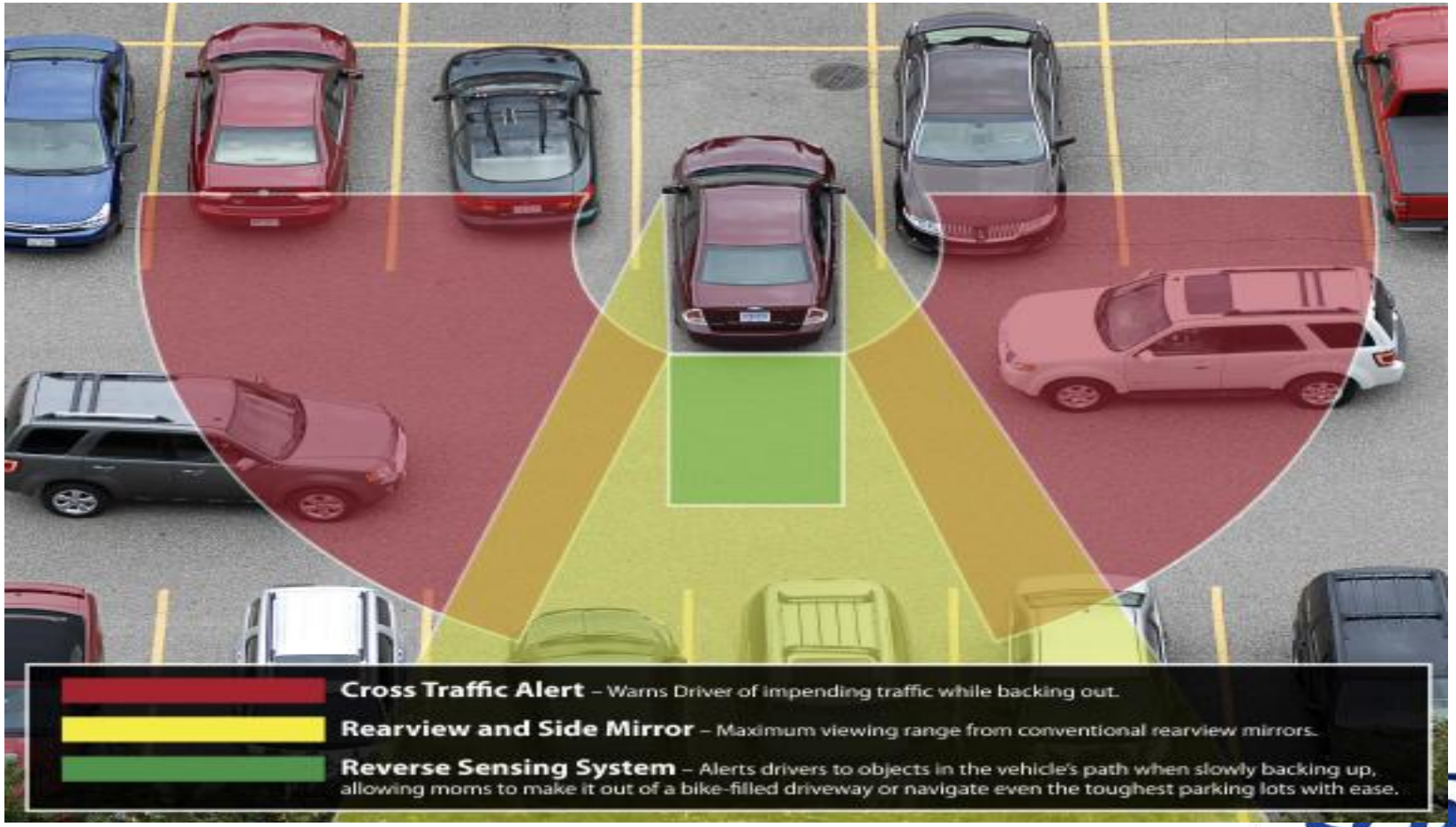
Segment 5:

Cameras and sensors of crash avoidance systems

Cross Traffic Alert



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Blind Spot Information System (BLIS) with Cross-Traffic Alert

Ford's Blind Spot Information System (BLIS®) with cross-traffic alert is a driver assist feature that helps detect vehicles in blind spots during normal driving and traffic approaching from the sides when reversing out of parking spots.

Blind Spot Information System

How it works

• The feature uses two multiple-beam radar modules, the same used with cross-traffic alert, which are packaged in the rear quarter panels – one per side.

• The radar identifies when a vehicle enters the defined blind spot zone and illuminates an indicator light on the corresponding sideview mirror, providing a warning that a vehicle is approaching.

How it works

• Working in conjunction with Blind Spot Information System (BLIS), cross-traffic alert warns the driver of impending traffic while backing out of a parking spot.

• Cross-traffic alert utilizes the blind spot system's two multiple-beam radar modules.

• It can pick up a vehicle moving at least 5 mph within a 45-foot range – or five parking spaces – from either the left or right side of the vehicle.

• When cross traffic is approaching, three warnings are given: an indicator lights up in the corresponding outside mirror, an audible alert is sounded and a message center warning is displayed.

• The radar also works when backing out of angled parking spaces because its view is wider than just strictly sensing traffic coming at a 90-degree angle.

Availability

Available on Ford Fusion and Fusion Hybrid, Ford Taurus, Ford Explorer, Ford Edge, Lincoln MKZ, Lincoln MKZ Hybrid, Lincoln MKT and Lincoln MKX.

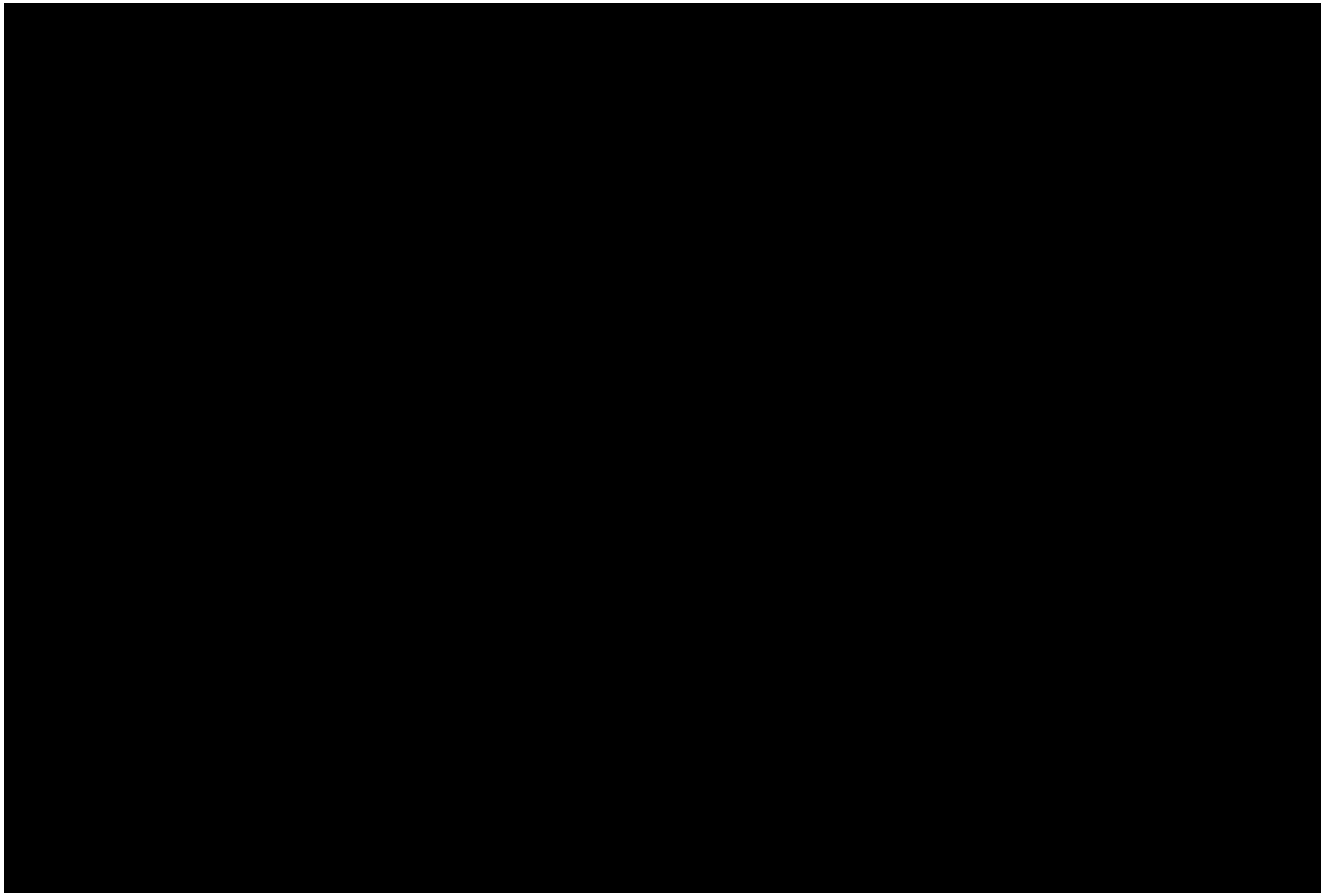
Cross-traffic alert – Warns drivers of impending traffic while backing out

Rearview and side mirror – Maximum viewing range from conventional rearview and side mirrors

Reverse sensing system – Alerts drivers to objects in the vehicle's path when slowly backing up

Adaptive Headlamp Technology

Adaptive Head Lamps



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Crash Avoidance Technology

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Lane Departure/Crash Avoidence

Segment 5:

Cameras and sensors of crash avoidance systems

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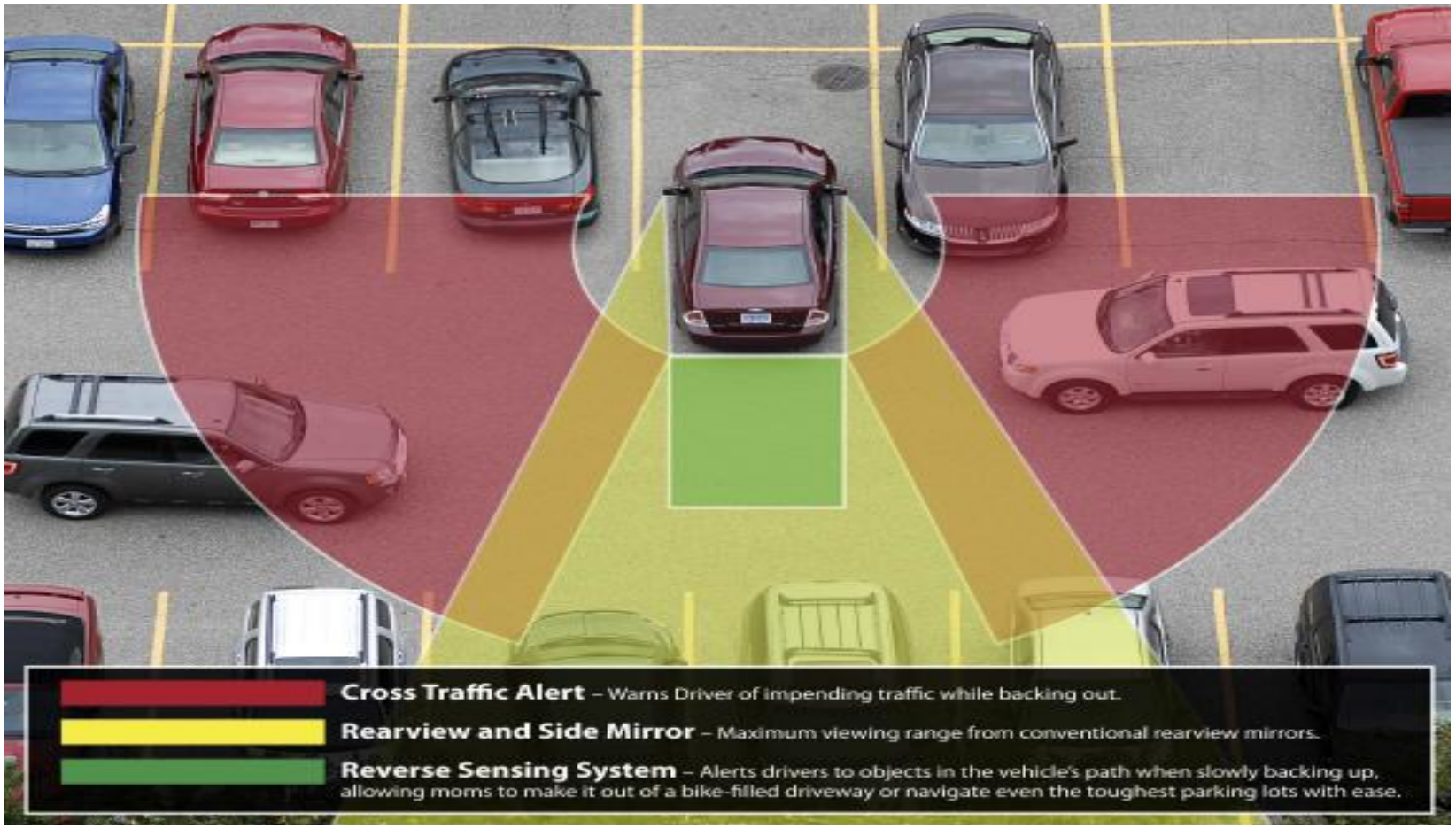
Cross Traffic Alert



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Cross Traffic Alert Technology

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Night Vision Technology

Matrix for Advanced Vehicles Systems

	Steering Angel Sensor	*Front Speed Sensor*	*Rear Speed Sensor*	*ABS Module*	*Yaw Rate Sensor*	*Lateral Accelorometer*	*Stability Control Sensor*	*Control Module*	*Trailer Brake Module*
Electronic Stability Control									
Trackson Control									
Lane Departure									
Accident Avoidence									
TPMS									
Hill Accent									
Hill Decent									


AES
Automotive Electronic Solutions
Presents
ASTech PRO

ASTech
Your Ultimate Programming & Diagnostic Solution

Automotive Electronic Solutions

ASTech PRO

ASTech PRO provides an **ON-DEMAND** service to program, with an OEM scan tool, any module on any vehicle while the vehicle remains in YOUR shop.

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Collision Industry

Does Your Shop Have a Black Box?

ASTech
Your Ultimate Programming & Diagnostic Solution

SHOP BENEFITS

- Vehicle and employees stay at the shop
- No need to buy expensive scan tools or hire techs to operate
- Eliminate one of the largest "cycle time bandits" in a collision center
- Increase shop revenue by keeping diagnostic work in house
- Reduce the number of supplements and potential delays due to insurance approvals
- Easy, quick connection and setup for body shop employees
- Eliminates towing costs to and from the dealership
- Convenience of On-Demand Service (No downtime at the dealer)
- Increase CSI by delivering vehicles ahead of schedule and properly repaired
- Liability protection
- Fraud protection
- Tool of measurement for inspecting and repairing a vehicle's diagnostic network
- Faster insurance payment for supplements
- Reduce the number of comebacks

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ASTech

Your Ultimate Programming & Diagnostic Solution

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ASTech provides ON-DEMAND dealership level diagnostic services while the vehicle remains in YOUR shop!

An ASTech is all you need to give your shop on-demand remote access to OEM scan tools, operated by our certified Master Technicians, at a fraction of the cost. As a subscriber, your shop will now have its own library of automotive data, analytics, and technical service bulletins, with expert diagnostics.

- No scan tools required
- No towing to dealership
- Reduced job turnaround time (faster bay cycle time)
- Certified Master Technicians perform diagnostic services
- No more "hanging parts" to find vehicle problems
- Enables your shop to expand services to more makes/models*

* Please refer to the Services section of the website for further details on current and future make/model coverage of the ASTech.

Customer Request For Service

AES

Automotive Electronic Solutions

SCRS

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ASTech Coverage (by Make/Year)

Make	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Acura																			
Audi																			
BMW																			
Buick																			*
Cadillac																			*
Chevrolet																			*
Chrysler																			
Dodge																			
Ford																			
GMC																			*
Honda																			
Hummer																			
Hyundai																			
Infiniti																			
Jaguar																			
Jeep																			
Kia																			
Land Rover																			
Lexus																			
Lincoln																			
Mazda																			
Mercedes-Benz																			
Mercury																			
Mini																			
Mitsubishi																			
Nissan																			
Oldsmobile																			
Plymouth																			
Pontiac																			
Porsche																			
Ram																			
Saturn																			
Scion																			
Smart																			
Subaru																			
Suzuki																			
Toyota																			
Volkswagen																			
Volvo																			

Legend

	Complete
	In Development
	Model Dependent
	Future
	N/A

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ASTech Work Order (888)-404-4841

Shop Name *

Contact Name * First Name Last Name

Contact Email
eg. xyz@domain.com

Phone Number * ### ### ####

RO # *

Vehicle Year * 1996

Vehicle Make * Audi
Manufacturer

Vehicle Model *

Mileage *
Miles

VIN *

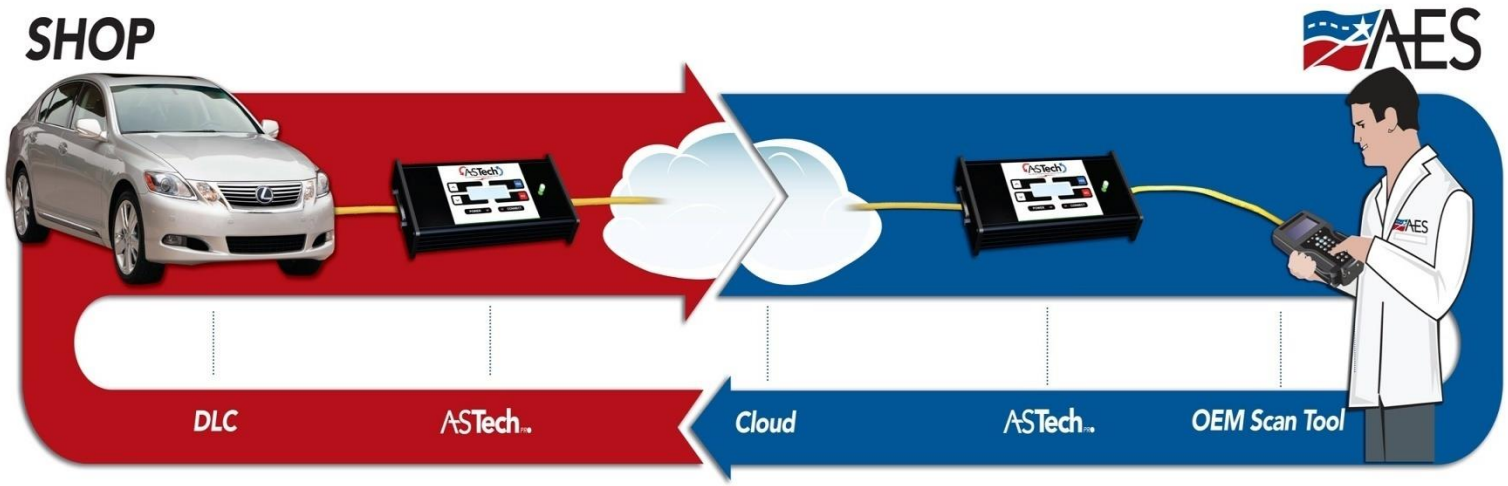
Engine
Size and Type

Transmission
Type

Symptoms & Warning Indicators *
Describe problem symptoms and list warning indicators observed on the dash board

Vehicle Damage
Give a detailed description

SCRS REPAIRER DRIVEN



1. The shop or estimator requests a service (phone, website, fax)
2. AES Master Tech sets up the service and notifies shop or estimator that service is about to begin. Shop or estimator role is done
3. AES Master Tech performs the service
4. AES Master Tech creates report and sends to shop or estimator

Process takes approximately 5 minutes of shop or estimator's time and 15 minutes of AES Master Tech time. Shop or estimator can go on to another task while AES works.

SCRS
REPAIRER DRIVEN


DLC Port

2007 Toyota Corolla
RO#14332
1NXBR32Exxxxxxx
23,399 Miles
“Borderline Total loss”
Airbag light is on, driver’s bag deployed.

WITHOUT ASTech SUPPORT:

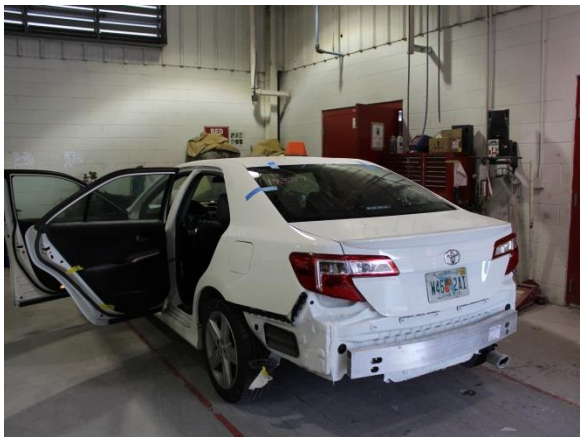
- Origin of dashboard lights are unknown to the shop.
- Supplements are likely, due to wire harness damage and hidden damage within airbag network.
- Vehicle will need to be towed to the dealer for airbag system diagnosis.
- Vehicle may not repair due to excessive costs and hidden damage.

Scan report found multiple codes in vehicle SRS module.

WITH ASTech SUPPORT:

- Damage identified in DA stage of repair process
- Shop provides both insurance company and vehicle owner with a accurate damage appraisal.
- No dealer visit necessary, vehicle and employees stay at the shop.
- Low mileage , high NADA value, accurate estimate, vehicle will likely repair
- **Potential of $5,000 in savings, shop determined that vehicle may be a total loss.**

SCRS
REPAIRER DRIVEN



2012 Toyota Camry
RO#183184
4T1BF1FKxxxxxxxx
17,034 Miles
“Completion scan”
Airbag light is on, no bag deployment.

WITHOUT ASTech SUPPORT:

- Origin of airbag light is unknown.
- Vehicle would have been towed to dealer.
- Additional downtime at dealer would likely move vehicle past guaranteed delivery date.
- Shop employees would have to pick up vehicle and insurance company would have to pay dealer labor rate difference.

Scan report found multiple codes in SRS module, and a navigation fault for a unplugged microphone.

WITH ASTech SUPPORT:

- Damage would have been identified in DA stage of repair process.
- Shop would have eliminated a possible comeback for the unplugged microphone in headliner.
- SRS calibration would have been performed in reassembly stage.
- **Potential of $250-500 in savings for keeping repairs in house.**

SCRS
REPAIRER DRIVEN

2007 Audi Q7
WA1BV74L0xxxxxxxxx
122,204 Miles
No lights on dashboard
Navigation unit not working.
Impact to right rear of car.

WITHOUT ASTech SUPPORT:

- Shop is a unable to handle customer's concern on Navigation error.
- Vehicle would have to go to the dealer for diagnostic inspection.
- Dealer found navigation MMI (Multi-Media Interface) unit located in right rear of vehicle, had no communication.
- Dealership would have likely replaced the module for no communication error and would have no reason to analyze freeze frame data.
- High probability insurance carrier pays for unknown electrical failure in control module, because of close proximity to vehicle impact zone.

Scan results found lost communication with Navigation MMI unit. Further inspection found open TSB for sunroof leak.

WITH ASTech SUPPORT:

- AESP identifies the navigation faults on the first day of the repair.
- AESP found in the freeze frame data that navigation faults were recorded 8,954 miles and 7 months prior to date of loss.
- AESP also found Audi has a open TSB for this exact problem on the Q7 model range.
- ***Savings to insurance carrier over $1500.00***

SCRS
REPAIRER DRIVEN

SUPPLEMENTAL RESTRAINT SYSTEM: OCCUPANT CLASSIFICATION SYSTEM: PRECAUTION

NOTICE:

When disconnecting the negative (-) battery cable, initialize the following systems after the cable is reconnected.

Zoom and Print Options

System Name	See Procedure
Power Window Control System	[INTRODUCTION: REPAIR INSTRUCTION: INITIALIZATION]
Sliding Roof System	

1. INSPECTION PROCEDURE FOR VEHICLE INVOLVED IN ACCIDENT

(a)Perform the zero point calibration and sensitivity check if any of the following conditions occur.

* The occupant classification ECU is replaced.
* Accessories (seatback tray and seat cover, etc.) are installed.
* The front passenger seat is removed from the vehicle.
* The passenger airbag ON/OFF indicator ("OFF") comes on when the front passenger seat is not occupied.
* The vehicle is brought to the workshop for repair due to an accident or a collision.

NOTICE:

When an accident vehicle is brought into the workshop for repair, check the flatness of the body side that is equipped with the passenger seat. If the flatness is not within +- 3.0 mm (0.118 in.), adjust it to the specified range.

2. EXPRESSIONS OF IGNITION SWITCH

The type of ignition switch used on this model differs according to the specifications of the vehicle.

The expressions listed in the table below are used in this section.

Zoom and Print Options

Switch Type		Ignition Switch (position)	Engine Switch (condition)
Expression	Ignition Switch off	LOCK	Off
	Ignition Switch on (IG)	ON	On (IG)
	Ignition Switch on(ACC)	ACC	On (ACC)
	Engine Start	START	Start