



TECH TIMES

The Professional Publication for Kia Dealership Technicians & Service Staff

2014

Volume 17, Issue 5

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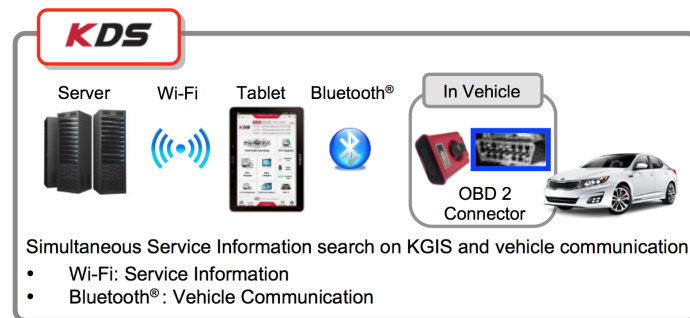
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Kia Diagnostic System / Dealership Wi-Fi Requirements

Kia is introducing its first tablet based diagnostic solution, Kia Diagnostic System (KDS) to the GDS suite of products. KDS will provide a dynamic, portable and speedy solution, allowing real-time access to service information and improved diagnostic software for enhanced troubleshooting procedures. It is aimed at improving the overall customer experience by increasing "Fixed Right First Time" scores and CSI. KDS provides state of the art technology with wireless internet (Wi-Fi) and VCI Bluetooth connectivity. To assure quality vehicle repair through access to the appropriate service information and diagnostic capabilities. **Every Kia dealership is required to have at least one (1) KDS unit.**



- TPMS Bluetooth Adapter Module
- Flight Recorder Bluetooth Trigger
- Carrying Case
- Accessory Cables/Adapters
- Kia Designed Durability Case



KDS Wi-Fi Requirements:

To leverage the benefits of KDS:

- Connectivity in all service bays, surrounding service areas and service drive
- 802.11 a/b/g/n/ac wireless networks
- WPA2 encryption

Note: 802.11n or 802.11ac are recommended for optimal Wi-Fi performance.

KDS units include the following equipment and features:

- Samsung Galaxy Note 10.1 (Ver. 2014)
- KDS Kit including VCI II
- Software Pack
- External 64GB SD Card

Continued on page 3

Tech Line FAQs

Model/Year	Question	Answer
Multiple Models (Refer to TSB)	I have a clicking type noise coming from the MDPS when turning the steering wheel left or right. What should I check?	Please refer to TSB CHA 044 to correct this concern.
ALL Models	The HVAC system is not cooling sufficiently and there is reduced air volume coming from the vents. What could be the issue?	The evaporator may be frozen reducing air volume flow through the vents causing insufficient cooling. Test the thermistor referring to the specs listed in the service manual in KGIS. Remove the thermistor and place it in a bowl of ice water with a thermometer in it. Check the resistance of the thermistor and compare it to the specs in the service manual based on temperature and resistance readings. If the thermistor is out of spec, replace it.
ALL Models	How can I add a picture or a video to a TechLine case?	You can add pictures or videos (flight recordings cannot be attached due to system incompatibility) to the case by clicking on the "Attachment" button between the middle to the top of page on the right hand side. Once you have added the picture or video, notify us through the case notes that you have attached a picture or video so we are aware of it and can review it.
ALL Models	Do I need to open a Techline repair assistance case in addition to opening a Techline warranty authorization (TL PWA) case to gain approval to replace an automatic transmission that has failed?	No. You only need to open a TL PWA case to get approval to replace an automatic transmission if your dealer is not DSA authorized. When creating a TL PWA case, please be sure to document all diagnostics performed as well as the results of your testing so the TL agent can make an informed decision on approving your request. You can also refer to Warranty Bulletin 2014-09 for further information on the Techline PWA program.

Latest Technical Service Bulletins, Service Actions and Campaigns

BOD 093r2	Second Row Seat Inoperative Or Difficult To Release
CLI 017r4	EV And Hybrid A/C System Servicing Requirements
ELE 065	12V And High Voltage (HV) Battery Receiving Inspection And In Storage Maintenance
ELE 062	Navigation Unit Software Update (REV1)
SST 034	Kia Diagnostic System / Dealership Wi-Fi Requirements
ELE 066	Navigation Map Upgrade and eServices Activation (Customer Retail)
ENG 143	Service Action: Engine Crankshaft Pulley and Bolt Replacement (SA170)(REV1)
ELE 069	Driver's Side Power Window Switch Replacement

CAUTION

VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN DAMAGE TO THE VEHICLE.

WARNING

- Vehicle servicing performed by untrained persons could result in injury to those persons or to others.
- Always take proper and necessary safety precautions when performing any type of service on a vehicle.
- The Kia technician newsletter (Tech Times) is intended for use by professional Kia automotive technicians only. It is written to inform technicians of conditions that may occur on some vehicles. Trained Kia technicians have the equipment, tools, safety instructions, publications and expertise to help perform the job correctly.

* NOTICE

The topics covered in this newsletter are designed to assist you with the diagnosis and repair of specific vehicle conditions. Just because a condition is described in this newsletter, do not assume that it applies to your vehicle, or that your vehicle will have that condition. In all cases, the procedures in the applicable Service Manual and/or Electrical Troubleshooting Manual or on KGIS should be performed first.

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Kia Diagnostic System / Dealership Wi-Fi Requirements (Continued)

Wi-Fi Recommendations

Kia dealers are recommended to have robust Wi-Fi Business-Grade connectivity to ensure reliable and continuous communication within the service area. Although consumer Wi-Fi systems are readily available and simple solutions, they lack the manageability, scalability and security needed for a business environment. Business-Grade Wi-Fi systems utilizing multiple access points (AP's) mitigate these issues by:

- Managing and monitoring local and guest access to provide optimal user experience.
- Providing scalable solutions for expansion or contraction of the dealership's Wi-Fi access within business needs.
- Maintaining security so that visitors can enjoy guest Wi-Fi but not access to the dealership's networks or PC's.



Example of Service area Wi-Fi coverage

KDS Dealership Readiness

To ensure KDS functionality, below you'll find a KDS Readiness Checklist. Once all items are complete, your dealership will be able to support full KDS capability.

KDS Readiness Check List

YES ☐	Business-Grade Wi-Fi set-up in your service area?
YES ☐	Service area is currently set-up using multiple Access Points for complete coverage?
YES ☐	Ensure Technicians trained in ILC: Diagnosing With GDS VE (GDS6); Service area is currently set-up using multiple Access Points for complete coverage? Course No: TEC-03-035-1
YES ☐	Safe location to store KDS when not in use and with recharging access?

Kia has partnered with network solution specialists, Federated Service Solutions (FSS), to assist dealers in updating or implementing dealership with Business-Grade Wi-Fi systems. **FSS can be reached at (877) 672-6511 for consultation.**

Contact Snap-on Business Solutions to provide a quick and easy payment method using your Kia open account billing at (888)542-1011. **Kia dealerships are required to meet the above mentioned Wi-Fi requirements by December 31st, 2014.**

Service Technical Update Test on KiaUniversity.com

Kia University is pleased to announce the following course addition which is available on KiaUniversity.com:

Fall 2014 Service Technical Update Test	[TEC-04-054-1]	"Now Available"
Service Technicians need every edge to increase productivity and fix it right the first time performance to drive superior customer satisfaction and owner loyalty to their dealership. This certification test challenges skilled technicians to discover out the latest Service Information pertaining to new technology operation and diagnosis, emerging troubleshooting strategies, and tips for effective special service tool usage.		

This web-based course is required for Service Technician's certification.

This web-based interactive course is available for your dealership personnel to take at **www.kiauniversity.com**

Soul Electric Vehicle Charging Overview

The Soul EV is here. Are you ready to charge?

(All numbers used in this article are for example only and may not reflect the Soul EV specifications, or performance in different conditions.)



With the release of Kia's first EV in the US market, understanding some basic electrical and EV terminology will help with understanding both vehicle operation and possible customer questions about charging and/or range.

Power:

A *Kilowatt*, or "kW" is a measure of power and is equal to 1000W, or equivalent to ten 100W bulbs. To convert this number to horsepower (hp), 1 kW is = 1.34 hp. The motor in the Soul EV is rated at 81 kW, so $81 \times 1.34 = 109\text{hp}$.

Energy:

Energy is = Power x Time and is expressed in *Kilowatt-Hours* (kWh). Ten 100W bulbs running for 1 hour will consume 1 kWh of energy. For comparison, 1 gallon of gas contains 33.7 kWh of energy. The battery in the Soul EV holds approximately 27 kWh of energy, or the equivalent of $(27/33.7) = 0.8$ gallon of gas. A fully charged battery will take the Soul EV 80-100 miles. Imagine if your fuel powered vehicle could travel this far on 8/10ths of a gallon of gas!

Charging:

The Soul EV has 3 basic charging levels.

1. A Level 1 "L1" charger is included with each Soul EV. It uses a "normal" US 110-120 volt outlet with a three-prong grounded plug. It has an SAE J1772 connection to the vehicle (same as L2) and consumes 1300-1400W during charging. The advantage is

that these outlets are readily available. There are however some downsides to L1 charging in that it can take more than 24 hours to fully charge the vehicle from a low state of charge (SOC) and is less efficient than L2 charging which



Kia Level 1 charge cord "ICCB"



SAE J1772 used for both Level 1 & 2

results in a higher cost per charge. It should also be noted that the use of an extension cord is not recommended with the L1 charge cord.

2. Level 2 "L2" Refers to 220-240 volt charging and uses the same SAE J1772 connection to the vehicle as L1. A common misconception is that the L2 box and cord that's installed on the wall or pedestal is the "charger". As of today, all plug in vehicles that use AC (110-240V) to charge have a dedicated on board charger (OBC) that converts the AC input to the correct DC voltage to charge the High Voltage (HV) battery. So, if the charger is actually on board the vehicle, then what is the "box on the wall"? Well, it's called an "EVSE", or (Electric Vehicle Supply Equipment) and is a "safety switch" that performs 2 main functions; it ensures that a proper connection has been made to the vehicle before allowing power to flow and it communicates the available

amperage to the OBC so that it will not exceed the circuit rating. The L2 charge times can vary greatly depending on this available circuit power (6 to 40+ amps). The Soul EV needs a 30-32 amp circuit (208-

220V) to achieve its full L2 charge rate and can fully charge in approximately 5 hours. If a customer reports slower than expected L2 charge times, have them verify their L2 EVSE circuit rating as it may be limiting the charge rate. Remember, the EVSE is not the "charger" and outputs the same AC line voltage to which it's connected. The OBC is in the vehicle and is what converts the AC to DC and controls the battery charging rate.

3. Level 3 "L3" differs from L1 and L2 in that it bypasses the OBC and provides high DC current and voltage to charge the HV battery directly. The Kia Soul EV uses the "CHAdeMO". Fast DC Charging standard and can charge to 80% in less than 30 minutes. The BMS communicates and controls the specific charging parameters to the off-board DC charger through dedicated communication pins in the CHAdeMO connector. DC fast chargers are typically only available in commercial installations (car dealers, shopping



malls, ETC.) and vary widely in cost (free to \$8+ per charge event). They are not yet common in home installations due to high cost and 3-phase (480V) input requirements, but we may see more in the near future as EV's become more popular and costs decrease.



A typical Level 2 EVSE. This is the most suitable device for a majority of users and provides ~5 hour charge times.

Continued on page 5

Soul Electric Vehicle Charging Overview (Continued)

Using the numbers:

The sample chart below shows the energy usage from the grid to an HV battery and the equivalent costs/savings compared to a conventional fuel vehicle:

	OBC Input (w)	OBC Output (w)	OBC Loss (w)	OBC Loss (%)	Input Energy into HV Battery	Total Loss (w)	Total Loss (%)	Time to Charge (hours)	Total kWh used	Cost to Charge (\$0.12/kWh)	Cost per Mile (93 Mi Range)	Equivalent Gas Cost (\$3.89/gal, 23.6mpg)	Gas Cost Per Mile	Savings (%)
Level 1	1350	1110	240	18%	850	500	37%	29.41	39.71	\$4.76	\$0.05	\$15.33	\$0.16	69%
Level 2	6400	5500	900	14%	5000	1400	22%	5.00	32.00	\$3.84	\$0.04	\$15.33	\$0.16	75%

Items to note:

- Not all energy that goes into the vehicle charges the battery, some of it is consumed by:
 - Efficiency loss of the OBC
 - Parasitic loss from the multiple on-board control units
 - Loss from cooling fans and pumps during the charging process.
- L1 is less efficient than L2 due to the higher percentage of input energy that gets taken by the above parasitic losses and the longer charge time. When L2 is used, the parasitic losses do not significantly change, but are consumed for a shorter time. The additional energy is available to charge the HV battery and shortens the charge time.

The potential savings versus a conventional fuel vehicle can be significant, as long as the range and charging location(s) are well matched to the owners' usage.

The Soul EV is the first of many plug-in vehicles that we will likely see in Kia's upcoming product offerings. Understanding these basic terms and concepts will prepare you for this electrified future!

Siri® Eyes Free (Customer Guide)

Another new feature available beginning with UVO eServices with Premium Navigation equipped selected models is Siri Eyes Free support, which allows you to use Siri while driving your vehicle. In order to enable this feature, Bluetooth® connect your iOS device (iOS 6 or higher is required) to the vehicle and hold the push to talk button (A) until the head unit screen displays the Siri logo (B). The following functions can be performed using Siri Eyes Free:

- Call contacts
- Select and play music
- Hear and compose text messages
- Use Maps and get directions
- Read your notifications
- Find calendar information
- Add reminders

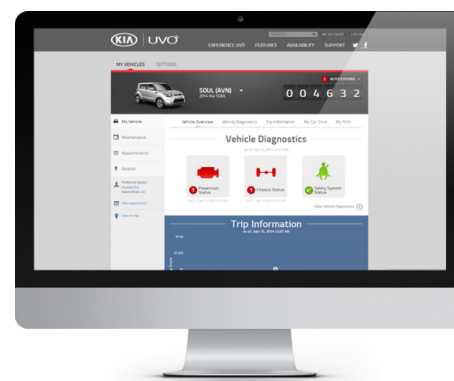


Please refer to Pitstop PS 341

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MyUVO.com

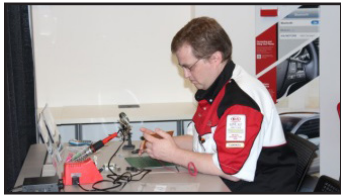
MyUVO.com is a cornerstone in the UVO eServices Telematics Platform. It is a full featured Owners Portal for owners of Kia vehicles with UVO head units. Once a user creates a free account and connects their vehicle, the customer will have access to great vehicle information. The maintenance information, including any current issues with their vehicle and a history of their repairs and services, then request an appointment from their dealer. The customer can see analytics of their driving habits, such as how efficiently they are driving. Add Points of Interest on MyUVO.com or on Google Maps and send them to their vehicle to be used in the navigation system. One more additional feature is the ability to set driving rules in the My Car Zone area for how fast someone can drive the vehicle, what geographical areas in which the vehicle should be driven, and curfew times in which the car should not be driven.



Upcoming 2014 Kia Skill World Cup November 10-14 at Kia Motors Corporation, South Korea

Technicians already know that Kia Motors Corporation (KMC) has postponed this year's World Cup competition in South Korea. This major technician event has been scheduled to November 10 through 13. Soon, this new group of World Cup technicians from all over the world will assemble for a group picture like they did in 2012.

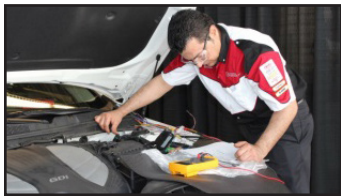
These events are much more than just a technician competition. They are acknowledgement to the hard working and often times under-recognized Kia technicians who day in and day out do their best to keep their service customers' operating at their peak.



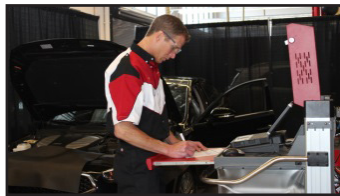
Ken Winders



Ben Hendricks



Babak Nadimi



Thomas Boss

While only these four American technicians are headed to South Korea, every American technician should be proud and cheer for their team.

More importantly, technicians should be proud to be associated with an upward mobile Kia company that will only get better and stronger amidst heavy and healthy competition in the industry.



Recapping past World Cup competitions, U.S. technicians have won the most medals. The U.S. has won 25% of all of the medals awarded with about fifty countries participating. In



fact, the crowning achievement may be that U.S. technicians have won three of the six Gold medals ever awarded since the start of the World Cup competition.



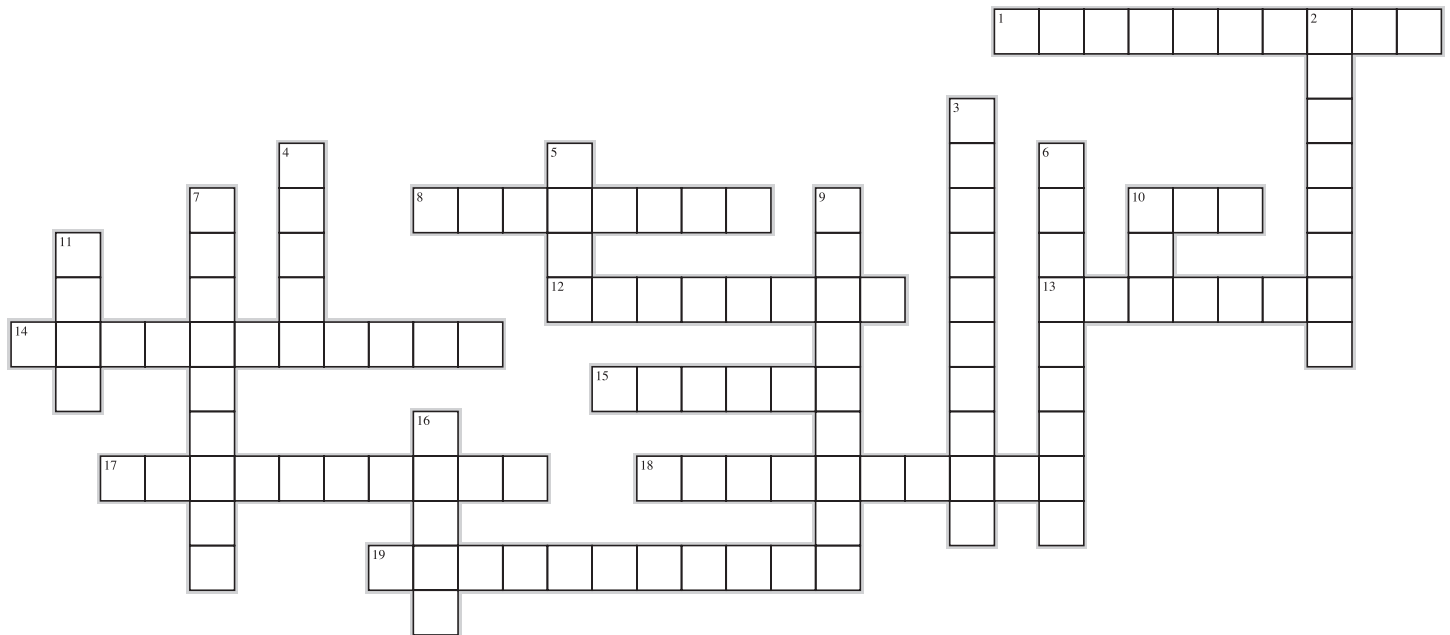
When you bump into one of these guys, wish them well and tell them that you are rooting for them. After all, you might be one of those guys coming to Irvine for National Cup and going to Korea for World Cup someday.

And for the America's World Cup team, we are extremely proud of you. Compete hard but enjoy this one in a lifetime journey to another Kia Skill World Cup. Good luck.



Crossword Puzzle

Test your knowledge of the articles in this issue of TechTimes by completing this crossword puzzle. The solution to this month's puzzle can be found on page 13.



Across

1. The Soul EV has three basic _____. (Two words)
8. A _____ is a measure of power and is equal to 1000W.
10. A measured voltage drop of > 0.50 volts is considered a _____ reading.
12. Voltage across the bulbs will vary depending on the position of the _____.
13. To avoid the customer locking their keys inside selected 2011 – 2012 Model Year Sportage, the 2-Turn Unlock feature must be _____.
14. Use the _____ method when the load device is not operating correctly due to high resistance. (Two words)
15. _____ is Power x Time and is expressed in (kWh).
17. The Blower Switch and Resistors change the resistance in the _____ of the circuit. (Two words)
18. Kia dealers are required to have Wi-Fi connectivity to ensure reliable and _____ communication within the service area.
19. To add pictures or videos to a Techline case, just click on the _____ button.

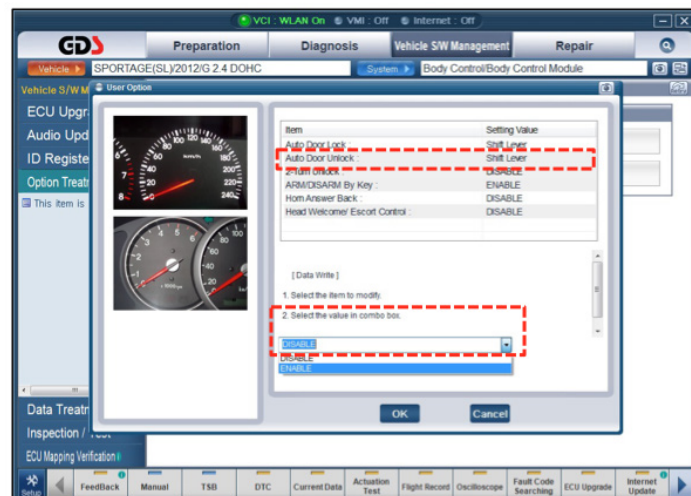
Down

2. _____ Free support, allows you to see Siri while driving your vehicle. (Two words)
3. A frozen _____ can cause insufficient cooling by reducing air volume flow through the vents.
4. U.S. technicians have won _____ of the six Gold World Cup competitions.
5. Each qualifying country has the option of sending up to _____ of their best Kia technicians.
6. If the cross bars are installed incorrectly on 2014 – 2015MY Sorento, they will create _____. (Two words)
7. DC fast chargers are typically only available in commercial _____.
9. Using MyUVO.com, the customer can see _____ of their driving habits, efficiency and how much they drive.
10. The _____ communicates and controls the specific charging parameters to the off-board DC charger.
11. A measured voltage drop of < 0.10 volts is considered a _____ reading.
16. World Cup competition participation has a total of _____ countries.

Smart Key Fob Locked Inside Vehicle

When addressing a customer concern on 2011 – 2012 SL Sportage related to being able to, inadvertently, lock the doors with the key fob in the vehicle while the engine is on and the driver's door is open, access GDS > Body Control Module Option Treatment > User Option to check the status of the 2-Turn Unlock function (see image to the right).

If the 2-Turn Unlock function is set to “Enable”, the doors can be locked with the smart key fob in the vehicle when the central lock button is pressed two (2) times within one (1) second. If the 2-Turn Unlock function is set to “Disable”, the door locks will automatically unlock to prevent the smart key fob from being locked inside the vehicle.



Please refer to Pitstop PS 346

Dim Head Unit Display in Cold Weather Conditions

When addressing a customer complaint related to a Base Audio head unit display which appears to have no display or a dim display (see image to the right) at or below freezing conditions, pull the vehicle into a shop (warmer area) and check to see if full brightness is regained after a period of time. If full brightness is regained, the head unit should be replaced to resolve the concern.

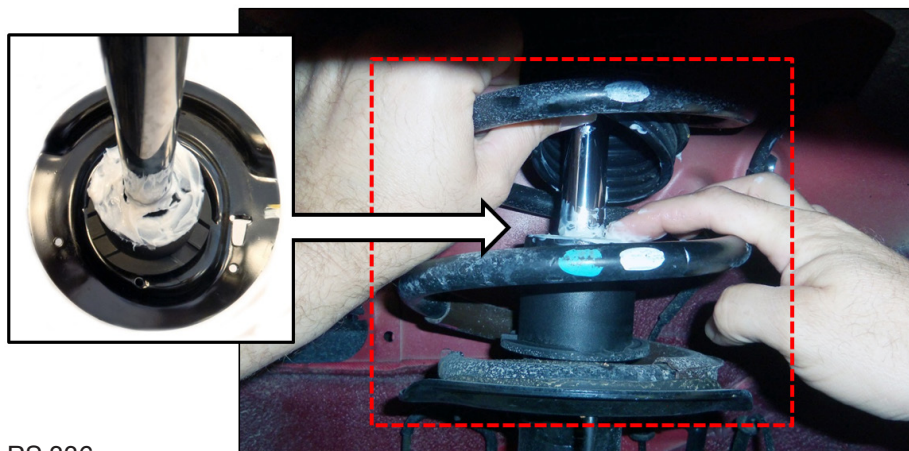
A countermeasure for this issue was applied to vehicles in production on February 28, 2014 and to remanufactured units at the PDCs beginning on May 1, 2014. If after replacement of the head unit the vehicle returns with the same concern, call Techline and open a case.



Please refer to Pitstop PS 348

Clicking Noise From Front Suspension

Some 2014MY Forte vehicles, manufactured prior to September 2013, may exhibit a clicking type noise from the front suspension when carrying a full load of passengers and turning the wheel in either direction at low speeds; such as in a parking lot situation or when pulling into steeply inclined driveway. To correct this condition, place the vehicle on the lift, raise the dust cover and apply a generous amount of silicone based lubricant onto the left and right strut caps, as shown below.



Please refer to Pitstop PS 336

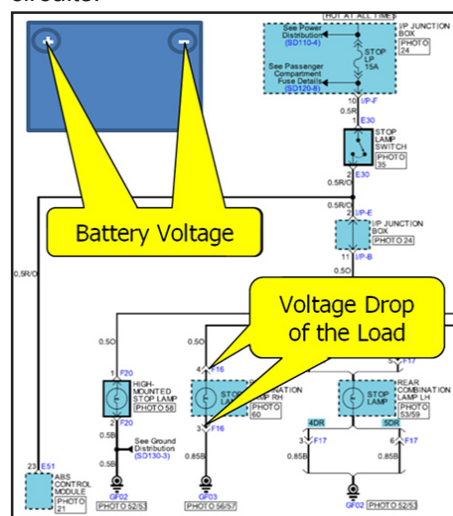
Output Control Circuit Testing Part 1

In part 1 of this series, we will perform "Voltage Drop" tests in Switch, Relay, Rheostat, and Fixed Resistance type circuits.

Use the voltage drop method when the load device is not operating correctly, such as Dim bulb(s), weak sounding horn, chattering solenoid/relay, or slow motor speed.

The load device must be good with no opens or short.

A simple voltage test helps find unwanted resistance in most electrical circuits.



Compare voltage measured at the battery posts to the voltage measured across the load.

With the circuit ON:

- Measure voltage at the battery posts, **not the battery terminals.**
- Measure the voltage across the load
- Subtract the load voltage from the battery voltage
 - o Battery voltage – load voltage = voltage used by unwanted resistance
 - o $12.4 - 12.0 = 0.40$ volts (circuit may require further inspection/testing)
 - o $12.4 - 11.2 = 1.20$ volts (circuit has high resistance, needs further testing)

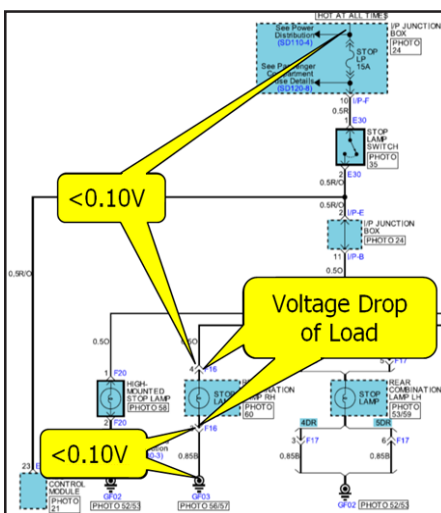


Figure 1 Stop Lamp circuit:
Pressing the brake pedal closes the switch contacts and the stop lamps should be at their normal brightness

Using Figure 1 as an example:

Measure from the (+) Positive Battery Post to the (+) positive side of the load:

- Checks all the connections between the battery and the load

Measure from the (–) negative side of the load to the (–) Negative Battery Post

- Checks all the connections and grounds between the load and the battery

Measured voltage results:

- < 0.10 volts (low resistance, that section of the circuit is good)
- > 0.10 volts and < 0.50 volts (that section of the circuit may require further inspection/testing)
- > 0.50 volt (high resistance, that section of the circuit requires further inspection/testing)

Using Figure 2 as an example:

If the power side or ground side measures > 0.50 volts.

- Measure each section from the (+) Positive Battery Post to the (+) positive side of the load
- Measure each section from the (–) negative side of the load to the (–) Negative Battery Post

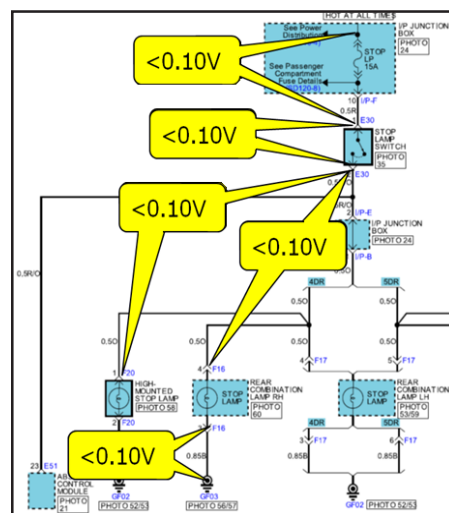


Figure 2

Measured voltage results:

- < 0.10 volts (good)
- > 0.10 volts and < 0.50 volts (check each section)
- > 0.50 volts (bad, repair as needed)

The horn has two circuits:

1. The Horn Switch (horn switch, clock spring, and horn relay coil)
2. The Horn (horn, and horn relay contacts)

In Fig. 3 when the horn button is pressed:

- The horn switch contacts close

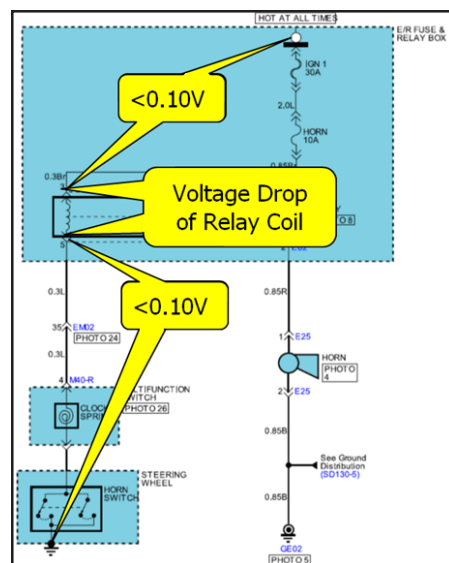


Figure 3

Continued next page

Output Control Circuit Testing Part 1 (Continued)

- The horn relay coil becomes the load creating a magnetic field
- Voltage measured across the power and ground side should measure <0.10 volts when the horn switch contacts are closed
- The voltage drop across the relay coil should be at or near battery voltage

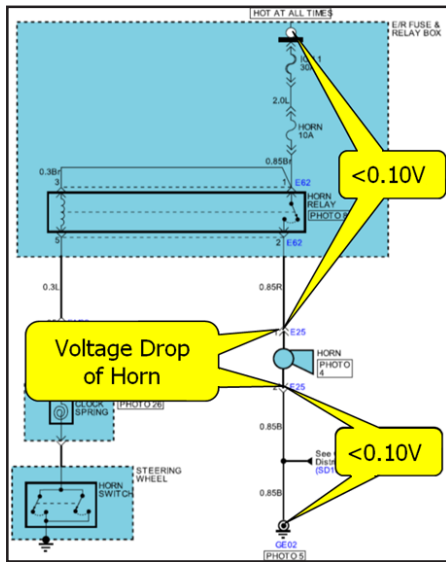


Figure 4

In Fig. 4 when the horn relay coil creates a magnetic field:

- The relay contacts should close
- The horn should be at its normal loudness

Voltage measured across the power and ground side should measure:

- <0.10 volts when the horn relay contacts are closed
- The voltage drop across the horn should be at or near battery voltage
- <0.10 volts in the ground circuit

Instrument Cluster Dimming circuit:

- The rheostat changes resistance in the groundside of the circuit.
- The resistance causes a voltage drop across the rheostat

- This decreases the voltage at the bulbs causing them to dim.

When selecting Park or Head with the Multifunction Switch

- Tail Lamp Relay supplies battery voltage to the bulbs in the circuit
- Voltage drop measured from Battery + to the rheostat should measure <0.10 volts

- Voltage across the bulbs will vary depending on the position of the rheostat
- Voltage drop across the rheostat will vary depending on the position of the rheostat
- Add the three (3) voltage drops together, it should = battery voltage

In the Blower Motor circuit:

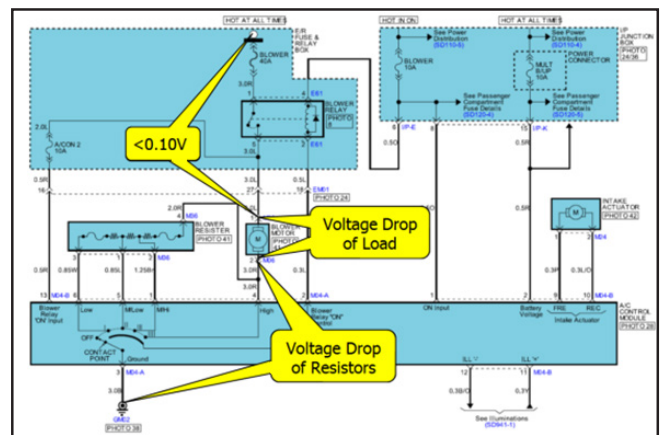
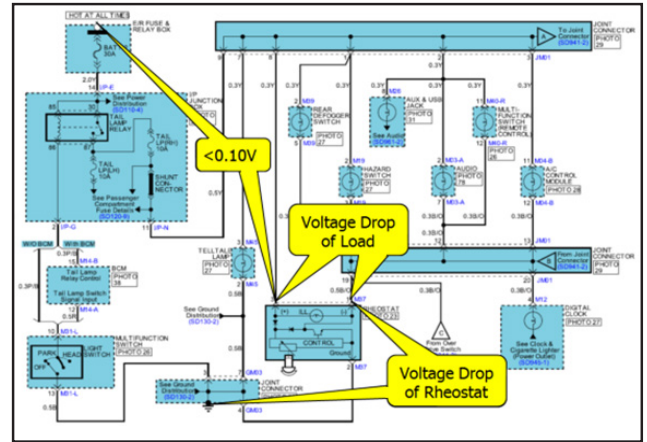
- The Blower Switch and Resistors change the resistance in the groundside of the circuit
- The resistance causes a voltage drop across the resistors
- This decreases the voltage at the Blower Motor causing it to change speed

When selecting Low, MLow, MHi or High with the Blower Switch

- Blower Relay supplies battery voltage to the Blower Motor

- Voltage drop from Battery + to the Blower Motor should measure <0.10 volt
- Voltage drop across the Blower Motor will vary depending on the resistance selected by the Blower Switch
- Voltage drop across the Blower Resistor will vary depending on the position of the Blower Switch
- Add the three (3) voltage drops together, it should = battery voltage

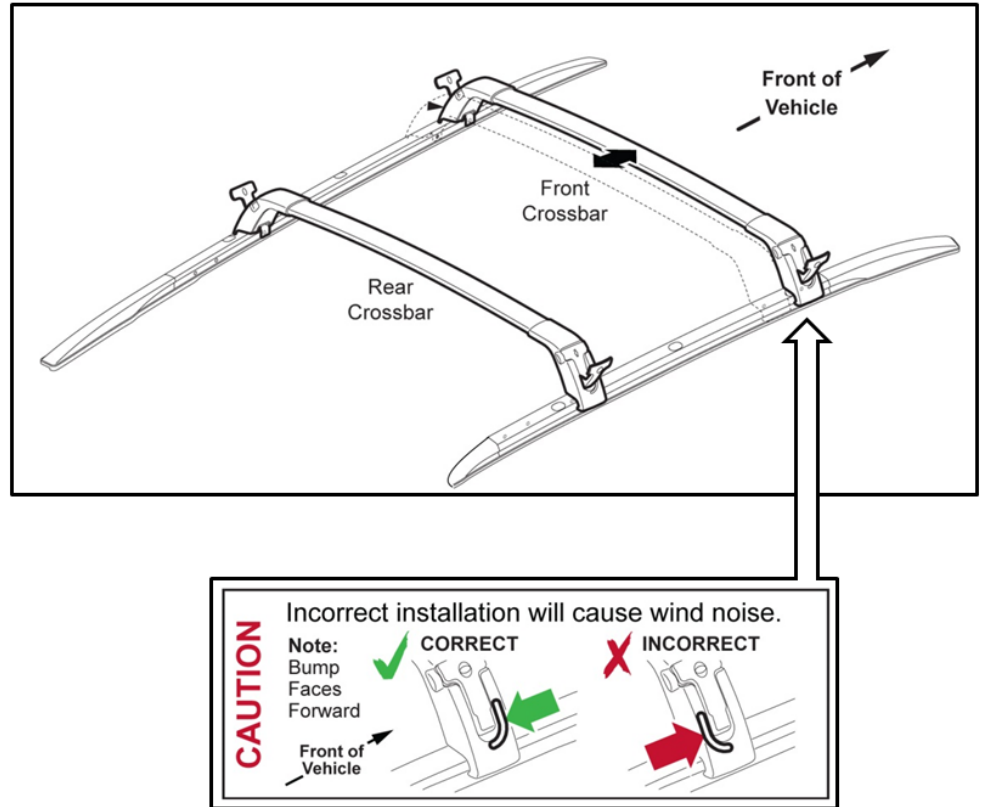
In our next issue, we will show how to check circuits that are constantly changing voltage using the oscilloscope on the GDS. These include Pulse Width Modulated (PWM) solenoids, fuel injectors (port and direct injection) Ignition coil primary.



Wind Noise After Cross Bar Installation

When diagnosing a concern on 2014 – 2015MY Sorento (XMa) related to wind noise coming from the roof area, and the vehicle is equipped with the OE roof rack cross bars, check the roof rack cross bars to make sure they are installed correctly, using the diagram below.

If the cross bars were installed incorrectly, remove the cross bars and reinstall them as shown below or by referring to the installation instructions included with the cross bar kit.



Please refer to Pitstop PS 334

2015 Sedona New LDWS / ASCC Calibration Tools

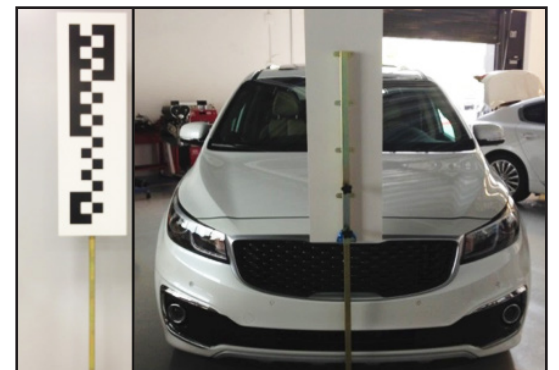
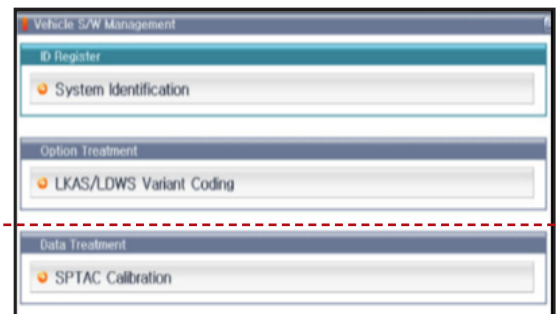
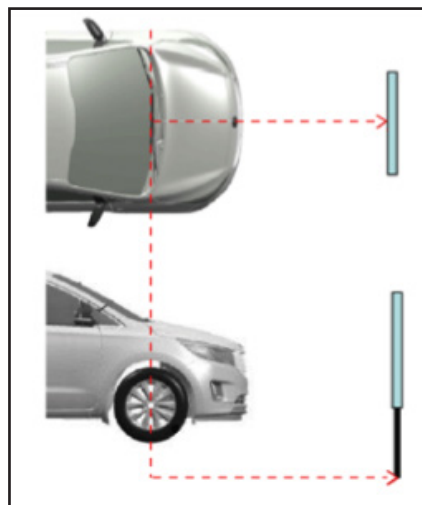
To calibrate the Lane Departure Warning System (LDWS) and Advanced Smart Cruise Control (ASCC) on the all-new 2015 Sedona new tools are required.

LDWS Calibration Overview Sedona

When calibrating the LDWS using the new target, follow calibration process below:

1. Bottom of the target is to be 35in $\pm$ 1in from the ground and aligned with the camera lens horizontal axis.
2. The target is placed along the vehicle's longitudinal axis (centerline) within $\pm$ 2in of target center.
3. The calibration target has to be placed at the 106in distance from the front wheel center.

Using the GDS you will be able to calibrate the LDWS by following the "SPTAC Calibration" procedure under Data Treatment.



Continued next page

2015 Sedona New LDWS / ASCC Calibration Tools (Continued)

ASCC Calibration Overview

When calibrating the Advanced Smart Cruise Control (ASCC) system, it combines using a reflector and a laser mounted on a tripod to calibrate the radar. The laser is used to find the centerline of the vehicle, and then from the centerline, the reflector is placed (to the side of the centerline) in line with the ASCC Radar. Once the reflector is aligned, you will go into the Software Management Tab and perform "SCC Alignment" using the GDS.



Please refer to the Shop Manual for complete procedure and specifications when performing either calibration.

Remote Start System Diagnostic Hotline

When diagnosing remote start systems, refer to the table shown below for detailed information on applicable models, model year and system supplier; along with the applicable Hotline contact information and business hours.

Model	Model Year	Description	System Supplier	Hotline Number / Figure
Forte (YD) (ALL)	2015~	Key Start	CODE	(800) 667-5176 Hours: 9:00 AM - 5:30 PM EST Monday – Friday 
Forte (YD) (ALL)	2015~	Push Button Start	CODE	
Optima (QF/TF)	2013	Key Start	CODE	
Optima (QF/TF)	2013	Push Button Start	CODE	
Sportage (SL)	2015~	Key Start	CODE	
Sorento (XMa)	2015~	Key Start	CODE	
Sorento (XMa)	2015~	Push Button Start	CODE	
Soul (AM)	2013	Key Start	CODE	
Soul (AM)	2013	Push Button Start	CODE	
Optima (QF/TF)	2014 ~ 2015	Key Start	SEGI	(855) 225-7344 Hours: 9:00 AM - 5:00 PM EST Monday – Friday 
Optima (QF/TF)	2014 ~ 2015	Push Button Start	SEGI	
Soul (PS)	2014 ~ 2015	Key Start	SEGI	
Soul (PS)	2014 ~ 2015	Push Button Start	SEGI	
Sportage (SL)	2014 ~ 2015	Push Button Start	SEGI	
Sedona (YP)	2015~	Key Start	SEGI	
Sedona (YP)	2015~	Push Button Start	SEGI	

Please refer to Pitstop PS 339

Crossword Puzzle Solution

We hope you gave this issue's crossword puzzle on page 7 a try. In case you need a little help, here are the answers to the puzzle clues.

