



# TECH TIMES

2015 • VOLUME 18, ISSUE 1

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## SEE WHAT YOU'RE MISSING

If you have not used Kia Diagnostic System (KDS) or viewed KDS/GDS tip articles found on KGIS, you are missing out.

All Kia Dealerships were shipped a KDS kit November of last year. Don't be afraid to open up the KDS kit and start using it. If you have used GDS and you have a Smart Phone, you will feel right at home.

This is one of those tools that will leave you saying "How did I live without this?"

With the KDS, all of the Service Information and Publications are in your hands via Wi-Fi. Dealers are required to have Wi-Fi available in all service bays. For more information on Wi-Fi requirements, refer to TSB SST034.

Some of the new features with KDS:

- Using "Multi Data Analysis" you can monitor Current Data from multiple modules.
- Wireless VCI communication and ECU Reflashing
- Wireless adapter for the TPMS Module
- Expanded S/W Management section including Systems and Components



Hide Menu

### Quick Links

- Detail Search
- Service Info (SI)
- Maint Schedule
- Owners Manual
- Vehicle Info
- **KDS & GDS Information**
- M.P.G.
- Bluetooth Compatibility
- UVO
- Unit Conversion Tool

Check out the "Quick Links" that has been added to the home page of KGIS for easy access to "KDS and GDS information". Articles about the KDS are posted to help with questions you may have. These articles can also be found on KDS in the "New Items" section.

## TECHLINE FAQs

QUESTION	ANSWER
How do I change a case to a SERVICE ALERT?	Please refer to Pitstop article PS 351 for the procedure.
Where can I find information on OBD II mode 6 drive cycles?	From the home screen of KGIS in the upper left corner you can click on the service materials and in the drop down you will find a link to the OBD II information. Listed will be a number of different types of systems. Determine your system type and then choose the appropriate system.
How do I re-open a Techline Case?	In the Techline website, use the case search feature to find the closed case you would like to reopen. Contact Techline at (800) 494-4542 and ask the agent to reopen the case for you as long as it is for the same concern and it is within 6 months of the previous case.
What is the best way for technicians to send flight recording files to Techline for review?	Techline must receive flight recordings via email in order to review them. Video files and picture files can be attached to the Techline case through the Techline website but flight recordings must be emailed directly to the agent's email address. Please ask the agent you are working with for their email address if you need to send a flight recorder file in for review.

## LATEST TECHNICAL SERVICE BULLETINS, SERVICE ACTIONS AND CAMPAIGNS

<b>SC 117r1</b>	<b>Soul (PS) - ACU Logic Update (PS)</b>
<b>CHA 054</b>	<b>Service Action: Front End Alignment Correction (PS)</b>
<b>GEN 073</b>	<b>Sorento (UMa) - Technology Highlights (UMa)</b>
<b>CHA 053</b>	<b>Service Action: Sedona (YP) Hydraulic Power Steering Rack Inspection and/or Replacement (YP)</b>
<b>BOD 109</b>	<b>2nd and 3rd Row Seats Inoperative or Difficult to Release (YP)</b>
<b>SC 116</b>	<b>Soul Accelerator Pedal (PS, PS EV)</b>
<b>ENG 146</b>	<b>ECM Upgrade - Rio, Soul 1.6 GDI MIL on With DTCs P0456/P0461/P050A/P2188/P0326/P0441 (UB, AM)</b>
<b>SC 114r1</b>	<b>ECM Upgrade - MIL on With DTC P0087 (XMa, TF/QF, SL)</b>

### 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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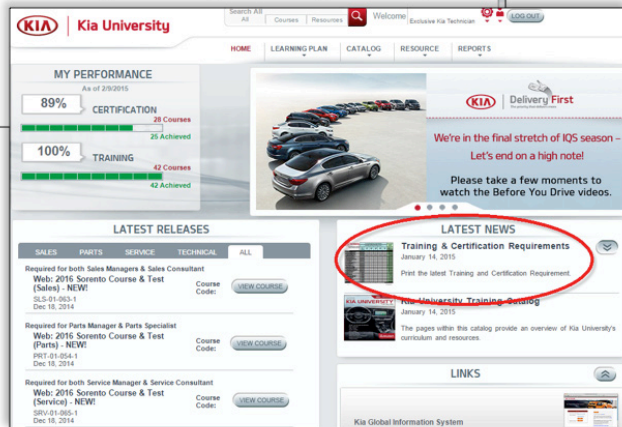
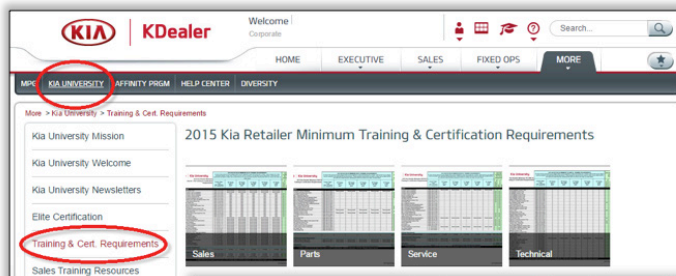
Technical Writer

**Mario Garcia**

## 2015 MINIMUM RETAILER TRAINING & CERTIFICATION REQUIREMENTS

The 2015 Retailer Training & Certification Requirements have been posted on KDealer.com and KiaUniversity.com. Here are a few details about the requirements to keep in mind:

- Minimum Retailer Training & Certification Requirements:** Based on the retailer's cumulative training targets while certification requirements are based on individual training achievement.
- Training Credit:** There is a wide array of new training courses available for 2015 and several core product, process, and operational training activities that are carryovers. Individuals who have successfully completed a required training activity in the past will not need to retake the course, unless stated otherwise. Please ensure that you review these courses and the applicable training requirements as part of your annual training plan development.
- Elite Certification:** Elite Certification for 2015 is similar to last year's program. Please be sure to review the minimum Kia Tenure Requirements as part of the program rules. We have already pushed out the individual training and certification requirements directly to the participants' learning plan on the Kia University web site during January 2015. The web training reports also reflect the 2015 training and certification requirements.

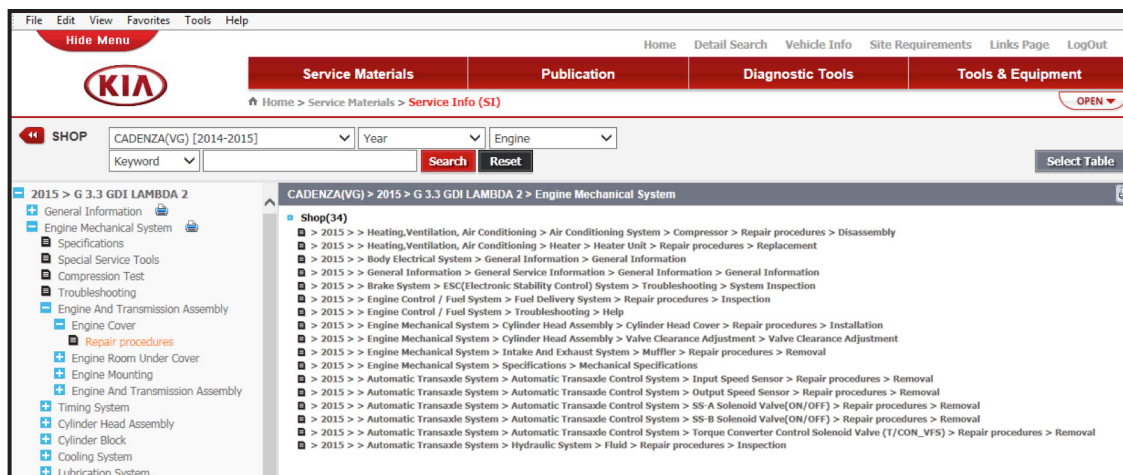


## UPCOMING KGIS SEARCH ENHANCEMENTS

During the second quarter of this year, Kia University will be launching enhancements to KGIS' search function. Below are some of the new enhancements soon to be available on KGIS.

### Enhancement to Detail Search

- Search results will be shown in the appropriate service information frame providing easy access to that document's Table of Contents
- Auto populate search field with common automotive keywords
- Search results will be ranked and sorted by date and keywords
- Additional Home page service sections



## 2015 ELITE CERTIFIED TECHNICIANS ACHIEVING 10 YEAR HONORS RECOGNITION

Kia Elite Certification gives you the opportunity to become the ultimate Kia ambassador at a time when we are launching new premium models that are increasing the status of the Kia brand. So, there's never been a better time to earn Kia Elite Certification. In addition to graduated levels of certification, Kia team members can also attain a one-time Elite HONORS at 3, 5 and 10 years of consecutive certification. Congratulations to the 47 Service Technicians listed below who achieved an amazing 10 consecutive years of certification. The best of the best starts with you, so thank you for your 10 years of commitment to training and certification.



elite  
CERTIFIED

### 2015 Elite Certified Technicians Achieving 10 Year Honors Recognition

#### CENTRAL REGION

TECHNICIAN	ELITE CERTIFICATION LEVEL
David Bailey	Master Elite
Dave Batzko	Master Elite Plus
Billy Beaver	Master Elite Plus
Bernard Crawford	Master Elite
Buddy Duvall	Professional Elite
Jason Fitzgerald	Master Elite
Fidencio Perez	Maintenance Technician
Mark Rayburn	Master Elite
Pete Sustaita	Master Elite
Britt Vanmeter	Master Elite
John Vinkler	Master Elite
Dean Vogl	Master Elite
Enes Zepcan	Professional Elite

#### EASTERN REGION

TECHNICIAN	ELITE CERTIFICATION LEVEL
Robert Baker	Senior Elite
Shawn Beigler	Master Elite
Richard Burnham	Master Elite Plus
Chris Childers	Master Elite
Lawrence Cole	Master Elite Plus
Robert Covolo	Master Elite Plus
Nate Mccall	Professional Elite
David Nourse	Master Elite
Wiley Preston	Master Elite
Charles Sladky	Master Elite Plus
Blair Vile	Master Elite Plus

#### SOUTHERN REGION

TECHNICIAN	ELITE CERTIFICATION LEVEL
Jason Atwell	Master Elite
David Cummins	Master Elite
Clive Delaphena	Master Elite
Dean Dewitt	Master Elite Plus
James Goree	Professional Elite Plus
James Grannemann	Master Elite
John Hale	Professional Elite
Fred Hogan	Master Elite
Kem Jackson	Master Elite
Theodore Jacobs	Maintenance Technician
Herbie Lopez	Master Elite
Victor Prieto	Master Elite Plus
Jason Reynolds	Master Elite
Joseph Sansom	Master Elite
Chris Wright	Master Elite

#### WESTERN REGION

TECHNICIAN	ELITE CERTIFICATION LEVEL
James Baker	Master Elite Plus
Ralph Brunt	Master Elite
Chad Davis	Master Elite
Todd Goodwalt	Master Elite
Brett Raymer	Professional Elite Plus
Marcos Rosales	Master Elite
Jim Schofield	Master Elite Plus
Edwin Torossian	Master Elite

## KDS – GRAPHING DATA

### Graphing Data

Graphing can be used in Current Data and Flight Record modes to easily view data over time.

1. Select items (lines of data) to be graphed.
2. Select the “Graph” button to graph the selected items.

Note: As the number of selected items increases, the data sample rate decreases.

The items selected are now displayed as a graph. The time is displayed horizontally across the graph and the value is displayed vertically on each graph.

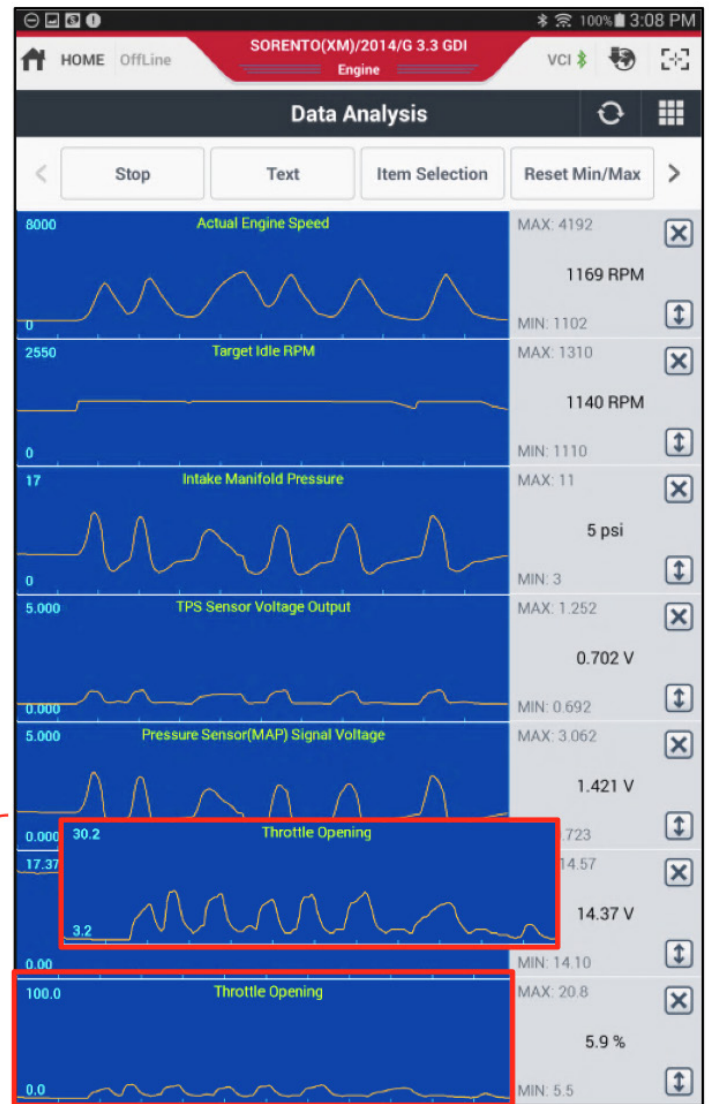
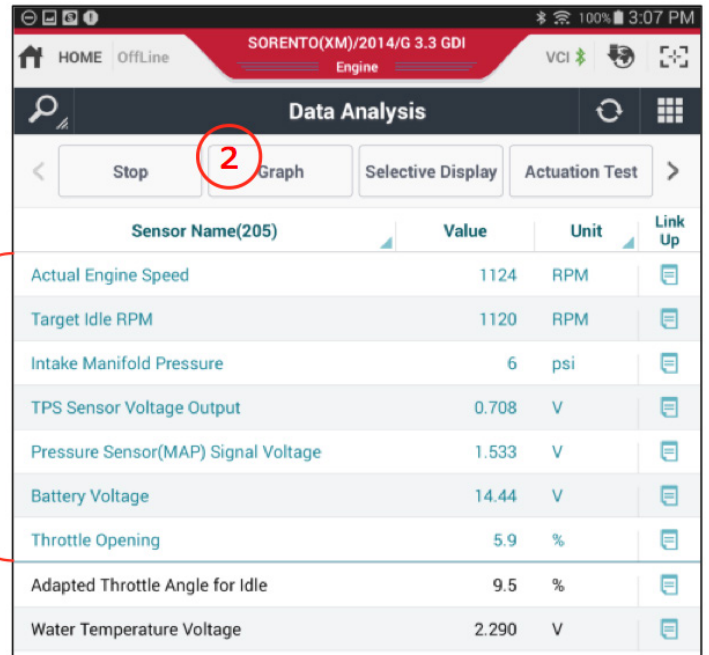


This soft-key will delete the data line from the items being graphed.



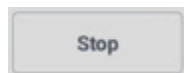
This soft-key will change the vertical scale by expanding the pattern height to allow for more detail to be shown.

Example: the scale on the Throttle Opening is 0.0 to 100%. By tapping this soft-key the scale will change to, in this case, 3.2 to 30.3.



## KDS – GRAPHING DATA (Continued)

### Graphing Data



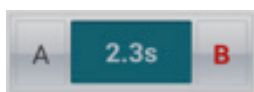
When in Current Data, select the “Stop” button to capture the data.



As the graph is displayed and moving toward the left, it is being stored. By selecting the “Stop” button, this data is saved and can be reviewed.

These buttons allow scrolling back and forth through the data. There is a progress bar at the bottom (1) showing the time in the recording.

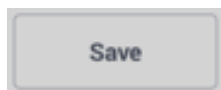
There are 2 cursors that can be used to find the time between 2 points in the data. The cursors are labeled “A” and “B”. The cursor in Red is movable by clicking (tapping) on the screen where the cursor is to be positioned.



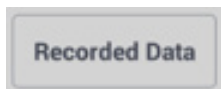
Selecting the “A” or “B” soft-keys will change the moveable (red) cursor so the other cursor can be moved. The time between “A” and “B” is displayed between the soft-keys.



By selecting this soft-key the “Time Scale” and “Zoom” will display.



Selecting the “Save” button will save this recording in the “Recorded Data” area. This is similar to “PC Record” on the GDS



This “Recorded Data” button is a shortcut to the “Recorded Data” on the home page.



The “Time Scale” changes the amount of time displayed on the screen.

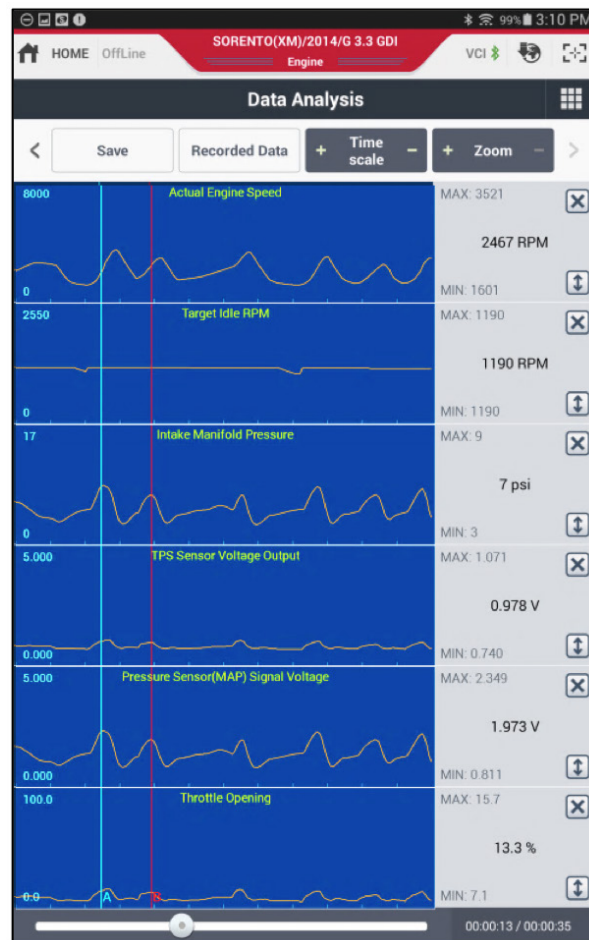
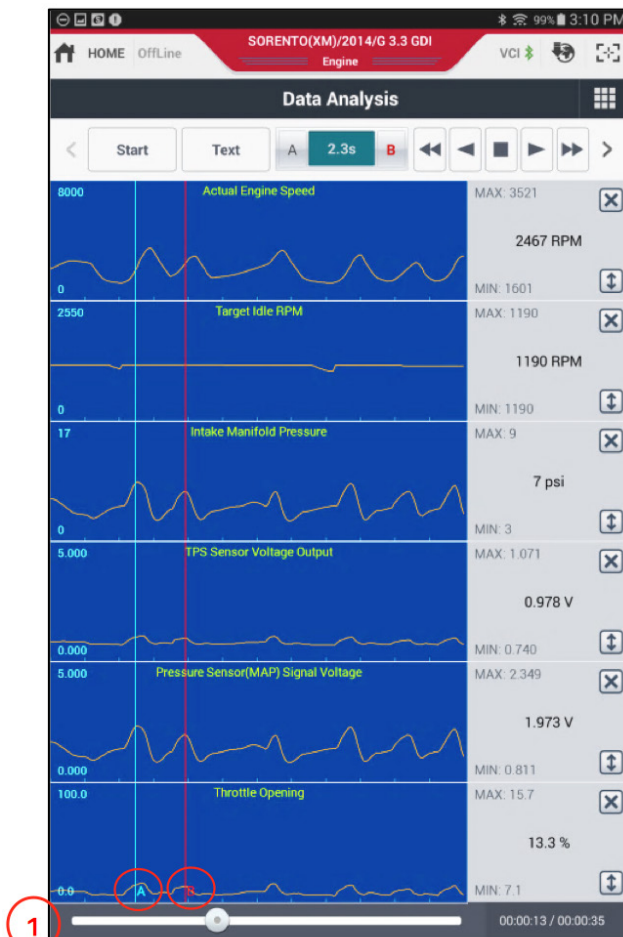
- + ) Expands the pattern along the time line
- ) Compresses the pattern along the time line



The “Zoom” changes the height of the graphs viewing area.

- + ) Increases height of graph
- ) Decreases height of graph

Note: does not change the time scale.

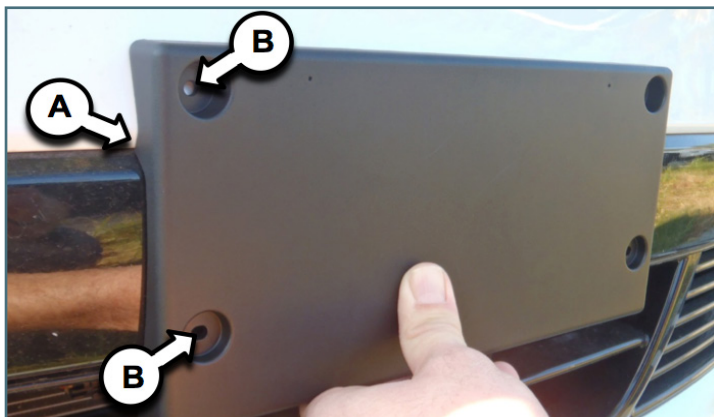


## 2016 SORENTO (UMa) - FRONT LICENSE PLATE HOLDER IDENTIFICATION

This article provides information related to part number and fitment identification for the front license plate holder on Sorento (UMa). Refer to the table below to quickly identify the correct license plate holder by model.

Model	License Plate Holder P/N	Figure
LX, EX	86519 C6000	
SX, SXL	86519 C6200	

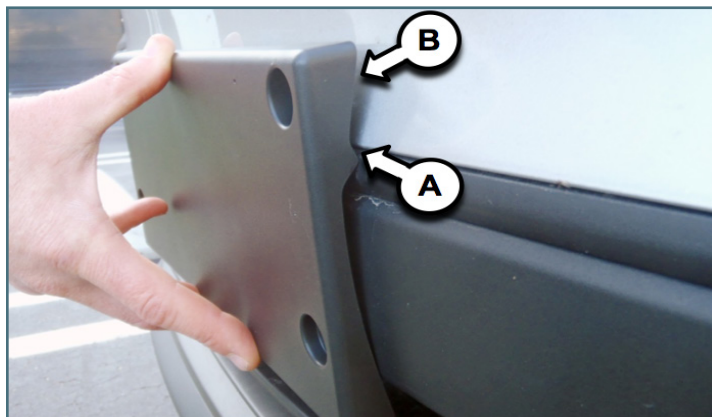
Additionally, refer to the examples to identify correct and incorrect fitment of the license plate holder (P/N 86519 C6200) on different trim level vehicles.



**Correct fitment:** P/N 86519 C6200 installed on a Sorento (UMa) SX or SXL model.

A= License plate holder profile properly matches the curvature of the front fascia.

B= Bolt holes align properly with the front fascia.



**Incorrect fitment:** P/N 86519 C6200 installed on a Sorento (UMa) EX or LX model.

A= License plate holder profile does not match the curvature of the front fascia.

B= Large gaps are evident

Please refer to Pitstop PS 374

## TEST YOUR TECH TIMES KNOWLEDGE

Test your knowledge of the articles in this issue of Tech Times. This puzzle is a hybrid of a word search and crossword puzzle. To solve; determine the answer for each question and find that word in the word search. The solution to this month's puzzle can be found on page 14.

N	T	N	F	N	Z	E	U	T	H	I	R	T	Y	E	R	U	P	S	H	I	F	T	A	S	A	M	P	L	E
E	E	Z	I	L	M	N	V	T	C	B	C	A	W	O	E	T	J	T	E	Z	P	O	C	S	T	G	S	M	C
S	B	T	C	C	S	F	I	R	I	N	G	F	R	S	M	R	X	S	S	P	O	R	T	P	E	R	P	O	K
H	P	D	L	C	R	T	Y	M	W	D	U	P	V	L	A	A	C	U	R	R	E	N	T	U	N	O	R	I	Q
O	Q	R	F	U	M	M	I	D	P	R	W	Q	G	E	N	N	N	R	M	O	L	D	S	B	P	U	F	S	W
R	F	O	O	R	B	A	M	P	E	R	A	G	E	Z	U	S	J	G	F	I	V	E	C	L	F	N	A	T	A
T	O	P	R	V	Q	B	G	R	S	A	V	E	A	K	F	I	D	W	E	L	L	H	A	I	N	D	F	U	Y
E	E	D	T	A	Q	C	C	B	G	A	K	S	K	A	A	E	T	Q	C	A	E	Y	L	C	V	S	B	R	Z
R	O	O	Y	T	G	A	P	S	P	S	N	I	N	F	C	N	Q	M	O	I	T	B	E	A	P	Q	U	E	E
S	C	W	S	U	E	D	A	T	A	J	D	G	B	O	T	T	F	S	R	E	S	I	S	T	A	N	C	E	M
I	F	N	E	R	E	F	L	E	C	T	I	O	N	Q	U	I	C	K	L	I	N	K	S	I	K	N	S	Q	A
G	X	T	V	E	W	L	Q	Z	E	B	G	M	D	T	R	S	K	G	D	Z	W	M	W	O	W	W	R	Q	I
N	T	X	E	B	Y	D	V	B	D	J	W	Z	V	I	E	A	N	Y	P	N	Y	X	T	N	F	P	L	S	L
A	B	P	N	V	U	Q	L	Y	Z	Y	H	T	I	M	D	M	Z	O	O	M	I	F	M	S	D	K	J	O	E
L	R	S	T	R	E	A	K	S	U	H	E	V	Z	E	K	I	C	K	D	O	W	N	B	C	D	E	V	P	D

ANSWERS ARE ON PAGE 14

## QUESTIONS

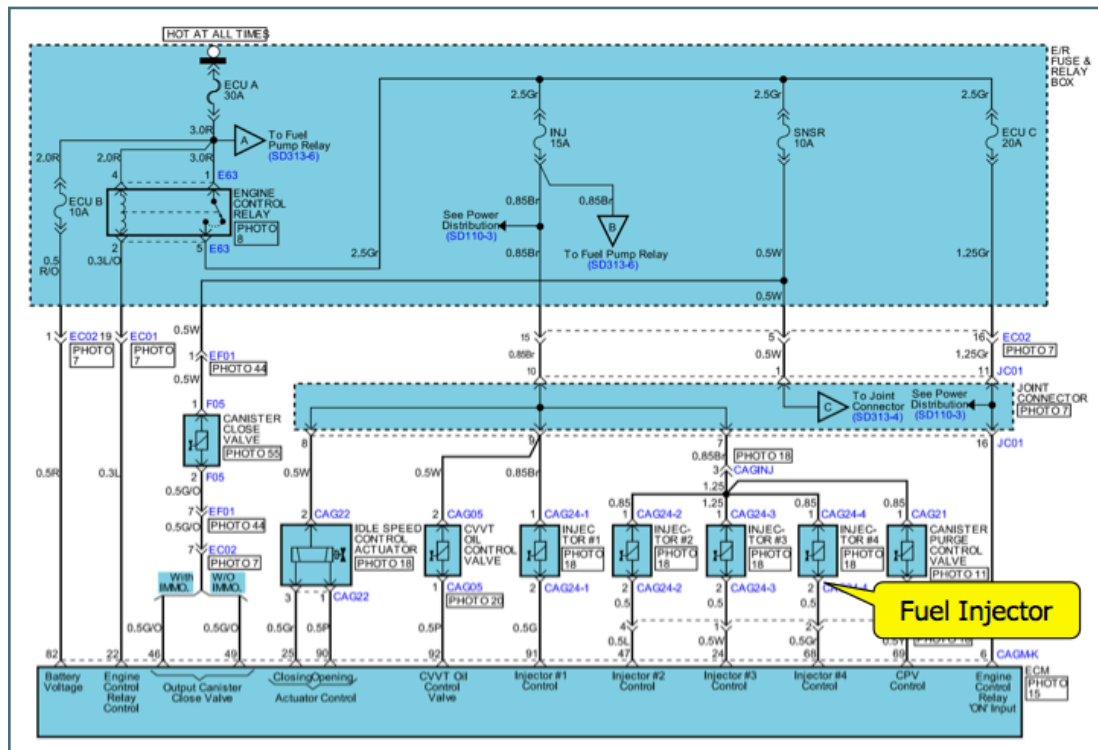
- GDS/KDS articles are now available in the \_\_\_\_\_ - \_\_\_\_\_ section of the home page. (Two words)
- With the KDS, all of the Service Information and \_\_\_\_\_ are in your hands.
- When sending flight recordings for a Techline case the recording must be emailed \_\_\_\_\_ to have the agent review flight recording.
- When you encounter a Korean error message on a Navigation unit you must replace with \_\_\_\_\_ unit.
- A total of \_\_\_\_\_ - \_\_\_\_\_ achieved Technical Elite Certified 10 Year Honors in 2015. (Two words)
- When using the KDS graphing feature, as the number of selected items increases, the data \_\_\_\_\_ rate decreases.
- The \_\_\_\_\_ button changes the height of the graphs viewing area.
- When installing the front plate holder on the new 2016 Sorento (UMa) verify that it matches the \_\_\_\_\_ of the front fascia.
- Large \_\_\_\_\_ are evident if the incorrect plate holder is installed on the 2016 Sorento (UMa).
- The PCM controls the \_\_\_\_\_ side to turn the injector ON.
- You should see a \_\_\_\_\_ voltage spike (50 to 80 volts) when the injector is turned OFF.
- If the voltage spike is weak or missing, check the \_\_\_\_\_ of the injector.
- How long the spark last when the magnetic field collapses is called the \_\_\_\_\_ time.
- When in \_\_\_\_\_ mode, handling is 10% heavier than Normal mode.
- In ECO mode one of the characteristics is to go into high speed and avoid transmission \_\_\_\_\_.
- If the firing time is \_\_\_\_\_, it may indicate high resistance in the ignition coil secondary or a large plug gap.
- It has been estimated that one in \_\_\_\_\_ automobiles on the road have contaminated refrigerant.
- An automobile's receiver drier removes \_\_\_\_\_ and captures debris inside of an A/C system.



## OUTPUT CONTROL CIRCUIT TESTING PART 3

In part 2 (Vol. 17, Iss. 6), we covered testing circuits with an oscilloscope.

In part 3, we will continue to use the VMI oscilloscope with the GDS for testing fuel injector and ignition coil primary circuits.

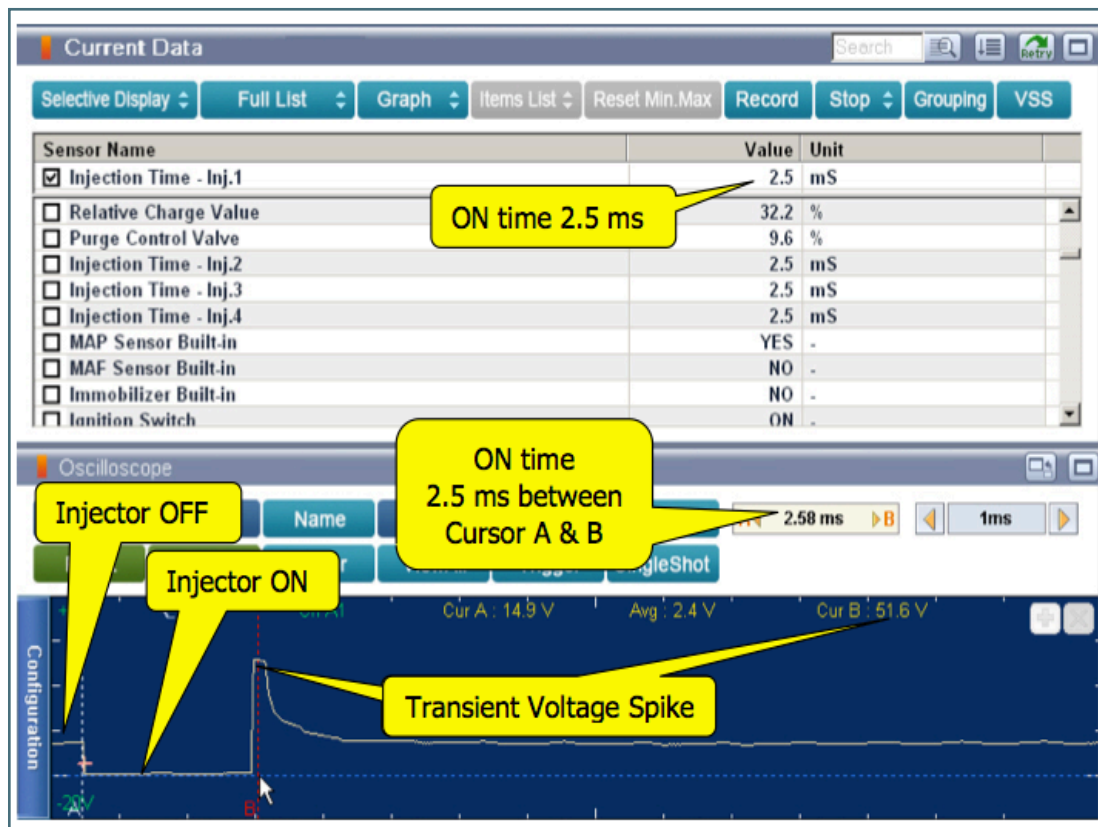


Port fuel injectors are supplied B+ from the Engine Control Relay, and the PCM/ECM controls the ground side to turn the injector ON.

The injector ON time is displayed in current data and can be measured using the scope.

The scope pattern displays B+ (charging system voltage) when the injector is OFF and the voltage is pulled to ground (near zero) when the injector is ON.

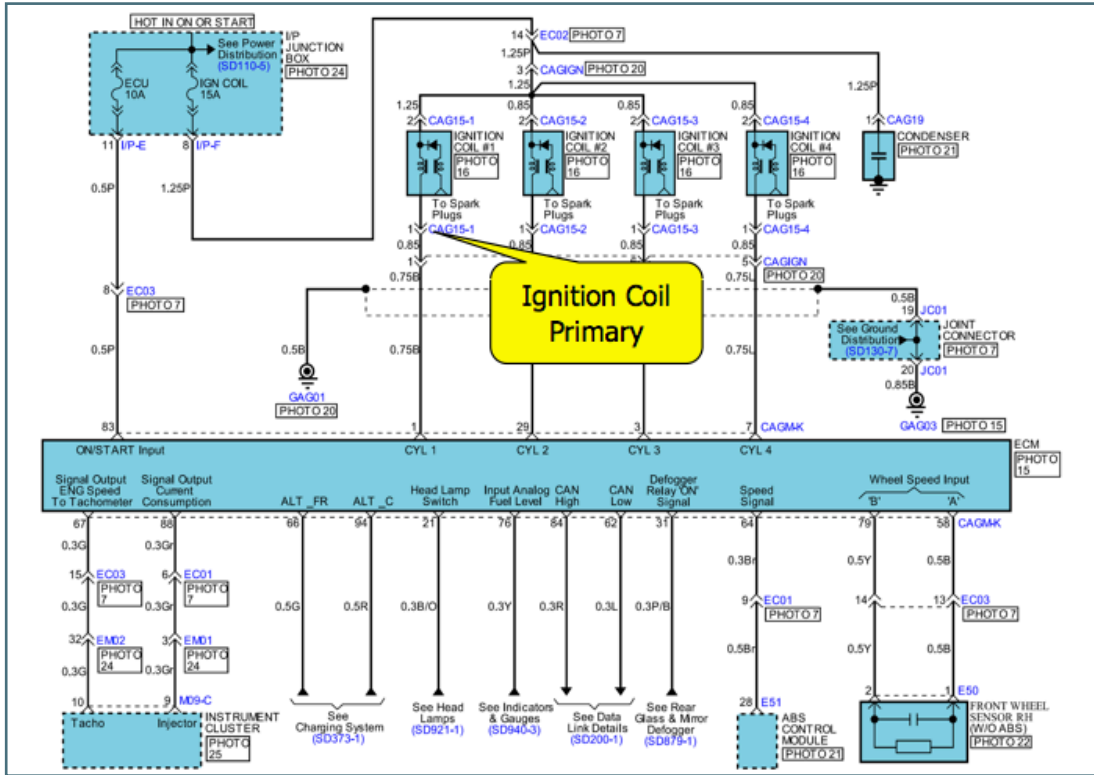
The scope pattern should show a good pull-down trace and remain at zero during the ON time, and have a large transient voltage spike (50 to 80 volts) when the injector is turned OFF.



If the voltage is not at or near zero when the injector is ON, check for resistance in the injector ground circuit.

If the transient voltage spike is weak or missing, check the resistance of the injector for shorted windings.

# OUTPUT CONTROL CIRCUIT TESTING PART 3 (Continued)



### Primary Ignition scope

- Dwell (time that current flows through the ignition coil primary building up its magnetic field)
- Firing time (how long the spark lasts) when the magnetic field collapses

Dwell and firing time are not available using Current Data. Misfire counters may give an indication of which cylinder(s) may have a fault.

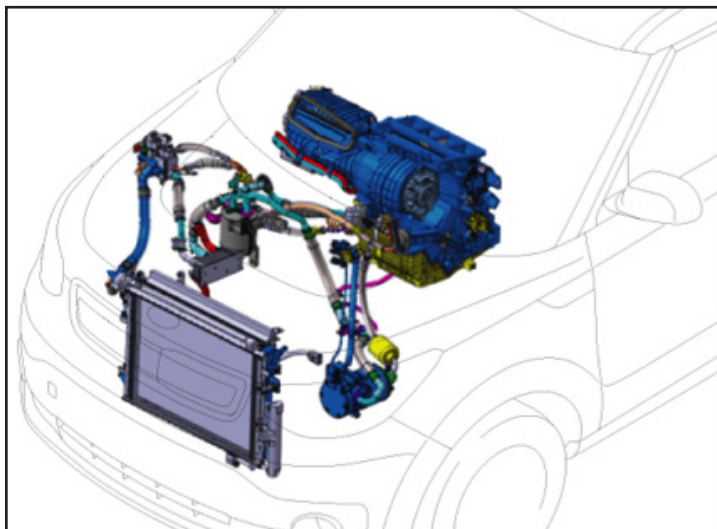
If one cylinder has a longer firing time it may indicate a fouled plug or too small of a plug gap. If the firing time is shorter, it may indicate high resistance in the ignition coil secondary or a large plug gap (worn electrodes).



Stay tuned. In our next issue, Part 4, we will cover GDI injectors and the high-pressure pump fuel pressure regulator.

## A/C RECOVERY AND RECYCLING MAINTENANCE

While the focus in any shop is to maintain a customer's vehicle, A/C recovery and recycling machine maintenance is just as important. The summer months are just around the corner, and now is the time to get your A/C machine ready for the busy months ahead. Let's take a look at why it is important to keep your A/C machine properly maintained.



According to robinair.com, it has been estimated that 1 in 10 automobiles on the road have contaminated refrigerant. While we tend to think of refrigerant contamination as the mixing of different refrigerant and oil types, moisture (water) is the most common type of contamination. Air introduced into a vehicle's A/C system through leaks will create moisture in the system. This moisture can damage A/C systems and recovery equipment as well. An automobile's receiver drier removes moisture and captures debris inside of an A/C system; however there is a limit to how much it can hold. Once the desiccant bag has been saturated, moisture will make its way into the A/C system. Failing compressors can push metal and particulates through the A/C system. The refrigerant carries this debris as it circulates throughout the system and can end up bypassing the receiver drier. This debris can then end up in your A/C machine during the recovery stage, and cause the machine to not work properly.



A/C machines do require periodic maintenance. A/C machines remove, clean, and recharge the refrigerant inside of automobiles. Refrigerant is pulled into the machine through a filter-drier device where it is cleaned, and moisture is removed during this process. These filters need to be serviced on a regular basis to prevent damage to the A/C machine. The scale for the reservoir tank needs to be recalibrated at times (check with the equipment manufacturer for intervals and requirements) to ensure an accurate charge is being put back into the vehicle's A/C system. The vacuum pump oil needs to be replaced at specified intervals. A/C machine hoses and fittings need periodic inspection for leaks. Some recovery machines keep track of hours of use, and remind the user of maintenance needed. Your shop should have a logbook, the logbook should have proof of calibration (records) in addition to (for older machines) hours of operation. Refer to the owner's manual of your A/C machine for the recommended service procedures and intervals. Digital copies of the service schedule are available online from the manufacturer of your A/C machine.



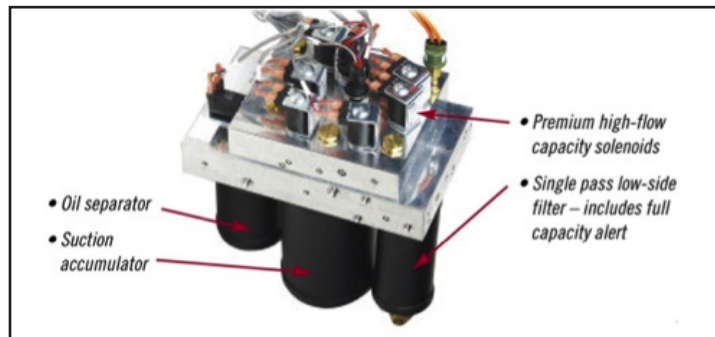
Kia TSB # CLI 017 (rev 4) talks about using a dedicated A/C machine for EV and Hybrid vehicles. The reason for this is due to a special lubricant, either PVE (Polyvinyl Ether) or POE (Polyolester) oil, used in these systems. Cross contaminating these oils with normal A/C oils (PAG oils) can damage the vehicle's A/C system due to insufficient resistive (high-conductive) lubricant. Use of the incorrect lubricant may cause severe personal injury or death from electrical shock. Most shops have two A/C machines to service the two different types of A/C systems. Newer A/C machines can service both

<p><b>TECHNICAL SERVICE BULLETIN</b>  <b>EV AND HYBRID A/C SYSTEM SERVICING REQUIREMENTS</b></p> <p><b>NOTICE</b>      This bulletin has been revised to include additional information. Revised sections of this bulletin are indicated by a black bar in the margin area.</p> <p>The Gas Electric Vehicle (EV) and the Optima Hybrid use an A/C compressor that is driven by a high-voltage electric motor rather than by a belt from the engine. This compressor oil is one having with a mix of refrigerant and oil flowing through both sections. Because the oil flows through the motor winding, it must have a high electrical resistivity (low conductivity). To achieve this, the EV and Hybrid vehicle A/C system uses a special lubricant called Polyvinyl Ether (PVE) or Polyolester (POE). All the time, only PVE oil is available from Kia Chemicals.</p> <p><b>WARNING</b>      PAG oil is not electrically insulative and would permanently damage the electric A/C compressor. Use of the incorrect lubricant may cause severe personal injury or death from electrical shock.</p> <p>To service an EV or Hybrid vehicle A/C system, use of the following Recovery, Purge, and Recharge (RPR) machines is required:</p> <ul style="list-style-type: none"> <li>A DEDICATED machine is required, non-DAE, D778-compliant RPR Machine (see additional info on how they can be used on PVE and POE A/C systems). Always keep the oil system reservoir filled with PVE oil purchased from Kia Chemicals (<a href="http://www.kiachemicals.com">www.kiachemicals.com</a>) (KX7E). At the time, only PVE oil is available from Kia Chemicals.</li> <li>A NON-DEDICATED machine is DAE, D778-compliant RPR machine (this can service all PAG, PVE, and POE A/C systems). When servicing an EV or Hybrid A/C system, use DAE, PVE oil purchased from Kia Chemicals (<a href="http://www.kiachemicals.com">www.kiachemicals.com</a>).</li> </ul> <p>File Under: &lt;Climate&gt;</p> <p>Consult to: <input type="checkbox"/> General Manager <input type="checkbox"/> Service Manager <input type="checkbox"/> Parts Manager  <input type="checkbox"/> Service Advisor <input type="checkbox"/> Technicians <input type="checkbox"/> Body Shop Manager <input type="checkbox"/> Fleet Repair</p>	<p><b>KIA MOTOR</b>  <b>PVE OIL</b>      AIR CONDITIONING COMPRESSOR FLUID      VISCOSITY ISO 68      HIGH VOLUMETRIC RESISTANCE FOR ELECTRIC COMPRESSOR      PART NO: UTD11CH041      NET WT. 8 OZ</p>	<p><b>KIA MOTOR</b>  <b>PAG OIL</b>      AIR CONDITIONING COMPRESSOR FLUID      LOW VISCOSITY ISO-4      HIGH VOLUMETRIC RESISTANCE      PART NO: UMD11CH041      NET VOLUME 8 OZ</p>
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## A/C RECOVERY AND RECYCLING MAINTENANCE (Continued)

systems with one machine, due to their ability to remove the oil from the machine's A/C lines. This means that there may be two A/C machines that need to be serviced at your dealership.

So, why should you perform routine maintenance on your A/C machine? Lack of maintenance can lead to the A/C machine breaking down in the middle of an A/C repair. Now the vehicle is down while you wait for parts for your A/C machine. If an A/C machine is not used for an extended period of time, the internal solenoids can stick, and the machine will not operate properly. The machine may recover or charge slowly; increasing the time it takes for the repair. If the scale on the reservoir tank is not calibrated properly, the machine may inaccurately charge the vehicle's A/C system. This can lead to poor vehicle A/C performance or damage to the vehicle's A/C system. A vacuum pump that is not properly lubricated will not draw a sufficient vacuum on the vehicle's A/C system and moisture will not evaporate from the system. The vehicle may come back for a second repair due to faulty shop equipment. All of these



factors lower your efficiency as a technician, and will lead to an unhappy customer.

Fixing the vehicle right the first time should always be your number one priority. Do not forget an important part of this equation. You need to have properly maintained and serviced shop equipment in order to quickly and accurately repair vehicles. So, be proactive and service your A/C machine now before the warm season is upon us.

## 2016 SORENTO (UMa) DRIVE MODE OVERVIEW

The addition of the new MDPS system in the all-new 2016 Sorento (UMa) allows for a new ECO vehicle driving mode. The Driving Mode integrated control system allows the drive mode to be selected depending on driver's preferences and road conditions. On previous models, Flex steer had three driving modes NORMAL, SPORT and COMFORT. These three settings would only adjust the varying force of steering. On the new Drive Mode system, the ECO mode controls engine, automatic transmission and variation of steering effort.

The default drive mode is NORMAL (indicator "OFF" in cluster) when vehicle is running. Pressing the Drive Mode button one time changes the mode to SPORT and again to ECO and back to NORMAL in this order, allowing for easy driving mode selection. When ECO drive mode is selected, the indicator will display and the system remains ON even when ignition is cycled, but SPORT mode defaults back to NORMAL driving mode. Below are the breakdowns of all three Drive Modes.

**NORMAL** - Designed to provide soft vehicle driving, engine, transmission, handling and good driving comfort, normal programming is maintained. Handling is set at medium steering feel.

**SPORT** - Provides appropriate control for sporty vehicle driving. Engine, transmission, and handling are improved. Transmission pattern is controlled when the driver releases accelerator pedal after acceleration, current gear level and engine RPM are maintained for a predetermined time. Upward transmission shift timing is delayed during acceleration to maximize the low speed range and enable sporty driving. Handling is 10% heavier than Normal mode.

**ECO** - Provides economical driving by controlling the engine, transmission and handling to improve fuel efficiency. However, optimal fuel efficiency may vary depending on driver driving habits. When ECO mode is selected, the engine and transmission control reduces the output characteristics by reducing fuel injection timing and the automatic transmission increases transmission pattern to go into high speed gear range and avoids transmission kick-down. Handling is set at medium steering feel.



## BLUETOOTH® ISSUES AFTER IPHONE® IOS 8 SOFTWARE UPDATE

This article provides information related to possible Bluetooth concerns when using an iPhone® with iOS 8.X (iOS 8, 8.0.1, 8.0.2, 8.1, 8.1.2, etc.) while paired to a head unit. The concerns include:

- Phone fails to transfer to hands-free (stays in Private Mode) or sometimes can be transferred to head unit when hands-free button is selected
- Calls cannot be initiated using Bluetooth
- Audio streaming is inoperative
- Unable to use head unit/steering wheel controls when using iPhone in iPod® mode
- Bluetooth streaming volume too low
- Phone call and music streaming at the same time



- Other Bluetooth related concerns (difficulties during initial pairing, etc.)

The following suggestions may improve any Bluetooth related concerns:

- Customers should continue to update to the latest version of the iOS 8 operating system for possible Bluetooth improvements rolled out by Apple®
- Reboot the customer's phone (turn the phone off and back on). This

will resolve many of the concerns for a period time, although some concerns may re-occur over time.

- Delete the phone from the head unit and the head unit from the phone. Then, perform a new pairing of the phone and the head unit.

Kia continues to work with Apple through our technical center to resolve these iPhone/iOS compatibility issues. More information will be provided as it is available. **Note: Other vehicle manufacturers are experiencing similar issues at this time.**

The Bluetooth word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any such use by Kia is under license. A Bluetooth enabled phone is required to use Bluetooth wireless technology. iPhone, iPod and iOS are a registered trademarks of Apple, Inc.

Please refer to PitStop PS 365

## KIA SPECIAL SERVICE TOOLS TECHNICIAN PURCHASE PROGRAM

What SST's do you use most frequently? Have you ever gone looking for a Special Service tool only to find that another technician is using it and won't be finished for a while? Instead of searching or waiting, having items like timing gear holders and oil filter wrenches can save you time and help you complete jobs faster when you have your own collection of Kia SSTs.

Did you know that you can order these tools for your own tool box directly from [www.kiaspecialtools.com](http://www.kiaspecialtools.com) using your credit card?

To begin purchasing tools follow these simple steps:

1. Navigate to [Kiaspecialtools.com](http://Kiaspecialtools.com) on your computer's browser and click the "Login" button at the top right of the page
2. Input your public user login information or for new users click on the "register here" link to create a new user ID
3. Enter your user ID, password, shipping and billing information then click "submit"

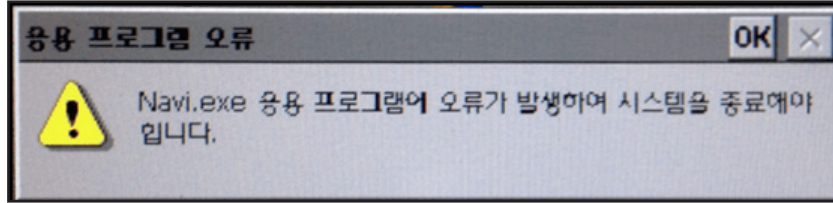
Add to your Kia SST collection as you find additional needs and ways to save time. Watch for future articles on some of these tools and how they can help you be more efficient.



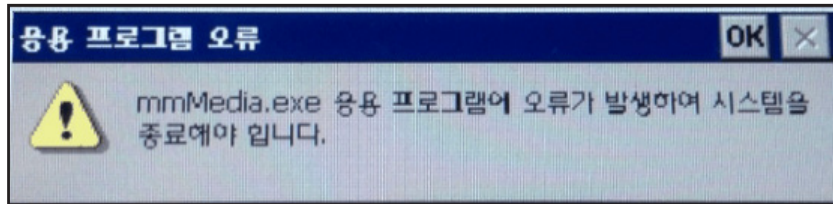
To navigate on your mobile device, snap this QR code or visit: [www.kiaspecialtools.com](http://www.kiaspecialtools.com)

## KOREAN ERROR MESSAGES ON NAVIGATION DISPLAY

This article provides information to address the following customer complaints on 2014MY Optima (TF/QF) and 2014 - 2015MY Sorento (XMa) / Sportage (SL) equipped with Navigation head units (AVN 3.0 or AVN 3.5):



Korean Error Message that starts with Navi.exe



Korean Error Message that starts with mmMedia.exe

If these errors are encountered, replace the head unit with a remanufactured head unit, if applicable. Report any reoccurrence of the issue after head unit replacement by opening a Tech Line case.

Please refer to PitStop PS 377

## TEST YOUR TECH TIMES KNOWLEDGE SOLUTIONS

We hope you gave this issue's puzzle on page 8 a try. In case you need a little help, here are the answers to the puzzle.

D	P	V	E	D	C	B	N	W	K	I	K	E	Z	V	H	S	A	R	S	L	R	S	L	
E	J	O	S	D	F	M	I	F	Z	O	M	I	M	D	I	M	T	H	Y	Z	Y	Q	L	Y
L	S	L	F	P	N	X	T	N	Y	P	N	Y	E	A	N	V	I	E	A	N	Z	W	J	B
I	Q	R	W	O	W	Z	G	D	Z	K	G	S	R	S	T	R	D	M	G	B	E	Z	Q	W
A	Q	S	K	N	S	I	K	N	K	S	I	C	K	L	I	N	Q	I	O	N	C	T	I	O
M	E	M	A	N	C	E	S	T	A	N	C	E	S	T	A	N	C	E	S	T	A	N	C	E
E	E	U	E	A	P	Q	U	E	E	A	P	Q	U	E	E	A	P	Q	U	E	E	A	P	Q
Z	B	R	V	S	L	C	V	L	C	A	E	T	Q	C	A	E	T	Q	C	A	E	T	Q	C
Y	F	U	I	N	D	A	I	N	D	A	I	N	D	A	I	N	D	A	I	N	D	A	I	N
A	T	A	F	N	A	T	A	F	N	A	T	A	F	N	A	T	A	F	N	A	T	A	F	N
W	S	F	P	U	F	S	B	P	U	F	S	B	P	U	F	S	B	P	U	F	S	B	P	U
Q	I	Q	R	I	Q	R	I	Q	R	I	Q	R	I	Q	R	I	Q	R	I	Q	R	I	Q	R
K	P	O	K	P	O	K	P	O	K	P	O	K	P	O	K	P	O	K	P	O	K	P	O	K
C	S	M	C	S	M	C	S	M	C	S	M	C	S	M	C	S	M	C	S	M	C	S	M	C
E	A	M	P	L	E	A	M	P	L	E	A	M	P	L	E	A	M	P	L	E	A	M	P	L

Answers: 1 - QUICKLINKS, 2 - PUBLICATIONS, 3 - EMAILED, 4 - REMANUFACTURED, 5 - FORTYSEVEN, 6 - SAMPLE, 7 - ZOOM, 8 - CURVATURE, 9 - GAPS, 10 - GROUND, 11 - TRANSIENT, 12 - RESISTANCE, 13 - FIRING, 14 - SPORT, 15 - KICKDOWN, 16 - SHORTER, 17 - TEN, 18 - MOISTURE